Project Number: 53198-001
Knowledge and Support Technical Assistance (KSTA)
November 2019

Developing a Disaster Risk Transfer Facility in the Central Asia Regional Economic Cooperation Region

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Asian Development Bank
ABBREVIATIONS

ADB – Asian Development Bank
CAREC – Central Asia Regional Economic Cooperation
DRF – disaster risk financing
DRM – disaster risk management
DRR – disaster risk reduction
PRC – People’s Republic of China
TA – technical assistance

NOTE
In this report, “$” refers to United States dollars.

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## CONTENTS

<table>
<thead>
<tr>
<th>KNOWLEDGE AND SUPPORT TECHNICAL ASSISTANCE AT A GLANCE</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>II. ISSUES</td>
<td>1</td>
</tr>
<tr>
<td>III. THE TECHNICAL ASSISTANCE</td>
<td>4</td>
</tr>
<tr>
<td>A. Impact and Outcome</td>
<td>4</td>
</tr>
<tr>
<td>B. Outputs, Methods, and Activities</td>
<td>4</td>
</tr>
<tr>
<td>C. Cost and Financing</td>
<td>5</td>
</tr>
<tr>
<td>D. Implementation Arrangements</td>
<td>5</td>
</tr>
<tr>
<td>IV. THE PRESIDENT'S DECISION</td>
<td>6</td>
</tr>
</tbody>
</table>

## APPENDIXES

| 1. Design and Monitoring Framework                     | 7    |
| 2. Cost Estimates and Financing Plan                   | 9    |
| 3. List of Linked Documents                            | 10   |
**KNOWLEDGE AND SUPPORT TECHNICAL ASSISTANCE AT A GLANCE**

1. **Basic Data**
   - **Project Number:** 53198-001
   - **Project Name:** Developing a Disaster Risk Transfer Facility in the Central Asia Regional Economic Cooperation Region
   - **Department/Division:** CWRD/CWRC
   - **Nature of Activity:** Capacity Development
   - **Executing Agency:** Asian Development Bank
   - **Modality:** Regular
   - **Country:** REG (AFG, AZE, GEO, KAZ, KGZ, MON, PAK, PRC, TAJ, TKM, UZB)

2. **Sector**
   - **Subsector(s):**
     - Finance: Insurance and contractual savings
     - Public sector management: Public expenditure and fiscal management
   - **ADB Financing ($ million):**
     - Finance: 1.00
     - Public sector management: 1.00
   - **Total:** 2.00

3. **Operational Priorities**
   - **Addressing remaining poverty and reducing inequalities**
   - **Accelerating progress in gender equality**
   - **Tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability**
   - **Strengthening governance and institutional capacity**
   - **Fostering regional cooperation and integration**

4. **Risk Categorization**
   - Complex

5. **Safeguard Categorization**
   - Safeguard Policy Statement does not apply

6. **Financing**
   - **Modality and Sources**
     - **ADB**
       - Knowledge and Support technical assistance: Financial Sector Development Partnership Special Fund: 0.50
       - Knowledge and Support technical assistance: Technical Assistance Special Fund: 1.50
     - **Cofinancing**
       - None: 0.00
     - **Counterpart**
       - None: 0.00
   - **Total:** 2.00

**Currency of ADB Financing:** US Dollar

Source: Asian Development Bank
I. INTRODUCTION

1. The regional knowledge and support technical assistance (TA) will support the development of comprehensive regional disaster risk financing (DRF) solutions to assist the Central Asia Regional Economic Cooperation (CAREC) countries in reducing their physical and financial vulnerability to natural hazards. This will include the (i) preparation of disaster risk assessments based on state-of-the-art modeling methodologies for all CAREC countries to quantify the risk associated with the main natural hazards; (ii) evaluation of the protection gap; and the capacity to quantify the economic benefit of disaster risk reduction (DRR) measures; and (iii) design of a sustainable regional disaster risk transfer pilot scheme to manage disaster risk for selected CAREC countries. The TA will also seek to raise awareness among government officials of all ministries and agencies to be involved, the local private sector, and the public about the value of DRF instruments, including insurance.

