

DRAFT

IRDR Strategic Plan of Action (2017-2020)

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1. Background and context

The **Integrated Research on Disaster Risk (IRDR)** Interdisciplinary Body was established by ICSU after approval at the 29th ICSU General Assembly in 2010. Its charge was to strengthen and use science and its interface with policy and practice to address the very significant and increasing challenges posed by natural and human-induced environmental hazards. The Science Plan for Integrated Research on Disaster Risk (the 'Science Plan') was developed as the foundation for the program of work that became known as the 'IRDR Program'. In early 2016, the three co-sponsors of IRDR commissioned an independent, forward-looking mid-term Review covering the first six years of the ten-year program period. The review was intended as guidance for planning and implementation during the next phase of the program, which ends in 2020. The seven-member Review panel therefore focused their assessment areas critical for improvement. Guided by the Science Plan, they studied and elaborated the key Review questions, identified the sources of information, and implemented the Review using seven data collection and analysis methods.

The review report was presented in the 16th Scientific Committee (SC) meeting in Sanya, China, which was organized on 29-30 November 2016. The review report consists of a summary of key findings, relevant lessons and recommendations in five chapters, followed by five chapters. The *first chapter* provides the context for the Review and sets the scene. The *second chapter* presents the findings related to the performance of IRDR. The *third chapter* assesses IRDR's governance and management system. The *fourth chapter* considers the factors that have influenced the performance of IRDR, and relates them back to the preconditions that were initially identified or established. The *fifth chapter* draws lessons and proposes recommendations for consideration by the program stakeholders. We may leave this detail out for now!

In the 16th SC meeting, it was decided that IRDR would develop its Strategic Plan of Action for the remaining four years (2017-2020), which will guide the IPO (International Programme Office) as well as other IRDR network entities to implement specific actions towards science advices in disaster risk reduction.

This document is prepared in response to this SC meeting decision to reflect and incorporate critical findings of the review committees, and put more forward looking strategic actions in the crucial time of influencing evidence based and science based decision making in implementing the Sendai Framework for Disaster Risk Reduction (SFDRR).

KEY ELEMENTS OF IRDR OUTLINED IN THE SCIENCE PLAN

Vision

IRDR envisages an integrated approach to natural and human-induced environmental hazards through a combination of natural, socio-economic, health and engineering sciences, including socio-economic analysis, understanding the role of communications, and public and political responses to reduce the risk.

Mission

To develop trans-disciplinary, multi-sectorial alliances for in-depth, practical disaster risk reduction research studies, and the implementation of effective evidence-based disaster risk policies and practices.

Aim

IRDR seeks to (i) address the challenges brought by natural and human-induced hazards; (ii) mitigate their impacts, and (iii) improve related policy-making mechanisms.

IRDR is expected to leave a legacy of an enhanced capacity around the world to address hazards and make informed decisions on actions to reduce their impacts.

Research objectives

i. The scientific characterisation of hazards, vulnerability and risk.

Sub-objectives: (1.1) Identifying hazards and vulnerabilities leading to risks; (1.2) Forecasting hazards and assessing risks; and (1.3) Dynamic modelling of risk.

Addresses the gaps in knowledge, methodologies and types of information that are impeding the effective application of science to averting disasters and reducing risk.

ii. Understanding decision-making in complex and changing risk contexts.

Sub-objectives: (2.1) Identifying relevant decision-making systems and their interactions; (2.2) Understanding decision-making in the context of environmental hazards, and (2.3) Improving the quality of decision-making practice.

Calls for an emphasis on how human decisions and the pragmatic factors that constrain or facilitate such decisions contribute to hazards becoming disasters and/or may mitigate their effects.

iii. Reducing risk and curbing losses through knowledge-based actions.

Sub-objectives: (3.1) Vulnerability assessments, and (3.2) Effective approaches to risk reduction.

Requires integration of outputs from the first two objectives and can only be achieved through implementing and monitoring informed risk reduction decisions, and through reductions in vulnerability or exposure.

