



Technical Assistance Report

Project Number: 46470
Regional—Capacity Development Technical Assistance (R-CDTA)
December 2013

Action on Climate Change in South Asia

ABBREVIATIONS

ADB	–	Asian Development Bank
DMC	–	developing member country
SARD	–	South Asia Department
TA	–	technical assistance

TECHNICAL ASSISTANCE CLASSIFICATION

Type	–	Regional—Capacity development technical assistance (R-CDTA)
Targeting classification	–	Targeted intervention—MDGs
Sector (subsectors)	–	Multisector (irrigation, drainage and flood protection, water-based natural resources management, upper secondary education, renewable energy, energy efficiency and conservation, urban sector development, transport management and policies)
Themes (subthemes)	–	Environmental sustainability (natural resources conservation), regional cooperation and integration (global and regional trans-boundary environmental concerns), capacity development (institutional development)
Climate change	–	Climate change mitigation and/or climate change adaptation
Location (impact)	–	National (high), regional (medium)

NOTE

In this report, "\$" refers to US dollars.

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Climate Action South Asia: Steering Economies Toward Low-Carbon and Climate-Resilient Development

I. INTRODUCTION

1. With a population of 1.43 billion people, one-third of whom live in poverty, South Asia developing member countries (DMCs)¹ face the challenge of achieving and sustaining rapid economic growth to reduce poverty and attain other Millennium Development Goals in an era of accentuated risks posed by global climate change. The Asian Development Bank (ADB), together with key development partners, has been supporting South Asia DMCs in their pursuit to mainstream climate change in development plans, programs, and projects.² This proposed regional capacity development technical assistance (TA) will support selected South Asia DMCs in pursuing low-carbon climate-resilient development.³ The design and monitoring framework of the TA is presented in Appendix 1.

2. The TA is in line with the regional cooperation strategy goal for capacity development of ADB's South Asia DMCs, specifically with regard to providing rapid technical response to emerging global and regional issues such as climate change. The TA is also aligned with the country partnership strategy of each South Asia DMC on the common themes of environmental sustainability and building and/or strengthening climate resilience.

II. ISSUES

3. South Asia is projected to experience extreme weather conditions and change in the frequency and intensity of natural hazards as a result of climate change. Progressive warming is projected over a wider geographic area in the region. Winter months are projected to become drier and summer monsoon more intense with increased rainfall intensity and cyclone strength.⁴ Sea-level rise will put settlements and vital infrastructure in coastal and island states at risk, and will cause intrusion of saltwater into agricultural areas, affecting crop productivity in Bangladesh, India, and Sri Lanka.⁵ Warming will destabilize high-altitude glaciers in the Himalayas, endangering lives and properties, particularly in Bangladesh, Bhutan, northern India, and Nepal.⁶

4. Economic losses in key sectors, such as agriculture, energy, transport, health, water, coastal and marine, and tourism, are expected to be significant, rendering growth targets harder

¹ Includes Bangladesh, Bhutan, India, the Maldives, Nepal, and Sri Lanka.

² Notable examples are (i) ADB. 2009. *Technical Assistance for Supporting Implementation of the Bangladesh Climate Change Strategy and Action Plan*. Manila. (TA 7273-BAN); (ii) ADB. 2010. *Technical Assistance for Support for the National Action Plan on Climate Change*. Manila. (TA 7417-IND); (iii) ADB. 2013. *Technical Assistance for Mainstreaming Climate Change Risk Management in Development*. Manila (TA 7984-NEP); (iv) ADB. 2009. *Technical Assistance for Strengthening Capacity for Climate Change Adaptation*. Manila. (TA 7326-SRI); and (v) ADB. 2009. *Technical Assistance for Regional Economics of Climate Change in South Asia II—Adaptation and Impact Assessment*. Manila. (TA 7423-REG).

³ This work is a continuation of a current SARD program—Climate Action South Asia (CASA), which has been successful and appreciated by the DMCs. Stakeholder consultation in the six South Asia DMCs identified four key areas of support: (i) climate change risk assessment, (ii) technology transfer and demonstration projects, (iii) capacity building, and (iv) knowledge development and sharing (ADB. 2013. Regional Workshop on Climate Action South Asia: Steering Economies Toward Low-Carbon and Climate-Resilient Development. 5–7 March).