2. The concept of developing a regional DRF mechanism was presented and discussed with government officials from the 11 CAREC countries in a special session organized during the CAREC National Focal Points’ Meeting on 9–10 October 2018 in Ashgabat, Turkmenistan, and prompted member countries’ interest in driving the discussions forward.

3. The TA is aligned with ADB’s Strategy 2030 and its operational priority 3—tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability—as well as with the Operational Plan for Integrated Disaster Risk Management 2014–2020, the Strategy 2030 Operational Plan for Priority 7: Fostering Regional Cooperation and Integration 2019–2024, and the Financial Sector Operational Plan. It also supports the implementation of the CAREC 2030 strategy, in which disaster risk management is included as an area of focus for forging regional cooperation going forward. It is also aligned with the priorities of the Sendai Framework for Disaster Risk Reduction 2015–2030, to which all CAREC countries are signatories.

II. ISSUES

4. Economic losses as a result of disasters have dramatically increased worldwide, for an estimated annual average of $186 billion since 2008. In 2017, the (re)insurance industry paid out a record $144 billion to finance disaster losses. Even so, these insured losses represent only about 45% of the total economic losses in 2017 ($345 billion). Asia accounts for nearly 40% of the world’s economic losses from disasters between 2008 and 2018. However, the protection gap in the region is even more significant—only 12% of losses on average were insured since 2008. Asian governments have mostly financed the cost of recovery by reallocating budgets, raising

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1 Afghanistan, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Mongolia, Pakistan, People’s Republic of China (PRC—Inner Mongolia Autonomous Region and Xinjiang Uyghur Autonomous Region), Tajikistan, Turkmenistan, Uzbekistan.

2 The protection gap is the difference between total economic losses from disasters and insured losses.

3 For instance, building defenses, improved spatial planning, ecosystem-based approaches, early warning systems, and building regulations.


7 Adopted at the Third United Nations Conference on Disaster Risk Reduction in 2015 in Sendai, Japan. It established four priorities for action: (i) understanding disaster risk, (ii) strengthening disaster risk governance to manage disaster risk, (iii) investing in disaster reduction for resilience, and (iv) enhancing disaster preparedness for effective response.

8 The TA first appeared in the business opportunities section of ADB’s website on 16 October 2019.

9 Munich Re NatCatService, [https://natcatSERVICE.munichre.com/](https://natcatSERVICE.munichre.com/) (last accessed on 1 November 2019).
revenues and taxes, issuing debt, or relying on donations from abroad, on an ex-post basis. This approach results in governments overexposing their fiscal budget and is not sustainable, particularly not in light of rising disaster risk and rising levels of post-disaster financing needs. A risk-layering approach that identifies the most appropriate instrument for each layer of risk is key to overcoming liquidity constraints and ensuring timely recovery and reconstruction in the aftermath of a disaster.

5. Countries in the CAREC region face similar challenges, as they are highly exposed and vulnerable to earthquakes and hydrometeorological disaster risk (e.g., flooding and droughts). Moreover, the frequency and intensity of hydrometeorological hazards is expected to increase under the impacts of climate change. Since the turn of the 21st century, several disaster events have occurred in CAREC countries, causing significant economic losses that often transcend national borders and create substantial fiscal challenges for each country.\(^{10}\) Between 2008 and 2018, estimated economic losses from disasters in CAREC countries totaled more than $22 billion.\(^{11}\) The significant incidence and intensity of natural hazard events in the region, and issues surrounding poor construction practices and insufficiently risk-sensitive land-use planning are contributing to considerable economic damage in the region.

6. While recent national and regional initiatives are encouraging,\(^{12}\) CAREC countries have not yet fully developed or implemented comprehensive disaster risk management (DRM) strategies that efficiently tackle the protection gap. Limited availability of reliable data on hazards, exposure, and vulnerability, as well as weak analytics and modeling capacities in CAREC countries make it very difficult to understand and comprehensively manage disaster risks. However, the insurance industry has been using innovative technology to develop data, analytics, and modeling methods. Global open-source and open-access probabilistic risk models developed between academia and the private sector can provide cost-effective and solid high-level disaster risk profiles. With the support of multilateral development banks, such models have been used to determine the appropriate level of risk reduction, risk retention, and risk transfer measures and to quantify their respective economic benefits through consistent and best practice standards.

