This occurrence of this conference is important in both time and place
• we co-located here in Beijing with a number of other key conferences:
  • World Landslide Forum
  • Future Earth
  • CODATA
• At a key time in the process of HFA2 & SDG – goals, times, global processes
Timing has set a challenge for us, set the context at which we arrived here for the conference and shaped and driven conversations, and choice of sessions and speakers
It is in this space we have come together, and seen exciting interactions across disciplines and communities, as well as seeing early career scientists challenging the dialogue.

This conference: **double** the number of countries represented than 2011!

- 54 countries
- Over 200 attendees at our opening ceremony
- CAS-TWAS members: 25
- Future Earth: 12
- Over 30 early career scientists – bringing a fresh dynamic
The topics chosen to frame our conversations here:

- Translating science into action
- Assessing risk
- Community disaster reduction
- Risk Interpretation and Action (RIA)
- Empowering Local Officials
- Risk Reduction and Sustainable Development
- Integrated Risk Sciences
- Forensic Investigations of Disasters (FORIN)
- Risk Reduction Planning
- The Role of Science in 2015 Agenda
- Water and Disasters
- Science and National Politics
- Indigenous and Vulnerable Populations
- Capacity Building
- Science and the Post 2015 agenda
- Risk Indexing
- The gap between disaster knowledge, policy and practice
- Data and technology
- Science and the Media
- Resiliency and Reconstruction
- Communications and the Media
- Meteorological issues
- CAS-TWAS
- Committee on Data for Science and Technology (CODATA)

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With the assistance of the ISSC WSS RIA Fellows who have recorded our discussions and debates, we have observed a number of cross cutting themes across these topics.

**Key observations**

- Different types of knowledge
- Risk assessment / indexing
- Water
- Science, decision making and communication
- Science and Uncertainty
- Data and Technology
- Importance of scale: time, geographic, scope
- Government, policy and planning
- Political drivers for science
- Local communities
- Risk reduction, mitigation and planning
- Relocation / reconstruction / recovery
- National, international networks
- Education
- Media

Integrated approaches; need to bridge gaps
The different types and adoption of knowledge in DRR assessment, communication, planning, and implementation

- Local; indigenous; gendered knowledge
- Coproduction of science with this knowledge
- Human activities, environment, relationship with land
- “vulnerable” communities and their knowledge

Risk assessment / indexing

- How to formulate standardised risk assessment?
- How to estimate risk beyond physical or economic losses?
  - Holistic risk assessment (including social)
- Need to carry out risk assessments (like GRM) at higher resolution: sub-national and local level
- Risk and social vulnerability index: tools of assessment vs. process for disaster risk reduction?

Water

- Unsustainable water management in megacities
- Government response to supply safe and sufficient water is currently inadequate
- Water, food security and drought – related within DRR as both primary and secondary (in time) hazards.
**Science, decision making and communication**

- Integrated risk science: different models, context and data will dictate choice of model (complex / generic) to offer understanding to policy makers
- Need to better understand needs of various stakeholders at all levels to deliver effective science – including terminology
- Need for research innovations: scenarios, optimisation, predictive models, communication formats, decision approaches

**Science, and uncertainty**

- Ethics of what is communicated: concept of transparency (process and data), communication of uncertainty, enabling stakeholders with complete picture, practitioners capacity for uncertainty
- How research is accepted by users or policy makers

**Data and technology**

- Call for more data across groups to guide policy and implementation (national statistics)
- Tackling an increasing diversity and volume of information
- Data sharing is a bottleneck for science research in DRR
- Computing and analysis needs advancement in technology; geo-visualisation
- Should we pay for data?
**Importance of scale: time, geographic, scope**

- Long term strategies: higher uncertainty
- Short term vs long term
  - financial and social implications
  - goals and planning
  - forensic analysis, focusing on the event vs. the process involved in creation of disasters
- Economic impacts spatially different – local vs global
- Relevant spatial scale key to social vulnerability data
- For decision making: individual, local, policy and governance