⁴ ADB. 2010. *Climate Change in South Asia: Strong Responses for Building a Sustainable Future*. Manila.

⁵ Intergovernmental Panel on Climate Change. 2007. *Synthesis of the 4th Assessment Report*. No. 31. Geneva. p.16; ADB. 2009. *Technical Assistance for Strengthening Capacity for Climate Change Adaptation*. Manila (TA 7326-SRI).

⁶ Immerzeel, W.W., F. Pellicciotti and M.F.P. Bierkens. 2013. Rising river flows throughout the twenty-first century in two Himalayan glacierized watersheds. *Nature Geoscience* 6: pp. 742–745; Center for International Climate and Environmental Research (CICERO, Oslo) and Institute for Social and Environmental Transition (ISET, USA). 2010. *Climate and Hydrological Modeling in the Hindu-Kush-Himalaya Region. Work Package 3: Feasibility Report for a Himalayan Climate Change Impact and Adaptation Assessment (HICIA)*. March.

to achieve. Holistic and coordinated support will enable South Asia DMCs to (i) increase overall capacity to cope with the current and unavoidable impacts of climate change; (ii) more effectively and strategically incorporate climate change and disaster risk management in the planning, design, and implementation of policies, projects, and programs; (iii) apply technologies and best practices to enhance adaptation and mitigation response; and (iv) improve and strengthen private sector participation in high impact adaptation and mitigation activities.

III. THE TECHNICAL ASSISTANCE

A. Impact and Outcome

5. The impact of the TA will be the successful transition to a low-carbon and climate-resilient development path in South Asia. Its outcome will be the increased investment and institutional capacity of South Asia DMCs to manage the impacts of climate change.

B. Methodology and Key Activities

6. The TA has the following outputs: (i) screening of investment projects against climate risks strengthened; and (ii) capacity of DMCs in developing and/or implementing climate change strategies and action plans strengthened. A phased and targeted approach will be used in implementing a set of activities, which will involve demonstrating and piloting risk assessment tools and designing adaptation and mitigation responses in selected projects in the early phase, followed by application and extension across as many projects and countries as possible in the South Asia DMCs.⁷

7. **Output 1: Screening of investment projects against climate risks strengthened.**

The TA will support screening of ADB-assisted projects in selected South Asia DMCs for climate change risks, and provide early inputs into project planning, design, monitoring, and reporting. Screening will involve project-level assessment of risks and recommendation of adaptation response through the use of high-resolution downscaled climate information and data.⁸ Organization and maintenance of the downloaded climate information and data will be established to provide sector- or country-level assessment.⁹ For mitigation, the TA will assess methodologies for calculating project- and sector-related emissions and identify the potentials for carbon dioxide emission reduction during the early stages of project preparation. With the detailed risk screening and systematic identification of mitigation potentials in place, a basis for identifying and selecting specific adaptation options and mitigation measures can be established at the appropriate stage during project development. Workshops on risk assessment, adaptation

⁷ Three of ADB's six South Asia DMCs (Bangladesh, Nepal, and Sri Lanka) will be separately targeted for (i) innovation in technology, business model and financing, and pilot demonstration; and (ii) capacity building, regional knowledge sharing, and experiential learning activities in the later phase of the TA. These countries were selected because of their low per capita gross national income, and relatively high exposure and vulnerability to climate change impacts. The scope of TA will be expanded to include country-specific themes as supplementary funds are made available. In designing and implementing specific activities in each country, links and synergies with other ADB and development partners supported projects and facilities will be established. Further details on required support to South Asia DMCs, its scope, and expert inputs are described in the supplementary appendix.

⁸ The screening framework developed under the Technical Assistance for Preparing for Climate Action South Asia (ADB. 2012. *Preparing for Climate Action South Asia*. Manila [TA 8292-REG].) will be further strengthened and used, and other screening tools will be applied whenever feasible. The TA will also support sector-specific modeling activities to provide more relevant inputs, e.g., stream flow, run-off, and inundation levels.

