

Description of the Working Groups formed from the RIA Fellows Seminar, NZ, Dec 2013

Author: Emma Hudson-Doyle on behalf of the RIA Fellows

Date: 17<sup>th</sup> June 2014

## 1. Introduction to IRDR ISSC WSS RIA Seminar 2013

The International Social Science Council (ISSC) World Social Science Fellows Programme aims to “create the next generation of social science leaders. Those who can ask the questions that matter — and answer them”.<sup>i</sup> These seminars bring Fellows together to identify pressing research questions related to global challenges, design ‘innovative interdisciplinary research strategies’, and form international research collaborations to enhance their careers. The ISSC has run three seminars to date, with new Fellows each time: the Rio+ 20 Grantees, who attended the seminar parallel to the United Nations Conference on Sustainable Development (Rio+20) in 2012, the Sustainable Urbanisation Fellows, organised in Quito, Ecuador in March 2013, and the Risk Interpretation and Action Fellows (RIA Fellows) held in New Zealand in December 2013. The seminar was hosted by Massey University in Wellington, and Te Rūnanga o Ngāi Tahu (the tribal council of the Māori iwi Ngāi Tahu<sup>ii</sup>) and the University of Canterbury in Christchurch.

The RIA Fellows seminar<sup>iii</sup> was co-sponsored by the Integrated Research on Disaster Risk (IRDR) programme<sup>iv</sup>, the IRDR International Center of Excellence, Taipei<sup>v</sup>, the International START Secretariat (global change SysTEM for Analysis, Research, and Training)<sup>vi</sup>, and the Royal Society of New Zealand<sup>vii</sup>. The Integrated Research on Disaster Risk (IRDR) research programme is a global initiative seeking to address the challenges brought by natural hazard events, mitigate their impacts, and improve related policy-making mechanisms<sup>viii</sup>. The IRDR has four working groups, which bring together diverse disciplines to conceptualise new approaches to disaster risk reduction (DRR). One of these working groups is focused on Risk Interpretation and Action (RIA)<sup>ix</sup>, and the December 2013 RIA Fellows were explicitly tasked with exploring the key themes of the framework established by this working group in 2012.

## 2. Outcomes of the 2013 RIA Seminar: working groups

### 2.1. Assessing water-related risks in megacities in developing countries under RIA framework

*F. S. Sosa-Rodríguez, X.Xie, S.Khan and Olayinka Akanle*

The conceptual framework of Risk Interpretation and Action (RIA) looks into how people interpret risks and choose action to reduce their exposure levels and vulnerability, as well as to develop adaptation capacities through an effective decision making and response. This research aims to understand both current and future water-related risks in megacities from the developing world, in addition to identify the main factors that determine stakeholders’ perception, interpretation and action. Firstly, it analyses common water-related risks for megacities, the governmental responses for managing their water resources and meeting defined priorities as well as identifying future water challenges. Secondly, it asks: Who communicates water-related risks? What has been communicated to? How was it communicated? What did people know and what do they want to know? What are the socio-economic, cultural or other barriers to risk perception? What are the local responses (individual or collective) to different water-related risks under uncertainty? The answers to these questions will be examined for four megacities in order to compare perception-interpretation-action in a cross-cultural context: Mexico City, Mexico; Beijing, China; New Delhi, India; and Lagos, Nigeria. This group will also explore factors related to water risks, such as experience and learning, expectations, trust, and communication barriers in warning and perception of danger and safety.

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Date: 17<sup>th</sup> June 2014

## **2.2. Rethinking risk communication: Problems and solutions**

*(Alphabetical) C. T. Chang, E. E. H. Doyle, S. Khan, J. Mishra, D.R Olanya, G. Perlaviciute, F. S. Sosa-Rodriguez, and X Xie*

The way people perceive risks and the actions they take to prevent, reduce, and/or cope with them depends largely on how they are being communicated. It is often assumed in practice that if people are given “sufficient” information, they will make the “right” decisions. However, people may interpret risk information differently from what had been expected by information providers. Consequentially, people do not respond to risks in the way they were expected to. In other words, people are seen as not “rational” in using risk information (Eiser et al., 2012).

The aim of this research group is to identify key barriers in effective risk communication and ways to overcome these barriers. Communication is effective when people are able to adequately realise the risks and respond to them appropriately. To identify the key problems and solutions in risk communication, the group will first look at the RIA framework (Eiser et al., 2012) to select factors that may play an important role in risk communication, for example trust or heuristics, and then explore their significance in communication and their interpretation, which leads to individual or collective actions. The ultimate goal of this research group is to develop an integrated conceptual framework of risk communication, to be used by scientists (for the future research of this topic and for their role as information providers) as well as by practitioners (mainly for their role as information providers). The group will also test this framework for various types of risks and for cross-cultural communication.

