CDRI
Coalition for Disaster Resilient Infrastructure

Adaptive Pathways for Disaster Resilient Infrastructure (DRI) in an Evolving Disaster-Scape

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Introduction to CDRI

- The Coalition for Disaster Resilient Infrastructure (CDRI) is a partnership of national governments, UN agencies and programmes, multilateral development banks and financing mechanisms, the private sector, and knowledge institutions that aims to promote the resilience of new and existing infrastructure systems to climate and disaster risks in support of sustainable development

- Currently CDRI has 34 member countries and 7 Organisations including UNDRR, ADB and The World Bank.

CDRI's Strategic Priorities

- Technical Support and Capacity-building
- Research and Knowledge Management
- Advocacy and Partnerships

CDRI's Evidence Building

- CDRI published a special issue of the journal Sustainable and Resilient Infrastructure on Adaptive Pathways for Resilient Infrastructure with contributions from leading researchers.
- The special issue seeks to better understand how to integrate flexibility into infrastructure planning and design under changing environmental conditions.
- The Special Issue sought literature reviews, evidence-based science and engineering, and case studies that promote adaptive pathways to target policymakers and practitioners.
- The ultimate objective is to implement the practices presented herein to enhance the robustness of methods and processes used to make sustainable and resilient infrastructure.

Terminologies

Adaptive Pathways:

Adaptive pathways are a sequence of actions that should be progressively implemented and depend on future dynamics.

Disaster Resilient Infrastructure:

Infrastructure systems and networks, the components, and assets thereof, and the services they provide, that are able to resist and absorb disaster impacts, maintain adequate levels of service continuity during crises, and swiftly recover in such a manner that future risks are reduced or prevented.

Disaster Risk

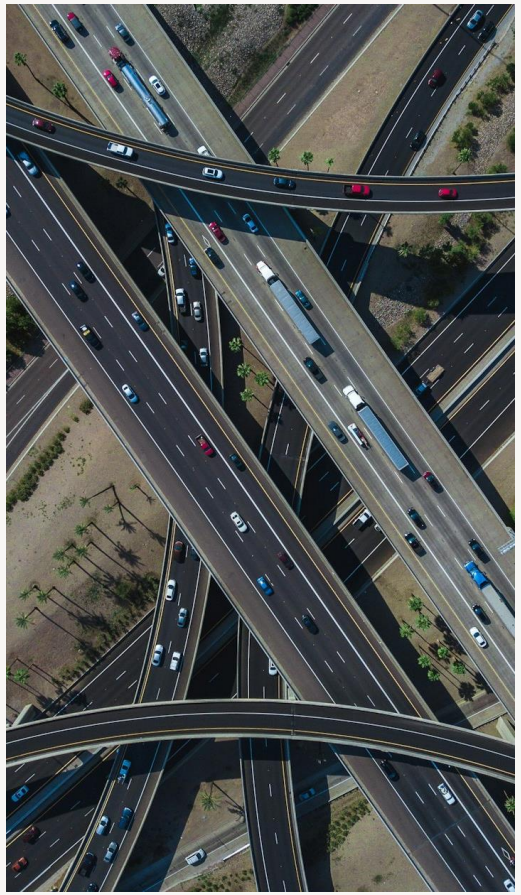
The potential loss of life, injury, and/or destroyed and damaged assets, which could occur in a system, society or community in a specific period of time, determined probabilistically as a function of hazard, exposure, vulnerability and capacity.

Evolving Disaster-Scape

- Climate Change is exacerbating the intensity and frequency of natural hazards and hence the disasters are getting intense causing immense loss of lives, livelihoods and infrastructure.
- Extreme climate hazards magnify disaster risk, asset loss, and service disruption, while existing infrastructure may lose its functionality.

- Every year over the last decade, new records are being set for the number of billion-dollar events that occur annually and there is a growing recognition that resilient systems are critical to a sustainable future.
- Agencies focused on critical infrastructure systems such as transportation, water, power, and communication, have started investing in making their systems resilient to future disruptions – natural or human-made.