Cross-cutting themes

1. Capacity building, with sub-themes (i) mapping capacity for disaster reduction, (ii) building self-sustaining capacity at various levels for different hazards, and (iii) establishing continuity in capacity building.
2. The development of case studies and demonstration projects.
3. Assessment, data management and monitoring of hazards, risks and disasters, with sub-themes (i) guidelines for consistent data management and assessments, and (ii) applying local assessments globally and global assessments locally.

In the Science Plan IRDR was conceptualized as an integrated, global, interdisciplinary, coherent ten-year program operating on the interface between science, policy and practice. It was to support the shift from response recovery towards prevention-mitigation strategies and resilience building, and to “*cover, or understand the coverage of, all appropriate disciplines from all relevant hazards in all regions through survey, consultation, analysis, exchange research results, and bringing together programs to achieve common objectives*”.

IRDR was founded as an ambitious program, designed to interact with and build on other relevant initiatives. It was designed to bring together the best scientific expertise from around the world to generate real-world and real-time evidence and understanding how to prevent or reduce the risk of disasters and their social, economic, environmental (and by implication, their political) impacts. It was to operate in a series of sites representing vulnerable communities located in different contexts and cultures around the world, and in collaboration with relevant policy- and decision-makers. Mobilize a network of partnerships and relationships to study and compare deep-rooted challenges and ways of thinking. It also facilitates the synthesis, use and dissemination of knowledge to help effect transformative change in practice in the scholarly environment, in policy-making, and where decisions are taken in societies exposed to hazard and disaster. IRDR has a strong focus on learning to evolve its research priorities over time. The *integrated* nature of the efforts needed to enhance the resilience of such communities to prevent and deal with hazards and disasters compelled IRDR’s emphasis on *integrated* solutions, and thus on *integrated* science for disaster risk reduction.

2. Achievements

A detailed and critical analysis of the IRDR’s achievements is provided in the review report. **Progress during the first six years has been fair in some respects** (summary in Review Report Annex 7), given that the program operated on little (centrally managed) funding and significant volunteer time committed by highly respected scientists and practitioners. Good progress was made during the inception phase (2010-2012). Three co-sponsors (ICSU, ISSC and UNISDR) committed support. The 15-person Scientific Committee of highly respected scientists started to operate. Processes to build formal linkages with potential partners in research were launched. Four expert Working Groups each established a research project that could begin the process of responding to the program requirements. Memoranda of Understanding were signed with some key organizations such as the World Climate Research Program, START, and CODATA. IRDR also organized some events and co-sponsored or participated in others around the world, providing opportunity for advocacy and relationship building with different organizations - some with good success. True to expectations, existing efforts were nurtured rather than new structures established.

Yet the Review panel found that implementation had fallen significantly short of the expectations articulated in the Science Plan. This was the result of a pared down program – one significantly less ambitious than foreseen when it was approved and established. Decisions made during the inception phase of IRDR

had a direct and detrimental effect on how the program unfolded over the first six years compared to the intent. The Review panel appreciates that the early implementers may have taken a pragmatic, conservative approach in the absence of funding and the long-term nature of the mindset changes that would have been necessary to gather momentum. Constraints in terms of available frameworks, templates or guidelines, and lack of time and financial resource might have been some of the reasons for diverting from the conceptual framework for action. Following parts are the excerpt from the review report:

“If the Science Plan was seen as too ambitious, it should have been reflected in plans, in Scientific Committee discussions, and in reporting within a new performance framework. There is for example catalytic potential for later scaling in research initiatives such as AIRDR and FORIN (project summaries in Annex 7). But the pared down approach was never captured and clearly addressed in an adjusted strategy, with new objectives and results frameworks, milestones and targets that could show the intended evolution of the program. An ‘IRDR Strategy 2013-2017’ was developed, but according to persons interviewed, seldom used to guide implementation. This meant that the implementers lacked guidance and focus over the years on how the ambition of the initial plan would eventually be realized. Furthermore, as highlighted in the descriptions in section 2.1.2 and Annex 7 of review report, research results and outputs have been slow to emerge. On the other hand, although ad hoc and still fragmented, relationships established through the many interactions and joint activities over the past few years hold significant potential. But a more robust and systematic focus is required to take research to policy and action”.

