



Report of 22nd IRDR SC Meeting

- 1 The 22nd IRDR Scientific Committee Meeting was held on 8-10 October 2019 in Xiamen, China. The overall objective of the Meeting is to put together ideas from the IRDR community for a DRR integrated research agenda towards 2030. In the 3-day's schedule, participants from IRDR Co-sponsors, Host, Scientific Committee, IPO, National Committees, International Centres of Excellence and IRDR partners updated their recent activities and had in-depth discussions in accordance with the agenda items proposed. The full agenda of the Meeting is in Annex 1. The list of participants is in Annex 2. The download link of materials for this Meeting is in Annex 3.
- 2 In the **Item 1 Opening and Welcome**, John Handmer, Chair of IRDR SC, welcomed all the participants. A round table introduction was made. In **Item 2 Adoption of Agenda**, John Handmer introduced the agenda. It was agreed by all participants that Item 7 could extend to fill Day 2. The nomination of two Vice-chairs was endorsed for Day 3.
- 3 **Item 3, Reports from Co-sponsors, Host/IPO** focused on strategic development in the implementation of the Sendai Framework; new research priorities and orientations; and progress of the implementation of IRDR Action Plan 2018-2020.
 - 3.1 **ISC**, reported by Anne-Sophie Stevance, released the Action Plan in September 2019 with the emphasis on "Science as a global public good". There are four domains in the ISC Action plan: 1) the 2030 Agenda for Sustainable Development; 2) the Digital Revolution; 3) Science in Policy and Public Discourse; and 4) the Evolution of Science and Science System. IRDR is expected to contribute to the new priority actions of ISC especially in Domain 2 and Domain 3. ISC valued the IRDR community and its work in the nine years of cooperation to date. ISC looks forward to a renewed research agenda for the future of IRDR.
 - 3.2 **UNDRR**, reported by Marc Gordon, released the 2019 Global Assessment Report on Disaster Risk Reduction (GAR19) at the 2019 Global Platform on Disaster Risk Reduction in May 2019. One of the main roles of GAR is to serve as the guide for DRR research at the global level. The Sendai Framework and GAR19 call for a better understanding and actions toward the dynamic interactions with systemic risk. Furthermore, UNDRR established a decentralized platform named Global Risk Assessment Framework (GRAF) to connect people with decision-making process at different levels.
 - 3.3 **RADI**, reported by Fang Chen, was merged into Aerospace Information Research Institute (AIR) in 2018. Major research fields of AIR are Airborne Remote Sensing Platform; Payload and Device Technology; Global Satellite Data Receiving Station Network; Remote Sensing Science and Digital Earth; Beidou Navigation and Positioning Technology and Aerospace Information Technology Applications. RADI hosts several international platforms including the International Centre on Space Technologies for Natural and Cultural Heritage (HIST) under the auspices of

UNESCO and CAS-TWAS Centre of Excellence on Space Technology for Disaster Mitigation (SDIM). RADI hosts/co-organises several series international conferences and training workshops e.g. the annual International Conference of Digital Belt & Road (DBAR) and the Huangshan Dialogue on UNESCO Sites and Sustainable Development.

- 3.4 **IRDR IPO**, reported by Qunli Han, presented an overall update on the development of IRDR community (NCs, ICoEs, WGs and YS) and highlighted recent achievements. He referred in particular to the Science and Policy Forum for the Implementation of Sendai Framework as one of the main pre-conferences of GP2019 and its contribution to the overall outcome of GP2019, as well as to the discussion on DRR future research agenda. He also briefed about the recent knowledge products of IRDR such as the IRDR Working Paper Series and the progress of IRDR Young Scientists Schemes and IRDR's new partnerships. He reported on the smooth progress of the implementation of the IRDR Action Plan 2018-2020. Based on the IPO report, the SC endorsed the removal of Actions 12, 13, 15 and 21 from the 2018-2020 Action Plan, which were considered no longer relevant.
- 3.5 During the discussion, the need for IRDR to enhance the consultation role of regional platforms and bring up regional issues and needs into global DRR research cooperation were highlighted.
- 4 **Item 4 Panel of IRDR Working Groups** briefly updated the major recent achievements and progress including respective new WG Plans and actions for 2020, discussed the strengths as well as challenges encountered and how WG could become more visible in the global DRR agenda.
 - 4.1 **SDG-DRR-CCA**, reported by Rajib Shaw, highlighted four actions: a) developing papers on the coherence of climate resilient development and reducing vulnerability and building resilience; b) contributing to IPCC progress on climate resilient development pathways; food-water-energy nexus as a governance approach; and the role of emerging technologies; c) interacting with media stakeholders, for example working with ABU and local media in the Hindu Kush Himalayan region on climate change adaptation communication; d) IRDR young scientists book on DRR research which will be published by Springer in 2020.
 - 4.2 **AIRDR**, reported by Virginia Jimenez, highlighted the progress of DRR research network mapping. The Chair of this WG suggested the research map should be shown on the IRDR website, which was fully supported by the SC.
 - 4.3 **DATA** was updated by Virginia Murray on its recent activities: 1) data interoperability and standardisation challenges in disaster risk reporting regarding disaster mortality data; 2) productions on Rapid Damage Maps with the support from China-GEO, CODATA LODGD and Tonkin+Taylor International as IRDR support to the NDMO/Red Cross/UNOCHA for the immediate response; 3)

monthly released newsletters on DRR and Open Data, which have been distributed also through IRDR web and social media. The Chair of DATA is also now chairing UNDRR/ISC Technical Working Group on Hazard Terminology Review and Classification, which has been included in the Item 7 of this meeting.

