



# Finance for Resilient Infrastructure Programme (FRIP)

An appraisal of standard agreements and contractual documents for projects under India's National Infrastructure Pipeline to enhance disaster resilience.

## Background

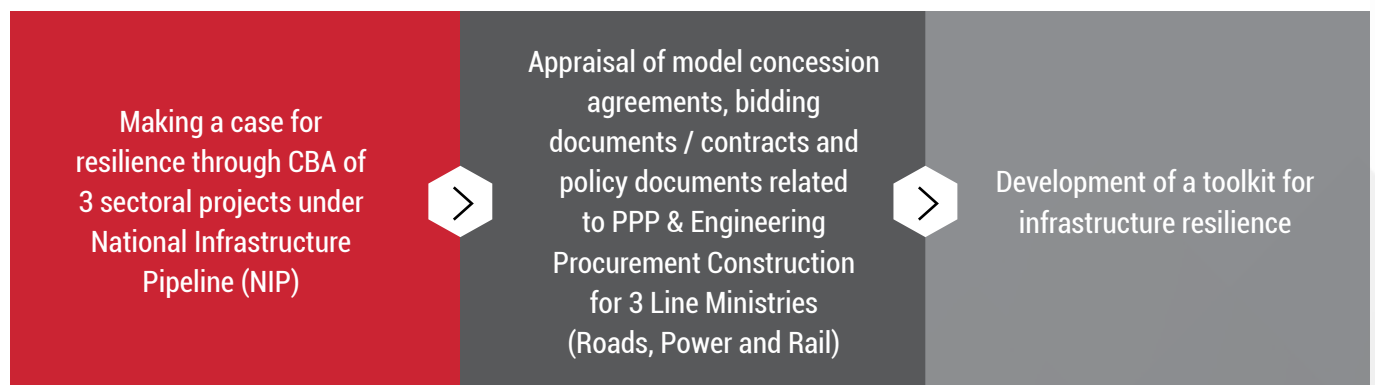
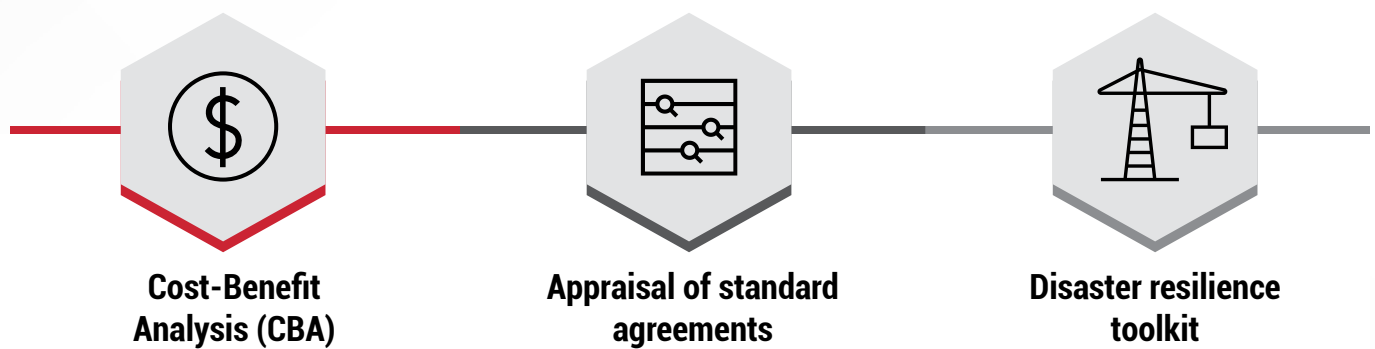
The world is facing more frequent and extreme weather events and natural hazards.

The Coalition for Disaster Resilient Infrastructure's GIRI model estimates the average annual loss (AAL) in India for infrastructure assets, including buildings, which stands at US\$ 31.59 billion for the existing climate scenario.

CDRI, in partnership with the Government of India's Department of Economic Affairs (DEA), Ministry of Finance, and other Line Ministries, is supporting projects within India's National Infrastructure Pipeline to incorporate disaster and climate resilience considerations.

## Objective

Mainstreaming disaster resilience in infrastructure projects in India



### Key outcomes envisaged

- Strengthening of sectoral infrastructure resilience
- Reduction in physical damage and financial losses
- Disaster resilient investment decision-making tool
- Defined procurement process including disaster resilience components

