

## 14<sup>th</sup> Meeting of the IRDR Scientific Committee

Hosted by RADAR, Stellenbosch University, Stellenbosch, West Cape South Africa  
16 to 18 November 2015

### Summary Report

#### Attendance

**SC members:** Sálvano Briceño (SB); Anthony Oliver-Smith (AOS); Mark Pelling (MP); Sisi Zlatanova (SZ); Shuaib Lwasa (SL)

**Ex officio members:** RADI (LIU Jie/LJ for Huadong Guo); ICSU (Anne-Sophie Stevance/ASS for Lucilla Spini); ISSC (Vivi Stavrou/VS); ISDR (Julius Kabubi/JK for Feng Min Kan)

**IRDR IPO:** Bill Paton/BP (ED a.i.); Anne Castleton/AC (SO)

**Invited guests:** Fang Chen (FC), IRDR China; Ailsa Holloway (AH), IRDR ICoE-REaL; Kenichi Tsukahara (KT), IRDR Japan; Coleen Vogel (CV), Ahmed Abdel Hady (AAH), Julia Mambo (JM), Leandri Kruger (LK), Andries Jordaan (AJ), Agnes Musyoki (AM), Adriaan van Niekerk (AvN), Robyn Pharoah (RP), Genene Mulugeta (GM), Shaun Minnies (SM), Greg Pillay (GP), Schalk Carstens (SC), Jens Pedersen (JP), Tianni Moolman (TM), Jens Pedersen (JP)

#### Apologies

**SC members:** Irasema Alcántara-Ayala (IAA), Jörn Birkmann (JB), Ann Bostrom (AB), S.H.M. Fakhruddin (SHMF), Virginia Jiménez Díaz (VJD), Djillali Benouar (DB)

**Ex officios:** Huadong Guo, Lucilla Spini, Feng Min Kan

### Annexes and Documents

Documents are stored in Baidu (Chinese competitor to Dropbox). They may require an extraction passcode which is provided after the embedded links throughout the document. See below. All SC14 meeting documents are available [here](#) (extraction passcode [ep]- retk).

Annex 1 - [List of 14<sup>th</sup> SC Meeting Participants](#) (ep - a6rq)

Annex 2 - [SC14 Action Items](#) (ep sx5q)

Annex 3 - Day 3 [Jens Pedersen \(MSF\) notes and discussion on ebola](#) (ep 88wz)

### *Day 1: Business meeting - Open to SC members and ex-officios*

#### 1. Welcome and Introductions

The acting SC Chair, Shuaib Lwasa (SL) opened the meeting and then meeting host Ailsa Holloway (AH), on behalf of RADAR (Research Alliance for Disaster and Risk Reduction), offered a welcome. Bill Paton (BP), the new interim Executive Director, was introduced by Sálvano Briceño (SB). ISDR gave an [official message from Margareta Wahlstrom](#) (ep 4exe) reflecting on the history of IRDR and ISDR together.

Vivi Stavrou, ISSC, welcomed the group to look to 2016. A brief mention of the SC nominations status was given. BP started the introductions by reflecting that humanitarians have been discussing DRR since 1993 when he was involved in emergency response; over the last 20 years disasters had become mainstream. Introductions proceeded around the room.

## **2. Approval of the agenda**

SL presented the meeting's [agenda](#) (ep: x4i6) and reminded everyone that this meeting does not have a quorum, and thus decisions may include the clause "pending final approval (by email or at next meeting) by the Committee."

**SC14 agenda was approved.**

## **3. SC13 business**

The [13th SC meeting report](#) (ep mhtx) was approved and Anne Castleton presented the [SC13 Action Items](#) (ep kpvg) and led a discussion of follow-up.

1. Discussion about whether working with the Belmont Forum was easily achieved as they are a science donor's group. There is a separate DRR donor's group led by GFDRR (World Bank). It would be easier to engage Belmont through Future Earth (working through ICSU and ISSC).
2. For engagement with Future Earth (including ICoEs and other components) IRDR needs to have an overall vision rather than a fragmented 'project approach.' Now is the time to address IRDR representation on the FE SC as the FE SC is not yet settled. ICSU has a key role in both IRDR and FE so they agreed to make a formal request.
3. The previous chair of the SC (David Johnston) was on the STAG (UNISDR's Science and Technology Advisory Group) as an individual, discussion on how to continue IRDR's representation.
4. At least two Working Groups (WG) have 'requested permission' to add new members. WGs should inform the IPO of new members but don't need permission. Academics sometimes require a letter validating their participation so it counts as a professional activity. IPO has a draft format and will provide this when requested.
5. AC updated on progress with formalization of ICoEs and NCs via letters and MoUs.
  - ICoE RIA (UK) and ICoE UR&S (Colombia) MoUs finalized and signed.
  - ICoE REaL (Africa) MoU finalized waiting to decide who at SU should sign.
  - ICoE DRHBPI (Canada) MoU finalized and signed by DRHBPI, waiting for IRDR sig.
  - ICoE CI&SP (Germany) MoU drafted, waiting for CI&SP response to IRDR ???s

## **ACTIONS/DECISIONS:**

- **SC13 report approved as submitted.**
- **IRDR ED a.i. to send monthly 'communiqués' to ex officios and SC**
- **IRDR [through Anne-Sophie] will approach ICSU to request representation on FE's Science Committee.**

## 4. IPO / Host Update

### 4.1 IPO Update

AC [reported on current developments](#) (ep akv7) related to IPO staffing transitions, communications, and a work plan. Participants endorsed widely advertising the positions of Communications and Science Officers and in particular the targeting of the Beijing labour market to widen the candidate pool.

Three strategic points were raised: 1) the need to map the work of the ICoEs, NCs, RCs and WGs to IRDR's mission; 2) how IRDR's priorities should adapt to SFDRR; and 3) IPO fundraising. Working with FE was mentioned as a strategic priority.

### 4.2 IRDR Budget (ep g8eu)

LIU Jie (LJ) began with the history of how IRDR IPO was created and the yearly spending. Much of the overspend was historical and related to IRDR conferences. To respond to the expected shortfall in 2016 (due to fiscal year change), the group agreed that the next conference was not urgent and to wait until the new fiscal year (June) for the next SC (unless ICSU will take the early meeting).

There was a discussion of budget protocols as there is some confusion and a governance issue. The ED manages the budget in consultation with the IRDR executive committee (EC). The ED brings the SC an updated budget; the SC approves an annual budget and should always have the budget as a reference. The ED brings major budget changes to SC's EC for budget approval. RADI approves expenses to move them through RADI's finance system. Consultation with the co-sponsors is sometimes helpful on the budget and HR issues. The finance governance agreement, once agreed, to be included in the employee manual.