7. While measures exist to adapt to an ever-changing environment, decision makers in the CAREC countries at all levels—from multinational organizations, sovereign and subsovereign states, to cities, companies, and down to local communities—need hard facts to decide whether the benefits of undertaking DRR measures will outweigh their costs. However, the capacity for generating this kind of information is low, and the integration of DRR measures into the overall development planning and budgeting processes is still inadequate. The legal and regulatory

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\(^{10}\) Economic losses from severe floods totaled more than $18 billion in Pakistan between 2010 and 2014; $204 million in Tajikistan in 2010; and $230 million in Kazakhstan in 2008, 2010, and 2011. The Pakistan earthquake in 2005 was one of the most devastating events in the region’s history. It caused more than 73,000 deaths and economic damages estimated at $5.2 billion. Neighboring countries such as Afghanistan, India, Tajikistan, and the PRC were also affected by the tremors. The Tbilisi earthquake in Georgia in 2002 also affected nearly 20,000 people and caused economic losses of $350 million. Source: EM-DAT database, [https://www.emdat.be/](https://www.emdat.be/) (last accessed on 1 November 2019).

\(^{11}\) Munich Re NatCatService (footnote 9). Data not available for Turkmenistan. This figure does not include the PRC. Estimated economic losses in the PRC between 2008 and 2018 totaled $372 billion. Data on insured losses not available for individual CAREC countries.

\(^{12}\) Initiatives in CAREC countries include (i) national disaster risk management projects by ADB in Pakistan (Grant 0519, Grant 0639, Loan 3473, Loan 3474, and TA 9246); Tajikistan (Grant 0614); Kyrgyz Republic (TA 9726); and Mongolia (proposed); (ii) the establishment of the Central Asia Centre for Emergency Situations and Disaster Risk Reduction in 2016 in Almaty, Kazakhstan (funded by the European Union), and the meeting of heads of disaster management authorities of Central Asian countries organized by United Nations Development Programme (UNDP) in Almaty, Kazakhstan in April 2018; and (iii) DRR and climate change adaptation measures identified by all CAREC countries, except the Kyrgyz Republic, in their nationally determined contributions to the 2015 Paris Agreement.
environment in CAREC countries needs to be strengthened to attract the required financing for DRR projects and promote private sector investments.

8. In-depth disaster risk assessments that provide information on the expected levels of loss for various types of hazards and intensities are key to designing DRF strategies that tap the full range of available DRF instruments. These can include (i) risk reduction finance instruments,13 (ii) risk retention instruments,14 and (iii) risk transfer instruments.15 Development, access, and use of ex-ante DRF instruments for post-disaster response are still in their infancy in the CAREC countries. Public contingent finance resources allocated for ex-ante DRF are limited. The insurance penetration ratio in CAREC countries, excluding the People’s Republic of China (PRC), is very low at 0.6% on average in 2018.16 This is mostly because of the low understanding and awareness of the availability of such instruments, and of their benefit to enhance the financial management of disaster risk. In addition, CAREC countries still need to strengthen the enabling legal and regulatory environment to foster a sustainable insurance market that offers innovative and affordable risk transfer solutions.

9. The global (re)insurance industry and the capital markets have developed numerous new solutions to narrow the protection gap using innovative financing instruments and new technologies to transfer risk both at sovereign and regional levels.17 A regional DRF facility complementing national DRM initiatives can provide additional value in various forms because it (i) allows for broader risk diversification across several countries with different risk profiles, leading to lower premiums and operational costs, and increasing affordability, especially for disaster risk protection structures against low-frequency, high-severity events; (ii) creates a platform for taking a coordinated approach to disaster risk analysis and improving risk information sharing, since disasters often know no boundaries; and (iii) provides an opportunity for participating countries to jointly access international reinsurance and capital market solutions that might not be accessible or affordable for individual countries with small population sizes. A regional DRF mechanism is also a reliable tool to promote stability and solidarity among countries.