⁹ For cost efficiency and sustainability, the databases will be linked to similar ADB initiatives such as the ADB. 2013. *Technical Assistance for Regional Climate Projections Consortium and Data Facility in Asia and the Pacific*. Manila (TA 8359-REG). This database will be used to support the development of Country Partnership Strategies (CPS) and other strategic plans and programs.

practices, mitigation measures, and monitoring, reporting, and verification at the project level will be conducted to further strengthen the effort of DMCs towards low-carbon and climate-resilient development. Overall, the TA will (i) develop or adopt and apply tools and methodology to screen projects for climate risks and for mitigation potentials, (ii) develop and manage the climate change database and knowledge base, and (iii) support incorporation of adaptation and mitigation options into project design.

8. Output 2: Capacity of DMCs in developing and/or implementing climate change strategies and action plans strengthened. A highly selective and transformation-driven climate change capacity building program targeting relevant government executing and implementing agencies will be conducted in coordination with centers of excellence and development partners. This program will cover: (i) strengthening governance and institutional capacity to access and absorb climate finance; (ii) providing decision support tools and guidelines, including those on monitoring, verification and reporting, adaptation practices, mitigation measures, and risk assessment; (iii) building or strengthening DMCs' climate change strategies and action plans; and (iv) training and awareness building on key emerging issues such as adaptive governance, economically sound climate proofing and engineering measures, carbon intensity reduction and carbon trading, disaster risk reduction and management, and natural adaptation measures.¹⁰ The following key activities will be supported under this output: (i) assessing training needs and mapping capacity; (ii) developing a phased approach for capacity development (e.g., targeting two or three countries per year); (iii) conducting networking, dissemination, workshops, and training activities; and (iv) post-training evaluation and feedback to measure program effectiveness.

C. Cost and Financing

9. The TA is estimated to cost the equivalent of \$1,325,000, of which \$575,000 will be financed on a grant basis by ADB's Technical Assistance Special Fund (TASF-V) and \$750,000 will be financed on a grant basis by TASF-other sources. The governments of participating South Asia DMCs will provide counterpart support in the form of office space and use of facilities, counterpart staff, related administrative expenses, and other in-kind contributions. The detailed cost estimates and financing plan are in Appendix 2.

D. Implementation Arrangements

10. ADB, through SARD, will be the executing agency responsible for the coordination, supervision, and implementation of all TA activities. The Portfolio, Results, and Quality Control Unit within SARD will establish a TA coordination unit comprising core international and national staff and consultants to oversee day-to-day TA implementation. The TA coordination unit will liaise with other relevant ADB units and/or offices, particularly the Bangladesh Resident Mission, India Resident Mission, Nepal Resident Mission, Sri Lanka Resident Mission, South Asia Regional Cooperation and Operations Coordination Division, and relevant divisions in ADB's Regional and Sustainable Development Department, Economics and Research Department, and Office of Cofinancing Operations. The implementation of the TA will be coordinated with concerned ministries in selected South Asia DMCs that will be identified during TA implementation and as guided by the respective governments.

¹⁰ The challenge will be to differentiate the actual versus the perceived needs of the DMCs. The actual needs will be identified by extensive consultations with governments, development partners, and regional centers of excellence. Specific capacity building activities will be designed based on preliminary assessment of needs and gaps conducted during the onset of TA implementation.

11. The TA will be implemented for 36 months tentatively from January 2014 to December 2016. It will require approximately 36 person-months of international and 42 person-months of national consulting services in the areas of climate change (i) risk assessment and screening, (ii) mitigation, (iii) institutional capacity development and training, (iv) database and portal management, and (v) other sector specialists depending on the nature of projects in the pipeline. The outline terms of reference for the consultants are in Appendix 3. Consultants will be engaged on an individual basis and/or through a firm. The institutional capacity development and training specialists will be recruited through a firm using quality- and cost-based selection with a quality–cost ratio of 90:10. Consultant selection will be done according to ADB's Guidelines on the Use of Consultants (2013, as amended from time to time). Disbursements will conform to ADB's *Technical Assistance Disbursement Handbook* (2010, as amended from time to time). All equipment will be procured according to ADB's Procurement Guidelines (2013, as amended from time to time) and turned over to ADB upon TA completion.

