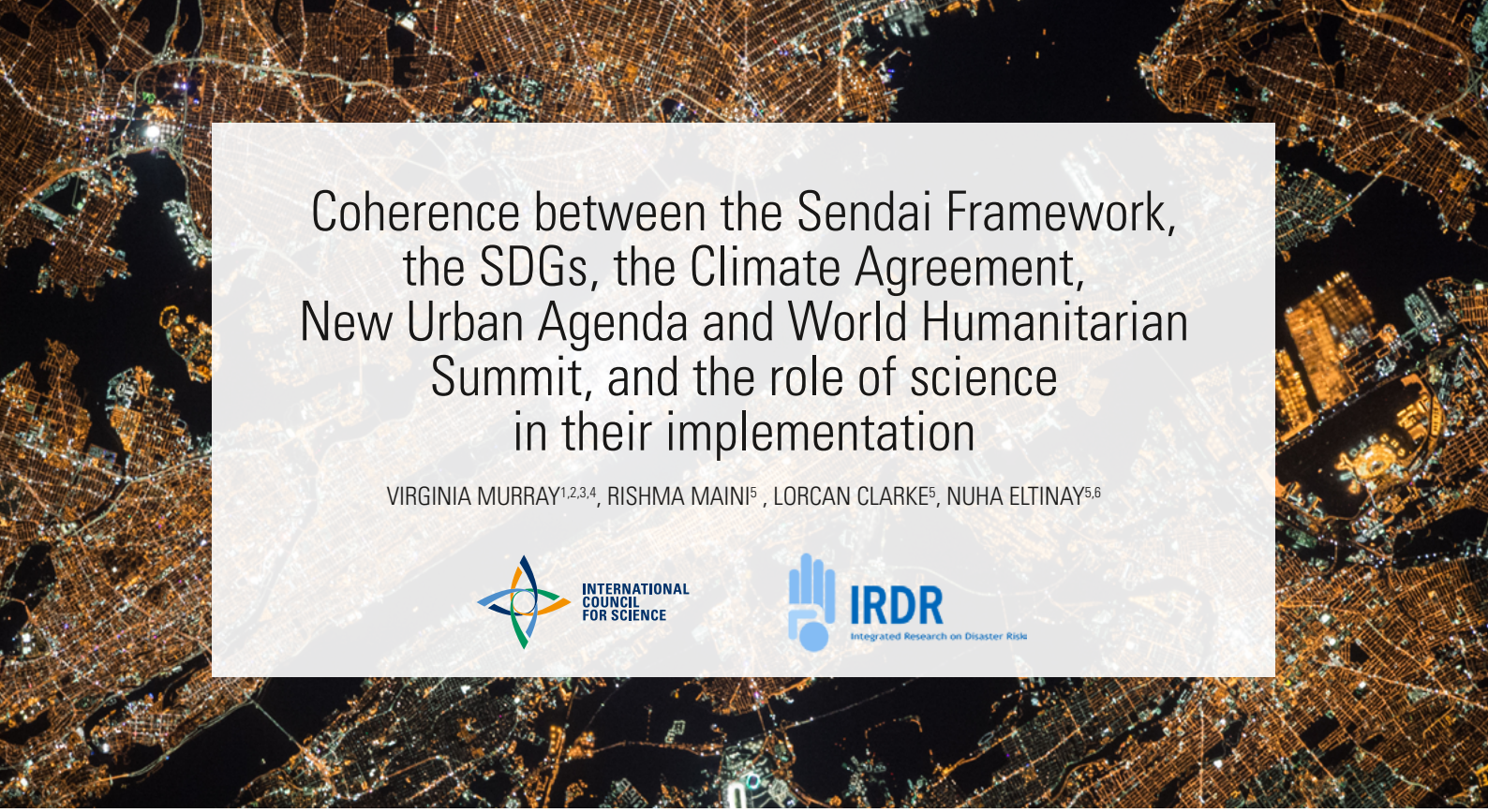

Coherence between the Sendai Framework, the SDGs, the Climate Agreement, New Urban Agenda and World Humanitarian Summit, and the role of science in their implementation