- 4.4 **FORIN** was updated by Alonso Brenes Torres. This WG has received some financial support from the World Bank and other two regional banks, which is a strong indication of the importance of FORIN studies and applications. There are six on-going case studies in Latin America. This WG is exploring the application of FORIN methodology for other regions. The FORIN report has been translated from Spanish into English, Chinese, and French. In 2020, this WG will organise a workshop; mobilize more funding resources for scholarships; and expand the research from the regional level to the global level.
 - 4.5 **RIA** was reported by Bapon Fakhruddin (on-line) on the conference of Multi-hazard Early Warning during GP2019 and the implementation of early warning systems in some Asian-Pacific countries. This WG is working on documenting experiences and cases from South Asia on risk interpretation and actions. This WG also contributes to the Risk KAN, through Jana Sillmann, the Co-Chair of RIA.
 - 4.6 **Nation's Synthesis**, reported by Haruo Hayashi, fulfilled the concept design and submitted a proposal on "Nation's synthesis for DR3 using online synthesis system" to Belmont Forum and Ministry of Education in Japan. The Nation's Synthesis provides an integrated framework to connect different facilitators in different society sectors to assist target communities for resilience improvement through a list of suggested activities.
- 5 **At item 5 Risk KAN** updated developments including the contribution from IRDR. The further development and priority actions were proposed for discussion.
 - 5.1 Co-chair of the Risk KAN Jana Sillmann introduced (on-line) the KAN's current activities. The Development Team and the webpage have already been in place. Eight Working Groups were established with some initial living documents, namely Compound Events, Critical Infrastructures, Early Warning, Ecosystem-based Approaches to DRR, Learning from the Past, Low Elevated Coastal Zones and Cities, Modelling and Insurance, and Systemic Risks and Global Governance. In addition, as a Risk KAN joint activity, IRDR IPO co-designed and co-organised a two-week Summer School on climate extremes and DRR with WCRP to be held in Nanjing, China after the Xiamen meeting.
 - 5.2 ISC encouraged Risk KAN to contribute to the development of the future DRR research agenda. UNDRR invited the experts of Risk KAN to link to GRAF. Participants suggested Risk KAN identify the differences between the Risk KAN and other DRR programmes/organisations. For the collaboration, Risk KAN would like to organise session in the 2020 IRDR Conference, contribute to the IRDR Working Paper Series, and establish the connection between Risk KAN and IRDR

ICoEs.

- 6 **Item 6 NCs/ICoE Reports** introduced the respectively NC and ICoE achievements and contributions toward Sendai Framework and IRDR missions. The roles and functions of IRDR NCs and ICoEs were discussed.
 - 6.1 **NC China** (reported by Fang Chen) introduced the recent progress in Digital Belt and Road (DBAR) programme and the recent national report on big earth data in support of SDGs, issued in September at the UN General Assembly. He highlighted the progress on the Big Earth Data Platform that provides service for the Asia-Pacific Region and Africa. Its users include scientists and policy makers. The platform can be customized according to the user's requirement. Whoever provides the data adopted by the platform will also benefit from the data service of the platform. Training for using this platform are also provided.
 - 6.2 **NC Japan** supported the WG of Nation's Synthesis. The activities were reported by Haruo Hayashi in the update of WG in Item 4 above.
 - 6.3 **ICoE-Taipei** (reported by Jian-Cheng Lee) focused on DRR capacity building through Advanced Institutes on various DRR topics. For each Advanced Institute, the "Seed Grant Projects" are initiated to encourage participants to start their own research and collectively to establish the foundation for regional collaboration.
 - 6.4 **ICoE-CR** (reported by Emma Hudson-Doyle) organised five recovery environment workshops and initiated Smart Seismic Cities this year. Members of this ICoE were recognised for Excellence in Emergency Communication via two awards from the Emergency Media and Public Affairs Association (EMPA). ICoE CR works closely with WMO and its HIWeather programme which has been a direct partnership of IRDR.
 - 6.5 **ICoE REaL** (reported by Tiana Mahefasoa Randrianalijaona), which is hosted by Periperi U (a consortium of 12 universities in Africa), covered 1219 students registered in 28 DR-related academic programmes and modules across Africa (includes 462 women) this year. On understanding risk, Periperi U expanded collaboration on food and livelihood research with WFP and several universities. On strengthening risk governance, Periperi U works with the World Bank on Strengthening the DRR Coordination Planning and Policy Advisory Capacity of the Southern African Development Community and Disaster Risk Finance Capacity Building Program for Africa.
 - 6.6 **ICoE NSET** (reported by Amod Dixit) now was led by Dr. Ramesh Guragain as Deputy Executive Director. ISC ROAP visited NSET this year to explore cooperation. ICoE NSET and ICoE Taipei proposed an Advanced Institute on Earthquake Risk Management. NSET promoted the establishment of U-INSPIRE Nepal through Young Scientists Forum Nepal. The NC Nepal is still in the governmental process for full establishment and functioning.

- 6.7 **ICoE TDDR** (reported by Michael Boyland) developed its 2020-2024 Strategy with main research areas on Resilient Urban Development and Risk Governance, Nature-based Solutions for Cascading Water-related Risks, and Managing Disaster- and Climate-induced Migration and Displacement. The TDDR framework applications and research output were published on WeTransform (www.wetransform.dev).
- 6.8 **ICoE SEADPRI-UKM** (reported by Nurfashareena Muhamad) conducted core activities on Multi-disciplinary research at national and local levels in ASEAN countries; Education and training; Workshops and courses; and Outreach and Networking. SEADPRI-UKM submitted the voluntary commitments of SEADPRI&ANCST for the Sendai Framework Progress. U-INSPIRE Malaysia launched in this October with focuses on DRR and climate change.
- 7 **Item 7 Seminar on Hazard Terminology and Classification** introduced and updated this new inter-agency task group which is co-sponsored by IRDR, and used full day of Day 2 to review the draft hazard list and definition template. The full minutes of this seminar is in Annex 4.
- 7.1 Virginia Murray provided the overall background of this hazard project and shared the current drafted hazard list with the template of hazard definition. Anne-Sophie Stevance presented the summary of survey results on the initial draft hazard list.
- 7.2 The participants reviewed and provided their comments and suggestions on the hazard list and the template. The criteria for hazard inclusion and exclusion were also debated.
- 7.3 The full minutes of the presentations and discussions were written by Emily Campell and Emma Hudson-Doyle (Annex 4). To follow up this important process, Alonso Brenes Torres would attend the meeting on behalf of IRDR SC on *Measuring Hazardous Events and Disasters – Proposal for Future Work* on 16-17 October 2019 in Geneva.
- 8 **Item 8 Session on Future Research Agenda on DRR toward 2030** was a strategic and open debate and brainstorming. With four presentations, participants discussed on the elements that should be covered in the future DRR research agenda. In the beginning of this session, **IRDR SC Chair announced Virginia Jiménez Díaz and Tiana Mahefasoa Randrianalijaona as the Vice-Chairs of IRDR Scientific Committee**, with full support of IRDR SC members present and the other participants.
- 8.1 Marc Gordon further illustrated the Global Risk Assessment Framework (GRAF). This project was designed for risk-informed decision-making and transformed behaviours in the context of shared metrics (2030 Agenda, Sendai Framework, Paris Agreement, and New Urban Agenda). The user groups are science & academia, education, international organisations, national/sub-national/local governments, private sector/business, investors, insurers, and faith groups &

communities, etc.