10. The TA will build on past and ongoing DRM and DRF work conducted in CAREC countries, and the TA team will closely coordinate with other development partners that are implementing related projects in the region.18 Lessons from past initiatives include the need for (i) high-quality data, analytics, and modeling for a comprehensive risk-layered DRF approach; (ii) the development, access, and use of ex-ante DRF instruments for post-disaster response are still in their infancy in the CAREC countries. Public contingent finance resources allocated for ex-ante DRF are limited. The insurance penetration ratio in CAREC countries, excluding the People’s Republic of China (PRC), is very low at 0.6% on average in 2018. This is mostly because of the low understanding and awareness of the availability of such instruments, and of their benefit to enhance the financial management of disaster risk. In addition, CAREC countries still need to strengthen the enabling legal and regulatory environment to foster a sustainable insurance market that offers innovative and affordable risk transfer solutions.

13 Such as loans, microcredit, bonds, grants, subsidies and tax breaks, credit lines, and impact bonds.
14 Such as budget contingencies, reserve funds, lines of contingent credit, budget reallocations, government borrowing, and tax increases.
15 Such as insurance and its different forms—e.g., mutual insurance, micro-insurance, agriculture insurances, risk pools, and takaful insurance (Islamic insurance, i.e., a sharia-compliant alternative to conventional insurance).
16 Insurance penetration is the ratio of insurance premium to gross domestic product. All CAREC countries, except for Georgia and the PRC, have an insurance penetration ratio of less than 1%. In Georgia, that ratio was 1.2% in 2018, and in the PRC, it was 4.4%. Swiss Re Institute Sigma database, https://www.swissre.com/institute/research/sigma-research.html (last accessed on 1 November 2019). Data not available for Afghanistan and Mongolia. Data for 2017 (Kyrgyz Republic), 2014 (Turkmenistan), and 2010 (Tajikistan).
17 Examples of other regions include the Caribbean Catastrophe Risk Insurance Facility (CCRIF), the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI), and the Pacific Alliance IBRD Cat Bond issuance.
18 Given the limited financial resources available, the TA will build on disaster risk data collected and disaster risk assessments conducted under other ADB projects in CAREC countries. This includes: (i) national disaster risk management projects in Pakistan (Grant 0519, Grant 0639, Loan 3473, Loan 3474, and TA 9246), Tajikistan (Grant 0614), Kyrgyz Republic (TA 9726) and Mongolia (proposed); (ii) TA on Strengthening the Enabling Environment for Disaster Risk Financing (TA 9007); and (iii) TA on Developing the Insurance Sector for a Sustainable and Resilient Society in Asia and the Pacific (proposed). It also includes initiatives from other development partners such as World Bank projects in Pakistan, Tajikistan, Kyrgyz Republic, and Kazakhstan; and an upcoming European Union-funded project, Strengthening Financial Resilience and Accelerating Risk Reduction in Central Asia.
A combination of cost-effective DRR measures with appropriate DRF instruments for the implementation of sustainable DRM strategies; (iii) policy, legal, and regulatory frameworks that are aligned with international standards to enable the implementation of effective DRF instruments and (iv) capacity building of and coordination between various government authorities and agencies with clearly assigned ownership and roles.

11. The development and implementation of innovative DRF solutions that combine technical and financial resources from governments, the private (re)insurance industry, capital market investors, and development partners are growing in importance in developing countries. CAREC countries may consider effective DRR measures, contingent financing instruments, and seek disaster risk transfer mechanisms to the international private reinsurance and capital markets via a regional sovereign disaster risk transfer facility, while time is needed to build sustainable local insurance markets backed by international reinsurance.

