Concept Paper

Project Number: 52251-001
Knowledge and Support Technical Assistance (KSTA)
September 2019

Building Disaster-Resilient Infrastructure through Enhanced Knowledge

Asian Development Bank

CONTENTS

KNOWLEDGE AND SUPPORT TECHNICAL ASSISTANCE AT A GLANCE

1. Basic Data — **Project Number:** 52251-001

Project Name	Building Disaster-Resilient Infrastructure through Enhanced Knowledge	**Department/Division**	SDCC/SDCD
Nature of Activity	Capacity Development	**Executing Agency**	Asian Development Bank
Modality	Regular		
Country	REG (ARM, CAM, FIJ, SRI)		

2. Sector — **Subsector(s)**

	ADB Financing ($ million)
Total	**0.00**

3. Strategic Agenda	**Subcomponents**
Inclusive economic growth (IEG)	Pillar 3: Extreme deprivation prevented and effects of shocks reduced (Social Protection)
Environmentally sustainable growth (ESG)	Disaster risk management Global and regional transboundary environmental concerns
Regional integration (RCI)	Pillar 4: Other regional public goods

Climate Change Information	
Climate Change impact on the Project	Low
Cofinancing	
Adaptation ($ million)	0.67

4. Drivers of Change	**Components**
Governance and capacity development (GCD)	Institutional development
Knowledge solutions (KNS)	Application and use of new knowledge solutions in key operational areas Knowledge sharing activities
Partnerships (PAR)	Implementation Regional organizations

Gender Equity and Mainstreaming	
Some gender elements (SGE)	✓

5. Poverty and SDG Targeting	
Geographic Targeting	No
Household Targeting	No
General Intervention on Poverty	Yes
SDG Targeting	Yes
SDG Goals	SDG1, SDG5, SDG10, SDG11, SDG13

Location Impact
Not Applicable

6. Risk Categorization — Complex

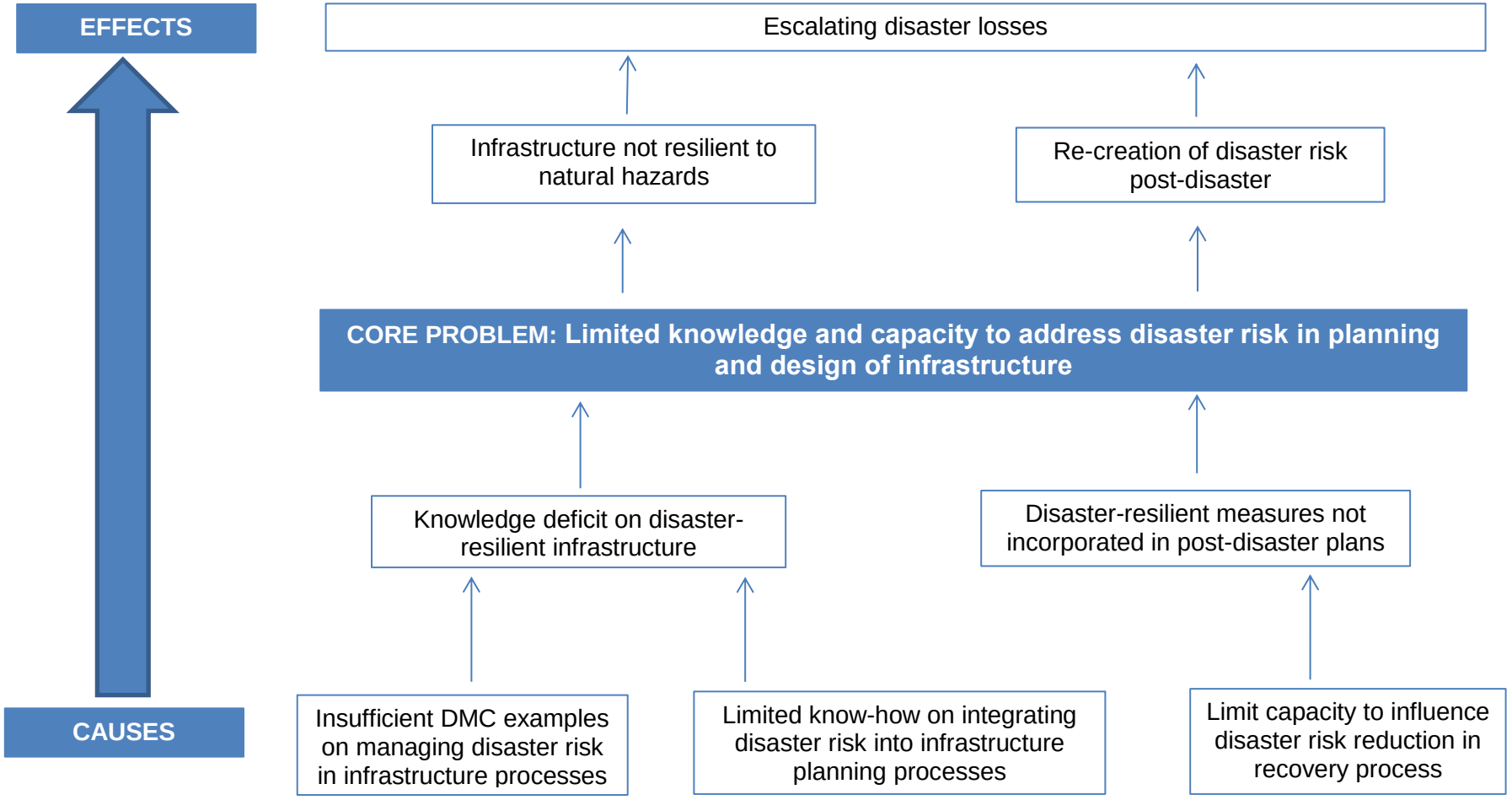
7. Safeguard Categorization — Safeguard Policy Statement does not apply