- 8.2 Franz W. Gatzweiler introduced **Urban Health and Wellbeing**, another research programme of ISC with its IPO located in China. This programme set goals for Promoting and coordinating research; Developing methodologies and identifying data needs; Building and strengthening capacity; and Communication, promotion and outreach. The urban health issues are systemic and require changes of the rules of the urban data metabolism. UHW is facing similar challenges and the needs for interdisciplinary and transdisciplinary research cooperation and it is keen to further explore cooperation together with IRDR.
- 8.3 **International Association of Disaster Risk Reduction (IADRR)** is proposed by Rajib Shaw and Peng Cui with aims to develop DRR endeavours around the world; to promote international cooperation among individual scientists, engineers, and practitioners in the DRR field; and to exchange knowledge, ideas, research outputs and practical experiences. It is designed to be the overall umbrella for DRR researchers as a non-government organisation.
- 8.4 Michael Boyland from ICoE TDDR suggested to have an **ICoE workshop** or meeting to enhance the inter-ICoE collaboration. Currently the ICoEs in Asia have all agreed with this proposal. The consultation will continue to identify the proper time and location of this workshop among the agreed ICoEs.
- 8.5 The following discussion on Item 8 were rich and productive, and reached a consensus regarding the following: 1) The development of a proposal for future DRR research agenda requires the collective contributions from DRR organisations, programmes, and expertise, in particular ISC, UNDRR and its STAG, and IRDR. 2) The regional dynamics and diverse contexts as well as DRR capacities must be given more consideration. 3) DRR education especially the investment on youth and young professionals needs to be further emphasized as human capacity development. Institutional DRR capacity building is critical. 4) The new research agenda must have clear provisions to enable effective engagement with engineering communities, public/private sectors, and local governments. 5) A review of existing DRR programmes and initiatives should be done to ensure inclusiveness and to avoid duplication. A timeline to follow up this agenda development will be proposed by the IRDR IPO ten days after this meeting.
- 9 **Item 9 Compilation of IRDR 10-year's work** will be coordinated by IPO with a technical team consisting of John Handmer, Qunli Han, Virginia Jiménez Díaz, Tiana Mahefasoa Randrianalijaona, Amod Dixit, Michael Boyland, and Fang Lian. The structure of the compilation should be organised in accordance of substantive-themes rather than institutions and programme structures engaged. A timeline for this IRDR Compilation task will be proposed by IPO after this meeting.
- 10 The meeting confirmed its agreement to hold the **2020 IRDR Conference** in autumn of 2020 in Beijing, China, preferably organised by IRDR co-sponsors and hosts. This

conference could be co-organised together with other ISC IBs, DRR related organisations and programmes. The overall purpose of the 2020 Conference will be to make a grand proposal for the new mission and international disaster risk research agenda toward 2030 and beyond, on the basis of the ten-year research collaboration of IRDR and progress made in parallel research programmes. The design of the conference agenda should be in paralleled with the development of future DRR research agenda. A concept note and a timeline will be proposed by IPO for consultation and discussion with IRDR SC and IRDR cosponsors/hosts in November 2019.

- 11 **The 23rd IRDR SC meeting** is considered to be connected with the Asian-Pacific Science and Technology Conference for DRR in March 2020 in KL of Malaysia. The ICoE SEADPRI-UKM offers to host the meeting. The detailed arrangement needs to be further discussed with ISC, UNDRR and ICoE SEADPRI-UKM.

<End of Report>

Annex 1



22ND SCIENTIFIC COMMITTEE MEETING
8-10 October, Xiamen, China

AGENDA

1. Objectives

The overall objective of the 22nd Scientific Committee Meeting on 8-10 October 2019 in Xiamen, China is to put together ideas of IRDR community for DRR integrated research toward 2030. To this end, the meeting will have following specific objectives and tasks:

- Examining the IRDR progress, by Co-sponsors/host, Chair, IPO, Working Groups, NCs, ICoEs, and Risk KAN, vs IRDR missions and Action Plan, in order to draw up central strength of IRDR as an international scientific programme, main added values and the critical gaps to be filled in future.
- Contributing to the review of the draft Hazard Terminologies and Classification of the inter-agency task group started at GP2019 with co-sponsorship of IRDR
- Brainstorming for future global DRR science-policy research: needs, trends, opportunities, priorities and effective ways for cooperation.
- Taking the opportunity to start the compilation of IRDR 10-year's work and preparation of IRDR 2020 conference.

2. Agenda items

Day 1

- Item 1. Opening and Welcome
- Item 2. Approval of Agenda
- Item 3. Reports from Co-sponsors/Host/IPO
- Item 4. Panel of Working Groups
- Item 5. KAN
- Item 6. NCs/ICoEs Reports

Day 2

- Item 7. Seminar on Hazard Terminology and Classification
- Item 8. Future Research Agenda on DRR toward 2030 – Risk-informed Development in the context of UN agendas for 2030

Day 3

- Item 8. Future Research Agenda on DRR toward 2030 – Risk-informed Development in the context of UN agendas for 2030
- Item 9. Compilation of IRDR 10-year's work and 2020 IRDR Conference
- Item 10. Wrap up (including next SC Meeting)

3. Detailed Agenda

Item 1. Opening and Welcome

Time: 9:00-9:10, AM, 8 Oct

Chair: John Handmer

Note:

- Chair to briefly welcome all the participants.
- Round table introduction will be made.
- Chair announces the Vice-Chair of IRDR Scientific Committee.