12. A review of the TA will be undertaken after the first 6 months of implementation to assess progress, revise outputs and activities as necessary, and request additional funding from ADB and other development partners to implement additional TA activities. A full assessment will be undertaken upon TA completion to report on the achievements and lessons learned in mainstreaming climate change in SARD operations.

IV. THE PRESIDENT'S DECISION

13. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$1,325,000 on a grant basis for Action on Climate Change in South Asia, and hereby reports this action to the Board.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baseline	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p>Impact Successful transition to a low-carbon and climate-resilient development path by South Asia DMCs</p>	<p>At least 50% of the identified priority actions in the NAPA are implemented by 2019</p> <p>At least 25% of infrastructure projects of South Asia DMCs starting in 2019 incorporate emission tracking and mitigation options</p>	<p>NAPA priority database, UNFCCC</p> <p>Ministry of Finance and/or Ministry of Environment</p>	<p>Assumption South Asia DMCs continue to support low-carbon growth</p> <p>Risk Climate variations far exceed the projected range</p>
<p>Outcome South Asia DMCs have increased investment and institutional capacity to manage the impacts of climate change</p>	<p>SARD approvals representing both adaptation and mitigation projects achieve the 60% RFI target by 2016 (baseline 52% in 2012)</p> <p>Government officials in priority sectors have improved climate change project development and management capacity based on pre- and post-assessment exercises by 2016</p>	<p>SARD annual report</p> <p>Workshop assessment reports and proceedings</p>	<p>Assumption DMCs will be receptive to investing in climate change adaptation activities</p> <p>Risk DMCs' planned climate change activities and agenda may be sidelined by other emerging priorities, such as an economic downturn abatement program</p>
<p>Outputs 1. Screening of investment projects against climate risks strengthened.</p>	<p>General guideline for climate screening (risk and potentials) developed by 2016</p> <p>Set of climate change indicators for all key sectors (in support of SARD RFIs) identified and compiled by 2016</p> <p>100% of infrastructure projects undergo risk assessment by 2016</p>	<p>TA completion report</p> <p>TA progress reports</p> <p>TA progress reports</p>	<p>Assumptions All TA activities will consider and build upon on-going TA and projects in ADB</p> <p>The private sector and other financing or funding institutions will continue to support climate change adaptation and mitigation projects</p>
<p>2. Capacity of DMCs in developing and/or implementing climate change strategies and action plans strengthened</p>	<p>Six TNA conducted (one for each country) by 2015</p> <p>Six capacity building workshops conducted by 2016 (Note: Number of workshops per country may vary depending on training needs assessment and capacity mapping results; minimum of one per DMC)</p> <p>Three CCA and sector-specific roadmaps for climate resilience and low carbon growth prepared by 2016</p>	<p>TA progress reports and workshop proceedings</p> <p>Workshop proceedings</p> <p>TA progress reports</p>	