8. Financing

Modality and Sources	**Amount ($ million)**
ADB	**0.00**
None	0.00
Cofinancing	**2.00**
Japan Fund for Poverty Reduction (Full ADB Administration)	2.00
Counterpart	**0.00**
None	0.00
Total	**2.00**

Currency of ADB Financing: USD

PROBLEM TREE



I. KNOWLEDGE AND SUPPORT TECHNICAL ASSISTANCE

1. The knowledge and support technical assistance (TA) will strengthen action-oriented disaster risk management (DRM) knowledge for disaster-resilient infrastructure in developing member countries (DMCs) through (i) the development of upstream disaster-resilient infrastructure know-how, (ii) the review of existing infrastructure investment design processes at the preparatory phase in selected DMCs, and (iii) capacity building of selected DMCs to incorporate disaster-resilient measures in post-disaster reconstruction processes, documented for the benefit of all DMCs.[1]

2. The TA is included in the 2019 results-based work plan of the Sustainable Development and Climate Change Department. It supports the implementation of the Asian Development Bank's (ADB) Strategy 2030 on tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability, and ADB's Operational Plan for Integrated Disaster Risk Management, 2014–2020.[2] The TA responds to individual country partnership strategies aimed at enhancing disaster resilience. The TA will contribute to DMCs attainment of disaster resilience ambitions under the Sustainable Development Goals (SDGs), the Sendai Framework for Disaster Risk Reduction 2015–2030, and the 2015 Paris Agreement on Climate Change.[3]

A. Rationale

3. Disasters triggered by natural hazards threaten the long-term sustainability of development in Asia and the Pacific. DMCs face significant disaster and climate risk. Between 2008 and 2017 alone, direct physical losses as a consequence of extreme weather events and geophysical hazards averaged $46 billion per annum—equivalent to $134 million per day. Losses included damage to infrastructure, homes, and businesses, with indirect economic and social consequences for jobs, productivity, and the provision of services. The failure of insufficiently resilient infrastructure also contributed to over 317,000 disaster-related fatalities over the same period.[4]

4. As disaster losses continue to escalate, there is an urgent need to ensure that disaster risk is adequately addressed in the planning and design of infrastructure. This is particularly urgent in view of the huge infrastructure investment needs in the region over the next 20 years, combined with the expected adverse impacts of climate change on the frequency and intensity of extreme weather events. Developing Asia will need to invest $26 trillion in infrastructure between 2016 and 2030, or $1.7 trillion per year, to maintain its growth momentum, eradicate poverty, and respond to climate change.[5]

5. The barriers to sustainable and resilient infrastructure go beyond finance. How and where infrastructure is built, the appropriateness and application of infrastructure standards, incentive structures, maintenance, and land-use planning are all relevant factors. Risk-informed projects

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[1] *Knowledge* refers to the theoretical or practical understanding (product of organization and reasoning applied to raw data). *Know-how* refers to tacit knowledge (developed through a process of interaction, debate, and trial and error encountered in practice). ADB. 2004. *Knowledge Management in ADB*. Manila.