On this backdrop and keeping the review report in mind, and reflecting the discussion of the 16th SC meeting, this document aims at a more realistic work plan, which can be used for periodic monitoring of the progress in the IRDR’s impacts and achievements.

3. New management and operation structure

The review committee proposed and 16th SC meeting adopted the proposal (initially for one year) to establish an oversight body, the IRDR Governing Board. The board consisting of representatives of the program co-sponsors and the Chair of the Scientific Committee. The governance committee is in charge of performance assessment, and will regularly receive relevant monitoring data and strategic updates on progress against plans. Formal reporting to the donor (CAST) and host organization (CAS and RADI) need to be in place as agreed upon, and inline with the expectations of all parties involved. The ED (Executive Director) of IPO will report to the Governing Board.

Current SC composed of 15 members plus four ex-officio members. Two specific changes in the SC composition is proposed:

- To incorporate more members from diverse stakeholders (like government, development agencies, civil society, media, private sector etc.)
- To involve the ICSU and ISDR regional offices as ex-officio members

Thinking of the nature and importance of regional activities, it is proposed that the ex-officio member should be replaced by 7 persons: host (RADI) plus one each from the regional officers of ICSU and ISDR in Africa, Asia-Pacific and America. Therefore, the new SC will comprise of 15 members (from a balanced representation of different stakeholders) plus 7 ex-officio members. The headquarter representative of the co-sponsors (ICSU, ISSC and ISDR) sit in the governing board.