### 4.3 RADI Update presented by LIU Jie

IRDR is part of CAS' 63,000 researchers which include another IPO (Urban Health and Well-Being) hosted in Xiamen by CAS' Institute of Urban environment (IUE). More than 20 CAS institutes are conducting disaster-related research. CAS research units are reorganizing into 4 categories. RADI has 1200 employees (44% w/ Ph.D.s) and the most cited publications of all CAS' research institutes.

LJ discussed how the International Cooperation Office (ICO) supports the IPO. She reiterated that there are no restrictions on International Funds Transactions and that they make transfers every year due to renting the satellite. IRDR's google-based email system now works through a VPN. The SC appreciates that RADI shares their technical/scientific work as well as operationally supporting the IPO.

## ACTIONS/DECISIONS

- **Retarget CO and SO JDs to attract Beijing market.**
- **Further discussion to agree an IPO fundraising plan.**
- **Document budget protocols and add to employee manual.**

## 5. Reports/previews of Co-Sponsors: ISSC, ICSU, UNISDR

**ISSC** – Vivi Stavrou reviewed ISSC's mission. The 3<sup>rd</sup> World Social Science report on Inequalities and Social Justice will launch Sept. 2016. ISSC's world conferences are growing; Durban had 1178 attendees. They are negotiating the 2018 forum with a possible theme of human security/well being and have supported 226 WSS Fellows with seminars and young scientist networking conferences (with ICSU). The 4<sup>th</sup> WSS Fellows cohort on Big Data is scheduled in December in Xiamen in conjunction with the CoData group. 30% of WSS fellows do NOT come from social science.

Vivi spoke of several other activities:

- The *Transformation to Sustainability* series (T2S) have developed the bones of a T2S curriculum responding to a Belmont Forum request. It will be piloted at the Sustainability Institute at Stellenbosch University (SU) in April 2016. ISSC will use the results to go again to the Belmont Forum.
- Trans-disciplinarity in research is a new ISSC research focus; IRDR is ideally placed but is not linked to this effort. SB suggested that SL should link with SU.
- Transformative Knowledge Networks come together every year at a site of transformation; the first was in Potsdam and the 2<sup>nd</sup> was in Durban.
- Science International (coordinated by ICSU) includes ISSC, TWAS, and Inter Academy Partnership (IAP, IAC, IAMP). The first forum is 7-9 Dec; topic is Big Data/Open Data.

**ISDR** – ISDR's job is to convene, provide coherence, and share's info. ISDR mobilizes partnerships and aims to provide technical support to implement SFDRR. Julius Kabubi [reported](#) (ep vvry) that the implementation of SFDRR will happen at 3 levels; at the regional level they use their convening power and are trying to influence the chair of the African Union. At the local community level, they strengthen and enhance the power of implementers.

In Africa, the implementation of SFDRR is moving forward; they are the first region to adopt a common framework. ISDR's goal is to have 25 African countries (18 Francophone) with National DM organizations by 2020 Countries and sub-regions in Africa are at different levels.

**ICSU** – Anne-Sophie Stevance [reported](#) (ep 2x8p) that ICSU's work is organized in three themes: international research collaborations; science and policy; and the universality of science. ICSU is having an external review and in 2016 will do external consultations with partners (e.g., IRDR and others). ICSU will have a booth and a coordination role with the scientific community at COP21 with ISSC. There are several avenues to provide science advice to UN including a technology (UN's word for S&T) advisory group for the SDGs.

FE has research, synthesis, policy and communications pieces and 5 global hubs with several IPOs of specific projects. ASS identified two collaboration opportunities with FE: a Berlin workshop on extreme events and environments Feb 2016 (JB to be invited to attend) and the new DRR KAN (IRDR Japan involved). There are 10 Knowledge Action Networks (KANs); the 10<sup>th</sup> is on DRR.

The ensuing discussion was wide ranging. MP/ICoE-RIA is talking with DFID about looking across all the SDGs for synergies, overlap, contradictions. ICSU was asked:

- To bring IRDR directly to the DRR KAN table (not through IRDR Japan.)
- If there is there a survey of FE integration – how all the approaches to risk join up and can IRDR pro-actively help with this? IRDR has lots of knowledge but no resource.
- To broker relationship between IRDR and IRG

### 5.1 IRDR review

ASS said that ICSU routinely reviews its programmes and, with other co-sponsors, have drafted a TOR to look at the science and the operational aspects of the programme. The major review questions are:

- Is IRDR meeting its strategic plan and objectives?
- Is IRDR's governance and governance structure effective, does the secretariat structure enable the work?
- What space does IRDR occupy in the DRR world – science, broader community, communication, visibility, influence in policy space?
- How/where should IRDR develop in the future?

They are discussing names for the review panel - people who aren't directly involved but understand the issues. They hope to start this month and have a final report in May (BP in place until 31 May) but will start recruiting a new ED before the review is finalized. The review will be presented at the ICSU general assembly and published on the website. Meeting participants made several points/requests:

- Create a draft report informing the ED TOR ASAP during the review period.
- Present the preliminary results at next SC meeting and before the final review is submitted to ICSU's CSPR.
- Fundraising will be challenging with and incomplete review and without a permanent ED.
- Need careful coordination and timing in these partially parallel process.

### ACTIONS/DECISIONS

- **Shuaib to link with ISSC's T2S and their SU pilot.**
- **For S&T pre-session, invite someone from ISSC's Science International or Transformative Knowledge Networks to share (no longer relevant as session topic has changed).**
- **IRDR to identify representative to Berlin FE meeting in Feb 2016**
- **ICSU was asked to bring IRDR directly to the DRR KAN table soon.**
- **ICSU to broker relationship between IRDR and IRG.**
- **IRDR review preliminary results to be presented at next SC meeting.**

## 6. IRDR Programme Development

### 6.1 SC15 meeting

It was proposed to hold SC15 in March in Paris financially supported by ICSU and to do a Doodle poll to select dates for SC meeting. It was proposed to hold SC16 in Kunming after June 1 and the beginning of the new fiscal year.

## **6.2 IRDR 2016 conference decision to postpone**

The co-sponsors agreed with RADI at the July meeting in Paris to postpone the 2016 IRDR conference. SZ suggested sharing planning with the CODATA group planning a BIG DATA conference for 2017 and SB suggested that the DATA WG take on organizing the IRDR part of the conference. SZ asked to explore her idea and identify which societies might be involved.

## **6.3 Consultative Forum – discussion**

The [IPO raised the question](#) (ep bu8s) whether the SC should consider this requirement fulfilled, propose to vacate the requirement, or agree on fulfilment. MP suggested IRDR has informally been doing this with the regional focus on the last day of the SC meetings. The IRDR review will also do this. The SC suggested documenting where IRDR has already done this (SC13, SC14, IRDR Conference) and package it to indicate this has been achieved. There is also the May 2017 opportunity associated with the next GP.