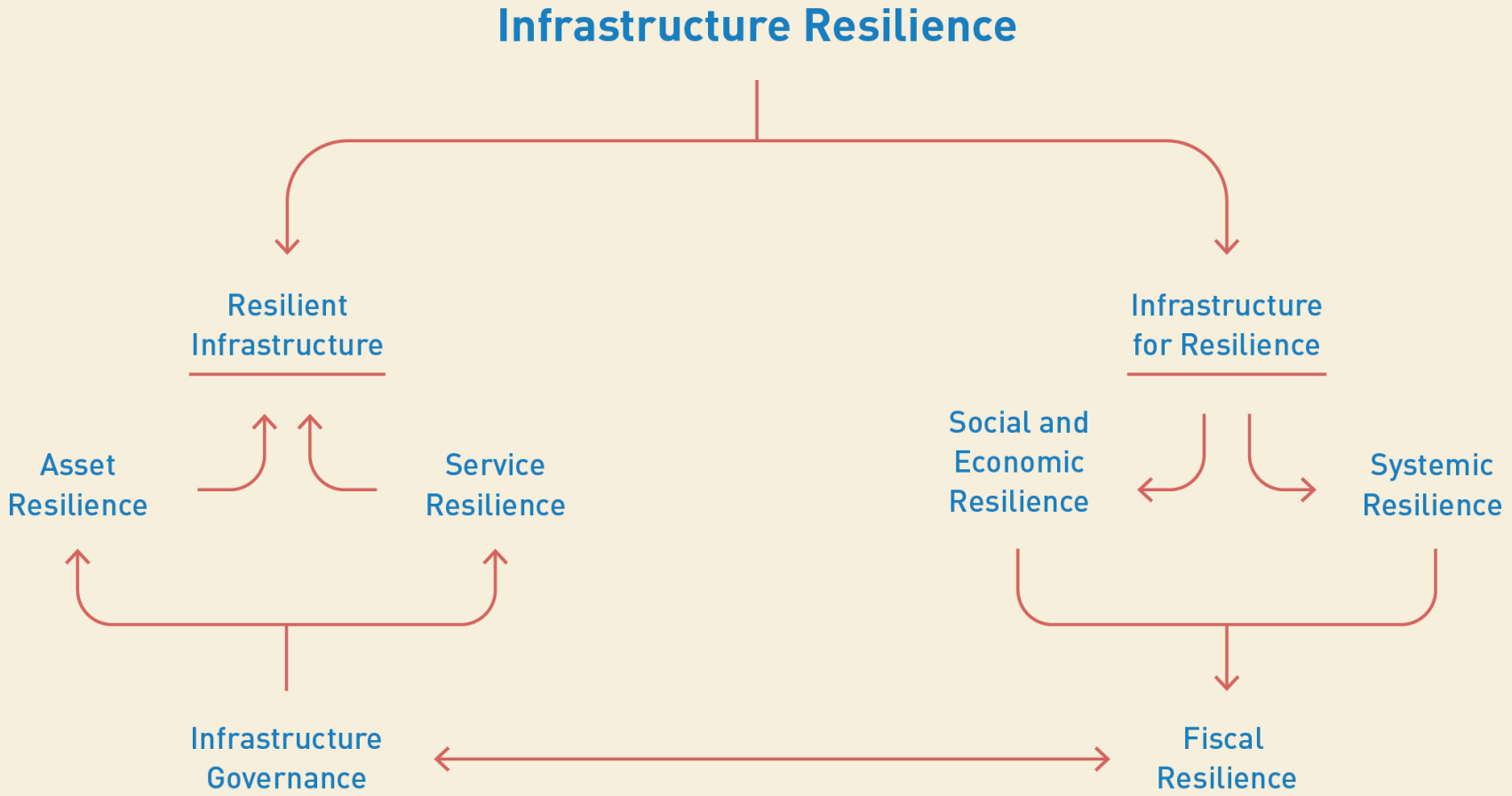
DRI as Climate Adaptation



Why DRI?