**Government, policy and planning**

- Challenging to integrate global, regional, national, and local level policies and plans
- Need to promote local innovations and knowledge to policy level
- Use of stories and narratives and emotion to engage government and policy makers
- Informal relations play an important role
- Gap between policy and knowledge
**Political drivers for science**

- Political factors frame, surround and result from disasters
- Political pressures on science – community perceptions of advice, unpopular political decisions
- Novel approaches: scientists and communities involve media to highlight political DRR obligations

**Local communities**

- Importance of community participation in DRM, empowerment but also listening
- Collaboration and partnerships key to building local resilience
- Disasters are place-based
- Communities and individuals can contribute to our data needs (citizen science)
- The role of embedded cultural norms and the interface with science and policy
- Early warning systems
**Risk reduction, mitigation and planning**
- ‘Complex’ cost-effectiveness of DRR investments
- Focus on managing risk rather than managing disaster
- Which risk is priority in a multi-risk environment?
- Importance of studying extreme events

**Relocation / reconstruction / recovery**
- Can also be agents for social change, opportunities for action but also can create risk
- All recovery framed within a social context – history matters
- Socioeconomic factors must be considered in relocation
- Financial and social implications of short term and long term recovery and reconstruction
- Role and appropriateness of relocation?

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**National, international networks**
- Role of guidance from each other: global peer support network in DRR, not just through research but from community to community (‘sister’ city, village) nationally and internationally
- How do agents at local, national, international levels communicate and co-ordinate – in response and in sharing knowledge (role of informal relationships)
- In developing and establishing science advisory groups, identify existing examples of good practice for physical and social science integration and practice in such groups
**Education**

- Adopt the community approach: involve local universities and academics as active members in their local DRR community
- DRR education and capacity building goes from preschool to higher education
  - As separate programs or integrated?
- Focus on students: they are the future citizens, future decision-makers
- We need both broad education in DRR and specific skill training: for communities, government, and researchers

**Media**

- Involve media to help highlight political obligations for DRR
- Translation of science and DRR into media language and message
- Media challenge to scientists – how to make DRR enticing to the media at the migration and preparation stage
- Build trusted partnerships with the media
- Can be used to systematically build emergency
Integrated Approaches; need to bridge gaps

- Adopting integrated risk management at all levels, local through to global
- What falls under integrated DRR, and what doesn’t?
- Tools to drive collaboration and an integrated approach
- Participation / co-responsibility of all actors to communicate the need for scientific advances, technological progress and social, practical and decision making needs.
- Our role is our inter- and trans-disciplinarity but we must identify communities not yet involved
- Science that is useful, useable and used is key

- There is a call for case studies by the UNISDR Scientific, Technical and Advisory Group to demonstrate good practice

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Where next?

- We as a community need to rapidly contribute to global initiatives
- Sustainable development goals (September 2015)
- Climate change agreements through UNFCCC (December 2015)

- There are many meetings coming up, where we should have a presence both individually and collectively to carry forward our IRDR message here
London statement suggests

- periodic reports on current and future disaster risks and on the status of efforts to manage such risks at global, regional, national and local scales.
- monitoring progress toward internationally-agreed targets for reducing disaster losses and building resilience to disasters.
- providing guidance on terminology, methodologies and standards for risk assessments, risk modelling, taxonomies and the use of data.
- convening stakeholders to identify and address demands for scientific research, information and evidence on disaster risk and resilience.
- enhancing the communication of complex scientific information and evidence to support the decision-making of policy makers and other stakeholders.

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Towards a post-2015 DRR Framework

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UNISDR
The United Nations International Strategy for Disaster Risk Reduction

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DRR and Sustainable Development Goals (SDG)

- Like DRR is embedded in IPCC process, we would like to see the same outcome in the Sustainable Development context.

- Therefore a key message from this IRDR 2014 conference is the urgent need to have DRR included explicitly in the draft of the Sustainable Development Goals.

- That the SDGs includes HFA (& HFA2) among the global partnerships for sustainable development.

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SEE YOU IN JAPAN IN 2015!