III. THE TECHNICAL ASSISTANCE

A. Impact and Outcome

12. The TA is aligned with the following impact: macroeconomic resilience to disaster risks in the CAREC region increased.\(^\text{19}\) The TA will have the following outcome: collaboration between CAREC countries in disaster risk financing, including insurance, increased.\(^\text{20}\)

B. Outputs, Methods, and Activities

13. Output 1: Disaster risk assessments and modeling in CAREC countries produced. Disaster risk data, analytics, and modeling are key to quantifying risk, estimating potential economic damages derived from natural hazards, and helping governments make informed DRM decisions. The TA will support the development of high-level disaster risk profiles in all CAREC countries for earthquakes and floods by using sophisticated multihazard catastrophe risk models developed with the expertise gained by the insurance industry and academia.\(^\text{21}\) It will build on best practices in risk modeling. Activities will include: (i) stochastic risk modeling producing aggregated exceedance probability curves;\(^\text{22}\) (ii) high-level risk-layer modeling based on user-friendly graphic interfaces and development of capability for conducting cost–benefit analyses of disaster risk reduction, retention, and transfer measures; and (iii) identification of risk exposure for vulnerable populations, including women and other potentially marginalized groups, in part through consultation with citizens and civil society organizations. Baseline disaster risk in each CAREC country will be quantified taking into account expected economic growth and climate change impacts, and the existing coping mechanisms will be reviewed to estimate the protection gap.

14. Output 2: Regional disaster risk transfer solution designed. Based on the assessments conducted under output 1, a subset of CAREC countries will be selected to design a regional pilot disaster risk transfer mechanism,\(^\text{23}\) leveraging the international reinsurance and/or

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\(^{19}\) ADB. 2017. CAREC 2030: Connecting the Region for Shared and Sustainable Development. Manila.

\(^{20}\) The design and monitoring framework is in Appendix 1.

\(^{21}\) For the PRC, only the two provinces that are part of the CAREC Program—Xinjiang Uygur Autonomous Region and Inner Mongolia Autonomous Region—will be included in the assessment.

\(^{22}\) The exceedance probability curve is an analytical tool used to describe the frequency–severity distribution of disaster impact. There is typically an inverse relationship between disaster severity and frequency of occurrence, i.e., the more severe an event, the less frequently it is expected to occur.

\(^{23}\) This TA will only cover the design of the pilot. The testing of such pilot will not be financed under this TA.
capital markets (e.g., via catastrophe bonds or "cat bonds"), and to assess its feasibility, building on best practices and lessons from regional disaster risk pools developed in other parts of the world (footnote 17). The countries will be selected according to the extent of the identified protection gap, including gaps in the provision of protection for women and other vulnerable groups, as well as the interest expressed by member countries to bridge the gap through a collaborative approach. Based on the quantified disaster risk profiles and damage exceedance curves, a layered approach will be suggested for selecting the most suitable DRF instruments and determining the optimized level of disaster risk retention versus disaster risk transfer. Detailed operational and financial framework for the disaster risk transfer facility will be developed, including the definition of triggers, premium, and coverage per country; payout process; administrative, institutional, governance, and legal structures; and transaction documentation. It will also analyze selected countries’ existing DRF regulations, laws, and institutional structures, and determine the policy and regulatory reforms needed to implement a regional disaster risk transfer scheme. Consultations with key public and private stakeholders will be conducted for this purpose at both national and regional levels, leveraging the CAREC platform to facilitate dialogue between countries and build consensus on the most effective and sustainable regional disaster risk transfer solution in the CAREC region.

15. **Output 3: Capacity for disaster risk financing, including insurance, enhanced.** Capacity building and awareness raising activities at CAREC level will be conducted to sensitize key public and private stakeholders about the benefits of DRR, risk retention, and risk transfer solutions. This will help all CAREC countries to further develop their national DRM initiatives in a comprehensive manner, and adopt a layered approach to DRF, combining national and regional solutions. Regional and national workshops and knowledge-sharing events will be organized to improve countries’ understanding of disaster risk modeling and the comprehensive use of the wide range of DRF instruments. Best practices from other regions will be showcased. These workshops will also help generate the necessary interest for and ownership of the implementation of a regional DRF facility in the CAREC region. The design and feasibility of disaster risk transfer solutions, including the corresponding legal and regulatory requirements for implementing such solutions, will be elaborated with selected CAREC countries.