## **6.4 Invitation to co-organize ICSU ROLAC 4/2016 DRR conference**

On Friday 13th November (right before SC14), the ICSU ROLAC Steering Committee decided to [postpone the Regional Conference](#) (ep wu2e) due to relocating their office. The Steering Committee of ICSU ROLAC in DRR together with the ICSU ROLAC Secretariat are the organizing committee. IRDR had [been invited](#) (ep t7m3) to co-organize the conference via VJD. Omar D. Cardona (ICoE UR&S), SB, and IAA will also help with the organization, the keynote, and shaping the [Conference scope](#) (ep i5mu) and will be in contact with IRDR during the organizing process. As co-organizers, IRDR would be asked to deliver a keynote (someone prominent as media coverage is expected) and invite other IRDR LAC members to the conference. If possible, budget-wise, IRDR could select and sponsor participants lacking resources (having in mind diversity - regional, disciplinary, gender and age). VJD wants IRDR to present all of the IRDR work streams and is concerned that the delayed conference may make her research out-dated. She suggests using the list and contacts identified in her study to promote the conference.

## **6.5 Co-organize ‘Big Data’ meeting**

The original idea was to combine this with the IRDR Conference. A ‘Big Data’ conference started in 2005 (after tsunami) and has become a general conference for 10 GIS societies and is now organized by a joint board that also includes CODATA. It was suggested to organized a bigger conference for a week, with days for data, days for more social science, days for more technical (this would be the IRDR conference). The end deliverable could be a white paper. IPO could coordinate the conference but each specific organizing committee does their own organizing and decides how to publish their papers in different publications. IRDR could have an SC meeting in conjunction with this and it would be an opportunity to make IRDR known and be

an avenue for presenting post-review, new ED IRDR. SZ was asked to develop a concept paper on this conference and to discuss a smaller meeting with the DATA working group (WG). The SC was asked to think about what our goal is in doing this conference.

### **ACTIONS/DECISION**

- **6.1 SC15 - Switch next SC to March in Paris (ICSU funds). Doodle poll to select dates. SC16 after June in Kunming.**
- **6.2 2016 Conference - SC14 endorsed decision to postpone**
- **6.3 Consultative Forum IPO to document SC13, SC14, and reach out to SC for historical perspective. Check constitution whether IRDR conference might fulfil this requirement.**
- **6.4 Proposal to co-organize ICSU ROLAC DRR conference**  
IRDR agreed to help organize through LAC IRDR members once new date is identified.
- **6.5 Big Data IRDR asked SZ to identify which societies might be involved, develop a concept paper on this conference, and to discuss a smaller meeting with the DATA working group (WG).**

### **7. Progress towards Sendai (part a)**

#### **7.1 Opportunities/positioning for IRDR at [UNISDR S&T conference](#)**

AC gave an update on current IRDR /ICSU involvement in the UNISDR S&T Conference. Check the website for details and the draft programme. Four Workstreams are each planning a half day of the conference (see 15.3 for details). IRDR is represented in each work stream and AC has organized and been leading working group 2 of Workstream 1 (S&T regional Partnerships). There is still some flexibility in shaping the [S&T Partnership](#) idea and UNISDR is still receiving comments on the S & T [roadmap](#). Suggestions of speakers from IRDR have been made (final decisions and invitations will be made by and come from UNISDR).

#### **7.2 IRDR ISDR S&T Conference side event – focus, topics**

The SC discussed the opportunity to organize a side event together with other ICSU programmes (e.g., Future Earth, Urban Health and Wellbeing). The side event would be focused on Knowledge Management and Knowledge Hubs.

### **ACTIONS/DECISIONS:**

- **7.2 Continue discussion on S&T conference side event (January 2016)**
- **MP to work with others at SC14 to draft a concept of side event & IRDR contribution to roadmap.**
- **SC14 meeting participants to look at [S & T Conference Programme and roadmap](#) and be ready to discuss on Day 2.**

### **8. Final review and approval of IRDR budget**

LJ led the SC through a quick review of the final [budget](#) (ep dnws); SC made final comments and requests. It will be BP's job to develop the final budget. Even with cuts, there will be a deficit due to fixed labour costs, under-estimation of IPO travel,

and change in fiscal year. RADI can make a loan but requires a request letter from ICSU to CAST with a cc to RADI. The goal is to eliminate the deficit by 2017. MP asked IPO to create budgets that include the SC meeting and IRDR conference. ICSU needs to review budgets and the SC EC needs to approve before it can be presented at SC15.

#### **ACTIONS/DECISIONS:**

- **SC EC to review final IRDR budget and submit to SC for final approval (by email or at next meeting).**
- **The IPO to create budgets that include SC meeting and IRDR conference.**

#### **9. AOB**

No issues were raised.

#### ***Day 2: Business meeting Part 2: Open to existing members and partners of the IRDR community***

**10. Welcome** by SL who noted it was the first time IRDR convened in Africa. Stellenbosch University **Vice-chancellor Professor Eugene Cloete** followed SL and made opening remarks. Coming from microbiology, he looked to ecology to understand what is happening in the world. He argued that as organisms grow, instability grows. If organisms are mobile, they have a better chance of survival. Our consumption has overshoot what the Earth can sustain “*We are consuming the equivalent of 1.25 planets*” and there is a limiting factor: energy. Technology can help but we need insights into how to mitigate the world’s risks. 20 participants introduced themselves and SL presented the IRDR PPT to set the context and introduce IRDR programmes and trans/inter disciplinarity to the new participants.

#### **11. Reports from IRDR Working Groups**

##### **11.1 DATA (ep 18sr)** presented by Sisi Zlatanova (SZ)

For the expanded audience, SZ shared the background of the DATA project; a top down approach starting from scientific classification. The Joint Research Council (JRC) was bottom up and sent the classifications to member states (Europe) to see what their practice was. DATA increased cooperation with JRC and joined their meetings on disaster loss, held discussions on inter-operability. DATA refined the classification system but put some work on hold waiting for SFDRR’s indicators. What DATA has developed differs significantly from what ISDR has developed and requires reconciliation. They need a sensitivity analysis experiment and to replicate the process they used in Europe in other regions of the world.

DATA has completed almost everything in their 5 year work plan but are still working on creating transparent methods for assessment. DATA WG is quite diverse but needs more social scientists. They have no current plans for changing the working group but new members are welcome to join.



**Discussion:** DATA had minor differences with the ISDR definition of human loss indicators so they are waiting until ISDR finalizes. JK explained that there are now 2 open ended working groups in ISDR - one on targets and one on indicators. DATA wants to have exclusive definitions so we can all work with predictable numbers. There is a lot more work to do on the loss side. MP, referring to the SDGs, asked if we can disaggregate the kind of people affected and which hazards have affected them. SZ to discuss with DATA working group (WG) the need for the policy community to take up the outputs of DATA; they haven't incorporated the underlying values. There was urgency about not waiting for a conference to do this. SZ was asked to develop a concept paper on this conference and to discuss a smaller meeting with the DATA working group (WG).

