

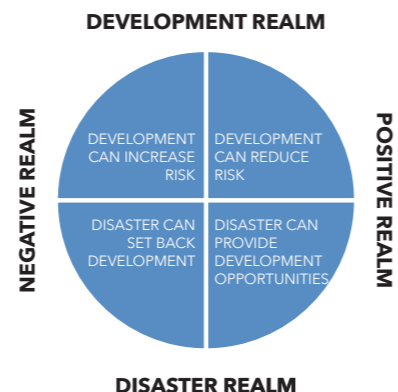
SIX REASONS TO TALK ABOUT INNOVATION AND RISK-INFORMED DEVELOPMENT



INNOVATION AND RISK-INFORMED DEVELOPMENT

1

THERE IS A CLOSE LINKAGE BETWEEN DISASTER AND DEVELOPMENT.



2

IT'S NOT POSSIBLE TO COMPLETELY ELIMINATE DISASTER RISK, BUT IT IS POSSIBLE TO MANAGE RISK.

Since the 2005 Hyogo Framework for Action, investments in preparedness and early warning have reduced mortality across a wide range of countries; institutional and policy frameworks have advanced and many countries have prioritized the reduction of disaster risk.

Despite these successes, disaster losses continue to accumulate and the exposure of people and assets continues to grow. Poorly planned development drives both disaster and climate risks, with the majority of public and private investments not yet underpinned by an adequate understanding of risks. What must be understood is that the costs for investing in risk reduction are far less than the economic costs of disasters. Risk-informed development must become the only way to do development if future risks are to be mitigated.

Current global goals acknowledge the importance of risk-informed development and/ or financing as prerequisites for sustainable development.

3

INNOVATION AND INFORMATION COMBINED CAN ENHANCE RISK-INFORMED DEVELOPMENT.

Development challenges are increasingly complex, inter-connected and the pace of change is unprecedented. As these changes affect all countries across the globe, it is becoming more critical to be able to respond to complex challenges with agile and flexible solutions, and shift away from business as usual. Innovations help to look at a problem through a different lens, thereby finding new solutions and approaches.

Digital technology and innovations can offer new ways of gathering data and evidence to improve risk information, which is the basis for risk-informed development.

4

'IF IT ISN'T RISK-INFORMED, IT ISN'T SUSTAINABLE'.



5

THE SENDAI FRAMEWORK FOR DISASTER RISK REDUCTION RECOGNIZES THE IMPORTANCE OF TECHNOLOGY AND INNOVATIONS IN RESPONSE AND RISK REDUCTION.

The SFDRR recognizes the importance of using information and communication technology innovations to collect, analyze and disseminate disaster risk data. Such data and information holds the key to mainstreaming DRR into development policies, strategies and plans at national, sub-national, sectoral and local levels.

6

EASY TO USE TECHNOLOGIES ARE BRINGING ABOUT A REVOLUTION IN DISASTER RISK MANAGEMENT.

The use of technology for humanitarian and development work is a growing field. Several countries have developed tools or are using real time information technology in disaster response and reduction. There are a host of tools that are being used for data collection, hazard mapping, information sharing, early warning etc.



Practitioners' Workshop on
RISK REDUCTION & RESILIENCE IN ASIA



The 8th Practitioners' Workshop on Risk Reduction and Resilience in Asia provides a unique opportunity for practitioners and organizations to jointly reflect on the outcomes of the Third World Conference on Disaster Risk Reduction which took place in Sendai, Japan in March 2015. The workshop is organized by and for practitioners with relevant technical expertise and knowledge of risk reduction in Asia. The participants will identify ways to translate the Sendai commitments into practice and implement the framework on the ground - putting policy debates aside.

The outcomes of the workshop will be harnessed to support regional and global disaster risk reduction efforts in support of the motto "DRR is everyone's business".

The workshop program revolves around the following four themes:

- Enhancing Community Resilience
- Expanding Preparedness for Response
- Innovation and Risk-Informed Development
- Mainstreaming DRR Within and Across Sectors - Focusing on Agriculture and Resilient Livelihoods

RISK-INFORMED DEVELOPMENT

Risk-informed development refers to the integration of disaster risk reduction into development policies, strategies, plans and programs. This protects development gains from future disasters so that progress can be truly sustainable and resilient. In the process, vulnerabilities are reduced.

Five interrelated components contribute to risk informed development:

1. Risk Assessment and Communication;
2. Early Warning and Preparedness;
3. Inclusive Risk Governance;
4. Resilient Recovery; and
5. Urban and Local Level Risk Management.

EARLY WARNING AND PREPAREDNESS

Building the capacity of countries and communities to generate and disseminate timely and meaningful warning information is essential. In addition, capacity needs to be developed in order to prepare adequately for any disaster - from national coordination structures to local government and community planning.

