Towards Resilient Power Infrastructure

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CDRI
Coalition for Disaster Resilient Infrastructure
Overview - Disaster & impact on the community, critical power infra & Economy

- Cyclone Fani, India (2019)
  Economic Impact - $9 billion

- Cyclone Winston, Fiji (2017)
  Economic Impact - $1.3 bn (20-25% GDP)

- Hurricane Maria, Puerto Rico (2017)
  Economic Impact - $91 billion

- Superstorm Sandy, USA
  Economic Impact - $65 billion

Annual economic losses in Pacific SIDS - $1 Bn--5% of combined GDP - World Risk Index 2021

40% no. of disasters during 2015-2030 - GARR 2022

Economic Impact on developing countries:

- Pvt Sector Sale Losses of $82 Bn per year
- Household losses - $2.3 bn -190 Bn per year

Stronger Power, World Bank 2019
Risk profile is changing- Cyclone Wind Hazard (25/100 Years)

The Infrastructure Assets on the coastal geographies will need to integrate climate risk data across the infrastructure lifecycle. Cyclone wind hazards will increase in intensity and frequency. - CDRI’s Global Infrastructure Risk Model and Resilience Index - GIRI
Case Study- Cyclone Fani: Impact on Odisha Power Infrastructure

**Damage to power infrastructure: INR 8,139 Crs (USD 1.2 Bn)**

<table>
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<tr>
<th>Transmission (440, 220 and 132kV)</th>
<th>Distribution (33kV, 11kV and LT)</th>
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<tbody>
<tr>
<td>- 116 towers</td>
<td>- 2.2 lakh poles</td>
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<tr>
<td>- 2 Grids and 250 km lines</td>
<td>- 1.1 lakh km lines</td>
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<td>- 12,064 Transformers</td>
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**Estimated revenue loss:** INR 254 Crs (USD 36 Mn)

**Electricity consumers impacted:** 4.63 Mn

- No early warning indicator-
  - Formed in pre-monsoon (April)
- Gale winds 175-185 kmph;
  - gusting to 205 kmph
- Old tower standards not upgraded to the above wind speed
- High winds and torrential rains in Puri & Bhubaneswar

- Major damage to distribution infrastructure; transmission impact was limited
- Power disruption to critical consumers like hospitals, water pumps, state dept. offices
- Clogged roads and highways due to fallen trees, electricity poles, and lines
Infrastructure for Resilient Island States (IRIS)

CDRI Flagship Initiative on building Coastal Resilience in SIDS

IRIS is a dedicated initiative to achieve sustainable development in SIDS through a systematic approach towards resilient, sustainable and inclusive infrastructure.

Aims to provide technical support on multifaceted issues posed by infrastructure systems in SIDS.

All SIDS from the Caribbean, Pacific, Atlantic, and Indian Ocean regions are eligible for support through IRIS.
IRIS Call for Proposal

Key Themes

- **Risk-Informed Policy & Planning**
  - Data Repositories & Management
  - Policy & Regulatory Frameworks
  - Infrastructure Strategy & Plans

- **Implementation Readiness**
  - Project Implementation Capacity
  - Academic & Professional Training
  - Knowledge Generation & Exchange

- **Inclusion Mainstreaming**
  - Policy & Advocacy
  - Solutions for Equitable Access
  - Capacity Development & Training

- **Access to Finance Actions**
  - Investment Readiness
  - Expansion of Funding Landscape
  - Access to Investors

Priority Sectors

- Transport Infrastructure
- Power Systems
- Coastal Infrastructure
- Water, Waste & Wastewater Management
- Housing
- Tourism Infrastructure
- Social Infrastructure
- ICT & Multi Hazard Early Warning Systems
Thank You

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