

SIDS4 Side Event Concept Note

Title:	Leveraging Risk Data and Analytics in Delivering Disaster Resilient Infrastructure event webpage
Date/time:	28 th May 2024, 12.00 – 13.30
Venue:	Room 9, American University of Antigua, Antigua and Barbuda
Organizers:	United Nations Development Programme (UNDP) and Coalition for Disaster Resilient Infrastructure (CDRI)

Background

Small Island Development States (SIDS) present specific vulnerabilities to a range of hazards, primarily climate extremes. SIDS are particularly prone to disasters, on one hand because of their higher exposure to coastal flooding, tsunamis, cyclones, and storm surges, and on the other hand because of their specific development conditions (limited diversification, narrow endowment of land and natural resources, remoteness to global markets, poor connectivity and lack of economies of scale amongst others), which are compounded by capacity constraints and limited access to financing. Alternatively, SIDS geography and natural resource base offer unique opportunities for the growth of blue and green economy driven by sectors such as tourism, fisheries, and forestry. Investments in enabling infrastructure to seize these opportunities will be required in the transport, energy, communications, housing, water, sanitation and health infrastructure systems – which in turn need to be resilient to disaster and climate risks.

The SIDS4 conference brings together leaders to agree on a new programme of action for SIDS with a focus on practical and impactful solutions and to forge new partnerships and cooperation at all levels. The draft [action-oriented outcome document](#) of the conference includes a commitment on infrastructure to “scale up the planning, development and management of sustainable and resilient infrastructure [...] and create risk-informed policy, investment decisions and systems in sectors including transportation, energy, communications, water, health and education.”

To make informed investment decisions about the development and management of infrastructure, decision makers in public and private sectors need to understand the risk. Knowing the risks - assessing vulnerability and exposure of infrastructure networks and systems to hazards - requires data, the tools to collect the information, and human resources and capacity to process it and maintain the system. SIDS suffer from large gaps in access to and in the analysis of data due to weak data collection and technology constraints (storage and access to data, digitalization and standardization).

In particular, the **lack of downscaled information**, including downscaled climate data/projections, is an impediment for infrastructure development, housing, land tenure and urban development, and other sectoral developments. The lack of reliable data at a sufficient level of disaggregation hampers a comprehensive analysis of risk in SIDS.

Risk assessment using probabilistic models enables governments and other infrastructure owners to anticipate and forecast the possible consequences of hazardous events. The GIRI, or the Global Infrastructure Risk and Resilience Model and Index, developed by the Coalition for Disaster Resilient Infrastructure (CDRI) in collaboration with UNDP and other partners, is the **first publicly available probabilistic risk model to estimate risk for infrastructure assets with respect to most major geological and climate related hazards**.

Launched in 2023, GIRI provides **estimates of annual average loss and probable maximum loss** for infrastructure assets, considering six hazards: earthquakes, tsunamis, landslides, floods, tropical cyclones, and droughts. GIRI, presently, encompasses nine infrastructure sectors: power, highways and railways, transportation, water and wastewater, communications, oil and gas, education, health, and housing.

GIRI, by emphasizing the benefits of investing in resilience to avoid asset loss, can inform the development of national infrastructure strategies and plans and to reduce risk and strengthen resilience. GIRI can also enable governments to understand the contingent liabilities they face. Quantifying disaster-related fiscal risks can help government better understand the potential fiscal cost of disasters, make provision for them, and build disaster resilient and responsive public financial management systems.

Models such as GIRI with a global level of observation and a national level of resolution are too coarse to quantify risk in specific infrastructure assets or in the design of new infrastructure projects. However, assessments can be developed for specific portfolios of infrastructure assets at the sub-national, urban, or local scales, with the same methodology using more detailed input data on hazard, exposure, and vulnerability. Looking forward, SIDS need to consider innovative approaches to promote data collection, analysis, open access, maintenance at the individual country level or by making best use of regional cooperation mechanisms.

Session objectives

By fostering dialogue among stakeholders, the session aims to catalyze a collective commitment to generate adequate risk information to guide resilient infrastructure as a cornerstone of sustainable development in SIDS.