## **2.3. Embodied Uncertainty**

### **2.3.1. The concept of embodied uncertainty**

*C. Eriksen, V. Sword-Daniels, E. E. H. Doyle, R. Alaniz, C. Adler, T. Schenk, and S.Vallance*

This group is problematising the concept and practice of ‘uncertainty’ to extend the understanding presented in the RIA framework. This group coins the term ‘embodied uncertainty’ to move the conventional understanding of uncertainty as a measurable metric to a lived experience that embraces complexity. This term moves us towards an acceptance of uncertainty rather than always attempting to reduce it to controllable conditions.

‘Embodied uncertainty’ is framed as a verb not a noun. It is constantly enacted. People make patterns out of chaos. It is the lived experience of both known and unknown uncertainty. Embodied uncertainty is not passive. Uncertainty is embodied, for example, in human subjectivity and everyday life. There is embodied uncertainty in the aggregation and production of knowledge, in institutional structures, in decision-making, in communication processes, in evaluation and assessment processes. Uncertainty is furthermore individually embodied and intertwined with our social identities.

Embodied uncertainty becomes embedded into broader societal processes, which then shape how uncertainties are embodied by others at different levels, as it frames how they perceive and engage with, for example, risk. The embodied is the subconscious and the embedded is the conscious short-term. They are dialectical in nature. Consciously embedded norms can become embodied subconsciously over time within longer timeframes. These concepts are being explored further in a conceptual paper and other ongoing collaborations.

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### **2.3.2. Interrelating knowledge for collective risk management: From technical rationality to procedural credibility and legitimacy**

*T. Schenk, C. Adler, S. Vallance, R. Alaniz, E. E. H. Doyle, C. Eriksen, and V. Sword-Daniels*

Decision-making that is wise, fair and effective must find ways of incorporating diverse forms of knowledge and recognizing persistent, embodied uncertainty. Knowledge is co-produced and imperfect, yet we need to use tangible heuristics and models to support collective decisions for effective risk management. The challenge is that integrating and assessing multiple forms of knowledge (including traditional ecological knowledge, TEK) is challenging and inconsistent. In response, this group calls for the use of different epistemic standards that are salient, legitimate and credible to all stakeholders when processing knowledge and making decisions in the face of uncertainty. That is, for a shift in focus from a singular 'technically rational' to a plural and 'procedurally valid' approach.

The litmus test for assessing the procedural validity rests on a revision of epistemic standards that rejects a *one size fits all* prescription of which tools are best. This group argues instead, that different tools will be more or less appropriate in different contexts.

This research will introduce various tools and approaches for managing multiple and diverse knowledge systems and translating knowledge into action, while accommodating uncertainty in different contexts. Tools and approaches are situated along two axes: The degree of complexity involved, and the relative heterogeneity among the various stakeholders. Heterogeneity may depend on the number of actors and stakeholders, inter- and intra-group diversity, and cohesion of interests. Complexity may depend on the number of moving pieces, dynamism, including urgency, and knowledge and understanding.

The thrust of this research is not in comprehensively evaluating tools and approaches, but in supporting a turn from decision-making that is built on the notion of scientific rationality to one that incorporates multiple sources of knowledge and accepts uncertainty, in addition to exploring how this can be operationalised in practice.

### **2.4. Communication influences on Decision Making in Disaster Recovery and Reconstruction: Implications for RIA framework**

*K-H. E. Lin, S. Khan, D.R Olanya, S.Vallance, and R. Alaniz*

The Risk Interpretation and Action (RIA) conceptual framework provides a critical overview of the theories on the relationships between risk interpretation and action (Eiser et al., 2012). However, it focuses on the personal and individual mechanisms that frame the processes, rather than on the interactions among the individual and collective of levels as risks are interpreted, leading to certain decision-making and actions. This research will fill this gap by investigating a critical but dynamic element - communication and further put the discourse in the less-studied field of disaster reconstruction and resettlement. Communication, as discussed here, focuses on the dialogue among individuals, communities, organizations and governments in the reconstruction and resettlement phases after disasters. It is embedded in the broader political, social, and cultural context of the respective country or region. This research highlights interactions across social and temporal scales. It also discusses factors intervening in the processes across these scales, including how social relationships and social contract formulate the responsibility and scope of engagement, and how trust and social learning grow or change throughout the processes that (re)shape the various phases of decision making and actions at individual and collective levels and the interactions between the two. This framework is expected to be applied and tested in various socio-cultural contexts including Taiwan, India, Uganda, Honduras, and the Philippines.