C. **Cost and Financing**

16. The TA is estimated to cost $2,000,000, of which (i) $1,387,130 will be financed on a grant basis by ADB’s Technical Assistance Special Fund (TASF 6), (ii) $112,870 will be financed on a grant basis by ADB’s TASF–other sources, and (iii) $500,000 will be financed on a grant basis by the Financial Sector Development Partnership Special Fund and administered by ADB. The key expenditure items are listed in Appendix 2.

D. **Implementation Arrangements**

17. ADB will administer the TA. The Regional Cooperation and Operations Coordination Division of the Central and West Asia Department and the Finance Sector Group of the Sustainable Development and Climate Change Department will jointly implement the TA. They

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24 This includes local insurance industry stakeholders and insurance supervisors, disaster risk management agencies, and all other government authorities and agencies that need to be involved in this process and dialogue.
26 The TA is part of the portfolio of the Central and West Asia Department since it is being conceptualized and will be implemented under the framework of the CAREC Program. Given this, its Regional Cooperation and Operations Coordination Division will assume the overall coordination of the TA, while the Finance Sector Group of the Sustainable Development and Climate Change Department will lead the technical side of it.
will select, supervise, and evaluate consultants; organize workshops and seminars; and monitor TA implementation in close coordination with the East Asia Department, resident missions, and other operations and knowledge departments. The TA will be implemented over 36 months (November 2019–October 2022). The implementation arrangements are summarized in the table.

### Implementation Arrangements

<table>
<thead>
<tr>
<th>Aspects</th>
<th>Arrangements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicative implementation period</td>
<td>November 2019–October 2022</td>
</tr>
<tr>
<td>Executing agency</td>
<td>ADB</td>
</tr>
<tr>
<td>Implementing agencies</td>
<td>Joint leadership of CWRC and SDSC-FIN under the “One ADB” approach</td>
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<tr>
<td>Consultants</td>
<td>To be selected and engaged by ADB</td>
</tr>
<tr>
<td>QCBS (90:10)</td>
<td>Consulting firm to manage an interdisciplinary team of international experts</td>
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<tr>
<td></td>
<td>(64 person-months) and national experts (51 person-months)</td>
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<td></td>
<td>$1,850,391</td>
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<tr>
<td>Individual selection</td>
<td>Resource persons</td>
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<tr>
<td></td>
<td>$35,000</td>
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<tr>
<td>Advance contracting</td>
<td>To expedite consultant mobilization and ensure timely implementation of the</td>
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<tr>
<td></td>
<td>TA, selection of the consulting firm will commence through advance contracting</td>
</tr>
<tr>
<td></td>
<td>following ADB’s project administration instructions.Negotiations and signing</td>
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<tr>
<td>Design of pilot testing of project</td>
<td>A regional disaster risk transfer pilot scheme will be designed for a subset</td>
</tr>
<tr>
<td>approach</td>
<td>of CAREC countries (output 2).</td>
</tr>
<tr>
<td>Disbursement</td>
<td>The TA resources will be disbursed following ADB’s Technical Assistance</td>
</tr>
<tr>
<td></td>
<td>Disbursement Handbook (2010, as amended from time to time). Disbursement</td>
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<td>will be done on a pro rata basis.</td>
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</table>

ADB = Asian Development Bank; CAREC = Central Asia Regional Economic Cooperation; CWRC = Regional Cooperation and Operations Coordination Division of the Central and West Asia Department; QCBS = quality- and cost-based selection; SDSC-FIN = Finance Sector Group of the Sustainable Development and Climate Change Department; TA = technical assistance.

ADB. 2013. Specific Requirements for Recruiting Consultants by ADB. Project Administration Instructions. PAI 2.04. Manila.


18. **Consulting services.** ADB will engage the consultants following its Procurement Policy (2017, as amended from time to time) and its associated project administration instructions and/or staff instructions. ADB will recruit a consulting firm using the quality- and cost-based selection method with a quality–cost ratio of 90:10 under an output-based contract. ADB will monitor and evaluate the TA based on the implementation of activities and satisfactory delivery of outputs in line with the agreed timeline and budget. 

