

TA 9878-REG: Developing a Disaster Risk Transfer Facility in the Central Asia Regional Economic Cooperation (CAREC) Region

Progress Report (updated as of 25 April 2023)

A. TA Basic Data

Approval date	Completion date	TA Amount	Financing	Committed	Uncommitted	Disbursed	Undisbursed
18 Nov 2019	31 Oct 2023	2,750,000	TASF/ FSDPSF	2,683,803.5	66,196.5 ¹	2,307,011.35	442,988.65

B. TA Description

1. The 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 gap² 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 TA is aligned with the following impact: macroeconomic resilience to disaster risks in the CAREC region increased.³ The TA will have the following outcome: collaboration between CAREC countries in disaster risk financing, including insurance, increased. The outcome will be achieved through the following outputs: (i) disaster risk assessments and modeling in CAREC countries produced; (ii) regional disaster risk transfer solution designed, leveraging the international reinsurance and/or capital markets (e.g., via catastrophe bonds), and feasibility of such regional solution assessed; and (iii) capacity for disaster risk financing enhanced. To support CAREC countries' efforts to respond to the COVID-19 pandemic, an additional output was approved and added to the project in June 2020 as follows: (iv) infectious disease risk models and sustainable financing mechanisms identified.

3. The TA is being jointly implemented by 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.⁴ 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—and operational priority 7—fostering regional cooperation and integration 2019–2024,⁵ as well as the Financial Sector Operational Plan.⁶ It also supports the implementation of the CAREC 2030 strategy, in which disaster risk management is included as an area of focus for forging

¹ This includes \$16,300 from pending contract variation and payments (resource person and layout artist for publication) which will be charged to uncommitted TA funds.

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

³ ADB. 2017. *CAREC 2030: Connecting the Region for Shared and Sustainable Development*. Manila.

⁴ The TA is part of the portfolio of the Central and West Asia Department since it was conceptualized and is being implemented under the framework of the CAREC Program. Given this, its Regional Cooperation and Operations Coordination Division has the overall coordination of the TA, while the Finance Sector Group of the Sustainable Development and Climate Change Department leads the technical side of it.

⁵ ADB. 2019. *Operational Priority 7: Fostering Regional Cooperation and Integration*. Manila.

⁶ ADB. 2011. *Financial Sector Operational Plan*. Manila.

regional cooperation going forward. It is also aligned with the priorities of the Sendai Framework for Disaster Risk Reduction 2015–2030⁷, to which all CAREC countries are signatories.

C. Key accomplishments / milestones as of April 2023

4. A contract was awarded in May 2020 to the consortium led by Willis Towers Watsons (UK), in association with JBA Risk Management Limited (UK), Global Earthquake Model (GEM) Foundation (Italy) and the Overseas Development Institute (UK). The initial contract award of \$1,805,100 covered the first three outputs of the TA. For the implementation of the fourth output, the consortium lead entered into association with Metabiota (US), and the total contracted amount under the TA was raised to \$2,516,100.

5. The [inception report](#) was finalized in August 2020. A [virtual inception meeting](#) was held in September 2020 and attended by disaster risk focals from CAREC countries and development partners to initiate discussions on the design of a regional disaster risk financing facility. [Bilateral country consultations](#) were also held with all CAREC countries (except PRC) in December 2020 to (i) present and validate the preliminary findings of the country disaster risk profiles, and gather suggestions for improvement, particularly with regards to data; (ii) present and discuss the preliminary results of the draft report on potential trajectories of COVID-19 outbreak, and frequency-severity distribution of outbreaks of infectious diseases; and (iii) increase awareness and capacity of stakeholders about the wide range of disaster risk financing instruments, particularly risk transfer.

6. During 2021 and 2022, the following activities and deliverables have been completed:

a. Disaster Risk Profiles

- Disaster risk profiles for each CAREC country were completed in October 2021 and published in 2022.⁸ The risk profiles collate information on flood, earthquake and infectious disease exposure, hazards, physical and social vulnerability, coping capacity, historical losses and impacts, and risk analysis for each country on a regionally consistent basis.

b. Protection Gap report

- The report “Narrowing the Disaster Risk Protection Gap in Central Asia”⁹, was prepared during 2021 and published in September 2022, quantifies the difference between the estimated losses from earthquake and flood risk and the existing ex-ante financing tools in CAREC countries. The assessment concluded that the overall region has a deficit of robust risk financing for flood and earthquake risk. It identifies four broad categories according to the estimated size of the countries’ protection gap and proposes potential product options for countries across the various groups, as follows:
 - (i) critically insufficient financing (Afghanistan, Pakistan, and Tajikistan), where it is estimated that 80% or more of average annual losses are not covered by ex-ante mechanisms. This group of countries would likely benefit from an emergency response cover attaching at a 1 in 5-year event;
 - (ii) weak financing (Kyrgyz Republic, Mongolia, and Uzbekistan), where it is estimated that between 0% and 80% of average annual losses are not covered by ex-ante mechanisms. This group of countries could instead seek a cover at a 1 in 20-year level, given the extent of current reserves and financing arrangements;