[2] ADB. 2018. *Strategy 2030: Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific*. Manila; and ADB. 2014. *Operational Plan for Integrated Disaster Risk Management, 2014–2020*. Manila.

[3] United Nations. 2015. *Transforming Our World: The 2030 Agenda for Sustainable Development*. New York; United Nations. 2015. *Sendai Framework for Disaster Risk Reduction.* New York; and United Nations. 2015. *Paris Agreement*. New York.

[4] EM-DAT. The Emergency Events Database - Université catholique de Louvain - CRED, D. Guha-Sapir www.emdat.be, Brussels, Belgium (accessed 29 January 2019).

[5] ADB. 2017. *Meeting Asia's Infrastructure Needs*. Manila.

along with enabling regulatory frameworks are needed. The interface between sector-level approaches to managing disaster risk and ensuring a coherent and coordinated development-wide treatment of risk remains challenging.

6. Post-disaster recovery and reconstruction is a complex process. The number of stakeholders, and the demands from affected business and communities to quickly return to a pre-disaster state, can override the opportunity a disaster presents to address underlying risk factors. Pre-disaster recovery planning enables difficult and time-consuming decisions to be addressed ahead of an event, and for the capacity of decision-makers to be strengthened. Laying the foundations for the principles of build back better ahead of time can result in a more equitable and sustainable recovery that avoids the regeneration of disaster risk.[6]

7. Recognizing the necessity for greater investment in disaster-resilient infrastructure across Asia and the Pacific, important initiatives are being spearheaded by ADB member countries. These include, among others, the G20 Quality Infrastructure Investment Initiative under Japan's 2019 G20 presidency and the Coalition for Disaster Resilient Infrastructure under India's leadership. The international community's commitment to SDG 9—to "build resilient infrastructure, promote sustainable industrialization and foster innovation"—and Sendai Framework for Disaster Risk Reduction global target (d)—to "substantially reduce disaster damage to critical infrastructure and disruption of basic services"—also requires the generation of context-specific knowledge and greater emphasis on its practical application in new investments, including in post-disaster reconstruction.

8. Led by the multilateral development banks, a global infrastructure forum has been established to, inter alia, identify and address infrastructure and capacity gaps in support of the commitment to investing in sustainable and resilient infrastructure under the Addis Ababa Action Agenda.[7] In support of this initiative, proven approaches and concrete examples from within DMCs offer the opportunity to demonstrate best practice and to highlight where additional capacity and technical support is required.

9. At the country-level, Armenia, Cambodia, Fiji, and Sri Lanka offer four distinct examples that can provide DMCs with varying approaches in the treatment of disaster risk in their respective infrastructure investment processes in high risk contexts.[8] The four DMCs will benefit through targeted capacity building, the review of existing infrastructure investment design processes at the preparatory phase, as well as in generating knowledge that support disaster-resilient measures in post-disaster reconstruction efforts. The four DMCs were selected based on (i) existing infrastructure investment environment, (ii) high levels of disaster risk, (iii) DRM-related project portfolio and/or pipeline with ADB, and (iv) demonstrated willingness to engage in ADB-supported capacity-building initiatives. Consideration to geographical balance and avoidance of overlap with support provided by other development partners was also given.

B. Proposed Solutions

10. Action-oriented disaster risk management knowledge and know-how need to be incorporated into new infrastructure investment planning and design, the post-disaster reconstruction of existing structures, and upstream enabling environments to ensure that the

[6] W. J. Clinton. 2006. *Key Propositions for Building Back Better*. New York: United Nations.
[7] United Nations. 2015. *Addis Ababa Action Agenda of the Third International Conference on Financing for Development*. New York.
[8] Indicative selection pending confirmation from ADB's operations departments and DMCs.

appropriate and tailor-made disaster-resilient measures are taken. The TA will focus on generating knowledge and building capacity across three outputs:

11. **Output 1: Disaster-resilient infrastructure know-how disseminated.** The TA will develop knowledge products to advance upstream disaster-resilient infrastructure know-how, including linkages to the proposed Coalition for Disaster Resilient Infrastructure spearheaded by the Government of India and the Sendai Framework for Disaster Risk Reduction's global target to "substantially reduce disaster damage to critical infrastructure and disruption of basic services." Appropriate upstream enabling environments include features such as disaster-resilient infrastructure standards and codes, risk-informed land use management, disaster risk screening and assessment tools, disaster-resilient building skills and capabilities, and regulatory processes. The TA will draw on ongoing ADB initiatives related to climate-resilient investments in critical infrastructure.[9] The products—including, inter alia, sector-based case studies, toolkits, and guidance notes—will target practitioners based on identified gaps.