Item 2. Adoption of Agenda

Time: 9:10-9:15, AM, 8 Oct

Chair: John Handmer

Note:

- Chair to introduce and adopt the agenda.
- Co-sponsors and SC members may propose changes to the agenda.

Item 3. Reports from Co-sponsors/Host/IPO

Time: 9:15-10:15, AM, 8 Oct

Chair: John Handmer

Focus:

- Strategic development in the implementation of Sendai Framework
- New research priorities and orientations
- Progress of the implementation of IRDR Action Plan 2018-2020

Speaker(s):

The presentation of each organisation is limited to 10 minutes.

- 1) Anne-Sophie Stevance, ISC
- 2) Marc Gordon, UNDRR
- 3) Fang Chen, RADI-CAS
- 4) Qunli Han, IRDR IPO

Item 4. Panel of IRDR Working Groups

Time: 10:40-12:00, AM, 8 Oct

Chair: John Handmer

Focus:

- Brief updates of each WG with highlight of major recent achievements and progress including respective new *WG Plan* or actions for 2020
- Discussion on the strength and issues encountered in the conduction of WG
- Suggestions and recommendations for WG to be more visible in the global DRR agenda including Sendai Framework and its Science and Technology Roadmap

Speakers:

- 1) Virginia Jimenez, AIRDR
- 2) Virginia Murray, DATA

- 3) Alonso Brenes Torres, FORIN
- 4) Bapon Fakhruddin, RIA (on-line)
- 5) Rajib Shaw, DRR, CCA and SDGs
- 6) Haruo Hayashi, Synthesis Report

Note:

10 minutes for each WG report, 30 minutes for discussion.

Item 5. Risk KAN

Time: 14:00-15:30, PM,8 Oct

Chair: Qunli Han

Focus:

- The progress/update of the development of Risk KAN, including IRDR contributions
- Further development of Risk KAN and priority actions in 2020

Speaker(s):

20 mins for presentation and 60 mins for discussion

- 1) Jana Sillmann, co-chair of Risk KAN (online).

Item 6. NCs/ICoEs Reports

Time: 16:00-18:00, PM,8 Oct

Chair: Qunli HAN

Focus:

- The most important achievements and contributions toward Sendai Framework and IRDR missions and science plan with one to three examples as highlights.
- With the progress in Sendai Framework implementation, the roles and functions of IRDR ICoEs and NCs, and collective delivery of contributions
- Suggestions and recommendations of SC members for NCs and ICoEs beyond 2020

Speakers:

- 1) Fang Chen, NC China
- 2) Haruo Hayashi, NC Japan
- 3) Jian-Cheng Lee, ICoE Taipei
- 4) Emma Hudson-Doyle, ICoE CR
- 5) Tiana Mahefasoa Randrianalijaona, ICoE REaL (Periperi U)
- 6) Jörn Birkmann, ICoE CI&SP
- 7) Amod Dixit, ICoE NSET
- 8) Michael Boyland, ICoE TDDR
- 9) Nurfashareena Muhamad, ICoE SEADPRI-UKM
- 10) Gloria KW Chan, ICoE CCOUC (online)

Note:

10 minutes for each presentation, 40 minutes for discussion.

Item 7. Seminar on Hazard Terminology and Classification

Time: 9:00 – 15:30, 9 Oct

Chair: John Handmer,

Co-chair: Anne-Sophie Stevance

Focus:

- Introduction and update of this new inter-agency task group
- Review the draft hazard list and the terminology
- Discussion on the best arrangements required for IRDR to support this task

Speaker:

- 1) Virginia Murray, chair of Hazard Terminology Working Group

Detailed Arrangement:

➤ **09:00 – 09:30 INTRODUCTION to project**

Virginia Murray – Short presentation on the hazard project (15 minutes)

Q&A (15 minutes)

➤ **09:30 – 11:00 HAZARD LIST**

Virginia Murray - Brief introduction and sharing of current list (10 minutes)

Anne-Sophie Stevance – Presentation of the ISC survey outputs (20 minutes)

Discussion (15 minutes)

Break out groups – What is missing and what is not needed? (30 minutes)

Report back (15 minutes)

➤ **11:00 – 11:20 Coffee Break**

➤ **11:20 – 12:30 Suggested PARAMETERS for hazard inclusion and exclusion**

Anne-Sophie Stevance – Introduction (10 minutes)

Discussion (10 minutes)

Break out groups – Are the parameters appropriate and is there any further information that might be useful here? (30 minutes)

Report back (20 minutes)

➤ **12:30 LUNCH**

➤ **13:30 – 15:30 REVIEW of TEMPLATES**

John Handmer – Introduction to templates and review process (15 minutes)

Discussion (10 minutes)

Break out groups – review of templates (60 minutes, identify facilitators – Virginia Murray, John Handmer, Anne-Sophie Stevance)

Report back (15 minutes)

Review of project (20 minutes)

Item 8. Future Research Agenda on DRR toward 2030 - Risk-informed development in the context of UN agendas for 2030

Time: 16:00- 18:00, 9 Oct; 09:00 – 12:00, 14:00- 15:30, 10 Oct (Item 8 may be completed by lunch time if all issues are covered. In this case, Item 9 may start at 14:00 PM)

Chair: John Handmer; **Co-Chair:** Qunli Han

Focus:

- Reflections from GP2019 and its Science and Policy Forum on integrated DRR research
- DRR-relative STEI toward risk-informed development in the context of UN agendas for 2030
- Emerging risks, challenges and opportunities as ingredients for the next generation of IRDR research
- How the IRDR could contribute to the development of a new global agenda for DRR

research.

Speakers:

ISC and UNDRR, SC members, representatives from NCs and ICoEs, IPO

- Marc Gordon, Introduction of the background paper: '**Global research priorities in support of risk informed sustainable development and planetary health 2020-2030**' (PM 9 Oct)
- Rajib Shaw and Peng Cui, Proposal on International Association of Disaster Risk Reduction (AM 10 Oct)
- Michael Boyland, Maximizing the potential of ICoEs contribution to IRDR through developing regional hubs/networks to strengthen the regional presence of IRDR (AM 10 Oct)

Note:

- ♦ This is a strategic and open debate/brainstorming. All participants are expected to contribute their ideas, opinions and suggestions in this session as building blocks for a new research agenda post-2020 as well as how IRDR could best contribute to the development of a new global research agenda for DRR.