11.2 **FORIN (ep wu2y)** presented by Anthony Oliver-Smith (AOS)  
AOS introduced FORIN by saying that *forensic* means to search for deeper causes, disasters are socially constructed, and the world is still dominated by the idea of 'natural disasters.' He said FORIN2 was needed because students at their 4 workshops found gaps and omissions in FORIN1. ISDR funded a workshop (Paris, Nov. 2014) to help with FORIN2. They gathered feedback and by February 2015 a drafting group (Ian Burton, Allan Lavell, IAA, and AOS) produced a draft which was sent to workshop participants and 10 outside readers. ISDR's Andrew Maskrey will provide a forward. Lang Lang in the IPO will manage design and printing for FORIN2.

Looking at underlying causes was priority #4 of HFA and convinced FORIN to push further / harder. Underlying causes is downsized to a sub-category for SFDRR.

**Discussion:** Disaster Risk Management cannot deal with root causes so DRR belongs in the development portfolio. AOS took the group through FORIN2's table of contents to describe what the new version contains.

### 11.3 **RIA (ep qc3v)** presented by Mark Pelling (MP)

MP suggested that the heart of RIA is looking at how institutions and individuals interact with psychology - what do we do to reduce risk? Science/policy knows quite a bit and has legal structures to support DRM but we are not reducing losses / risks. Why is that? RIA emphasizes the centrality of decision making to reducing; it offers a chance for policy makers to reflect on their use of disaster information. The ICoEs are important because they are closely connected to communities of practice and that is where the real work is.

**Discussion:** A leadership change in RIA is coming up. There is an inherent tension in RIA as the expertise is necessarily local and to influence decision makers you have to develop trust and have experience together. This requires local action. SB stated that RIA needs to be explained more clearly for policy makers.

### 11.4 **AIRDR - progress from China (ep hubt)** presented by Fang CHEN (FC)

With the English AIRDR complete, is there progress for other language versions?

*China* –Over the past few years, China government agencies released several national standards that are related to DRR. Scientists should use these national standards as reference for AIRDR Chinese assessment. The first step is to review all the national standards from different agencies. Mandarin has multiple meanings for the same words which make this very challenging but IRDR China is trying to achieve this. For the AIRDR Chinese assessment there may be copyright issues if they are downloading hundred thousand articles to assess. No news from Japan.

### **11.5 WG composition & work plans**

SL synthesized the WG discussions and clarified that WGs can decide themselves to add members. They need to submit names to the SC for approval.

#### **ACTIONS/DECISIONS:**

- **11.1 SZ to discuss with DATA WG the need for the policy community to take up the outputs of DATA.**
- **11.1 SZ asked to develop a concept paper on BIG DATA conference and to discuss a smaller meeting with the DATA WG.**
- **11.2 Lang Lang in the IPO will manage design and printing for English FORIN2.**
- **11.3 RIA WG to decide upcoming WG leadership.**

### **12. Reports from National Committees**

[IRDR China](#) and [IRDR Japan](#) reported on their activities. NCs from [Colombia](#) (ep dk7y), [Iran](#) (ep x32n), and [New Zealand](#) (ep r2p5) submitted PPTs that were shared with the meeting by AC. [IRDR France](#) (ep dje7) submitted several documents in French that are available but weren't discussed. There was no report from Australia, Canada, Germany, and USA.

#### **[12.1 IRDR China](#) (ep y7u4) presented by FANG Chen (FC)**

IRDR China has appointed a new IRDR committee for the next 2 year period. There are 40 experts and 15 organizations that make up IRDR CHINA including members from the media and state agencies. A 2015-2017 work plan has been developed.

They are hosting the launch of the 2015 GAR in Beijing early in December. They held a 2 week training workshop in Sanya (Nov 23 – Dec 4). The earthquake WG linked up with the Newton fund (UK fund) and KCL, Cardiff, and Newcastle; the proposal is in the 2<sup>nd</sup> review round. They are involved in planning a high level science conference on the Silk Road Economic Belt – which could help establish a platform for high-level exchanges between academics, research scientists and resource management practitioners.

SZ asked if they wanted to get involved in loss indicators. In most other countries, loss data comes from insurance companies (although this isn't true for Europe) but in China most disasters happen in poor areas and data is collected by municipal local protection agencies which make it difficult to collect loss data.

### **[12.2 IRDR Japan \(ep i4gy\) presented by Kenichi Tsukahara \(KT\)](#)**

IRDR Japan operates under the Japanese Science Council. It has an advisory role to the Japanese government. They are preparing to release a recommendation in Q1 2016. Related to IRDR's DATA project, they are establishing a Global Centre for Disaster Statistics to develop a global database that contributes to the standardization of definitions and terminology between countries (linked to DATA). GADRI (the Global Alliance of Disaster Research Institutes), established in 2015 and hosted by Kyoto University, will hold a conference next year. Dr. Hayashi was just appointed to be president of the National Research Institute for earth science and disaster prevention (NIED); with a 100 millions USD budget it is Japan's biggest institution for disaster research. Japan's Science Council will set up a new interdisciplinary committee for implementing and promoting Sendai.

### **[12.3 IRDR New Zealand \(ep r2p5\)](#)**

IRDR NZ is synonymous with the Natural Hazards Research Platform (NHRP) which was created in September 2009 by the NZ government to provide long-term funding for natural hazard research and to help researchers and end-users work more closely together. It is led by GNS Science; a selection process is now underway for new programmes of work from 2015-19. Their annual report ([Natural Hazards 2014](#)) is available online. Both Wellington and Christchurch have been selected by the Rockefeller Foundation as one of the 100 Resilient Cities. Beginning in 2016, David Johnston will co-chair the Scientific Steering Group of the [High Impact Weather Project](#) (HIWeather) working alongside MetService and the World Meteorological Organisation (WMO).

### **[12.4 IRDR Iran \(ep x32n\)](#)**

The newly formed IRDR Iran met as an NC in Oct 2015. They have attended several gatherings with the IRDR flag. In 2016, they plan to host IDRIM 2016 conference; hold NC meetings to develop a project; give the Resilience City Lecture at Iran Academy of Science; create a water disaster dialogue among Iran's scientists and the public; and sponsor a meeting to address water disasters in Iran.

IRDR Iran is looking to other NCs/RCs for collaboration and to increase synergy; in the spirit of FORIN hope to form forensic teams to investigate impacts of future disasters namely earthquakes, flood, and climate related disasters from a physical, health, environmental and social point of view. They want to enhance risk literacy (RIA) by: promoting trans-disciplinary research on risk management and resilience focusing on urban areas; conducting integrated research emphasizing socio-economic and policy aspects of risk and resilience; and forming taskforces to conduct high quality research on different aspects of disaster risk management. With DATA they are: defining a common indicator-base model at the national scale to assess and monitor economic and human risk; and designing and developing necessary frameworks and systems to collect and manage the loss data in a coordinated manner within the country.