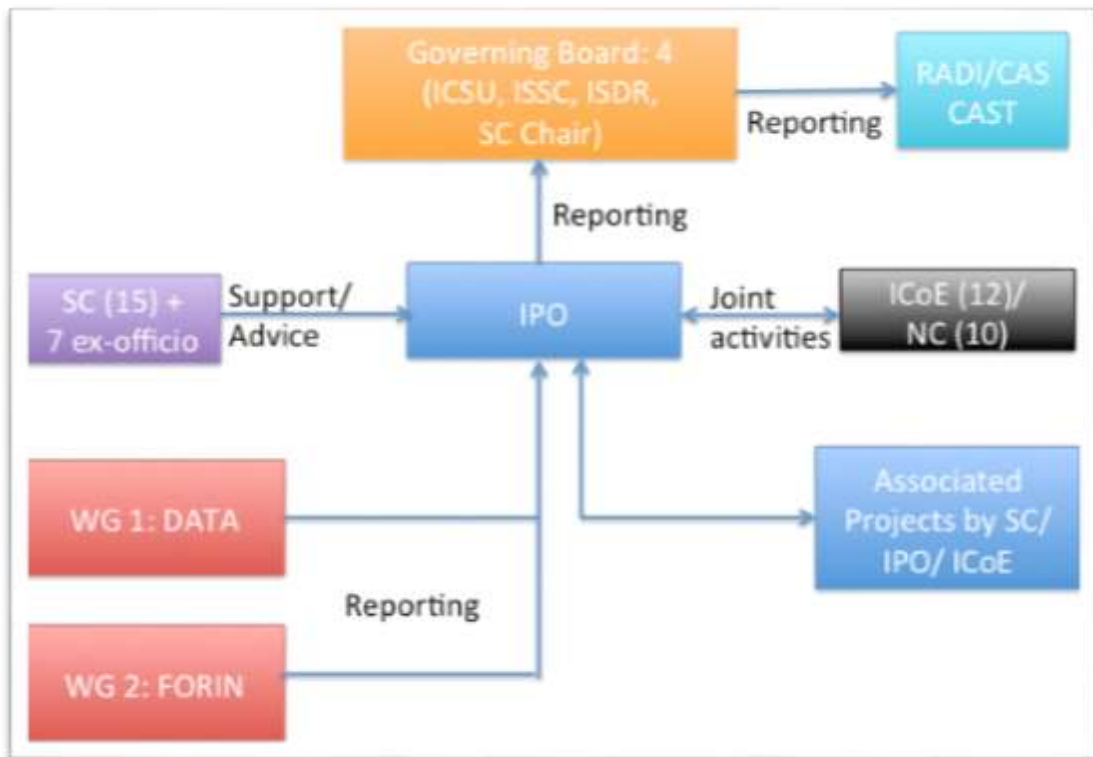


Figure 1. New management / operation structure of IRDR

Figure 1 shows the new structure of IRDR, where IPO reports to governing board, who, in turn reports to the host and donor (RADI/CAS and CAST). The SC and ex-officio provides support and advices to the IPO, and undertake fund-raising and advocacy activities as requested by IPO. The Working Group is reduced to two in numbers, DATA and FORIN, which will provide specific updates of its activities to IPO. In addition, there would be several associated projects, proposed by SC members or ICoE, and will be coordinated in close collaboration with IPO. IPO will also have close link with ICoE and NC/RC to promote the activities through its network.

4. Activities and deliverables

4.1 Science Advocacy: global, regional and national

The SFDRR has explicitly highlighted the importance of science and technology in DRR. At the global level, IRDR has collaborated with ISDR and other partners to host the 1st science conference on DRR in Geneva in 2016, which developed

the science road map for implementation of SFDRR. Following are specific plans for science advocacy at global, regional and national levels.

At global level:

- Participate pro-actively in Global Platforms in 2017 (Cancun) and 2019 (tbc), influence science based global DRR strategy.
- Co-organize thematic and plenary events related to science, and organize a side event of science-based policy making in 2017 GP.
- Co-organize with ISDR and Government of Japan the Second Science Conference on DRR to held in Tokyo in November 2017 (tbc).

At regional level:

- Participate pro-actively in the regional DRR forum and ministerial conferences, and ensure that the science voice is heard. Along with its partners, ensure that science technology academia stakeholder's commitment statement is reflected in the regional declaration.
- Co-organize 2nd Asia Science Conference in DRR (ASTCDRR) in Beijing in April 2018, and 3rd Asia Science Conference in DRR (ASTCDRR) in 2020 (tbc).
- Facilitate similar approaches in other regions of Africa and Latin America.

At national level:

- Strengthen science technology community in the national DRR platforms with the development of science technology plans to implement SFDRR in some selected countries in Asia, Africa and Latin America
- Support national capacity building for data collection for the SFDRR indicators, which is also linked to section 4.2 below.
- Support national DRR platforms in periodic assessments
- Support the sharing of emerging good practices on policy action in reducing disaster risk between among National Committees and beyond

4.2 SFDRR indicators and strengthening national reporting system

The “Open-ended intergovernmental expert working group on indicators and terminology relating to disaster risk reduction (OIEWG)” has come out with 38 indicators to measure the seven specific targets of SFDRR. In order to support member States with the operationalization of the global indicators to measure progress towards the achievement of the Global Targets of the Sendai Framework for Disaster Risk Reduction: 2015-2030 (SFDRR) and relevant Targets of the Sustainable Development Goals, UNISDR is requested to undertake technical work and provide technical guidance to:

- Develop minimum standards and metadata for disaster-related data, statistics and analysis with the engagement of national statistical offices, UNDESA and other relevant partners;
- Develop methodologies for the measurement of indicators and processing of statistical data, with relevant technical partners;
- Provide Member States with technical support, upon request, to conduct a review of data readiness with respect to the indicator in order to establish the baseline for monitoring and prepare for the first biennial cycle of review of the SFDRR; and

- Develop technical guidance material, for the testing and roll-out of the indicators and the web-based monitoring system, the Sendai Framework Monitor.

IRDR can play a vital role in strengthening the national capacities on data management and technical support for SFDRR indicators under the above-mentioned activities. How? I propose that IRDR works with selected existing NC's to organize SFDRR indicator operationalization as one activity. Secondly, the DATA working group can also do some activities around methodologies. Relink with a selection of EU Joint Research Center, Munich-Re, Swiss-Re and other relevant data oriented groups to co-developed acceptable methodologies for measuring the indicators