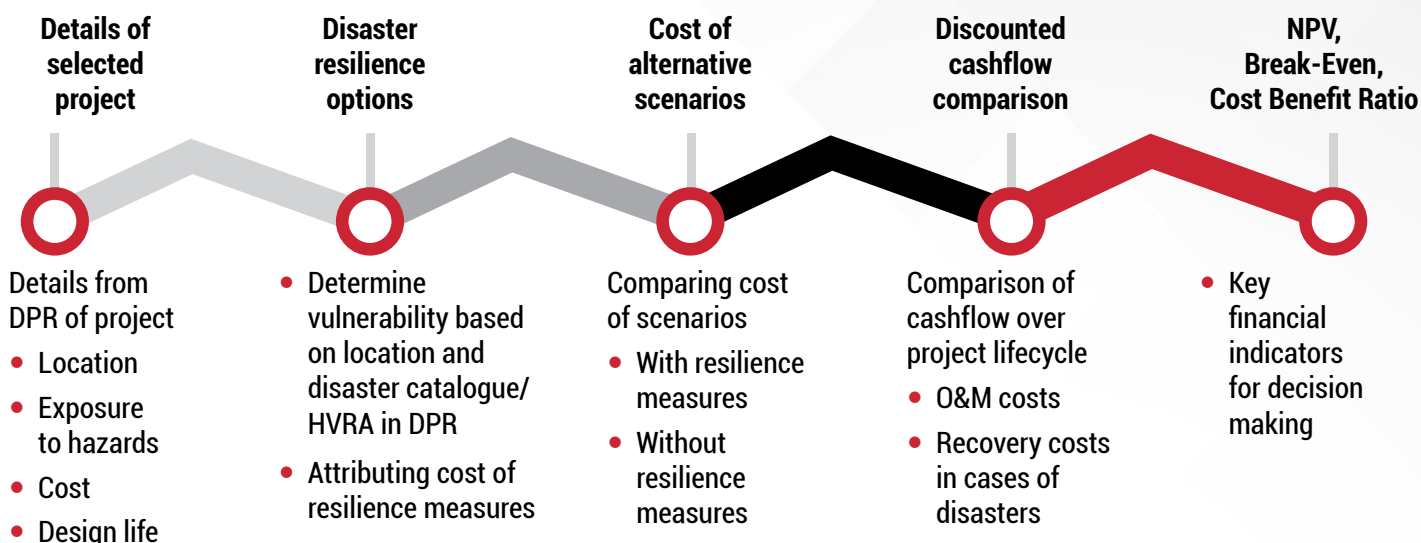
### Applicability

- Line ministries
- Implementing agencies
- Potential bidders
- Financial institutions

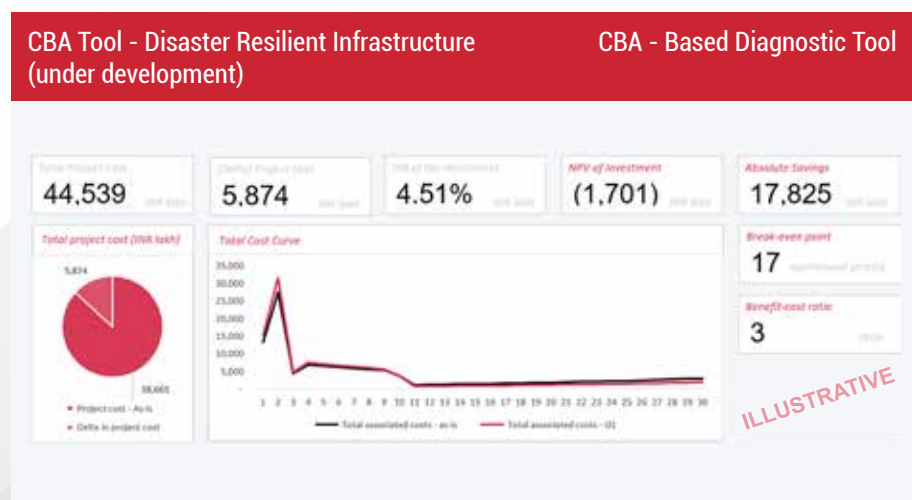
# Cost-Benefit Analysis tool

## Making a case for resilience at project scale through CBA tool

### Method



### Illustrative Dashboards



### CBA tool – Dashboard

It showcases key financial indicators to determine the incorporation of resilience measures

- NPV of all future cashflows
- Absolute savings on recovery/reconstruction needs for incorporation of resilience measures
- Break-even point for additional investment
- Cost-benefit ratio

## Incorporating resilience in policy and contractual considerations

### Focus area



Appraisal of standard contractual documents for resilience gaps

- ➔ Model concession agreements
- ➔ Procurement guidelines
- ➔ Service agreements



Identify gaps and provide suggestions in indicative sections for

- ➔ Incorporating risk-sharing in model agreements
- ➔ Defining force majeure clauses for EPC and PPP modes of implementations

### Standard documents to be studied



**Road sector:** Revised standard EPC agreement of national highways and centrally-sponsored road works proposed to be implemented on EPC mode



**Railway sector:** Standard EPC tender document for single stage two packet system



**Power sector:** Revised guidelines and standard bidding documents for procurement ISTS through TBCB process



## Preparing a disaster resilience toolkit to guide incorporation of resilience measures

Disaster resilience toolkit	Checklist of resilience measures	Guidance document for evaluation and project development	
Content	Checklist of resilience measures included in SBD/MCA	Incorporating disaster risk considerations in project identification and appraisal	To guide preparation of project proposals that include disaster resilience goals
1. Owner	Line ministries and DEA	Line ministries and DEA	DEA, line ministries and potential bidders
2. User	Line ministries, DEA, implementing agencies and potential bidders	Line ministries	Potential bidders
3. Applicability	Project and <b>bid evaluation</b> ; project funding	<b>Navigate the toolkit</b> Locations in standard documents to incorporate resilience	Guidelines on <b>preparing disaster resilience proposal</b>
4. Outcome	Disaster risk management; <b>resilient projects</b>	Disaster resilient standard agreements with <b>defined responsibility</b> sharing	<ul style="list-style-type: none"> <li>• <b>Winning bids</b> achieving resilience goals in infrastructure projects</li> <li>• <b>Increased eligibility</b> for funding</li> </ul>

### Content of the Toolkit

#### Part 1: Checklist of resilience measures

##### 1. Road Sector

- ➔ List of resilience measures
  - Planning phase
  - Design phase
  - Implementation phase
  - O&M phase
- ➔ Resilience considerations in standard document

##### 2. Rail sector

##### 3. Power sector

#### Part 2: Guidance document for line ministries

1. Structure of the toolkit
2. Applicability
3. User manual for CBA tool
4. Focus areas for line ministries in standardized documents

#### Part 3: Guidance document for potential bidders

1. Structure of the toolkit
2. Applicability
3. User manual for CBA tool
4. Focus areas for bidders in standardized documents

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