Item 9. Compilation of IRDR 10-year's work and 2020 IRDR Conference

Time: 16:00-17:30, PM, 10 Oct

Chair: John Handmer

Focus:

Item 9.1 Compilation of IRDR 10-year work

- Specific structure of IRDR compilation
- Compilation team
- Time schedule for editing, review and publication

Item 9.2 2020 IRDR Conference

- Based on the reports and discussions on the previous items, in particular item 8 on future research agenda, to propose key elements for 2020 IRDR Conference: main objectives, major streams, expected outputs and organisation issues.

Item 11. Wrap up (including next SC Meeting)

Time: 17:30-18:00, PM, 10 Oct

Chair: John Handmer

Focus:

- Date and Venue for next SC meeting
- Action points before next SC meeting
- Wrap up of the 22nd SC meeting

Speakers:

- 1) Nurfashareena Muhamad, 5 minutes to present the proposal of holding the next SC Meeting

4. Timetable of the meeting

See the coloured timetable in next page.

22nd IRDR SC meeting - Tentative Time Table

Day 1 Tuesday 8 Oct 2019	Day 2: Wednesday 9 Oct 2019	Day 3: Thursday 10 Oct 2019
<p style="text-align: center;">Item 1: Opening and Welcome 9:00-9:10</p> <p style="text-align: center;">Item 2: Approval of the Agenda 9:10-9:15</p> <p style="text-align: center;">Item 3: Co-sponsors/Host/IPO Reports 9:15-10:15</p>	<p style="text-align: center;">Item 7: Seminar Hazard Terminology and Classification 9:00-12:00</p>	<p style="text-align: center;">Item 8: Future Research Agenda on DRR toward 2030 9:00-12:00</p>
Coffee Break + Group Photo 10:15-10:40	Coffee Break 10:30-10:45	Coffee Break 10:30-10:45
<p style="text-align: center;">Item 4: Panel of IRDR Working Groups 10:40-12:00</p>	<p style="text-align: center;">Continue Item 7</p>	<p style="text-align: center;">Continue Item 8</p>
Lunch 12:00-14:00	Lunch 12:00-14:00	Lunch 12:00-14:00
<p style="text-align: center;">Item 5: KAN 14:00-15:30</p>	<p style="text-align: center;">Continue Item 7 14:00-15:30</p>	<p style="text-align: center;">Continue Item 8 14:00-15:30</p>
Coffee Break 15:30-16:00	Coffee Break 15:30-16:00	Coffee Break 15:30-16:00
<p style="text-align: center;">Item 6: NCs and ICoEs Reports 16:00-18:00</p>	<p style="text-align: center;">Item 8: Future Research Agenda on DRR toward 2030 16:00-18:00</p>	<p style="text-align: center;">Item 9: Compilation of IRDR 10-year's work and 2020 IRDR Conference 16:00-17:30</p>
		<p style="text-align: center;">Item 10: Wrap up and Next SC Meeting 17:30-18:00</p>
Welcome dinner		

Annex 2

22nd Meeting of the IRDR

Scientific Committee

List of Participants

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Annex 3 Download for meeting materials

Link: <http://www.irdrinternational.org/sc-members-zone/sc228-10-october-2019-xiamen-china/>

username: IRDRmeeting

password: #irdr2020

IRDR Workshop on Hazard Terminology and Classification

Note takers: Emily Campbell and Emma Hudson-Doyle (ICoE:CR, JCDR, Wellington)

- **The purpose of this note is to provide a feedback from the IRDR SC workshop to the UNDRR ISC Hazard Terminology and Classification and Review task team**
- Notes are divided into over-arching summary points, some initial suggested action points, and detailed minutes of the meeting itself.
- Please note - due to the real time nature of the note-taking, inaccuracies may be present and some of the discussion may have been missed.

Summary:

Key point #1: Purpose of the hazards list

One key point that dominated much of the early discussion was around the purpose of the list and who its audience would be. Many ideas were put forward for the role that this would play, however, there was consensus within the room that this needed to be decided on and transparent. The purpose has been defined previously, so effective communication around the purpose and the target users is key. The room also talked about this list being valuable not just for assisting the Sendai framework implementation, but also helping the sector to make decisions in the short, medium, and long term, particularly the discourse of DRR post 2030.

Possible solutions regarding the purpose of the list are suggested below:

- Foster public policy and practice
- Help with implementation of the Sendai framework
- Purpose of the list to help UN member states, scientists, and public gain understanding of global hazards
- Peril report in 2014 was wonderful work but didn't sweep as widely or with as much consultation as this process - there is a need to bring in definitions that encompass 'all-hazards', as well as existing definitions agreed to by the UN member nations.
- Aim of this is to be a collective intelligence process reaching as wide as possible

Notable questions and concerns that arose from this point were:

- How might nations use this to enact/alter public policies?
- Does the list mean the potential redefinition of some hazards?
- How has degrees of uncertainty within hazards been managed/explored?
- How do we help all stakeholders understand the pluralistic nature of risk and collective 21st century challenges?
- We cannot talk to emergency preparedness in this document, as this could risk excluding a number of sectors and agencies from engaging with the list (depending on their definition and understanding of the scope of 'preparedness').
- This list needs to explicitly address the management of 'risk'

Key point #2: Clear inclusion criteria

The next prominent discussion point raised throughout the day was the need for greater clarity of the inclusion and exclusion criteria, particularly in regards to understanding hazards versus vulnerability and exposure. The room noted that there seemed to be some inconsistencies within the list of terms that included elements of vulnerability and exposure. We thought that clear definitions of disaster, hazards, vulnerability, and exposure should be included. One solution that was suggested was to use thresholds or indices to understand the relationship between inclusion and exclusion of terms.