### **[12.5 IRDR Colombia \(ep dk7y\)](#)**

Colombia was the first country to develop an institutional mechanism focused on risk governance and management. IRDR Colombia reported that they've built a base line of the status of risk management research in Colombia and defined requirements for generating knowledge. A dedicated group of Colombia's public and private universities has been created to strengthen academic research on DRM. The NC has been involved with different graduate and undergraduate students, assisting their research dissertations and has prioritized strengthening the research processes from a social perspective. Currently there is a lack of information about process-related research on social vulnerability. Agreements have been developed to link the academy with public institutions. A meeting in November is planned to create an opportunity to exchange strategies, experiences, methods, developments and projections of education and research in DRM from a social perspective.

For 2016, IRDR Colombia plans to promote studies and research with a social focus; document and support research in Risk Management (theses, dissertations, university projects, etc.); design and implement a research project of the NC; construct a national education plan on risk management; develop a risk knowledge observatory; and publish more.

**NC Discussion:** Will IRDR Japan be following the peril classification to ensure consistency? Professor Ono and SZ to follow up on this. MP - given the participation of NC China and Japan and the scale of DRR investment in those countries, is there an opportunity for RIA to help unpack the cultural factors and institutional arrangements that improve decision making? BP asked whether the NCs are taking off and if so, why? SB suggested that 2015 was a turning point with the SDGs, COP21, and SFDRR. Governments are engaging science in their policy deliberations.

### **13. Reports / previews from IRDR ICoEs:**

Reports were received from all ICoEs. MP (ICoE-RIA) and AH (ICoE-REaL) presented their reports to the meeting, while JB (ICoE -CI&SP) and Paul Kovacs (ICoE - DRHBPI) presented via SKYPE. AC gave the PPTS for CR, Taipei, VaRM, and UR&S.

#### **13.1 ICoE-REaL - Risk Education and Learning (ep vesc)**

Periperi U (ICoE REaL) is a virtual centre for 11 higher education institutions in Africa to do DRM capacity building; it includes institutions from each economic area and all language groups. All partners must strategically engage with policy makers. Many graduates are moving into NGO positions (which pay better than government posts). The ISDR library, including research produced for IDNDR, has been shipped to Stellenbosch and they will digitize books that aren't yet electronic.

#### **13.2 ICoE-RIA - Risk Interpretation and Action (ep mxvx)**

The ICoE was established in October 2015 and is a collaboration of Kings College, London School for Hygiene and Tropical Medicine, and University College London. The strategic aim is to bridge some of the competitive instincts amongst academics in London together to exchange information and share tools. They need to have a

workshop with other ICOE partners to cement the relationship and identify an external advisory committee; their work focuses on middle/low income countries.

### **13.3 [ICoE CR](#) – Community Resilience (ep 7p6b)**

In August the 'Disaster Hub' was launched. It is a physical space on the Massey University Wellington campus which co-locates the Joint Centre for Disaster Research with regional and university partners (including many members of the ICoE). The ICoE supported Wellington's successful Rockefeller 100 Resilient Cities application (launched in September). They also held a workshop on Citizen Science in Disaster Risk Management in November and published 9 peer reviewed articles and 3 book chapters.

### **13.4 [ICoE-CI&SP](#) – Critical Infrastructures and Strategic Planning (ep 2vc9)**

For this new ICoE the focal point is IREUS at the University of Stuttgart; network partners are United Nations University, Bonn; University of Potsdam and KIT in Karlsruhe and they are focused on understanding the risks of critical infrastructure. They've held a coordination meeting among the network partners and conducted a workshop on emerging research questions for critical infrastructures in extreme events with experts from Germany, the United States and South Korea and are finalizing a white paper from the workshop.

### **13.5 [ICoE- DRHBPI](#) Disaster Resilient Homes, Buildings, and Public Infrastructure (ep 9xy6)**

The DRHBPI seeks to discover lessons learned from past events and transform this into action by those who construct homes, buildings and public infrastructure. Research suggests that significant enhancement in resilience can be added to new homes, buildings and public infrastructure at little or no cost, but improving the resilience of existing structures can be expensive. They are developing their 5 year plan and launching their first project: "*State by State Benefit/Cost Analysis for Wind Resistant Construction.*"

### **13.6 [ICoE UR&S](#) - Understanding Risk and Safety (ep upys)**

Omar Darío Cardona and the ICoE have been involved in ISDR's effort to update the DRR terminology, develop performance indicators, and make recommendations for the S&T conference. They have completed several research projects including probabilistic risk profiles of Chile and Argentina for specific hazards. They organized a symposium on DRM and ACC in Manizales, Colombia and have developed indicators of risk and risk assessment for 26 LAC countries. They built capacity on the [CAPRA platform](#) in West Africa and SE Asia and are currently working on a global flood risk evaluation for ISDR's disaster risk ATLAS. They continue capacity building on the [CAPRA platform](#).

### **13.7 [ICoE Taipei](#) (ep 3vdt)**

Taipei, the oldest ICoE, has both international and domestic components. Internationally they host and organize: a visiting scientist program; Advanced Institutes and workshops (e.g., the 4th Intrn'l PIAD workshop held 9-12 Nov. in

Taipei with 25 participants from 8 countries); research seed grants; scientific meetings; PARR partnership network; the IRDR Flagship project (co-design and co-work with two local gov.'s--New Taipei City and Hsinchu County) with IRDR Japan; and in the first half of 2015, had at least twelve publications and presentations. In addition, there was discussion on the importance of supporting Wei-Sen Li and the APEC DRR group - particularly its recently approved Action Plan for SFDRR.

### **13.8 [ICoE VaRM](#) - Vulnerability and Resilience Metrics (ep 34jj)**

Susan Cutter and her team at VaRM spent a majority of their autumn supporting the response and recovery to unprecedented flooding in South Carolina. In addition, they worked on the 2<sup>nd</sup> edition of DATA's peril classification, provided advisory input to several international bodies, made 7 presentations, and had 2 publications (with one under review). They will continue working with South Carolina to develop monitoring metrics for disaster recovery.

**Discussion:** Most of the ICoEs are looking for a mechanism to connect with other ICoEs / NCs / RCs and leverage each other's expertise. It was requested to clarify expectations vis-à-vis ICoEs. AH articulated the general feeling when she said, *"Strengthening collaboration across ICoEs needs to be taken up more systematically. We need a strategy on this going forward. Collaboration around Master and PhD supervision is one aspect – universities in Africa would be open for collaboration. We need to have a procedure in place; could this be discussed at the next IRDR SC meeting?"*

#### **Specific requests from ICoEs to SC / IRDR Community**

**ICoE UR&S:** Asking for support to promote a FORIN analysis in Haiti (2012 EQ).

**ICoE CR:** Please send students and staff to [Emergency Management Summer Institute 2016](#) – a five day short course programme from 7-11 March 2016.