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IRDR Integrated Research on Disaster Risk

POLICY RECOMMENDATIONS

"The more governments, UN agencies, organisations, businesses and civil society understand risk and vulnerability, the better equipped they will be to mitigate disasters when they strike and save more lives"

Ban Ki-moon, United Nations Secretary-General (2007 – 2016)

The recent synchronous adoption of landmark UN agreements the Sendai Framework for Disaster Risk Reduction, Sustainable Development Goals (SDGs), COP21's Paris Climate Conference, World Humanitarian Summit and Habitat III has created a rare but significant opportunity to build coherence across different but overlapping policy areas. For example, taken together these frameworks make for a more complete resilience agenda as building resilience requires action spanning development, humanitarian, climate and disaster risk reduction areas. This coherence will serve to strengthen existing risk fragility and resilience frameworks for multi hazard assessments, and aim to develop a dynamic, local, preventive, and adaptive urban governance system at the global, national, and local levels.

The agreements represent a major turning point in the global efforts to tackle existing and future challenges in all countries.[1] Specific emphasis is apparent to support resilience-building measures, and a shift away from managing crises to proactively reducing their risks. In order to respond efficiently to all of the agreements, effective use of best available knowledge, innovative thinking, leadership, coordination mechanisms and partnerships are vital. Synergies between policies, programmes and institutions, need to be highlighted and supported by the alignment of actions. This will require the engagement of stakeholders at all levels, as well as the breaking down of traditional silos to be replaced by more integrated partnerships that reflect a more holistic approach to risk management. Scientific methods, networks and communication offer critical assistance to the development of well-informed policies and decisions across all countries. Yet stronger linkages between evidence and decision-making in policy and planning are also needed to ensure delivery of the 2030 agenda for sustainable development.

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Key recommendations in building coherence between these agreements and agendas include:

- Raising awareness with national and sub-national governments on how the different frameworks align is critical; the relative political weight of frameworks may affect collaboration and coherence.
- Facilitating key partnerships which help avoid duplication and maximise gains. Institutional incentives to work together may also be required to reinforce joint working across agreements.
- Instituting clear governance arrangements to ensure successful collective action and accountability.
- Developing consistent definitions, particularly on resilience and risk which feature as common themes across all of the agreements.[2]
- Promoting science and technology involvement by funding national/regional research projects. The Sendai framework specifically calls for enhanced scientific work in disaster risk reduction and a better coordination of existing networks and scientific research institutions.
- Joined up monitoring processes which track progress on implementation of the frameworks. This will also help minimise the reporting burden on countries, making data collection achievable.
- Ensuring national ownership and leadership on all of these frameworks will also be fundamental to success.

Context

Disasters and disaster risk are on the rise worldwide. Over the last few decades, the world has experienced an increasing number of catastrophic earthquakes, tsunamis, floods, storms and droughts. This trend is expected to continue as climate change increases the frequency and severity of extreme weather events. Given the changes in population growth demographics and urbanization patterns, impact of climate change (which disproportionately affects the poorest and most vulnerable people), and increasing exposure to disaster risks, there has never been a greater need to enhance coherence and coordination between UN Frameworks to reduce risks and exposure to all hazards.

In particular, the presence of risk multipliers in the modern context is a threat to the success of frameworks whose central core is based around the idea of sustainable development.

> *"The confluence of risks around water scarcity, climate change, extreme weather events and involuntary migration remains a potent cocktail and a "risk multiplier", especially in the world economy's more fragile environmental and political contexts"[3].*

Taken individually, none of the frameworks engage with the full range of risk drivers within the system. Yet, a systemic view of risk brings frameworks together due to the interconnected realities of modern world.