4.3 Thematic contribution: Working Groups

- **The Disaster Loss Data (DATA) Working Group:** The DATA working group aims to bring together loss data stakeholders as well as develop and utilize synergies, which builds a network of networks to reflect the data requirements in the Sendai Framework. Specifically, data infrastructure for disaster research will connect disaster-related datasets of observations, analyses and statistics. Minimum data standards and sharing plans. By linking to emerging research program, this data will invite collaboration models via social media and citizen participation.
- **The Forensic Investigations of Disasters (FORIN):** The FORIN working group is meant to develop, disseminate and implement a radical approach in disaster research which seeks to identify and explain the underlying causes of disasters, including the growth in magnitude and frequency of very large disaster events. The methodology is built around case studies in keeping with the IRDR research objectives. The FORIN case studies will be integrated into various disciplinary approaches
- **Risk Interpretation and Action (RIA):** The Risk Interpretation and Action (RIA) project will focus on the question of how people — both decision-makers and ordinary citizens - make decisions, individually and collectively, in the face of risk. Decision-making, under conditions of uncertainty is inadequately described by traditional models of 'rational choice'. Instead, attention needs to be paid to how people's interpretations of risks are shaped by their own experiences, personal feelings and values, cultural beliefs and interpersonal and societal dynamics.

4.4. Facilitating Associated Projects

- **The Belt and Road:** The project aims to conduct a joint research to understand natural hazards along "the Belt and Road", triggering mechanisms of typical natural hazards and methods for risk analysis serving for the natural hazards prevention and engineering mitigation. Future collaboration includes the young scientists program with IRDR. Peng CUI leads the initiative with support from the 2 SC members (Shuaib Lwasa and Mark Pelling), the IPO director (Rajib Shaw) and ICoE-REaL (Ailsa Holloway) as part of the advisory group.

- **Digital Belt and Road (DBAR):** The DBAR initiative is an international research program for promoting cooperation with countries along the Belt and Road route to advocate and demonstrate the smart use and application of “Big Earth Data” in support of the sustainable development of people and economies at local, national and regional levels. Huadong GUO leads the DBAR program. Fang CHEN and Rajib Shaw are co-chairs of DBAR working group on disaster risk reduction and 2 SC members (Virginia Murray and Sálvano Briceño) are the members of the working group.
- **New Zealand Project:** The project aims to connect science, institutions and society for an integrated disaster risk reduction and it emphasizes on end-to-end impact based early warning system. The SC member will lead this initiative in collaboration with IRDR IPO.
- **Other Projects:** IPO collaborates with many organizations to develop different projects. For instance, the IPO cooperates with King’s College London and Young Scientists Platform on Disaster Risk Reduction.

4.5 Strategic partnership with ICoEs

There would be two types of approaches to have proactive partnerships with ICoEs:

- Linking ICoEs through strategic partnerships: This will be done through theme based or project based links among different ICoEs.
- Project / theme based partnerships with individual ICoEs: This will be done through joint fundraising initiatives of individual ICoEs and IPO.
 - **National Capacity Building with ICoE-Taipei:** Two capacity development workshops were proposed to strengthen scientific advisory capacities on disaster risks management and support the interface between IRDR and national policy platforms in charge of disaster risk reduction. More importantly, the workshops aim at developing the science technology plan for disaster risk reduction, with specific targets to implement the Sendai Framework. The participants are from policy and decision-makers in Asia and the Pacific countries.
 - **Co-Designing Disaster Risk Reduction Solutions:** IRDR IPO is in collaboration with ICoE-CCOUC and ASTAAG to co-design disaster risk reduction solutions which will consist of a wide range of policy briefs and think pieces. Additionally, the publication will focus on the contributions of science, technology and academia to the DRR.

4.6 Science capacity development: Young Scientists Program

The Sendai Framework for Disaster Risk Reduction (SFDRR) calls for enhanced role of science and technology for evidence based decision-making. It also urges the need for innovation and partnership, which is linked to practice and diverse

stakeholders. IRDR, with its mandate for integrated and trans-disciplinary research, would like to promote capacity building of young professionals, and encourage them to undertake innovative and needs based research which makes science-policy and science-practice linkages stronger. Consequently, Young Scientists Programme was proposed.