RESILIENT RECOVERY

At any point more than a third of countries are recovering from disasters, and for many communities, recovery is an ever-present concern. The post disaster phase has traditionally been a critical moment for pushing forward risk reduction reforms and investments, and for building comprehensive resilience to disaster.

GLOBAL CENTER FOR DISASTER STATISTICS (GCDS)

The United Nations Development Programme (UNDP) and Tohoku University in Japan jointly established the Global Center for Disaster Statistics at the World Conference on Disaster Risk Reduction in Sendai in March 2015. The Center will help deliver quality, accessible and understandable disaster data for the implementation of SFDRR goals.

The center will focus on two main areas: one, to support the integration of DRR information into development and two, to generate high quality data for monitoring and evaluation.

BIG DATA

Big data, or big data analytics, are the range of tools and methodologies that use advanced computing techniques to leverage largely passively generated data, for example those resulting from the use of mobile phones or social networks, and the active collection of observed data by satellites to gain insights for decision-making purposes.

The analysis of big data can help information sharing, decision-making and early warning in the context of disaster preparedness and risk reduction. The application of data mining techniques to existing data sets can help identify risk reduction measures.

CRISIS MAPPING

Crisis mapping leverages mobile and web-based applications, participatory maps and crowd sourced event data, aerial and satellite imagery, geospatial platforms, advanced visualization, live simulation, and computational and statistical models to power effective early warning for rapid response to complex humanitarian emergencies.

RISK ASSESSMENT AND COMMUNICATION

The systematic assessment of risks - vulnerability, hazard and exposure - must provide the evidence base for risk-informed development. The involvement of decision makers and communities in the risk-assessment process and the communication of the results of that process are crucial to ensuring the application of risk assessment.

INCLUSIVE RISK GOVERNANCE

Weak governance arrangements and the substantial growth of populations and assets in areas exposed to climate and geological hazards are the predominant causes of increasing levels of risk. Societies with strong disaster and climate risk governance arrangements have a greater ability to manage risks and to make progress in reducing their disaster losses and impacts. Risk governance is at the heart of building resilience by ingraining risk reduction into a country's institutional, political and financial systems.

URBAN AND LOCAL LEVEL RISK MANAGEMENT

Urban centers have emerged as the world's engines for economic growth. Yet rapid and unplanned urbanization have increased cities' exposure and vulnerability to natural hazards. Similarly, community livelihoods and local level development processes have been undermined by the recurrent impacts of disasters, leading to and heightening socio-economic vulnerabilities. Ensuring a risk-informed urban development paradigm and managing local and community level risks has become critical for achieving the objective of resilient socio-economic development.

SMS TECHNOLOGY

SMS technology is emerging as the tool of choice for disaster alert systems and disaster recovery. SMS is useful for disseminating up-to-date information to people in disaster prone areas in advance as well as disaster survivors after a disaster occurs. Furthermore, SMS technology can establish a two-way channel between the survivors and rescue team for better recovery effectiveness.

SENSORS

Sensors can be installed in disaster-prone areas for real-time monitoring of the likelihood of disaster occurrence. For example, soil sensors can transmit detailed soil conditions (density, resistivity and stability) in preparation of landslides. The data is remotely captured and transmitted via wireless networks. In addition, captured data can be used for further data analysis.

DIGITAL DATA COLLECTION

Digital data collection replaces traditional or manual means of conducting assessments by using widely available digital devices such as smartphones. This results in substantial gains in the speed and quality of data collected.

INNOVATION, EVALUATION AND DIFFUSION CYCLE (WORLD DISASTER REPORT 2013)

STAGE 1

Need, problem and contextual assessment

INNOVATION

STAGE 1 EVALUATION

Relevance, appropriateness, coverage, effectiveness, efficiency

STAGE 2

Need, problem and contextual assessment

ADOPTION & SCALE UP

STAGE 2 EVALUATION

Relevance and appropriateness, coverage, impact

VIRTUAL REALITY

Virtual reality technology creates computer simulated 3D virtual environment with sound and touch. It can be used for a range of risk management related activities including assessments, real time diagnosis and information sharing.

USE OF UAV (DRONES)

The Unmanned Aerial Vehicle (UAV), popularly known as 'drone', is one the most promising technologies if used for public service. It can revolutionize the disaster risk management arena by providing services such as locating survivors under the rubble, performing structural analysis of damaged infrastructure, delivering needed supplies and equipment, and helping in extinguish fires - among many other potential applications.

INTERNET OF THINGS

The Internet of Things (IoT) is the network of physical objects or "things" embedded with electronics, software, sensors, and network connectivity, which enables these objects to collect and exchange data.