

TERMS OF REFERENCE FOR CONSULTANTS

A. Individual International Consultants to be Empaneled under a Framework Agreement (FA) (65 person-month)

Background. In line with its long-term corporate strategy and as highlighted in its Climate Change Operations Framework 2030, the Asian Development Bank (ADB) is scaling up efforts in strengthening climate and disaster risk resilience in its developing country members (DMCs) through the provisions of financial, technological, knowledge and capacity support. To ensure that ADB's climate resilience building efforts are guided and supported by robust and practical knowledge and information, a knowledge and support technical assistance (TA) project is formulated to deliver a set of specific knowledge and technical support outputs.

Objective. ADB is looking to engage a group of Senior Adaptation Experts with relevant sectoral expertise to provide, upon request, both continuous and intermittent (strategic) support to project teams over the investment project cycle to explore and integrate climate resilience investment opportunities in ADB's operations. Based on their sectoral expertise and experience in supporting ADB operations, the experts are also expected to develop a set of sector-specific good practice guidance on climate resilient infrastructure design. The experts shall collectively bring in expertise in the following five TA target sectors: agriculture and food security, energy, transport, urban development and water resources.

Scope of Services. Under the guidance of the Director and under the technical supervision of the Senior Climate Change Adaptation Specialist, Climate Change and Disaster Risk Management Division (SDCD), Sustainable Development and Climate Change Department (SDCC), the senior adaptation experts, once empaneled, shall be expected to perform the following tasks:

- a. Providing technical support in the following areas to operations teams throughout the investment project cycle through, inter alia, targeted analyses, review of draft technical documents, mission support:
 - a) Preliminary scoping and assessment of climate risks and project vulnerabilities and the design of fit-for-purpose climate risk and vulnerability assessments (CRVAs);
 - b) Effective integration of resilience interventions in project final design; and
 - c) Design of ongoing climate risk monitoring and adaptive interventions.
- b. Developing and delivering training sessions on sector-specific good practice guidance on climate resilient infrastructure design
 - a) Conduct state-of-the-art reviews of emerging engineering design and decision-making protocols that reflect the impacts of climate change;
 - b) Based on insights gained from supporting operations teams and the review conducted in a), prepare draft sector-specific good practice guidance;
 - c) Deliver training sessions on good practice for climate resilient infrastructure design; and
 - d) Revise the draft good practice guidance to incorporate review comments and feedback from the training sessions.

Qualifications. The Senior Adaptation Experts should have Master's degrees in a field related to the five TA target sectors, a minimum of 15 years of working experience in the relevant sector including in Asia and the Pacific.

Positions. The TA will engage the following experts:

1. **Senior Adaptation Expert specialized in Agriculture and Food Security** (international, 13 person-month)
2. **Senior Adaptation Expert specialized in Energy** (international, 13 person-month)
3. **Senior Adaptation Expert specialized in Transport** (international, 13 person-month)
4. **Senior Adaptation Expert specialized in Urban Development** (international, 13 person-month)
5. **Senior Adaptation Expert specialized in Water Resources** (international, 13 person-month)

B. Other International and National Consultants

6. **Senior Climate Scientist (international, 2 person-months).** The Senior Climate Scientist will be leading the work associated with Output 1. In particular, he/she will be responsible for (1) Identifying authoritative and most up to date sources of observational and model simulated climate data; (2) Supervising the work of the climate data analyst (see below); and (3) Developing the technical note on the development of country-specific climate projections for ADB's DMCs; and (4) Delivering training sessions on the use of country-specific climate projections in climate resilient infrastructure design. The senior climate scientist should have an advanced university degree in climate science or a related field and at least 15 years of working experience including on the development of climate scenarios for climate risk assessment and adaptation planning and in the Asia and Pacific region.

7. **Climate Data Analyst (international, 6 person-months).** Working under the guidance of the Senior Climate Scientist, the Climate Data Analyst is expected to (1) Collate, process and quality control observational and climate model projected data for key climate variables as determined by ADB in target DMCs; (2) Analyze the trend and patterns of projected climate change in DMCs, present them in a format as determined by ADB for easy access online; and (3) Contribute to the development of the technical note on the development of country-specific climate projections for ADB's DMCs. The climate data analyst should have a university degree in climate science or related field, at least 5 years of experience in analyzing climate data including processing and analyzing outputs from climate model simulations.

8. **E-learning Specialist (international, 6 person-months).** The main tasks for the E-learning Specialist include: (1) Consult and coordinate with relevant ADB staff, particularly those of KSSC, to gain a thorough understanding of the standard e-module formats to be delivered from ADB; (2) Based on the good practice guidance on climate resilient infrastructure design delivered by the senior adaptation experts recruited under the TA, design and develop a series of five draft sector-specific e-modules focusing on the five TA target sectors: agriculture and food security, energy, transport, urban development and water; (3) Coordinate the review of draft e-modules by relevant ADB staff and the senior adaptation experts recruited under this TA; (4) Revise the draft e-modules to incorporate comments from reviews as well as the training workshops. The E-learning specialist should have a university degree in climate science, environment management, development or a related field, at least five years of experience working on e-learning including the development of online learning courses.

9. **TA Coordinator (national, 24 person-month).** The TA Coordinator is expected to play a central role in coordinating the implementation of the TA and the knowledge management within the TA. Key activities include: (1) Develop a TA implementation coordination plan including communications and progress monitoring; (2) develop a knowledge management strategy for the TA, including key outputs and associated milestones; (3) contribute to the preparations for and delivery of the training workshop and regional conference under the TA; (4) Prepare TA briefing notes and other materials for ADB internal and external events and publications; (5) Carry out research as directed by project team leader; and (6) Perform other TA related tasks as assigned by project team leader. The TA Coordinator should have the following minimum qualifications/experience: a Master's degree in project management or related fields, six years of relevant experiences in project management, knowledge product development, five years of technical work experience in climate change adaptation, environmental science and management, and/or related expertise, and familiarity with ADB operations, particularly TA/project administration.