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 following disaster risk profiles have been published in the CAREC website: [Azerbaijan](#), [Georgia](#), [Kazakhstan](#), [Kyrgyz Republic](#), [Mongolia](#), [Pakistan](#), [PRC \(Inner Mongolia and Xinjiang Uygur Autonomous Regions\)](#), [Tajikistan](#), [Turkmenistan](#), [Uzbekistan](#). A disaster risk profile for [Afghanistan](#) was prepared by the consortium based on information available as of 30 July 2021, but not published.

⁹ [https://www.carecprogram.org/?page_id=21&paged=1§or\[\]=disaster-risk-management](https://www.carecprogram.org/?page_id=21&paged=1§or[]=disaster-risk-management).

⁹ <https://www.adb.org/publications/disaster-risk-protection-gap-central-asia>

- (iii) modest financing (Kazakhstan, Azerbaijan, and Georgia), where existing mechanisms are sufficient to help cover the emergency response costs of the most frequent events and the greatest need and opportunity may be for risk transfer instruments that support reconstruction costs for events of greater severity. Risk transfer could be sought at the 1 in 50-year or higher level, commensurate with a major flood or earthquake event; and
- (iv) a final group comprising countries where data are insufficient (Turkmenistan) and/or the analysis required to estimate the protection gap goes beyond the scope of this TA (Inner Mongolia Autonomous Region and Xinjiang Uyghur Autonomous Region) as government support for disasters is centralized in the PRC.

c. Infectious Disease Risk

- A [report on potential trajectories of the COVID-19 outbreak over 2021](#), was finalized and disseminated to CAREC countries in March 2021.
- A report on the quantification of the interaction of outbreaks of infectious diseases with other perils and the benefit of effective emergency response and risk management plans was prepared in 2021 (see Section d. Compound Risk Analysis).
- A report “Building Resilience to Future Outbreaks: Infectious Disease Risk Financing Solutions for the Central Asia Regional Economic Cooperation Region” including recommendations for the development of infectious disease risk financing mechanisms for CAREC countries was completed in 2021.¹⁰ The report identifies lessons and proposes three infectious disease risk financing mechanisms for CAREC countries:
 - (i) a spark risk cover to provide rapid financing for countries to manage an outbreak;
 - (ii) a containment financing mechanism to finance activities in neighboring countries to a country claiming under the spark risk cover and to further strengthen the initial early response, with the focus on preventing the development of a regional or global outbreak; and
 - (iii) an SME business interruption program, which could cover loss of profits, loss of revenue or any other additional expenses incurred. A public-private partnership framework is most suitable for this third option.

These recommendations were presented to the CAREC health working group in July 2021 and have been included in the CAREC Health Strategy 2030¹¹, which was endorsed by the Ministers at the 20th CAREC Ministerial Conference on 17 November 2021. The report also was supported by WHO and discussed with health officials of CAREC countries during the Disaster Risk Engagement Event held in November 2022 in Istanbul.

- A [final report](#) detailing next steps to further develop regional infectious disease risk financing solutions was prepared in January 2022. This includes actions across three workstreams: (i) country consultations to identify financing gaps and ensure that proposed solutions are embedded into wider health-related investments led by ADB and other organizations; (ii) data collection and design of trigger, indicative pricing, and payout structures; and (iii) donor coordination and market engagement for financial support and capitalization of the regional scheme.

d. Compound Risk Analysis

- An analysis of the potential impacts of compound risk between natural hazards and infectious disease outbreaks in the CAREC region was prepared during 2021 and published in April 2022.¹² Overall, the analysis concluded that compound risk may pose a challenge for the region in terms of elevated response costs due to higher operational complexity, longer timelines required for reconstruction, and higher procurement costs resulting from supply interruptions or price shocks. The spatial extent of

¹⁰ <https://www.adb.org/publications/building-resilience-future-outbreaks-carec>

¹¹ <https://www.adb.org/sites/default/files/institutional-document/798371/carec-health-strategy-2030.pdf>

¹² <https://www.adb.org/publications/risk-analysis-natural-hazards-infectious-disease-outbreaks>

earthquake risk appears to be more influential on disease spread than that of flooding. The timing of the disaster event, relative to the phase of the pandemic influenza outbreak, has an important impact on infectious disease outcomes. The report highlights the importance of addressing risk management in a multi-disciplinary manner and the need for contingency planning considering the joint effects of natural hazards and infectious disease risk at both regional and national levels.