Activities with Milestones	Inputs														
<p>Output 1: Screening of investment projects against climate risks strengthened</p> <p>1.1 Develop baseline information on all pipeline projects (2014-2016) by Q1 2014</p> <p>1.2 Conduct consultation meetings with DMC focal points and sector and country teams on work plan, climate risk screening tools, mitigation potentials for candidate projects, and scope of assistance during Q1 2014–Q3 2016</p> <p>1.3 Establish monitoring mechanism and climate database by Q2 2014</p> <p>1.4 Develop guidelines and methodology for emissions tracking for projects and mitigation options by Q3 2014</p> <p>1.5 Finalize list of SARD climate change projects and interventions or solutions provided by Q4 2014</p> <p>1.6 Pilot test the guideline for risk screening and mitigation potential (selected pipeline projects in 2014) by Q4 2014</p> <p>1.7 Continue screening of 2014 pipeline projects by Q4 2014 and 2015 pipeline projects by Q4 2015</p> <p>1.8 Pilot test approaches for project design under changing conditions of climate parameters and critical environmental factors by Q4 2014</p> <p>1.9 Provide support to incorporate climate change adaptation and mitigation options during project preparation and design in conjunction with selected PPTAs starting Q3 2014 and throughout TA implementation</p> <p>1.10 Prepare yearly project specific reports and an overall report on the results of risk screening and emissions tracking starting 2014</p>	<p>ADB: \$575,000 TASF-V \$750,000 TASF-other sources</p> <table border="1"> <thead> <tr> <th>Item</th> <th>Amount (\$'000)</th> </tr> </thead> <tbody> <tr> <td>Consulting services</td> <td>975.0</td> </tr> <tr> <td>Equipment</td> <td>10.0</td> </tr> <tr> <td>Workshops</td> <td>100.0</td> </tr> <tr> <td>Survey studies</td> <td>100.0</td> </tr> <tr> <td>Miscellaneous</td> <td>40.0</td> </tr> <tr> <td>Contingency</td> <td>100.0</td> </tr> </tbody> </table>	Item	Amount (\$'000)	Consulting services	975.0	Equipment	10.0	Workshops	100.0	Survey studies	100.0	Miscellaneous	40.0	Contingency	100.0
Item	Amount (\$'000)														
Consulting services	975.0														
Equipment	10.0														
Workshops	100.0														
Survey studies	100.0														
Miscellaneous	40.0														
Contingency	100.0														
<p>Output 2: Capacity of DMCs in developing and/or implementing climate change strategies and action plans strengthened</p> <p>2.1 Conduct exploratory discussions with key stakeholders, including government and nongovernmental agencies, development partners, and sector and country specialists by Q2 2014</p> <p>2.2 Gather, synthesize, and analyze secondary data on capacity development initiatives by Q3 2014</p> <p>2.3 Develop assessment mechanism for increased government capacity by Q3 2014</p> <p>2.4 Conduct capacity development assessment (training needs assessment, consultation workshops, and capacity mapping) and identification of focal groups or units for key sectors in DMCs by Q4 2014</p> <p>2.5 Prioritize capacity development activities by country (two per year) and implement the capacity building plan approved by the DMCs until 2016</p> <p>2.6 Review policies and institutional framework in selected countries and provide recommendations for their improvement by Q2 2015</p>															

ADB = Asian Development Bank, CCA = country climate assessment, DMC = developing member country, NAPA = national adaptation program of action, PPTA = project preparatory technical assistance, RFI = results framework indicator, SARD = South Asia Department, TA = technical assistance, TASF = Technical Assistance Special Fund, TNA = training needs assessment, UNFCCC = United Nations Framework Convention on Climate Change.

Source: Asian Development Bank.

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Amount
Asian Development Bank^a	
1. Consultants	
a. Remuneration and per diem	
i. International consultants (36 person-months)	670.0
ii. National consultants (42 person-months)	175.0
b. International and local travel	120.0
c. Reports and communications	10.0
2. Equipment ^b	10.0
3. Seminars, workshops, and training ^c	100.0
4. Surveys and studies ^d	100.0
5. Miscellaneous administration and support costs ^e	40.0
6. Contingencies	100.0
Total	1,325.0

Note: The governments of participating South Asia DMCs will provide counterpart support in the form of office space and use of facilities, counterpart staff, related administrative expenses, and other in-kind contributions.

^a Financed by the Asian Development Bank's Technical Assistance Special Fund (\$575,000 from TASF-V and \$750,000 from TASF-other sources).

^b Equipment includes hardware such as computers, printers, data storage devices, audio-visuals, and software such as geographic information system and modeling and risk screening tools being tested by ADB's Regional and Sustainable Development Department (e.g., AWARE and TEEMP). Equipment purchased with TA funds are ADB's property and will remain so until they are transferred to the government or disposed of in accordance with ADB's Procurement Guidelines (2013, as amended from time to time).