- Suggestions for additional overarching criteria were made, of which 'time' and 'timeframes' were key. Disaster and hazard events can be emergent, slow, shocks, and slow-shocks. If we have a longer timeframe for the hazard, post 2030 - should it still be included, or not? Thus the development of a temporal criteria was suggested
- The need for a coding system, perhaps linked to CODATA, was suggested - that adopts a data science ontology approach that properly tracks changes of terms, etc. (*if not for this deadline, then for the cascading hazards list that follows?*)

Key point #3: Systematic thinking

A number of participants mentioned the need to take a step back to help us think about what is, and what isn't in the list; and how to move the list from a 'flat' non-hierarchical list to a clustered list for ease of use. How the hazards are clustered was identified as a particular challenge.

- Adopting a 'systems thinking approach' was suggested multiple times. This may help us identify the overriding concepts that will enable the refining of inclusion and exclusion criteria, and the sorting of the hazards
- Adopting a systems thinking approach may enable more of a 'systemic understanding of risk' throughout the list.
- Consider a Data Science approach

Key point #4: Dissimilarities across nations

The room agreed that local knowledge is very important to this process. Along this notion a number of points were raised regarding possible issues in dissimilarities across nations. The most immediate concern has to do with the multitude of differing and competing terminologies and what are the possible implications of this may be. Possible solutions from the room included enacting a robust system of data science to manage the range of terminologies, or adding a field to the hazards template for additional or related terminology. Another concern was raised around potential issues that could eventuate following translations of the list into different languages. The room agreed that this needed to be a priority for the benefit of non-English speaking nations.

Key point #5: Review of the template

The room also looked at the hazard definition template and agreed that it needed to be simplified (no longer than 2 pages) for engagement amongst all stakeholders. Some suggested reviewing the mechanism for building both the primary and science definitions

to avoid confusion and contradiction. Many agreed that the primary definition should serve as an uncomplicated definition of the hazard for greater and more inclusive understanding. The role of the scientific definition should then be to build on the primary definition with concise, yet robust evidence. Another suggestion for strengthening engagement with the templates was to include some sort of imagery such as a diagram showing linkages to other hazards.

Ultimately, our input will have some reach in the future discussions and direction of this process.

Initial suggested action points (in addition to the above key points):

1. Review the terms used in the template:
 1. 'Source of definition' rather than 'owner'
 2. 'Example scientific definition' rather than finding a singular overall definition
2. Include a disaster definition, alongside the hazard definition
3. Review the criteria of what a 'hazard is'
4. Review each hazard item under the lenses of 'hazard or vulnerability?' to help decide if appropriate
5. The parameters paper explaining inclusion / exclusion criteria needs to remain, but needs to be shorter and clearer.
6. Help is needed from the IRDR - to develop constructive review and solutions.
7. Tunnel hazards need to be included
8. ...

IRDR group felt the following should be included in the hazard list (transferred from the annex 2 exclusion list to be back in to the hazard list)

- "competition for resources – land, water, food including fish stocks and energy – the energy-water-food-land-metal nexus (Kent 2015)"
 - As part of conflict
- "irreversible melting of the Arctic and the Greenland and Antarctic Ice sheets"
- "super-eruptions that could lead to catastrophic cooling from dust and smoke that reduces global food production (CSER 2019)"
 - *C.f. super-volcanoes in NZ – Eclipse project etc*
(<http://www.supervolcanoes.nz>)
- "shared river systems (Murray et al, 2012)"
 - Michael Boyland will champion bringing this in
- "outer-space objects and space debris..."
- "cosmic radiation"
- Coup – as part of governance hazards
 - Tiana Mahefasoa Randrianalijoana
- Should Genocide be included or not? Note ethnic cleansing should be included too (Definitions different)

Note these will each require definition templates

Minutes:

Minutes taken live during the meeting, on Wed 9th October, follow below

- *Please note - due to the real time nature of the note-taking, inaccuracies may be present and some of the discussion may have been missed.*
-

Session 1: Introduction and Hazard List

PRESENTATION

Introduction to project, purpose and status (Virginia M)

- Sendai – move to all hazards
 - Moved the parameters of how we think about hazards
 - What does this mean? Reasoning for classification work
 - Way of reviewing and reporting on alignment of work to Sendai
 - *The Sendai framework provides an agreed method to enhance capabilities to plan and prepare for, respond to, and recover from emergencies and disasters*
- Peril Classification and Hazard Glossary produced in 2014 by IRDR
 - Served purpose for establishing the Sendai framework
 - Excluded or insufficiently looked at in this list - technological hazards, disease, environmental hazards, climate hazards, humanitarian, geopolitical and post conflict hazards, violence and terrorism hazards, trade disputes, financial shock, cyber hazards, transport hazards
- What qualifies?
 - Does it fulfil that UN General Assembly definition of a hazard?
 - Does it have an agreed definition?
 - Is it measurable?
- What is needed from each hazard to complete the classification?
 - Primary definition and scientific definition
 - Metrics, numerical limits or defined guidelines
 - Any essential annotations
 - Who owns the definition (source)? (places responsibility on the owner to update the definition)
 - Contributors to hazards definitions and dates
- What is the aim?
 - To inform those engaged on the wide variety of hazards
 - Build wider connection and capacity towards Sendai goals (amongst those who don't yet see the connection for their sector)

- Conversations about risk need to be more prominent over simply conversation about the event
- Needs to be understood by all stakeholders

DISCUSSION

Round room

- Who is it for? Scientists / emergency responders / decision-makers
- Some terms seem to including the vulnerability and exposure elements?
- Important to have a glossary that all countries can understand and identify with – but we need to be aware of scope – not too comprehensive

PRESENTATION

Hazard List (Virginia M)

- Method
 - Review of existing glossaries
 - Previous IRDR glossary
 - Scientific glossaries
 - UN agency glossaries
- Collated excel spreadsheet
 - Linking of hazards to agencies whom are most likely to 'own' each hazards definition
 - Complexity drove the need for clustering – not a classification yet (due to range of issues)
 - Survey sent out for review
- Type of hazard (12) à clustered hazard type à hazard