**ICoE CI&SP:** Wants to connect with people interested in strategic planning.

**ICoE RIA:** 1) Can IRDR help us project into the Future Earth community?

2) Is there a recommendation for a city in Africa with a risk event to explore? NY, London, and Tokyo are interesting for the immediate response but for long term recovery, they are on a par with Lagos and Calcutta.

3) What happened to the associated projects (discussed previously as a way to bring new people on board)? Could it be raised higher on the IRDR profile?

#### **Specific SC suggestions for ICoEs**

**ICoE UR&S** – SC recommends they include experts from outside LAC on their advisory board. Do they have a formal connection with ICSU ROLAC?

**ICoE DHRBPI & ICoE CI & SP** – SC recommends to connect with each other via your advisory boards and expert activities.

### **14. [ICSU-ROAP – Steering Group on Natural Hazards and Risk \(SGNHR\)](#) (ep x7dn) presented by James Terry (JT). SGNHR's TOR is to:**

- Promote the scientific study of natural hazards and risk for the benefit of sustainability and human resilience in the Asia – Pacific region

- Identify opportunities for research funding and agencies that can support the implementation of ICSU ROAP science plans on hazards and disasters
- Advise ICSU ROAP on any other action that might be appropriate in order to facilitate a regional approach to the research on hazards and risk

12<sup>th</sup> Asia Oceania Geosciences Society (AOGS) meeting was held in August in Singapore. The [13<sup>th</sup>](#) will be held in Beijing (31 July -05 August) in 2016; the [call for abstracts](#) is open until 19 February.

SGNHR is using [GEM](#) and [Oasis](#)' platforms to enable an ecosystem of smaller model developers to deploy loss modeling solutions to the (re)insurance industry and to humanitarian NGOs. Members are actively researching: tsunamigenic landslides in the South Pacific Islands; coastal hazards in the Gulf of Thailand; tropical cyclone behavior and impacts; and groundwater salinization and recovery.

### **15. Progress towards Sendai (part b)**

Given time pressures, 15.1 and 15.2 were skipped and the discussion was on 15.3.

#### **15.1 Mapping IRDR – ICoEs, NCs, WGs**

#### **15.2 Gaps and Opportunities**

#### **15.3 IRDR at UNISDR S&T conference**

The discussion followed the 4 conference work streams (WS). Participants made suggestions for IRDR speakers appropriate to each WS. IRDR names had previously been requested from the SC and submitted. New names were added to ISDR's spreadsheet. Comments on the [S & T roadmap](#) are still welcome and should go to [Virginia Murray](#). The lack of conference funding is challenging for developing countries participants. ICoE-REaL was asked to recommend 5 participants (UNDP and UNISDR are trying to provide funding support). IRDR's funding regulations only allow support of current SC members.

WS 1 - *National, regional and global science and technology networks and platforms* is led by Virginia Murray. IRDR/Anne Castleton is organizing the regional session. AH mentioned that networks like La RED make a long term contribution to changing capacities. There are many country-level networks and regional networks but a lack at global level; this points to the value add of IRDR if well articulated.

WS 2 - *Understanding disaster risk, risk assessment and early warning* led by John Schneider (GEM). Djillali Benouar (SC) is on this WS and Bapon Fakhruddin was suggested as a speaker.

WS 3 - *Use of science, technology and innovation tools, methods and standards* led by Delilah al-Khudhairy. Omar Darío Cardona (ICoE UR&S) and Virginia Jiménez Díaz (SC) are on this group. Names suggested were: SZ for big data; ICoE-Taipei and David Johnston for citizen science.

WS 4 - *Leveraging science through capacity development and research* led by Dennis Wenger. AH (ICoE-REaL) and Kathleen Tierney (NC- USA) are on this WS. Suggestions included: PERIPERI U, FORIN (Ian Burton, AOS), ISSC fellows.

## 16. AOB

Nothing raised.

### **Day 3: Africa Update – Advances in Integrated Research on Disaster Risk**

Day 3 focused specifically on Africa and was organized in 4 panels. The two morning panels focused on all of Africa and the two afternoon panels specifically addressed South Africa. Speakers were drawn from across the continent including South Africa. SL started by [introducing the audience to IRDR](#). (ep fcuy)

#### **Panel 1. Disaster Risk Reduction and Science: Africa's Vision and Strategy**

##### **Dr Richard Glover presented [ICSU ROA's science strategy](#) (ep dgcj)**

ICSU ROA is intended to be a multi-disciplinary, multi-institutional, trans boundary international research consortium. The expect money from SIDA soon to be released to implement the *Resilience to disasters and hazards in Africa* plan. They are also writing a book which should come out soon.

##### **Prof. Ahmed Hady spoke on [Future Earth committee in Africa \(AFEC\)](#) (ep k8xf)**

AFEC is chaired by Chidi Osuagwu (Nigeria) and vice chaired by Coleen Vogel and Ahmed Hady and should drive FE activities on the continent. Their aim is to develop and maintain a dynamic inventory that can support FE activities, develop a comprehensive concept note on FE to be submitted to the African Union as well as to other inter-governmental bodies to get buy-in for the FE framework at national, sub-regional, and continental levels, trigger processes to integrate the global FE agenda, and formulate a regional strategy for short-, medium-, and long-term deliverables on activities in various domains including capacity building, research, practice, and infrastructure.

##### **Dr. Julius Kabubi presented [ISDR's vision and strategy for Africa](#) (ep 5fya)**

Africa has the highest rate of urbanization. Many years of development efforts and gains can be eroded by a single disaster event; there is an increasing diversion of development funds to disaster response but they were the first continent to have a DRR strategy (which preceded HFA).

Africa has made major strides in the application of science for community resilience and there are more HEIs engaging in DRR/DRM education, research and innovations. There is also a continental revolution in ICT technology including mobile telephony which can be leveraged for DRM. However, regional academic networks are needed to share research findings and innovations. Africa is the only continent mentioned in the SFDRR in regard to support for science and technology transfer; hence the need for stronger partnerships with international institutions. IRDR should focus more in Africa in its DRR research



**Prof. Genene Mulugeta, SAUNET coordinator discussed [Africa's DRR challenges](#) (ep h9f4)** The Sustainable Africa University Network (SAUNET) facilitates networking and research collaboration with African institutions within the Baltic University programme (which coordinates 220 universities in the Baltic Sea region) is building a networking platform, with African universities and research institutions through arranging international exchange programmes and organizing workshops. In that effort, SAUNET has a long-standing cooperation with ICSU-ROA for building research capacity on hazards and disasters. Currently, ICSU-ROA is reviewing its 2007 science plan on hazards and disaster and have a book in press, titled: *Natural and human-induced hazards and disasters in Africa*.