The “IRDR Young Scientist” will receive the following benefits: 1) Link to IRDR network of professionals and practitioners; 2) Access to IRDR Scientific Committee (SC) for academic support / advice; 3) Participation in IRDR related training programs (there would be a different selection process for each of the training program); 4) A certificate for IRDR Young Scientist upon successful completion. The 1st IRDR Young Scientists Programme had 78 applicants from 64 universities or institutions of 35 countries.

4.7 Science outreach: communication strategy and products

According to the review report, IRDR has had some success in creating visibility and reach by ‘piggybacking’ or co-sponsoring some events, organizing IRDR conferences and engaging early career scientists. Yet interview and survey respondents assessed IRDR’s visibility as low and its reach as inadequate given its potential. Thus, a pro-active outreach strategy and specific outreach actions are planned and implemented.

- ***Development of a communication strategy:*** Review of the earlier communication strategy, and incorporate the review comments to develop a new communication strategy. The main objective of this communications strategy is to bring coherence to IRDR internal and external communications in order to:
 - Create awareness about the impact of IRDR’s work under its research objectives.
 - To promote positive perceptions of IRDR and strategically position IRDR in DRR and in support of implementation of SFDRR.
 - To support an enabling environment for the research works of IRDR through resource mobilization and partnerships that will create synergies with the government, donors, research institutions, and other key partners in DRR.
 - To facilitate knowledge management by documenting IRDR’s works.
- ***Revise website, develop social media pages with proper monitoring:*** The IRDR website is updated and revised. Specific counters have been put to note the number of downloads, number of visitors etc. New social media account is created, which is monitored and updated regularly. From 15th SC Meeting (2016 May) to 16th SC Meeting (2016 November), IRDR Website has overall 30,069 page-views, which is nearly the ¼ of the number from 2011 Jan to 2016 April. The downloads counter was added in 2016 August. The most popular files in IRDR Website are the documents of “1st Workshop to Strengthen Scientific Advisory Capacities for Disaster Risk Reduction”, which have been downloaded for 1892 times within 3 months. From 2016 August to 2016 November, Facebook Page has 160 new likes, which equals to ¼ of total page likes. And the contents have reached more than 30,000 people.

- Creation of communication products: It is planned to create a few specific outreach products targeting different groups of stakeholders, in close cooperation and advices from the media groups. IRDR APPs are the examples of the supposed products. “IRDR Family” provides with the communication commands between IRDR’s co-sponsor, host, Scientific Committee members, National Committee members, International Centres of Excellence members and IPO. “Integrated Research on Disaster Risk” is for all stakeholders who are interested with DRR. The functions include at least the following points: 1) sharing IRDR news 2) sharing DRR documents 3) providing suggestions from relevant experts.

We may summarize the action plan in a matrix format with an example below:

Strategic Goal for next period to 2020	Activity	Description	Timeline	Dates	Lead	Funding available or needed (A, N, NA)	Outcome
Enhance the scientific knowledge in informing policy	Participate in the Global DRR platform at Cancun	SC members, ICoE's represented on panels at various sessions. SC 17 meeting as pre-event	May 2017	24-27 May 2017	IPO, ICoE...	SC travel	IRDR visibility, Policy brief shared
	Co-organize thematic and plenary sessions	A few sessions are proposed	January 2017	May 2017	ICSU, IPO	ICSU through SC meeting	
	Co-organize with ISDR and Government of Japan	2 nd world conference on Science and DRR			November 2017	IPO	IRDR visibility increased
Improve governance of IRDR	Establish a governance and guidance committee	Organize an annual meeting of the governing and guidance group	Feb - May 2017	First meeting in Paris in March 2017	ICSU	ICSU and co-sponsors	Better decision making system
Expand the IRDR Network and scientific outputs	Support of the Associated projects	Four specific projects are approved	January 2017 onward		IPO with specific project leaders	The projects have individual funding schemes	Improved networks of IRDR
	Recompose the DATA and FORIN working groups by incorporating other stakeholders from wider DRR community, Private sector	Organize a meeting to take stock and reprioritize research around SFDRR indicators and SDG	2017-2019		Working group chairs	NA	
Improve the visibility of IRDR	Communication and outreach	Develop communication strategy	January 2017		IPO	NA	Enhanced IRDR communication