> *"With power and influence increasingly distributed, however, there is a growing recognition that the response to environmental risks cannot be delivered by international agencies and governments alone. It requires new approaches that take a wider "systems view" of the interconnected challenges, and that involve a larger and more diverse set of actors."[4]*

In addition, it should be ensured that delivery on one framework is consistent with the attainment of others. For example, ministries of finance engaging on the SDGs related to economic growth should ensure investment decisions do not create greater levels of vulnerability and risk.[5] Assessing key interactions across policy domains to avoid perverse outcomes will be key to addressing vulnerability and strengthening resilience in the context of a transition to sustainable development.[6]

Key considerations for implementation

Science is needed to identify needs and knowledge gaps, co-design, co-produce and co-deliver new knowledge which is readily available and accessible. In order to achieve this, science and technology communities and networks should mobilise and strengthen existing capacities and initiatives to

support the implementation of the post-2015 framework from the local to the global scale. The 2015 UNISDR STAG report recommends the delivery of outputs in the following six areas[7]:

1. **Assessment** of the current state of data, scientific knowledge and technical availability on disaster risks and resilience (what is known, what is needed, what are the uncertainties, etc.);
2. **Synthesis** of scientific evidence in a timely, accessible and policy-relevant manner;
3. **Scientific advice** to decision-makers through close collaboration and dialogue to identify knowledge needs including at national and local levels, and review policy options based on scientific evidence; and
4. **Monitoring and review** to ensure that new and up-to-date scientific information is used in data collection and monitoring progress towards disaster risk reduction and resilience building.

In addition, two cross-cutting capabilities need to be strengthened:

5. **Communication and engagement** among policy-makers, stakeholders in all sectors and in the science and technology domains themselves to ensure useful knowledge is identified and needs are met, and scientists are better equipped to provide evidence and advice;
6. **Capacity development** to ensure that all countries can produce, have access to and effectively use scientific information.

However, the use of scientifically derived evidence by government is not without its difficulties. Engaging policy-makers in science doesn't just mean making research results available, it also means helping them understand the implications and working with them to decide how to respond, and what further research or other activity is needed.[8]

Key considerations for monitoring progress

The UN Landmark agreements provide indicators to measure data losses. Nevertheless, quantifying the economic, human and infrastructural impact of hazards does not measure the exposures and vulnerability of the urban poor. Building coherence requires the development of composite indicators to support the policy-makers and other stakeholders in achieving the global targets. The use of science and technology for disaster risk mitigation and climate adaptation will be important in informing resilience and capacity-building.

On 2 February 2017, the UN General Assembly adopted resolution A/71/644, which states the necessary indicators to measure global progress in reducing loss attributed to disasters.[9] Through collection of the information of these indicators, UN Member States can measure their progress in disaster risk reduction efforts by 2030 against the seven global targets defined in the Sendai Framework, including: mortality, persons affected, economic loss, and damage to critical infrastructure and disruption of basic services.

Synergies with the monitoring of these international frameworks are already recognised by the international community. The UN Statistical commission has recently confirmed indicators developed by the Inter-Agency and Expert Group on the Sustainable Development Goals, and this process is closely coordinated with the Sendai Framework (UNSTATS, 2017).

Furthermore, indicators should be disaggregated by key characteristics where possible such as age, sex and disability, in order to gather information on potentially vulnerable groups which may otherwise remain hidden to policy-makers.

Using research projects as a vehicle to implement frameworks can also be effective and permits easier monitoring of progress. An example of such a project is given below.

The "Silk Road Disaster Risk Reduction (SiDRR), 2016–2020" program adopted the objectives of the Sendai Framework for Disaster Risk Reduction and Sustainable Development Goals and was implemented to assess disaster risk in Belt and Road Countries and propose suitable measures for disaster control. In line with the Chinese "Belt and Road Initiative", SiDRR works at the regional level in partnership with research facilities from countries including: Pakistan, Nepal, Russian, Italy, UK, Sri Lanka, and Tajikistan.