The session pursues three objectives:

1. Introduce GIRI features to stakeholders from various sectors to gain firsthand insights into key results and findings derived from the model.
2. Discuss the potential for leveraging GIRI for identifying vulnerabilities and assessing risks, to inform targeted strategies to enhance infrastructure resilience and meet the SDGs and consider best practices to create the enabling environment for the application of risk assessment data in planning and budgeting processes.
3. Identify the challenges, including the data sets and capacities required, and practical solutions to localize the GIRI model to inform DRI in SIDS contexts.

Expected outputs from the session:

- Interest generated in the GIRI risk assessment model;
- Identification of requirements, challenges and opportunities for GIRI application in SIDS contexts;
- Way forward on practical solutions to explore to meet the requirements and overcome the challenges that could be supported by CDRI and UNDP/UNDRR through the Infrastructure Resilience Accelerator Fund.

Speakers

During the first section, speakers will be invited to discuss the potential for leveraging GIRI for identifying vulnerabilities and assessing risks, to inform targeted strategies to enhance infrastructure resilience and meet the SDGs:

- ASG Michelle Muschett, Director of UNDP Regional Bureau for Latin America and the Caribbean
- ASG Kamal Kishore, Special Representative of the Secretary-General for Disaster Risk Reduction, UNDRR
- Amit Prothi, Director General, Coalition for Disaster Resilient Infrastructure (CDRI)

During the second section, speakers will be invited to discuss the requirements, including the data sets and capacities required, challenges and opportunities and practical solutions to localize risk assessment model such as the GIRI to inform Disaster Resilient Infrastructure systems in SIDS contexts.

- Ministry of Finance (TBC)
- Ministry of Public Works / Transport (TBC)
- Executive Director, Caribbean Community Climate Change Centre
- Commonwealth Secretariat Climate Change Director

Moderator: Ronald Jackson, Chief UNDP Disaster Risk Reduction & Recovery Team

Agenda

12.00 – 12.05	Introduction and context setting (moderator)
12.05 – 12.15 10 minutes	Leveraging Risk Data and Analytics for DRI – An overview of GIRI (Amit Prothi) Video (5 minutes) Case study (5 minutes)
12.15 – 12.35 7 minutes	<p>Guided panel discussion – panel A: GIRI’s added value and future plans</p> <ul style="list-style-type: none"> Michelle Muschett, UNDP <i>Question: What opportunities are offered with probabilistic risk assessment such as GIRI for human development in the SIDS? How can such tool help address barriers to scaling up the planning, development and management of resilient infrastructure in SIDS?</i> Kamal Kishore, UNDRR <i>Question: Multi hazard risk assessment are indeed powerful tools for understanding risks. Is it enough to assist SIDS to reach Sendai Framework target C to reduce direct economic losses resulting from damaged or destroyed infrastructure? What makes a successful risk assessment? What are the best practices to create a conducive environment for a successful risk assessment?</i> Amit Prothi, CDRI <i>Question: What are CDRI’s plans to continuously adapt the GIRI tool to different user needs or contexts? What are CDRI’s plan in popularizing and sharing the GIRI data platform with the SIDS?</i>
12.35 – 12.50	Q&A –Invite private sector stakeholder from audience
12.50 – 13.10	<p>Guided panel discussion – panel B: Relevance of probabilistic risk assessment models such as GIRI in SIDS contexts</p> <ul style="list-style-type: none"> Ministry of Finance (TBC) <i>Question around the use of disaster loss estimates for resilient public financial management: quantifying disaster related fiscal risks, designing domestic contingency reserve and risk transfer mechanisms.</i> Ministry of Public Works (TBC) <i>Question around the enabling environment & data gaps and requirements to inform Public Works plans and investments.</i> Caribbean Community Climate Change Centre Executive Director

	<ul style="list-style-type: none">• Head of Climate Change, Commonwealth Secretariat <p><i>Question to be formulated around regional mechanisms value addition to address barriers to data collection, access and maintenance in SIDS.</i></p>
13.10 – 13.25	Q&A
13.25 – 13.30	Wrap up and closing (moderator)