DISCUSSION

Round room

- List has some anomalies, and it isn't an exhaustive list – current list not the final say
- Each item on the list has a definition, and a template
- Don't know what to do with all the water / marine hazards – should they be linked
- The template can be where the interlinking happens?
- ISO was considered – but they charge. Might be used for the annotations to definition of 'hazard' – but not for items in the list etc

PRESENTATION

Summary of survey results on initial draft hazard list (Anne-Sophie)

- Sent to 500 people (12% response rate)
- Questions around comprehensiveness of the review
- Mix of open and closed questions

- Are there hazards missing?
 - Over 50% yes
 - More details on urban related hazards requested
 - Human trafficking was suggested many times
 - Slow-onset disasters (what story are we telling about these?)
- Which should any not be included?
 - 3 way split in responses of yes, no, and not sure
 - Conflict was suggested for removal as this is not included in Sendai
 - Trade disputes
 - Financial hazards
 - Some infectious diseases
 - Why include tectonic movement and earthquakes?
 - Repetition and overlapping contested
 - Are the hazards included relevant for reporting on national efforts?
 - Asking for list to be informed by case studies
 - Some concern about the capacity of some countries to report on this list
 - Hazards are of no importance without exposure and vulnerability
- Additional comments
 - Include a reflection of black swan events – could include unusual scales
 - Requires explanation of purpose and intended use
 - Highlight/draw attention to more important/frequent hazards – particularly for smaller countries
 - Be conscious of the level of detail included
 - Hazard definitions needed
 - Where possible show linkages
 - How will you correctly define climate change in terms of being its own hazard vs influencing other hazards

DISCUSSION

Round room

- Coding system for the list?
 - Link to co-data <http://www.codata.org/>
 - Proper data science ontology – with proper tracking of changes etc, will be critical
 - Every classification should have an 'others'

Virginia Group

- Geophysical hazard

- Current thinking around clustering
 - Volcanic
 - Tectonics
 - Slow movements
- AGU thinks about these in terms of the layers (think as follows)
 - Sub-surface processes
 - Ground processes (?)
 - Atmospheric processes
 - Space processes
- Types of mass movements and earth processes (China)
- Transboundary hazards are really important
 - E.g. Heatwave (will probably have about 4 definitions)
- Difficulty to define the transition of hazards (e.g. cascading/compounding hazards and risk)
 - Cascading hazards will be explored next year (out of scope for version one)
- Also difficulty in different terminologies of hazards
- Looking at local hazards as well
- Where is rural?
 - Bias towards urban currently – may open the list up to criticism
 - Opens up conversation particularly in the conflict space – natural resource conflict (relationships)
 - Have felt this gap but unsure how to include it yet
- Some conversation about this sounding too UN
 - However, many UN definitions have been agreed to by member states
- Where hazards are placed is only an artefact
- Visualisation required
- Is poverty a societal hazard?
 - These things were looked at – probably not a Sendai hazard was the reasoning
 - Sendai looks at poverty as an underlying factor/driver of risk – in some way this removes it as a hazard
 - But environmental degradation is also identified as a driver but is on the list
- Has this been thought about in terms of how this might be communicated to the public?
 - This will hopefully be addressed in the creation of hazard definitions
- Dam failure
 - Natural (geophysical) and man-made (technological)
- Inundation needs to be added to flood hazards
- Environmental hazards
 - Ensablement (Mahefasoa to add definition) – related to silt - silting of rice fields due to upstream degradation
- Technological hazards

- Power hazards (the origin or the consequence?)
 - In Madagascar this can be caused by a shortage of rainwater (origin)
 - Delestage
- Economic shocks
 - Unemployment – great issue in Africa (to be addressed in next phase)
- Trouble with dealing with rubbish sites in the review
 - Secondary hazard for people to then consume this and become ill or a fire to start
- Confusion of terminology
 - Risk, hazard and disaster
 - Debris
 - Contaminated waste is difficult to manage after a disaster
 - Difference between disposal site and dump site?
 - Struggling to handle – some are legal and illegal
- Forced displacement (included)
 - This is a real concern – especially in Africa
 - Should voluntary displacement also be included
 - Humanitarian hazards are very political
- What about abuse (drug, child, gender) and human trafficking
 - Why is mass suicide included if these aren't?
- Where do you draw the line between hazard and vulnerability?

REPORT BACK

Emma group

- Systems thinking
 - How do you group the hazards together?
 - Could you take a step back and thinking more conceptually
- Is poverty a social hazard or a vulnerability?
 - Was a discussion across the board – what are vulnerabilities and exposures?
- Reiteration that this was a Sendai hazards list
- Silting of rice fields downhill due to uphill degradation
- Occupational hazards
 - Not included except for service workers
 - What about informal workers
- Disaster waste in debris
 - Asbestos after a disaster

Alonso group

- Discussed more structural things about the list first
- More information needed on the purpose
 - Particularly around ways for nations to use this to enact/alter public policies

- What are the implications of competing terminologies?
- Acknowledge that this will not be a perfect list
 - Instead use this as a mechanism to enhance participation – use as an evaluation indices

John group

- What is the purpose? Who is going to use it?
- The process needs to be inclusive
- Great levels of detail in some areas and lacking in others
- Informal housing – do not see this as a hazard
- How technical should the list get?
- Does the list mean the potential redefinition of some hazards? Concern if yes
- How has degrees of uncertainty been managed/explored?
- How has probable translation (language) of this list been thought about?

