



ISSUE BRIEF

Risk Identification and Assessment (Priority 2) Multi-Stakeholders Working Session

Stock taking and Overview

Disaster risk management includes a wide variety of strategies encompassing avoiding the creation of new risk; reducing existing risks; exploring mechanisms to share or transfer risk; and managing residual risk through effective preparation to respond and recover from disasters. Activities may focus on improving risk governance, public education, protection of critical infrastructure, development planning and building codes, natural resource management, risk finance and insurance mechanisms, and improvement in social and community resilience.

When targeted and authoritative hazard and risk information is available, decision makers at all levels, and from all sectors are better able to develop and implement policies and make decisions that reduce disaster risks. Risk information can be based on analyses of specific historical events to fully probabilistic analyses of all possible events that may occur. Through recent and ongoing advances in science and technology, many hazard and risk assessment tools and datasets are now available and are improving the potential for implementation of risk reduction activities.

A stock take of HFA progress clearly shows that despite advances in science and technology and modeling risk, significant challenges remain in ensuring that the process of developing and communicating risk information actually enables decision makers to make better decisions. These challenges arise from a complex interplay of issues related to risk management including: political will and leadership; ownership of the risk knowledge by decision makers, authority and credibility of the risk information, competition for limited resources to implement solutions, communication of risk results in the right format for different decision makers, and the capacity of end-users in public and private sector to understand the assumptions, uncertainties and limitations.

Understanding disaster risk is one of the main priorities of the post 2015 framework and at the Third World Conference for Disaster Risk Reduction (3WCDRR). A multi-stakeholder working session (WS2) is dedicated to discuss and evaluate challenges and opportunities to ensure that the notion of understanding disaster risk empowers decision makers at all levels to act on new opportunities to manage and mitigate disaster risk. This issue brief paper provides the background information for the conference session by introducing the elements identified as requirements for successful implementation of disaster risk reduction based on: discussions among organizing committee members and other experts; an online survey of 90 practitioners of various backgrounds; and research conducted as part of the HFA review¹.

The Way Forward: Elements of a successful risk identification process

The objective of any risk identification and assessment process is to evaluate the combination of likelihood and level of negative impacts from an event. The three main components of a risk assessment are (i) hazard, (ii) exposure and (iii) vulnerability. (i) A hazard is a natural phenomenon with the potential for adverse effects on people and assets. Hazards differ in severity, size and frequency and are often classified by cause (i.e. geological, hydrological, meteorological, and climatological). (ii) Exposure is made up of assets such as people, houses, factories, offices, agricultural land, located in hazard-prone areas and thereby subject to potential losses. (iii)

¹ Understanding Risk: The Evolution of Disaster Risk Assessment, GFDRR, 2014

Vulnerability represents the characteristics of the economic, political, physical, social and environmental condition of a community, system or asset that conditions the likely level of social and economic damage that would occur at differing hazard intensities.

For this session, six critical elements have been identified that lead to success of a risk identification and implementation process under three phases of initiation, development, and delivery, with capacity as an overarching element necessary to all aspects.

Initiation Phase:

1. Political will and ownership:

Although a common characteristic of all successful risk assessments is the availability of credible risk information, scientific quality alone is insufficient to assure good decision making. Ownership and endorsement by those with political authority enables collaboration between data providers and other stakeholders, and ownership of the actual risk, which is essential before risk reduction actions will be implemented. Even in cases where the risk identification process is initiated and led by external parties (i.e. international technical consortia), informing and involving key users and relevant political bodies builds trust and increases the chance that risk information will be used. Political will and ownership are essential to developing the level of understanding necessary to take action to reduce risk.

2. Definition of the purpose:

Defining clear objectives and purpose of the risk identification are necessary to develop the scope, design of necessary additional tools, and final deliverables. The aim at the outset is to define deliverables that can and will be used to address the risks. Without this step, the risk identification product becomes merely a scientific and engineering exercise, which will ultimately not be fit for purpose. Attention to this element is critical not only for risk identification efforts initiated at national and sub-national level, but also for risk identification initiatives of international technical and multi-governmental bodies.

Development Phase:

3. Data availability and open data:

Data availability and accessibility is always a major challenge in conducting risk identification and can have significant impact on the credibility of the results. All components of risk assessment are data intensive, with the quality of the results directly related to the quality of the input data. Given the effort spent in collection, preparation, and maintenance of all necessary data types, the return on investment can be maximized if the created data are shared and used many times. At the beginning of a risk identification process, arranging for commitments from data owners and designing mechanisms to facilitate data sharing both technically and administratively can maximize the quality of the risk identification. Open data and software standards and licensing options are now widely available for use by data providers and analysis software developers that should be adopted where possible to ensure that information is developed, applied and maintained for multiple use and knowledge sharing while still maintaining intellectual property interests.

Delivery Phase:

4. Communicating results:

Presenting the results in a format that is understandable and relevant to the context of the target audience is another key element in the success of a risk assessment. Review of the current status of risk identification efforts shows that more innovation and collaboration with communication experts and other disciplines is necessary to improve the translation of technical terminologies into simplified and relevant concepts. For example, presenting the risk and loss values in an economic or social context, or expressing probabilities within the political timeframe or human lifetime, especially for low likelihood but high consequence events. Communicating risk information to the general public or a local community requires a different strategy to communicating the same information to economists.

5. Actionable risk assessment:

A component of an effective risk assessment is the actionable recommendations and solutions based on the purpose and objective that is defined at the initiation phase. Many risk identification efforts are conducted in

isolation from the context of risk reduction and it is left to a future effort to make linkages to the solutions. Risk information should be accompanied with risk reduction action options defined in a format clear to the user. As of now, most risk identification efforts are conducted within silos of risk modeling communities in isolation from experts of fields related to application of such models such as economists, urban planners, infrastructure designers, policy makers.

Overarching Need

6. Capacity

In the risk assessment/identification process, capacity is often associated with the capacity or capability of the technical body or organization that is responsible for conducting risk assessments or managing the risk assessment process. The technical capability and capacity includes the collection and analysis of data as well as the understanding of results, dissemination and maintenance of results. As well as this technical capacity there is an overarching need to accurately identify the problem to be addressed and for decision-making bodies to accept ownership of the problem at the beginning, understand how risk information can be used to make decisions in tackling the problem, as well as making a commitment to take action when the most cost-effective risk reduction options are identified. Thus, capacity is a multi-faceted element that includes technical competency through to political leadership, governance and institutional framework, as well as the presence of institutions and the economic means to implement recommendations.

The Working Session on Risk Identification and Assessment at WCDRR will draw on the successful risk identification cases presented by the panel which provide examples of how each element identified in this issues brief contribute to the success and sustainability of a risk identification process. The discussion at the session will also address the current challenges and opportunities for national and international technical and governmental organizations to ensure future risk information is useful and used, or in other words: how to narrow the gap between the supply and use of risk information.