e. Disaster Risk Modeling Interface (DRMI)

- The analytical modelling work was made accessible to each CAREC country through the Disaster Risk Modeling Interface (DRMI), an interactive open-access online platform. The DRMI allows stakeholders to visualize the risk profiles for earthquake, flood, and infectious diseases; perform high-level cost-benefit analysis of implementing disaster risk reduction measures; and quantify risk transfer costs for earthquake and flood parametric insurance structures. Further information on the use and functionalities of the interface have been documented in the documented in the [Disaster Risk Modelling Interface - User Guide](#). The methodology used and the assumptions made for the modelling as well as the data-related limitations are outlined and specified in detail in the [Risk Modeling Technical Note](#).

f. Disaster Relief Bonds

- A [working paper \(interim report\)](#) on opportunities for the issuance of a disaster relief bond (DRB)¹³ in the CAREC region was prepared and presented to member countries in November 2022. The report presents different options for the structuring of a DRB (i.e., whether single or multi-country, and/or single or multi-hazard), and the benefits and implications of each of them, including indicative pricing and costs. It also analyzes the role that ADB –through its Global Medium-Term Notes program– could play in spearheading the development and issuance of a regional DRB, especially for countries lacking structured risk transfer mechanisms. Recommended next steps include additional consultations to re-confirm the financing needs of each country and to deepen understanding of their legal and regulatory frameworks, as well as the selection of an independent modeling agent and structuring agent. The working paper was shared with ADB’s Treasury Department and the DRF working group for feedback and to initiate discussions on how this work could be further advanced. A final report (feasibility assessment) including financial, modeling, structural, legal and documentation requirements for the DRB issuance is currently under preparation and additional discussions with CAREC countries and internally within ADB will be held over the coming months (see section D Activities planned for April–October 2023).

g. Capacity Building and Country Engagement Workshops

- [Consultations](#) were conducted virtually with all CAREC countries (except Afghanistan) during Oct-Nov 2021 to present and discuss the initial findings and recommendations of the country risk profiles, protection gap assessment, and the compound risk analysis.
- Four [Disaster Risk Management Interface \(DRMI\) Training Seminars](#) were organized in March-April 2022 to present and build countries’ capacity on the use of the DRMI. The training sessions were attended by government officials from ministries and agencies involved in disaster and climate risk management and financing at both operational and decision-making level. The DRMI is being further refined based on the feedback received during the seminars and additional capacity building sessions will be conducted in July 2023 (see section D Activities planned for April–October 2023).
- A [CAREC Disaster Risk Engagement Event](#) was held in Nov 2022 in Istanbul (Turkey) to present and discuss existing best practices and options for regional earthquake, flood and infectious disease risk

¹³ A DRB builds on the licensed and regulated catastrophe bond but introduces a requirement that proceeds from a bond pay-out be used to implement relief, rehabilitation, and recovery measures, enabling fast, effective disaster response. All other aspects of bond design, structure, triggers and potential benefits to sponsors and investors remain the same between disaster relief and catastrophe bonds.

transfer solutions for the CAREC region. The engagement meeting was attended by senior officials from CAREC countries' ministries of emergency management, finance and health as well as development partners active in the area of disaster risk management such as UNDRR, UNDP, World Bank, WHO, ECDC and The Global Fund. Representatives of proven regional risk pool initiatives were invited to share their lessons learned and experience.

D. Activities planned for April–October 2023

7. The following activities and deliverables, in ongoing preparation, are to be completed during 2023:
- feasibility assessment on the issuance of a disaster relief bond by ADB for CAREC countries, including financial, modeling, structural, legal and documentation requirements;
 - roadmap for the development of a regional risk transfer pool for CAREC countries based on international best practices, including facility function(s), operational and financial framework, legal and regulatory requirements, and role of ADB;
 - refined DRMI, including technical manual for handover of the tool to ADB and/or CAREC web team for further management and maintenance;
 - regional capacity building and TA completion workshop (July 2023, Pakistan); and
 - final report, including main TA results achieved, outcomes of the capacity building activities, and conclusions, recommendations, required actions and next steps for the implementation of the proposed regional disaster risk solutions.