12. **Output 2: Recommendations for addressing disaster risk in infrastructure investment processes identified.** The TA will review existing government processes (and associated guidelines and tools) for the selection, appraisal, and design of infrastructure projects in four DMCs (Armenia, Cambodia, Fiji, and Sri Lanka) and opportunities to enhance integration of disaster risk considerations. The reviews will document existing processes, their treatment of disaster risk and implications for investment portfolios and project design, associated gaps and challenges, and recommendations for improvement within priority sectors identified by the DMCs. The completed reviews will provide a bank of case examples on practical actions and recommendations for DMCs to integrate disaster risk considerations in infrastructure project development processes, including in investment plans.

13. **Output 3: Resilient recovery capacity enhanced.** The TA will strengthen capacity in four DMCs (Armenia, Cambodia, Fiji, and Sri Lanka) to ensure that appropriate disaster-resilient measures are incorporated into post-disaster reconstruction efforts by supporting post-disaster needs assessment training to government officials, focusing on infrastructure-related sectors, the utilization of contingency and recovery tools and plans, improved financial preparedness planning to help cover the additional costs of building back better, and effective post-disaster budget execution capabilities. ADB will work closely with the International Recovery Platform to ensure contributions under this output build on efforts by other stakeholders.[10]

14. These outputs will result in the following outcome: action-oriented disaster risk management policies and processes on infrastructure in DMCs improved.[11] The TA will be aligned with the following impact: disaster resilient infrastructure promoted in Asia and the Pacific (footnote 3).

15. The TA approach is considered for this project because the proposal is not directly linked to ADB-financed projects, but rather promotes knowledge generation and seeks to build capacity to the benefit of DMCs.

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[9] ADB. 2016. *Building Climate Resilience in Asia's Critical Infrastructure*. Manila; and ADB. 2017. *Supporting Adaptation Decision Making for Climate-Resilient Investments*. Manila.

[10] The International Recovery Platform, comprising organizations from the region and globally, exchanges lessons and ideas that promotes recovery best practice and learnings, as well as capacity building on build-back-better in recovery, rehabilitation, and reconstruction. ADB is a member of the Steering Committee.

[11] The design and monitoring framework is in Appendix 1.

C. Indicative Technical Assistance Budget and Financing Sources

16. The proposed TA budget is $2 million, which will be financed on a grant basis by the Japan Fund for Poverty Reduction[12] and administered by ADB.

D. Implementation Arrangements

17. For outputs 1 and 2, international consulting firms and individual consultants will be recruited. Firms will be selected using the quality- and cost-based selection method with a 90:10 quality-cost ratio to ensure quality of the complex scope, through a simplified technical proposal. For output 3, it is proposed to engage the United Nations Development Programme (UNDP) through single-source selection. As a UN agency specializing in disaster recovery, UNDP coordinates post-disaster needs assessments on behalf of the UN System and has a proven track record in developing tools and building the capacity of governments in disaster recovery. In addition, UNDP's existing footprint in the four proposed DMCs will be leveraged to ensure implementation efficiency, well-coordinated activities, and output sustainability.

18. The estimated input will be up to 200 person-months of international and national consultants over a period of 24 months. The exact requirements will vary according to the scope of work and studies. While the main tasks will be undertaken by a consulting firm, resource persons may also be recruited as expert presenters at workshops.

19. ADB will engage the consultants and carry out procurement following the ADB Procurement Policy (2017, as amended from time to time) and its associated project administration instructions and/or staff instructions. [13] The indicative implementation arrangements are summarized in Table 1.

Table 1: Indicative Implementation Arrangements

Aspects	**Arrangements**		
Indicative implementation period	November 2019–July 2021		
Executing agency	ADB		
Implementing agency	SDCC		
Consultants	To be selected and engaged by ADB		
	Package title	Selection method	Engaged by
	Consulting firm(s): TBD	QCBS (90:10)	ADB
	UNDP	Single-source selection	ADB
	Individuals: International and national	Individual consultants selection	ADB
	Resource persons	Individual consultants selection	ADB
Procurement	Procurement (for workshops, training, seminars, and conferences) will follow ADB's Procurement Policy (2017, as amended from time to time)		
Disbursement	The TA resources will be disbursed following ADB's *Technical Assistance Disbursement Handbook* (2010, as amended from time to time).		

ADB = Asian Development Bank, QCBS = quality- and cost-based selection, SDCC = Sustainable Development and Climate Change Department, TA = technical assistance, TBD = to be determined, UNDP = United Nations Development Programme
Source: Asian Development Bank.