^c Includes support in the conduct of training needs assessment, capacity mapping, and other related activities. The number of workshops may change depending on the results of the training needs assessment. Technical assistance funds can be used for travel costs of ADB staff serving as resource persons (e.g., facilitators, speakers, panelists) in meetings, training courses, seminars, conferences, and workshops, including to those involving non-members of ADB.

^d Includes support in preparing prefeasibility studies, pilot demonstration projects, and case studies.

^e Includes costs of TA coordination unit; administrative support staff; communication and transport costs; public awareness campaigns; reports and publications; and knowledge products, among others.

Source: Asian Development Bank estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

A. Introduction

1. The consultants to be engaged under the scope of work of the regional capacity development technical assistance (TA) Action on Climate Change in South Asia will all contribute to the TA project's primary aim: the successful transition to a low-carbon and climate-resilient development path in South Asia.

2. A total of 36 person-months of international and 42 person-months of national consulting services will be required to implement the TA (Table A3). Consultants will be engaged on an individual basis and/or through a firm. Consultant selection will be done according to ADB's Guidelines on the Use of Consultants (2013, as amended from time to time). Consultant firms will be selected through the quality- and cost-based selection method (90:10).

Table A3: Consulting Services Requirement
(person-months)

Position	International	National
Output 1:		
Climate change risk assessment and screening specialist	18	
Climate change mitigation specialist	6	
Climate change program coordinator		18
Climate change database and portal management expert		6
Subtotal	24	24
Output 2:		
Institutional capacity development and training specialist	12	18
Subtotal	12	18
Total	36	42

Source: Asian Development Bank estimates.

B. Individual Consultants (Output 1)

3. **Climate change risk assessment and screening specialist** (international, 18 person-months). The specialist must have at least 10 years relevant experience in environmental management and climate risks assessment in developing countries, demonstrated expertise in geographic information systems and/or remote sensing, and familiarity with climate change screening tools for adaptation and mitigation. The specialist will establish a mechanism for assessing climate risks at the country, program, and project levels. Specifically, the specialist will:

- (i) Provide technical advice and guidance on approaches and scope for climate change impact assessment at the program and project levels, and in the development of user-friendly and well-documented climate data and projection products.
- (ii) Identify, review, and collect existing data sets (available downscaled climate baseline data and projections) and tools that are relevant inputs to climate screening, both for project risks identification and emission reduction potentials.

- (iii) Using existing and appropriate screening tools, including those being developed by ADB's Regional and Sustainable Development Department (e.g., AWARE screening tool), provide the SARD climate change team and project officers with technical advice and relevant climate change risk analysis of projects and programs and corresponding design solutions and recommendations.
- (iv) Provide training and advice on the use and/or application of downscaled global circulation models for selected projects and programs to aid in developing specific intervention measures.
- (v) Develop a guideline for screening, categorization, and monitoring of climate change interventions.
- (vi) Review country environment analysis, and provide technical support in developing and implementing a plan of action for integrating country climate analysis during screening of projects and overall programming.
- (vii) Develop and pilot test approaches for project design under changing climate and environmental conditions, and provide technical support in incorporating climate change adaptation and mitigation options during project preparation and design.
- (viii) Develop monitoring mechanisms for climate change interventions and initiatives consistent with ADB results framework indicators and internationally accepted adaptation and mitigation finance monitoring, reporting, and verification system.
- (ix) Develop a set of indicators for climate interventions on the core sectors as provided in ADB's Strategy 2020.
- (x) Conduct orientation briefings for SARD sector divisions and resident missions on the utility and application of screening tools.
- (xi) Provide support in preparing and submitting TA project reports and project-related documents as may be requested by the project officer from time to time.