He identified specific African challenges such as:

- Reducing vulnerability by addressing the underlying risks and risk drivers;
- Reducing Africa's disaster mortality and victims using science-based actions (e.g., 85% of Africa's disaster mortality and victims is related to drought);
- Building a culture of prevention through networking and strengthening south-south cooperation;
- Enhancing resource sharing among African institutions through networking;
- Addressing all components of the disaster cycle; mitigation, preparedness, recovery - not just focussing on response.

**Jens Pedersen, Médecins sans frontières addressed [Managing complex risks in dynamic environments: Ebola in West Africa](#). (ep c4q4) Detailed notes in [Annex 3](#) (ep 88wz).** A few surprising points:

- It's the first large cohort of ebola survivors; unknown what their medical and psychological needs will be.
- Before this there were few ebola experts; now there are hundreds.
- Already weak health systems lost 500 health care workers during outbreak
- > 100,000 diagnostic samples were taken - most with consent only for diagnostics – raises significant governance issues before usable in research.

The ebola outbreak foregrounded these challenges:

- Securitization of public health
- Privatisation of global public health
- No incentives for declaring outbreaks
- Need for cross border surveillance

### **Discussion**

- MP – How do we move from a discreet event to development? Can we work on underlying development goals such as gender rights, sanitation?
- It was challenging to share information where the outbreak was denied.
- Capacities and data sharing were big challenges.
- How does assessment ex-post feed into policy advice to the government?
- How can humanitarian lessons be bridged to development?

## **Panel 2. Climate and weather risks: science-policy-practice interface (COP 21, El Niño)**

**Prof. Coleen Vogel, AFEC presented [Copping out or ???](#) (ep e2pt)** Coleen came directly from a summit trying to achieve consensus on the El Niño and how it is linked to anthropogenic change. The current CC debate is about how to manage the last chunk of the carbon budget (the power relations, etc.) with a focus on possible pathways and on T°C limits (1.5 or 2 degrees global average temperature rise). The planet has already reached 1 degree warming and civil society is pushing for 1.5°C. Africa temperature will double relative to the global.

SAfrica chairs the largest developing country group (G77C) of 133 countries + China. CV asked how to get people to realize we need transformative change rather than incremental change. Can we ask for incremental adaptation and then shift the paradigm towards transformative change? As Patrick Bond said, there is “movement from below – paralysis from above.” Many mayors signed the Durban Adaptation Accord; there is strong civil society engagement and a window of opportunity with the intersection of COP, SENDAI and SDGs.

CV identified several key themes in the climate change debates:

- Ratification of the second commitment period – how long?
- Common but differentiated responsibility, who pays and who is liable?
- Developing world support – finances, technology transfer etc.....billions needed for adaptation.
- Loss and Damage – finances is central - distinguishing between how to measure loss, damage, and adaptation and their costs (also secondary, tertiary costs, etc.)
- Legally binding targets – countries voluntarily determine political commitments. SAfrica one of first countries to submit INDCs (Intended Nationally Determined Targets).

**Nico Kroese, South Africa Weather Service (SAWS) [The implications of El Niño '15](#) (ep yt49)** ENSO – El Niño and Southern Oscillation (atmospheric part) – is an important driver of climate variability and can lead to large-scale changes in wind & sea temperature. It has been studied since 1950s and is linked with CC (which might change the characteristics of ENSO to be more frequent, more intense).

In a specific year, there is always the question whether to link ENSO to CC. It is expected that El Niño will peak in December and return to a neutral state around May-June (or possibly a La Niña state later in the year or earlier the year after). Most drought in SAfrica is associated with El Niño but has never been as severe as this time; they crossed for the first time the 40°C barrier in Pretoria.

**Discussion:** AJ said the difference between the 1997 response to the El Niño and 2015 is that people remember that they should not have followed the advice in 1997 so they aren't following it now. Farmers that planted made profits in 1997; economic and social impacts have to be taken into account.

NK responded by saying that they will be ignoring a lot of signals (the strongest in the last 50 years) if they think this is not an El Niño. For example, soil and ground water has not been replenished during prior seasons.

**Panel 3. Advances in disaster risk research and capacity building in South Africa: focus on the research-policy interface** Overall the panel agreed in the need to change the mindset of the global North being the providers of knowledge and the global south, the recipients and to share information widely.

**Dr Julia Mambo, [CSIR advances in DRR research and capacity building](#). (ep vp4x) South Africa Risk and Vulnerability Atlas (SARVA)** The Council for Scientific and Industrial Research (CSIR) was moving towards application research. SARVA reflects the full spectrum of research value with an emphasis on ensuring that research is useful, relevant and accessible. It provides both products and services to society in the form of expert knowledge, awareness and capacity in the form of workshops, e-newsletter, risk analysis tools, website. SARVA's themes include: Agriculture, Air Quality and Emissions, Biodiversity, Coasts and Oceans, Disasters, Environmental Health, Forestry, Ground Water, Settlement Vulnerability, Socio-economic, Surface Water, Weather and Climate. The expected outcome is increased uptake/use of global change information for planning & decisions to create a resilient society.

**Prof. Agnes Musyoki, Univ. Venda [Disaster Risk Science Undergraduate Degree Programme](#) (ep aj3j)** University of Venda has positioned itself as a nationally competitive university (and one of the traditional schools for black Africans). There are DRM centers at the province level and in municipalities but they lack expertise. Uni.Venda was asked to come up with an undergraduate program on disaster risk science to help rectify this problem. The curriculum was developed within the Environmental Science department to develop capacities across the country on DRR.

**Schalk Carstens, West Cape Disaster Management Centre WCDMC), Framing DR research - policy interface**

SAfrica has one of the most forward looking DRM policies in the world but that is not the same as having resources. SAfrica does not have a national risk profile, no national GIS system (being developed in different provinces). More than 43% of disasters in the last century have happened in the Western Cape (WC) but the situation varies across SAfrica – you can't talk about it as a whole.

Disaster management is a new scientific field in South Africa and now they are obliged to have DRM at district and province levels. They established centres starting in 2001. WC built its own DRM system but there should be one for the whole country. WC has 43 DR managers most of which are 'jack of all trades and master of none'. Huge gap between what academics are doing and the practitioners.

50 universities in SA have post graduate DRM programs. 3 have undergrad (when Venda comes on board) of which one is a correspondence course. There is no certification to be a DM officer in S. Africa.

