Infrastructure Prioritization Framework: Considering Resilience in Infrastructure Investment Decisions

The World Bank
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There are three critical considerations:

1. What I need? (development goals, NDP, etc.)
2. What I want? (policy objectives & political agenda)
3. What I can? (budget & fiscal constraints)
QII: Incorporating Resilience in Prioritization

**Economic Efficiency**
- Adopting life-cycle costs
- Rated criteria for non-price attributes
- Operational improvements

**Safety**
- Operational safety and durability via improved construction standards
- Use of management information systems and smart design

**Environmental and Social Sustainability**
- Minimize harmful environmental impacts
- Improve welfare
- Inclusion, gender, and accessibility considerations
- Robust risk-assessment framework

**Economic and Social Contribution**
- Small and medium enterprise development
- Job creation
- Enhanced competitiveness

**Resilience against Natural Disasters**
- Resilience against natural disasters through design
- Systems for disaster preparation and response
### Stepping-Stone Approach for Project Prioritization

#### Ad-hoc project selection
- Limited project-level information available
- Inconsistent use of information
- Subjective decisions based on non-technical or political considerations

#### Selection by IPF
- Limited institutional and/or technical capacity
- Partial project-level information available
- Some information on social, environmental, other economic effects

#### Selection informed by full SCBA
- High technical and institutional capacity
- Detailed project-level information available
- Extensive quantified and monetized costs and benefits known
- Selection by net present values
IPF Structure

Social-Environmental Indicators (SEI)
- Beneficiaries
- Environmental risks and impacts
- Poverty
- Job creation
- Resettlement / cultural impacts

Financial-Economic Indicators (FEI)
- Cost-benefit ratio (partial CBA)
- Multiplier effects
- Externalities (e.g., costs avoided)
- Implementation risks

Challenge:
Incorporate resilience into decision-making at this level
QII: Incorporating Resilience in Prioritization

FEI: Economic Efficiency
- Adopting life-cycle costs
- Rated criteria for non-price attributes
- Operational improvements

Safety
- Operational safety and durability via improved construction standards
- Use of management information systems and smart design

SEI: Environmental and Social Sustainability
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Economic and Social Contribution
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Resilience against Natural Disasters
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Mapping Projects by SEI and FEI

Fundable projects given budget constraint

Social-Environmental Priority Projects

High Priority Projects

Financial-Economic Priority Projects

Fundable projects given budget constraint

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Expanded IPF Structure: Incorporating Resilience

**Social-Environmental Indicators**
- Beneficiaries
- Environmental risks and impacts
- Poverty
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**Financial-Economic Indicators**
- Cost-benefit ratio (partial CBA)
- Multiplier effects
- Externalities (e.g., costs avoided)
- Implementation risks

**Resilience Indicators**
- **Functionality**
  - Improved access for vulnerable populations
  - Improved emergency access
  - Multiple use (e.g., transport + coastal protection)
- **Redundancy** for major trade routes
- **Sensitivity**: Located in hazard-prone area
- Estimated cost of recovery
- **Resistant / Robust / Prepared**: Inclusion of risk management plan / mitigation measures
Refining IPF for QII: Next Steps

- **Project-level resilience**: measures of physical / engineered resistance (e.g. ability to withstand certain shocks)
- **Community resilience**: how projects contribute to community resilience (e.g. extending service to vulnerable communities, evacuation routes, trade route redundancy)
- **Tradeoffs**: dealing with added costs of resilience
- **Sequencing**: linking IPF and extensive resilience assessment
- **Private participation**: supporting PPP identification
Thank you