4. **Climate change mitigation specialist** (international, 6 person-months). The specialist will collaborate with the other TA consultants to develop a framework for estimating carbon dioxide emissions at the project level and provide guidelines for identifying appropriate mitigation strategies. The specialist will:

- (i) Review and document internationally approved or accepted approaches and methodologies for measuring carbon dioxide emissions.
- (ii) Develop stepwise guidelines for measuring carbon dioxide emissions at the project level, including detailed guidance notes, and lead in estimating emissions for selected projects in key sectors and participating South Asia DMCs.
- (iii) Develop baseline emissions scenarios and emissions reduction goals for key sectors to be identified in consultation with concerned national stakeholders in each participating South Asia DMC.
- (iv) Recommend appropriate technology options and efficiency measures to reduce carbon dioxide emissions and/or carbon sequestration options or carbon sinks for key sectors, including estimated adoption costs, implementation schemes, and policy (or policy reform) requirements.
- (v) Design a reporting mechanism that is both compliant with international commitments and satisfies ADB reporting requirements in the corporate results framework.
- (vi) Provide support in preparing and submitting TA reports and other project-related documents as may be requested by the ADB project officer from time to time.

5. **Climate change program coordinator** (national, 18 person-months). The coordinator will be directly engaged by ADB to assist the TA coordination unit in the Portfolio, Results and Quality Control Unit of the South Asia Department (SARD) in the overall management of the TA

and to support the activities under outputs 1 and 2 to ensure that TA outputs are delivered in an efficient, effective, and timely manner. In close coordination with the other TA consultants and TA supervising unit members, the coordinator will:

- (i) Provide assistance and support in coordinating and supervising project activities, including preparing the overall project work plan and work plans in the pilot countries, as well as the required TA reports (e.g., inception, quarter progress, midterm, draft final, and final reports).
- (ii) Organize and implement consultation meetings, national and regional workshops, and/or capacity building activities.
- (iii) Collaborate with relevant climate change and communications units within SARD and ADB in implementing the TA project's knowledge development, management, and communication activities.
- (iv) Work with all the other TA consultants in designing an overall project communication plan targeting national and regional stakeholders as well as relevant units within SARD and ADB.
- (v) Perform country-level coordination and communication, including the establishment of networks and/or alliances with other development partners, centers of excellence, and think tanks.
- (vi) Perform other project-related tasks as may be assigned by the ADB project officer from time to time.

6. **Database and portal management expert** (national, 6 person-months). Together with the climate change risk assessment and screening specialist, the expert will be directly engaged by ADB to lead in the development, delivery, and management of a climate change information database sharing portal for SARD. The specialist must have an advanced university degree, preferably at the master's level, in computer science, graphics design, or a related field, and at least 8 years of relevant experience. The specialist must have demonstrated skills in designing user-friendly web pages and efficient web portals, and must also possess a basic understanding of key issues relating to climate change. The expert will:

- (i) Develop a concept note outlining the overall design, functionality, and data management approach for the whole TA, including development of databases for downscaled climate data, link to existing SARD climate change related web portals (such as those being developed under the Regional Economics of Climate Change in South Asia) and with other learning resource networks and/or websites in the region.
- (ii) Organize the beta testing of the draft portal, and revise it based on comments and feedback from beta testing.
- (iii) Contribute inputs to the overall project work plan and work plans in the pilot countries, as well as to required TA reports (e.g., inception, quarter progress, midterm, draft final, and final reports).
- (iv) Perform other site management and/or project-related tasks as may be assigned by the ADB project officer from time to time.

C. Consulting Firm (Output 2)

7. A consultant firm will be recruited to provide 12 person-months of international and 18 person-months of national institutional capacity development and training specialists to support the implementation of the TA project's climate change capacity development program. The consultant firm will (i) collect, organize, synthesize, and analyze relevant information and data on climate change-related capacity development initiatives in the pilot countries, (ii) develop an institutional capacity assessment mechanism, (iii) conduct a comprehensive training needs

assessment and capacity mapping and surveys, (iv) develop a phased approach for conducting transformation-driven climate change capacity building programs and training workshops, (v) conduct post-training evaluation and compile a report on the feedback to measure program effectiveness, (vi) review policies institutional framework in the pilot countries and provide recommendations for their improvement, and (vii) contribute inputs to the overall project work plan and work plans in the pilot countries as well as to required TA reports (e.g., inception, quarter progress, midterm, draft final, and final reports).