Our contribution to the solutions

Although currently focused on Sendai, the organisations, networks and committees below are potential partners which could help support the role of science in the implementation of the other UN frameworks.

- Integrated Research on Disaster Risk (IRDR) is a global initiative sponsored by ICSU, ISSC and UNISDR seeking to address the challenges brought by natural hazard events, mitigate their impacts, and improve related policy-making mechanisms. Among its achievements, IRDR supports science-policy dialogues at global, regional and national levels to support the implementation of the Sendai Framework, mobilise its network of experts to contribute to standardised definition, data requirements for monitoring key indicators, develop new approach to understanding the socio-environmental determinants of risks.
- The International Council for Science (ICSU) and the International Social Science Council
  - Non-governmental organisation with a global membership of national scientific bodies
  - Its mission is to strengthen international science for the benefit of society
- Future Earth: International research platform developing knowledge for effective response to the risks and opportunities of global environmental change, and to support transformation towards global sustainability in the coming decades. It provides an open network for natural and social scientists as well as those in the fields of engineering, law and the humanities.
- The Committee on Data (CODATA) is an interdisciplinary Scientific Committee of ICSU and exists to promote global collaboration to improve the availability and usability of data for all areas of research. CODATA support the principle that research data should be as open as possible and as closed as necessary. By promoting the policy, technological and cultural changes that are essential to make research data more widely available.
- International Network for Government Science Advice (INGSA): INGSA is a collaborative platform for policy exchange, capacity building and research across diverse global science advisory organizations and national systems. INGSA's membership currently numbers over 1000 individuals from over 45 countries. Its primary focus is on the place of science in public policy formation, rather than advice on the structure and governance of public science and innovation systems.

  It operates through:
  - Exchanging lessons, evidence and new concepts through conferences, workshops and a website.
  - Collaborating with other organisations where there are common or overlapping interests.
  - Assisting the development of advisory systems through capacity-building workshops.
  - Producing articles and discussion papers based on comparative research into the science and art of scientific advice.

1 UNISDR STAG Report 2015. *Science is used for disaster risk reduction.* Available at: http://www.unisdr.org/files/42848_stag2015.pdf [Accessed 6th April 2017]

2 ODI Briefing. (2016) *Resilience across the post-2015 frameworks: how to create greater coherence.* Available at: https://www.odi.org/sites/odi.org.uk/files/resource-documents/11006.pdf [Accessed 6th April 2017]

3 World Economic Forum (2017) *The Global Risks Report 2017.* Available at: http://www3.weforum.org/docs/GRR17_Report_web.pdf [Accessed 4th April 2017]

4 World Economic Forum (2017) *The Global Risks Report 2017.* Available at: http://www3.weforum.org/docs/GRR17_Report_web.pdf [Accessed 4th April 2017]

5 ODI Briefing. (2016) *Resilience across the post-2015 frameworks: how to create greater coherence.* Available at: https://www.odi.org/sites/odi.org.uk/files/resource-documents/11006.pdf [Accessed 6th April 2017]

6 ICSU working paper (2016) *A draft framework for understanding SDG interactions.* Available at http://bit.ly/sdg-interactions

7 UNISDR STAG Report 2015. *Science is used for disaster risk reduction.* Available at: http://www.unisdr.org/files/42848_stag2015.pdf [Accessed 6th April 2017]

8 NERC. *Science into policy: Taking part in the process.* Available at: http://www.nerc.ac.uk/latest/publications/scienceimpact/science-into-policy/ [Accessed 6th March 2017]

9 General Assembly resolution 71/644, Report of the open-ended intergovernmental expert working group on indicators and terminology relating to disaster risk reduction, A/71/644 (1 December 2016) Available at: http://www.preventionweb.net/files/50683_oiewgreportenglish.pdf