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## 2.5. Indigenous Peoples, DRR and RIA

*S. Athayde, M-A. Baudoin, V. Okorie, L. Yin and S. Lambert<sup>1</sup> (non-RIA Fellow)*

In a world facing increased uncertainty and risk from hazards and climate change, Indigenous Peoples are among the most vulnerable groups. Nevertheless, indigenous communities around the world hold relevant knowledge to be applied in disaster risk reduction (DRR) and climate change adaptation (CCA) research, initiatives and policies. The gap between policy-makers, scientists, practitioners and indigenous peoples is large: it reflects a lack of effective communication and coordination among these actors, related to misunderstanding, power imbalances and essential differences in epistemological orientations. Approaching risk interpretation and action in different contexts and across diverse cultures deserves further synthesis and evaluation. Our research will review, analyse and aid the integration of IK into DRR and CCA.

We propose to develop a multi-scale and multi-actor framework drawing from experiences and challenges faced by indigenous peoples in China, New Zealand, Brazil, and Nigeria. Such a framework should be flexible and respectful of local knowledge, practices, values, beliefs and approaches to risk, reflecting the specificities and dynamics that are flourishing among, and within, indigenous communities. Connecting, fostering exchange of ideas and experience, and facilitating training among representatives of indigenous communities who face natural, industrial and climate change-related hazards is also a main goal of our collaborative work. Our project will research the nuances of 'risk perception' and 'risk interpretation' among indigenous communities in different countries and contexts, as well as their creative responses or 'risk action'. While researching these issues, it is important to step away from scientific knowledge conceptualizations of risks, in order to embrace the fact that risk might be interpreted and enacted differently across indigenous communities, and that their subsequent responses and strategic adoptions may enable better risk actions for other communities.

## 2.6. Multi-scale policy implementation for natural hazard risk reduction

*W. Saunders, H-C. Lee, N. R. Rivera, and K. de Bruin*

One of the key dimensions of any process of Risk Interpretation and Action relates to how disaster risk reduction policies are designed and implemented in different national settings. The objective of this project is to improve the understanding of the multi-scale policy implementation for natural hazard risk reduction in four countries, as a key dimension of risk interpretation and action at the political level. The focus of the project is an international comparison between New Zealand, Mexico, Norway, and Taiwan. While these countries represent the collaboration formed at the RIA seminar, they are also susceptible to similar natural hazards, in particular floods, landslides, earthquakes, and climate change; and represent countries within the geographical locations of Australasia, Latin America, Europe, and Asia, with a diversity of political systems and institutional strengths and weaknesses. The methodology is a comparative design based on content analysis of published emergency plans and land use plans at the national, regional, and local levels. Issues such as uncertainty, knowledge communication and learning from previous lessons are also included when analysing the plans. From the results, opportunities, barriers and lessons that can be learned

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will be presented, with a critical reflection of the possible improvements to the policy making process on each of the analysed contexts. Follow-up studies will include case studies of plan implementations, which include local capability assessment. This research supports the RIA framework by providing an empirical study of risk interpretation through policy to implementation as well as posing questions for future research including: 1) How are DRR policies implemented at the local level (land use changes, emergency management, civil protection)?; 2) What are the opportunities and barriers for improving implementation of policy at multiple levels?; and 3) What can be learned from how different countries are implementing DRR policies

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## Appendix 1: Directory of RIA Fellows

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<sup>i</sup> <http://www.worldsocialscience.org/activities/world-social-science-fellows-programme/> (last accessed 5<sup>th</sup> Feb 2014)

<sup>ii</sup> <http://ngaitahu.iwi.nz/te-runanga-o-ngai-tahu/> (last accessed 28<sup>th</sup> March 2014)

<sup>iii</sup> <http://www.worldsocialscience.org/activities/world-social-science-fellows-programme/seminars/new-zealand-risk-interpretation-action/> (last accessed 5<sup>th</sup> Feb 2014)

<sup>iv</sup> <http://www.irdrinternational.org/about/> (last accessed 5<sup>th</sup> Feb 2014)

<sup>v</sup> <http://irdr-icoe.sinica.edu.tw/about.html> (last accessed 5<sup>th</sup> Feb 2014)

<sup>vi</sup> <http://start.org/> (last accessed 5<sup>th</sup> Feb 2014)

<sup>vii</sup> <http://www.royalsociety.org.nz/> (last accessed 5<sup>th</sup> Feb 2014)

<sup>viii</sup> <http://www.icsu.org/what-we-do/interdisciplinary-bodies/irdr> (last accessed 5<sup>th</sup> Feb 2014)

<sup>ix</sup> <http://www.irdrinternational.org/> (last accessed 5<sup>th</sup> Feb 2014)