[12] Japan Fund for Poverty Reduction is the proposed funding source subject to the approval of the Government of Japan.

[13] Output-based/lumpsum contracts will be considered for consulting services where appropriate with the concurrence of PPFD.

II. DELIBERATIVE AND DECISION-MAKING ITEMS

A. Risk Categorization

20. The TA is categorized as *complex* as ADB financing exceeds $1.5 million. However, ADB has a proven track record of conducting operational research, implementing capacity building and organizational strengthening activities, and producing knowledge. This TA is closely coordinated with the relevant development partners.

B. Scope of Due Diligence

21. The scope of due diligence will be on the proposed outputs and the implementation arrangements for the TA.

C. Processing Schedule

22. The processing schedule by milestone is in Table 2.

Table 2: Processing Schedule by Milestone

Milestones	Expected Completion Date
1. Departmental quality assurance	10 May 2019
2. Interdepartmental review	June 2019
3. Concept paper approval	August 2019
4. Interdepartmental review of technical assistance report	September 2019
5. Trust fund approval	October 2019
6. TA report approved	November 2019

TA = technical assistance.
Source: Asian Development Bank.

APPENDIX 1

PRELIMINARY DESIGN AND MONITORING FRAMEWORK

Impact the TA is Aligned with Disaster resilient infrastructure promoted in Asia and the Pacific[a]			
Results Chain	**Performance Indicators with Targets and Baselines**	**Data Sources and Reporting Mechanisms**	**Risks**
Outcome Action-oriented disaster risk management policies and processes on infrastructure in DMCs improved	By 2022, at least 2 DMCs initiated policy or process revisions to enhance integration of disaster risk considerations (2018 baseline: 0)	Draft policy documents and Sendai Framework Monitor reports.	Government commitment to disaster-resilient infrastructure is not secured or sustained
Outputs 1. Disaster-resilient infrastructure know-how disseminated	1a. By 2022, at least 4 knowledge products to advance upstream disaster-resilient infrastructure know-how published and disseminated (2018 baseline: 0)	1a. Published knowledge products	Delays in upstream disaster-resilient infrastructure initiatives
2. Recommendations for addressing disaster risk in infrastructure investment processes identified	2a. By 2022, at least 4 DMCs existing sector processes for selection, appraisal and design of infrastructure projects reviewed (2018 baseline: 0)	2a. Country review reports	Insufficient commitment from counterparts due to completing priorities
	2b. By 2022, 4 DMC case studies on actions, lessons and recommendations to integrate disaster risk considerations in infrastructure project design published and disseminated (2018 baseline: 0)	2b. Published knowledge products	
3. Resilient recovery capacity enhanced	3a. By 2022, at least 80% of participants from 4 DMCs report improved knowledge on disaster-resilient measures in post-disaster reconstruction process, with at least 50% female participation (2018 baseline: none)	3a. Participant evaluations	
	3b. By 2022, 3 contingency and recovery tools/plans published and disseminated (2018 baseline: 0)	3b. TA final report	

Key Activities with Milestones
1. Disaster-resilient infrastructure know-how disseminated
1.1 Based on consultations, develop responsive knowledge products (inter alia case studies, toolkits, and guidance notes) to advance upstream initiatives (Q4 2019–Q2 2021)
2. Recommendations for addressing disaster risk in infrastructure investment processes identified
2.1 Review investment processes addressing disaster risk in DMCs (Q1 2020–Q1 2021)
2.2 Support national-level consultation and validation workshops (Q4 2020–Q2 2021)
2.3 Produce a report with examples, actions, lessons, and recommendations (Q2 2021)
3. Resilient recovery capacity enhanced
3.1 Provide support to strengthen capacity to integrate disaster-resilient measures into post-disaster reconstruction efforts in participating DMCs (Q1 2020–Q2 2021)
3.2 Provide direct support to develop and utilize contingency and recovery tools and support planning in participating DMCs (Q1 2020–Q2 2021)
TA Management Activities
Management of consultant contracts (Q4 2019–Q3 2021)
Regular reporting and supervision until Q3 2021
Preparation of final report until Q3 2021
Inputs
Japan Fund for Poverty Reduction: $2,000,000
Assumptions for Partner Financing
Not Applicable

DMC = developing member country, Q = Quarter, TA = technical assistance.
[a] United Nations. 2015. *Sendai Framework for Disaster Risk Reduction*. New York.
Source: Asian Development Bank.