19. **IV. THE PRESIDENT’S DECISION**

The President, acting under the authority delegated by the Board, has approved (i) the Asian Development Bank (ADB) administering a portion of technical assistance not exceeding the equivalent of $500,000 to be financed on a grant basis by the Financial Sector Development Partnership Special Fund, and (ii) ADB providing the balance not exceeding the equivalent of $1,500,000 on a grant basis for Developing a Disaster Risk Transfer Facility in the Central Asia Regional Economic Cooperation Region, and hereby reports this action to the Board.

27 Terms of Reference for Consultants (accessible from the list of linked documents in Appendix 3).
## DESIGN AND MONITORING FRAMEWORK

**Impact the Technical Assistance is Aligned with**

Macroeconomic resilience to disaster risks in the CAREC region increased by

<table>
<thead>
<tr>
<th>Results Chain</th>
<th>Performance Indicators with Targets and Baselines</th>
<th>Data Sources and Reporting Mechanisms</th>
<th>Risks</th>
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<tbody>
<tr>
<td><strong>Outcome</strong></td>
<td>By 2023: <strong>a.</strong> At least three CAREC countries have formally expressed interest in establishing a regional disaster risk transfer facility** <em>(2019 baseline: not applicable)</em></td>
<td>a. Consultants’ reports; proceedings of consultation workshops; and information from ministries of CAREC countries</td>
<td>Political instability in some CAREC countries can reduce willingness to cooperate.</td>
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<tr>
<td><strong>Outputs</strong></td>
<td><strong>1.</strong> Disaster risk assessments and modeling in CAREC countries produced**</td>
<td><strong>1a.</strong> By December 2020, high-level multihazard risk profiles for earthquakes and floods that include specific social and gender vulnerabilities produced and made available to all CAREC countries <em>(2019 baseline: not applicable)</em> &lt;br&gt; <strong>1b.</strong> By December 2020, high-level risk-layering modeling capability developed in all CAREC countries <em>(2019 baseline: not applicable)</em></td>
<td>Countries are reluctant to provide required data and information.</td>
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<td><strong>2.</strong> Regional disaster risk transfer solution designed**</td>
<td><strong>2a.</strong> By December 2022, operational plan and feasibility study for a regional disaster risk transfer pilot scheme in selected CAREC countries, including specific solutions to address the protection needs of women and other vulnerable groups, completed and disseminated <em>(2019 baseline: not applicable)</em> &lt;br&gt; <strong>2b.</strong> By December 2022, policy and regulatory reforms for selected CAREC countries identified <em>(2019 baseline: not applicable)</em></td>
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<td><strong>3.</strong> Capacity for disaster risk financing, including insurance, enhanced**</td>
<td><strong>3a.</strong> By December 2022, at least 150 persons from both public and private sectors trained (of whom at least 30% are women) on key areas of disaster risk financing, including on regional disaster risk transfer solutions <em>(2019 baseline: 0)</em></td>
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<td><strong>3b.</strong> By December 2022, at least one public sector entity (PSE) in each CAREC country participated in a simulation exercise on regional disaster risk transfer <em>(2019 baseline: 0)</em></td>
<td><strong>3a.</strong> Summaries and list of participants of capacity building and training sessions</td>
<td>High turnover of employees in government authorities and agencies to be involved</td>
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**Key Activities with Milestones**

1. **Disaster risk assessments and modeling in CAREC countries produced**
   1.1 Collect data, review existing literature and risk assessments as well as existing disaster risk financing mechanisms in CAREC countries, and conduct consultations with key stakeholders (Q1 2020)
   1.2 Produce disaster risk profiles for all CAREC countries, including identification of assets at risk, and specific social and gender vulnerabilities (Q1–Q4 2020)
   1.3 Conduct stochastic risk modeling analysis and produce aggregated exceedance probability curves (Q1–Q2 2020)
   1.4 Quantify the protection gap and develop the capability to conduct cost–benefit analyses of disaster risk retention, reduction, and transfer measures (Q2–Q4 2020)
   1.5 Develop a user-friendly graphic interface (Q2–Q4 2020)

