

BRIDGE FOR CITIES 4.0

Belt & Road Initiative:
Connecting Cities through
the New Industrial Revolution

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RESILIENCE FRAMEWORK FOR PROJECTS ALONG THE BELT AND ROAD

Innovative solutions are needed to invest in and build the infrastructure that will support global, sustainable urbanization. Given the increased frequency of climate related stressors, there is unprecedented urgency to develop resilient infrastructure, notably in the areas that are more affected, as is the case for many Belt and Road participant countries.

Key Principles:

1. Identify and prepare for climate change impacts
2. Engage community stakeholders and partners
3. Establish a governance structure for planning and implementation
4. Develop a proactive approach to manage acute risks and adapt to chronic stresses
5. Sustain and enhance economic, social, and environmental benefits
6. Support creditworthiness, unlock financing and insurance mechanisms
7. Engineer and construct sustainable and resilient infrastructure projects
8. Educate communities to support continued risk management

Framework:

1. Perform an Initial Risk Assessment

- Review available information and community needs
- Identify data gaps for critical assets
- Maximize use of existing technology to assess needs
- Evaluate evolving risk exposures
- Rank vulnerabilities and prepare a vulnerability assessment work plan

2. Prepare a Detailed Vulnerability Assessment

- Establish a secure process to support data sharing and privacy
- Gather data for critical assets and infrastructure
- Leverage community knowledge to identify risks
- Model future climate scenarios
- Assess critical infrastructure and resource vulnerability
- Model supply-chain interruption for city and businesses
- Analyze socioeconomic impacts and losses

3. Develop a Resilience Strategy

- Prepare conceptual strategy and adaptation alternatives
- Address socioeconomic impacts and future needs
- Evaluate opportunities to include and support vulnerable communities
- Design actions to improve operational and energy efficiency
- Create opportunities to encourage public-private collaboration
- Prepare preliminary engineering designs and costs
- Develop a climate-smart capital improvement plan
- Incorporate lessons from in-country partners

4. Secure Financing and Insurance

- Assess finance and insurance options
- Evaluate resilience return on investment
- Prioritize infrastructure projects
- Prepare a road map to implement projects

5. Implement Resilient Projects

- Embed resilience into engineering designs
- Apply innovative technology solutions to projects
- Procure, permit, and construct
- Update emergency response plans
- Support operations and leverage technology to monitor, verify and evaluate results
- Encourage scalability with support from in-country partners
- Empower local work force to maintain infrastructure