#### **Panel 4. Advances in disaster risk research and capacity building in South Africa: focus on the research-practice interface.**

**Leandri Kruger, [African Centre for Disaster Studies \(ACDS\)](#), (ep areq) NWU**

The ACDS's trans disciplinary research approach in socio-ecological systems is based on the assumption that:

- Biosphere is not sustainable on our current development tract;
- A better understanding of the complex interdependencies between humans and nature is needed; and
- A shift in thinking and knowledge creation, towards a more multi- and trans disciplinary approach is needed.

ACDS's training, education and consultancy focus gives students opportunities for practical experience in the disaster risk research-practice interface and builds capacity on a national and international level. ACDS has various national and international projects including preparing a DRR strategy for the government of Uganda and Climate Development for DRR in Botswana.

**Dr Andries Jordaan, DiMTec, UFS “[Science to Policy and Implementation](#)” (ep**

**3ne2)** He discussed their criteria for taking on a research project (PPT, slide 3).

People want to be hosted by them to do projects that the community hasn't asked for. People now want to do research on drought because it is happening now; but now they should research flooding because that is coming next. If SAfrica doesn't make land reform work, they are sitting on a time bomb; land reform farmers are very vulnerable. Identified these challenges plus others in their academic environment:

- Return time for traditional peer reviewed publications too slow
- Need to communicate research results in more innovative ways
- Reward system for academics/scientists not in touch with realities – biased toward publications
- Few scientists work in disaster risk science
- Understand local conditions – indigenous knowledge
- Political agendas seek short term solutions – from one election to next

**Dr. Ailsa Holloway, RADAR, SU [Off the radar](#) (ep 97tt)** AH presented an integrated research project on 12 COL<sup>1</sup> flood events that happened over 4 years; the

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<sup>1</sup> A cut-off low is a mid-latitude cyclone that becomes 'cut-off', or severed, from the main planetary circulation, and spins off independently. Because it is no longer attached to the westerly pressure wave to the south, it loses all momentum and can just sit for days, or move very slowly before dissipating. Cut-off lows are associated with very strong atmospheric instability and powerful convection updrafts. They also bring a range of severe types of weather, including torrential rainfall, snow in mountainous areas and violent winds. Cut-off lows are one of the main drivers of damaging floods in South Africa,

research looked at meteorology and hydrology, response timeline, factors and actors, financial losses, land use change and social media analysis. They found a combination of circumstances: exceptional rainfall intensity + structural obstacles + catchment changes which created undetected risk accumulation. They identified the following factors:

- Changing patterns in COL-related rainfall exposure (extreme and intense).
- Unexpected seasonality of loss that challenges prevailing understanding.
- Major shortcomings in flood risk assessments (missing interlinked, incremental changes).
- Increasing danger in high impact weather radar-blind municipalities.
- Powerful influence of social media.

**Greg Pillay, Head of Disaster Risk Management Centre, Cape Town, An alternative view: framing DR research for improved DRM practice** What the community perceives as risk is not what government or scientists think. Cape Town regularly does several interventions but they do not know which ones have what type of impact. They are not successful in attracting the media for community DRR because it doesn't sell newspapers but they need to understand the pluses and minuses and impacts of social media and how it can contribute to the work of practitioners.

**Shaun Minnies Head of Disaster Management Centre, Cape Winelands District Municipality *Bridging the gap between Academics and DM Practitioners* (ep 4ms6).** The current situation is that:

- the majority of DM officials land in disaster management by default;
  - a small majority of DM graduates end up in the public sector;
  - no specific (full time) undergraduate degrees in Disaster Management, it is rather a module in another degree or a certificate or diploma;
  - private consulting companies lead in DRM training and risk specific courses;
  - research doesn't reach DM officials, thus the DM community doesn't benefit.
- Ideally, DM degrees would be established at universities where there are a range of relevant departments; DM officials would assist in teaching the courses. Risk specific short courses/workshops/seminars for DM officials would be offered and advisory forums and symposiums used as an avenue for making officials aware of research findings. The Disaster Management Act, no. 57 of 2002, moved DM from reactive to proactive but has yet to be fully implemented.

#### **Discussion responding to panel 4**

BP asked what criteria bridge the science/policy gap and AOS asked what barriers created the gap? There is a need to better understand the institutions and effectively communicate to bridge the science and practice gap. The increased use of the 'resilience' buzzword creates a barrier; the real focus should be vulnerability and standardizing the meaning of vulnerability as it differs in DRM, the risk context, etc.

The role of traditional environmental knowledge is rarely mentioned in regards to vulnerability. JT gave the Samoa Islands example showing how ethno-botanical knowledge / indigenous knowledge helps address vulnerability. 20 taro species resistant to droughts, pests, and floods used to be grown as 'emergency food' but with people moving to cities, this knowledge is lost, bio-diversity is reduced. All this increases vulnerability.

CV said it is time in academia to challenge the way we do science. Academicians are not rewarded for practical / applied science; the demand for DRM training is huge but professors that do it are not rewarded. Rewards and incentives support peer-review and publications rather than engagement. IRDR should open this debate; ISSC is planning a trans-disciplinary workshop; the challenge goes beyond communication and is how to get the best 'bang for your buck'.

In many African countries, there are no DRR institutions, no third level education training available. Little funding (African and northern) is dedicated to DRR. For example, GM mentioned the Swedish government is taking money originally aimed at African development and using it to deal with incoming migrants.

SB stated that bilateral donors are leaving multilateral institutions; the trend is to strengthen bi-lateral projects with direct country to country funding. Another factor is that multilateral organisations have guidelines and safeguards and countries have to play by those rules. AOS said that the World Bank is a second level DRR funder now dismantling 30 years of guidelines. Also diminishing the role of multilateral organisations is the increase of private capital. Rwanda is effective in managing international aid; they focus on what they don't have nationally (access to expertise). BP mentioned he'd participated in a UN mission to evaluate Rwanda's 5 years plan; the message was 'stop doing small projects and when we need your technical expertise be available to enable us'.

### **Africa engagement in UNISDR S & T Conference**

SL presented a [statement \(ep duyw\)](#) developed by MP, BP, and himself; the linked version includes later comments by Susan Cutter. It was a proposal for IRDR involvement in the ISDR conference as requested by JK on behalf of ISDR. He also identified several African scientists in response to a vague request from ISDR about something missing in the proposed conference speaker line-up.

CV mentioned that the statement doesn't seem to capture practitioners as co-producers of knowledge. There is space for practitioners to be involved in the conference and for showcasing trans-disciplinary efforts (such as AH's example); a request should be put to UNISDR. Question was raised whether there's an opportunity for a side event focused on examples of the co-production of research with practitioners.

### **Concluding remarks and closure**

SL mentioned the opportunity to develop an NC in South Africa. Both ICSU-ROA and AFEC provide an opportunity for advancing integrated research on disaster risks. He thanked the audience for their participation and offered special thanks to Stellenbosch University, to AH and her team for hosting and organizing; and to AC and the IPO for organizing the meeting.

DRAFT