2. **Regional disaster risk transfer solution designed**
   2.1 Review the disaster risk assessments conducted under output 1 and identify criteria for selecting at least three CAREC countries for designing a regional disaster risk transfer scheme (Q1–Q2 2021)
   2.2 Determine the optimized level of disaster risk retention versus disaster risk transfer in the selected countries (Q2–Q3 2021)
   2.3 Conduct consultations with key public and private stakeholders in CAREC countries (Q3 2021–Q1 2022)
   2.4 Prepare a detailed operational and financial framework for the regional disaster risk transfer pilot scheme (Q4 2021–Q2 2022)
   2.5 Analyze selected countries’ regulations, laws, and institutional structures related to disaster risk financing, including insurance, and provide recommendations on policy and regulatory reforms required in the selected countries (Q1–Q2 2022)
   2.6 Determine the most effective and suitable option for a regional disaster risk transfer mechanism in the CAREC region (Q3–Q4 2022)

3. **Capacity for disaster risk financing, including insurance, enhanced**
   3.1 Identify the training needs of government agencies on disaster risk financing (Q1 2020)
   3.2 Conduct national and regional capacity building training and workshops for government officials (Q2 2020–Q1 2022)
   3.3 Present and disseminate the disaster risk profiles developed under output 1 at CAREC level (Q1 2021–Q1 2022)
   3.4 Present and disseminate the operational plan of the regional disaster risk transfer pilot scheme for selected CAREC countries (Q1–Q4 2022)

**Inputs**

- ADB: $1,387,130 (TASF 6) and $112,870 (TASF–other sources)
- Financial Sector Development Partnership Special Fund: $500,000

**Assumptions for Partner Financing**

Not applicable.

ADB = Asian Development Bank, CAREC = Central Asia Regional Economic Cooperation, Q = quarter, TA = technical assistance, TASF = Technical Assistance Special Fund.


## COST ESTIMATES AND FINANCING PLAN
($'000)

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
<th>ADB$</th>
<th>FSDPSF</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Consultants</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Remuneration and per diem</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>a. International consultants</td>
<td>870.0</td>
<td>290.0</td>
<td>1,160.0</td>
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<tr>
<td>b. National consultants</td>
<td>229.0</td>
<td>76.0</td>
<td>305.0</td>
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</tr>
<tr>
<td>2. Out-of-pocket expenditures</td>
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<td></td>
</tr>
<tr>
<td>a. International and local travel</td>
<td>124.0</td>
<td>41.0</td>
<td>165.0</td>
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</tr>
<tr>
<td>b. Miscellaneous administration and support costs</td>
<td>37.5</td>
<td>12.5</td>
<td>50.0</td>
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</tr>
<tr>
<td><strong>B. Training, seminars, and conferences</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Facilitators</td>
<td>6.0</td>
<td>9.0</td>
<td>15.0</td>
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<tr>
<td>2. Travel cost of ADB staff acting as a resource person</td>
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<td>20.0</td>
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<td>3. Venue rental and related facilities</td>
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<td>4. Participants</td>
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<td>35.0</td>
<td>140.0</td>
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<tr>
<td><strong>C. Contingencies</strong></td>
<td>78.5</td>
<td>26.5</td>
<td>105.0</td>
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<tr>
<td><strong>Total</strong></td>
<td>1,500.0</td>
<td>500.0</td>
<td>2,000.0</td>
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</tr>
</tbody>
</table>

ADB = Asian Development Bank, FSDPSF = Financial Sector Development Partnership Special Fund, TA = technical assistance.

Note: The TA is estimated to cost $2,000,000, of which contributions from ADB and the FSDPSF are presented in the table above. Disbursement will be done on a pro-rata basis.

a Financed by ADB’s Technical Assistance Special Fund (TASF 6 and TASF–other sources).
c Includes reports and translation into the Russian language.
d These include regional knowledge-sharing events and consultation workshops with public and private stakeholders in Central Asia Regional Economic Cooperation countries.
e Facilitators may be engaged as resource persons.

Source: Asian Development Bank estimates.
LIST OF LINKED DOCUMENTS
http://www.adb.org/Documents/LinkedDocs/?id=53198-001-TAReport

1. Terms of Reference for Consultants