- CDRI's Biennial Report – **Global Infrastructure Resilience** – lays out the political and economic imperative for investing in infrastructure resilience based on a large body of evidence and analysis.
- An estimated global Average Annual Loss (AAL)1 of over US$ 700 billion in infrastructure and buildings due to disasters (Cardona et al., 2023a), represents around one-seventh of GDP growth.
- Most of the infrastructure that will be required by 2050 has yet to be built, especially in Low and Middle Income Countries (LMICs).
- Annual investment required to address the infrastructure deficit, achieve the SDGs, achieve net zero, and strengthen resilience by 2050 amount to $9.2 trillion of which $2.84 - $2.90 trillion must be invested in LMICs

New infrastructure investments without strengthened resilience are analogous to pouring water into a bamboo basket.



Dimensions of infrastructure resilience
Source: CDRI (2023)

An Adaptive Pathway towards DRI

Evolving Disaster-Scape

Risk Assessments at National Level

- Critical Infrastructure
- Social Infrastructure

Reforming Higher Education

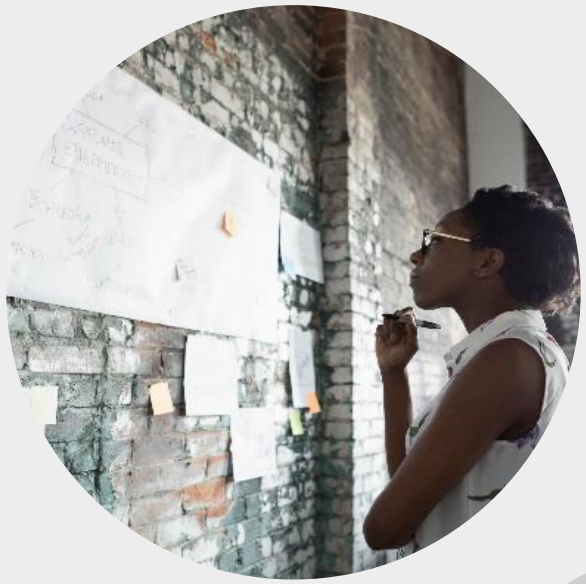
Mainstreaming Resilience into Academia

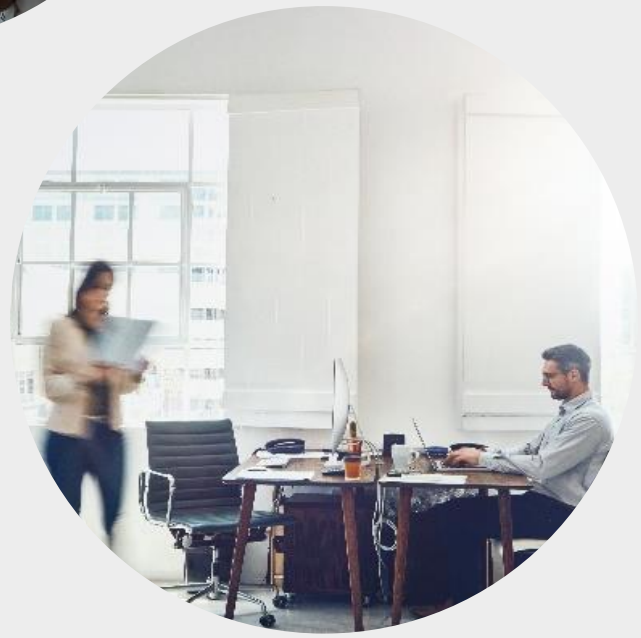
Policy Support and Governance Reforms

- Standards and Codes
- Adaptation Finance
- Novel Insurance mechanisms
- Asset Management

Disaster Resilient Infrastructure

Climate Change Exacerbated Hazards





Thank You