DISCUSSION

Round room

Anne-Sophie

- In hazards template, can there be a field about additional or related terminology?
 - As a reflection to the multitude of similar terminologies

Virginia M group

- Purpose of the list to help UN member states, scientists, public gain understanding of global hazards
 - Foster public policy and practice
 - Help with implementation of the Sendai framework
- Agree that the measure of success will be who uses it
- Peril report in 2014 was wonderful work but didn't sweep as widely or with as much consultation as this process
- Aim of this to be a collective intelligence process reaching as wide as possible
- Issues of classification and clustering have been noted
- Great point about difference in languages – so important
- Will require a good system of data science to manage the range of terminologies

Quinli

- Needs some sort of classification
- Think this list is an exciting exercise in terms of creating a collective knowledge product – new insights and perspectives
- Translation work needs to be a priority – hard to implement in a nation that does not speak English

Mark

- The list cannot be an end in itself – will help us realise some things in the short, medium and long term
 - Much bigger than helping the Sendai framework's implementation
 - How do we help all stakeholders understand the pluralistic nature of risk and collective 21st century challenges
 - Systemic understanding of risk
 - Will help shape the discourse post 2030
-

Session 2: Parameters

PRESENTATION

Suggested parameters for hazard inclusion and exclusion (Virginia M)

DISCUSSION

Round room

- Red box implies existing knowledge
 - We are going to need to understand black swan events at some point and mechanisms to deal with them
- Preparedness is also a dangerous term
 - Part of the risk reduction toolkit

Virginia Group

- Role of the classification is to understand hazards and how they impact on a disaster
 - How do countries measure a disaster?
- Systems thinking required
 - The definitions are very systematic in their wording
 - List seems to include more specific hazards, however, what seems to be missing is broader hazards that encompass these
- In China as a result of urbanisation many have moved out of landside induced areas
 - In Colombia they are actively trying to move people out of these type of areas by building a reflective environment (town) in these new places
 - The most vulnerable are left in these high hazard prone areas (trapped population)
 - What is the hazard that has driven the problem?

- Removing complexity of 'resilience' from this list and focusing only on the 'hazard'
- Many countries have different systems for very specific hazards while some have quite a flexible system for all hazards
- What is a 'shared river system'
 - E.g. a dam being erected by one nation that limits water flow to another and results in a drought (with ongoing impacts into civil issues, e.g. civil unrest)
 - Excluded due to complexity
 - Which natural resource is not shared?
- To be included (from annex 2)
 - Irreversible melting of the Arctic and the Greenland and Antarctic ice sheets
 - Has great consequence on many of the other hazards in the list
 - Concern that this is more than Sendai
 - Super-eruptions
 - Tunnel hazards

REPORT BACK

Emma group

- Timeframes issue
 - Temporal criteria? E.g. slow-shocks
 - Beyond scope
 - Past 2030 Sendai end date
 - Outside of the topic area
- Concern around the word 'may' in hazard definition - at what point does a hazard become a disaster?
 - E.g. If no damage occurs
- Coup in terms of governance hazards needed to be included
- Ground water table rising also needed to be included

Alonso group

- Difficulty in how to understand the risk equation if only focusing on 'hazard'
 - Not sure how these can be extrapolated from one another
- Thinking about thresholds in terms of understanding hazards vs vulnerability and exposure

Virginia J group

- Placed emphasis on inclusion instead of exclusion
 - Clear criteria around what is inclusion needs to give greater clarity to list
 - If it is in the same framework, reporting or instrument we draw upon it should be included
 - Need to clarify this before revising again

- Remove green and black circles from diagram – problematic language and not very clear
- Blurred lines between hazard and vulnerability need to be addressed because they are a marriage
- Clean the list by drawing on existing categorisation such as the 2014 peril list classification
 - E.g. The placement of landslides

DISCUSSION

Round room

Mark

- This needs to be the insights from science and technology that is then accepted by the UN and thus it's member states
- Don't talk to emergency preparedness in this document as the point of departure as this could risk excluding a number of sectors and agencies from engaging with this
 - Needs to explicitly address the management of 'risk'

Anne-Sophie

- Using vulnerability and exposure indices as a way of screening 'hazards' in terms of inclusion/exclusion criteria

Virginia M

- Need a secondary/alternative definition on hazard
- Agree hazards and vulnerability are a marriage
 - Annex 3 was a miracle of clarity in terms of helping to frame some of this
- Exclusion criteria needs to be included in some shape or form
 - Wording will be further reviewed

Virginia J

- If there is a clear and specific criteria the process won't require an exclusion criteria

Franz

- Criteria used at our table to access inclusion of hazards
 - Ability/capacity to deal with a hazard (problematic inclusion - Mark)
 - Temporal time issue
 - Occurs despite good governance

Juanle

- Needs to be tool where people can continue to contribute – online perhaps
 - Remains open and accessible (e.g. GCMD platform - <https://earthdata.nasa.gov/earth-observation-data/find-data/gcmd/gcmd-keywords>)
 - Local knowledge is very important to this process
 - Classification might differ between countries
-

Session 3: Review of Templates

DISCUSSION

Round room

- Primary and Science definitions have some differences/contradictions (Anne-Sophie)
- Some definitions may work for both the primary and scientific definition (Qunli)
- Standardisation of lens needs work (Alonso)
- Needs to be more readable and engaging (Juanle)
- Pictures could not be used because of differentiation in hazard impact between nations (Virginia M)
- Cloudburst and flash flooding are not accurately represented in the current WMO definition (Amod)
- Okay to go through to review with minor changes – notes have been given on the documents (John on behalf of this table)
 - One definition was self-referential and another said precisely what it wasn't
- Structure (Virginia J)
 - Template needs to be simplified – needs to be something that people understand
 - Should be 3 sections only - primary definition, scientific definition (for scientific community and for connections between the 2), and the metrics section
 - Ownership of definition should be included in the scientific definition
 - Essential annotations are also not necessary
- Mechanism to build the definition (Virginia J)
 - Would be useful to include a translator to help simplify the primary definition for greater and more inclusive understanding
 - Enhanced by the scientific definition
- Requires simplification for general understanding – e.g. pictures (Gordon)
- The inclusion of case studies could also be useful to include (Gordon)

- This was discussed but swayed from because it seemed to point the finger at certain countries (Virginia M)
- Structure and ownership (Mahefasoa)
 - Simple primary definition is needed if this is to be used by everyone
 - Scientific also needs to be concise and then have a wider reference section for further reading
 - Source locations are important and need to be thought about
- Agree primary definitions needs to be a simple, concise blurb – layman's terms (Emily)
- The template could have different layers of depth in terms of the information given to readers (Emily)
- Length is an issue – should be a one/two pager (Emma)
- Include some sort of diagram such as a hazards family tree – e.g. Cladistics (Emma)
- Participants wanted more time to be involved in the process (All)
- Our input should have some sway in the future discussions and direction of this process (All)
- Will these templates be completed for the 'clustered hazard type' also? (Michael)