E. Project Monitoring Framework (Current Status)

Results Chain	Performance Indicators	Data Sources and Reporting Mechanisms	Status with Key Activities
<p>Outcome</p> <p>Collaboration between CAREC countries in disaster risk financing, including insurance, increased</p>	<p>a. By 2023, at least three CAREC countries have formally expressed interest in establishing a regional disaster risk transfer facility (2019 baseline: not applicable)</p>	<p>a. Consultants' reports; proceedings of consultation workshops; and information from ministries of CAREC countries</p>	<p>Ongoing. Consultations and engagement workshops with CAREC countries are being conducted on a regular basis to inform on the TA implementation progress, provide a regional platform for dialogue and knowledge-sharing, and gather stakeholders' views and feedback on next steps.</p> <p>As of April 2023, Tajikistan has formally expressed interest in participating in the establishment of a regional disaster risk transfer facility. Pakistan and the Kyrgyz Republic have signified a potential interest but noted that the final decision would be subject to further discussions and consensus across relevant country stakeholders. Further discussions with all CAREC countries on this will be held during the next regional workshop in July 2023 in Islamabad, Pakistan.</p>

Outputs			
<p>1. Disaster risk assessments and modeling in CAREC countries produced</p>	<p>1a. By 2021, high-level multi-hazard risk profiles for earthquakes and floods that include specific social and gender vulnerabilities produced and made available to all CAREC countries (2019 baseline: not applicable)</p> <p>1b. By 2021, high-level risk layering modeling capability developed in all CAREC countries (2019 baseline: not applicable)</p>	<p>1a-b. Consultants' reports (high-level aggregated exceedance probability curves, and development of capability to conduct cost–benefit analysis of disaster risk reduction, retention, and transfer measures)</p>	<p>Completed. Disaster risk profiles for each CAREC country were completed in October 2021 and published in 2022.¹⁴</p> <p>A protection gap report was also prepared during 2021 and published in 2022 to assess the existing disaster risk financing tools in each CAREC country, quantify the difference between the estimated losses from earthquake and flood risk and the existing ex-ante financing tools, and propose potential options and instruments for each country based on the risk-layering principles.</p> <p>The analytical modelling work was made accessible to each CAREC country through the Disaster Risk Modeling Interface (DRMI), an interactive open-access online platform that allows stakeholders to visualize the risk profiles for earthquake, flood, and infectious diseases; and assess costs and benefits of disaster risk reduction and disaster risk financing measures.</p>
<p>2. Regional disaster risk transfer solution designed</p>	<p>2a. By 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 (2019 baseline: not applicable)</p> <p>2b. By 2022, policy and regulatory reforms for selected CAREC countries identified</p>	<p>2a-b. Consultants' reports (operational and financial framework for the pilot scheme, and recommended policy and regulatory reforms); and proceedings of consultation workshops</p>	<p>Ongoing. Based on the analytical and modeling work conducted under output 1, the following deliverables are under preparation:</p> <ul style="list-style-type: none"> (i) feasibility assessment on the issuance of a disaster relief bond by ADB for CAREC countries, including financial, modeling, structural, legal and documentation requirements; (ii) roadmap for the development of a regional risk transfer pool for CAREC countries based on international best practices, including facility function(s) and targeted solutions to address the needs of vulnerable groups, operational and financial framework, legal and regulatory requirements. <p>These deliverables will form the basis for further discussions with CAREC countries at the regional</p>

¹⁴ See footnote 7.

	(2019 baseline: not applicable)		workshops to be held in July 2023 in Islamabad (Pakistan).
3. Capacity for disaster risk financing, including insurance, enhanced	3a. By 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 (2019 baseline: 0)	3a. Summaries and list of participants of capacity building and training sessions	Ongoing. As of April 2023, a total of 6 regional/sub-regional capacity building and engagement workshops have been held (both virtually and in-person). 126 persons from both public and private sectors have participated, including 34 women (27%). One more regional workshop will be held in Islamabad (Pakistan) in July 2023. In addition, 20 bilateral consultations with CAREC countries have been conducted.
4. Infectious disease risk models and sustainable financing mechanisms identified	4a. By 2021, at least one pandemic /epidemic risk finance mechanism identified that can be applied to at least 3 CAREC countries (2019 baseline: 0)	4a. Consultants' reports and proceedings of webinars/ workshops	Completed. A report on infectious disease risk financing mechanisms for CAREC countries was completed in 2021. It identifies three infectious disease risk financing instruments that could be further developed under a regional disaster risk financing scheme: (i) a spark risk cover to provide rapid financing for countries to manage an outbreak; (ii) a containment financing mechanism to finance activities in neighboring countries to a country claiming under the spark risk cover; and (iii) an SME business interruption program, which could cover loss of profits, loss of revenue or any other additional expenses incurred. These recommendations were presented to the CAREC health working group in July 2021 and have been included in the CAREC Health Strategy 2030, which was endorsed at the 20th CAREC Ministerial Conference on 17 November 2021.