



Technical Assistance Report

Project Number: 46441
Capacity Development Technical Assistance (CDTA)
October 2013

Republic of the Philippines: Climate Resilience and Green Growth in Critical Watersheds (Financed by the Japan Fund for Poverty Reduction)

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 16 September 2013)

Currency unit	–	peso/s (P)
P1.00	=	\$0.0228
\$1.00	=	P43.8250

ABBREVIATIONS

ADB	–	Asian Development Bank
CCC	–	Climate Change Commission
DRRM	–	disaster risk reduction and management
LGU	–	local government unit
TA	–	technical assistance

TECHNICAL ASSISTANCE CLASSIFICATION

Type	–	Capacity development technical assistance (CDTA)
Targeting classification	–	General intervention
Sector (subsectors)	–	Multisector: agriculture and natural resources (agricultural production and markets; irrigation, drainage, and flood protection; land-based and water-based natural resource management); energy (renewable energy); transport and information and communication technology (road transport); water supply and other municipal infrastructure and services (social protection, water supply and sanitation, waste management, urban sector development)
Themes (subthemes)	–	Environmental sustainability (environmental policy and legislation, global and regional transboundary environmental concerns, urban environmental improvement); economic growth (knowledge, science, and technological capacities); social development (disaster risk management); capacity development (institutional development)
Climate change	–	Climate change adaptation and climate change mitigation
Location (impact)	–	Rural (medium), urban (high), national (medium)
Partnership	–	Japan Fund for Poverty Reduction

NOTE

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

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I. INTRODUCTION

1. In September 2011, the Government of the Philippines, through its Climate Change Commission (CCC), requested technical assistance (TA) from the Asian Development Bank (ADB) to conduct pilot studies on green growth and climate resilience in selected critical watersheds. The objective is to strengthen institutional and technical capacity for effective integration of climate change concerns into development plans at the local government unit (LGU) level, which would yield multiple benefits in terms of environmental sustainability, job creation, and long-term economic growth.

2. In response, ADB mobilized \$450,000 from its Climate Change Fund and initiated TA¹ on 19 November 2012 to conduct a study on the Upper Marikina River Basin Protected Landscape. The CCC requested further support to strengthen the capacity of at least three LGUs in each of three watersheds—in the lower Marikina River basin, Camarines Sur, and Davao Oriental.² A series of meetings took place from October 2012 to May 2013 between the CCC and ADB to discuss the proposed TA.³ Consultations with stakeholders, including representatives from priority watersheds, were held during this period. ADB circulated a draft TA concept paper for comment by government agencies and other stakeholders. Following a fact-finding mission, and reflecting feedback from the Department of Finance and the National Economic Development Authority, a memorandum of understanding was signed with the vice-chair of the CCC on 5 July 2013, agreeing to the core elements of the TA (impact, outcome, outputs, cost, financing, implementation arrangements, and consultant terms of reference). The design and monitoring framework is in Appendix 1.

II. ISSUES

3. The Philippines is highly vulnerable to the impacts of climate change. The country is ranked highest in the world in terms of vulnerability to tropical cyclones and third in terms of the population's exposure to floods and droughts.⁴ Increasing the climate resilience of the economy and the adaptive capacity of the populations is thus crucial for sustainable development. Climate-change-induced economic losses are expected to become particularly high in urban and peri-urban areas. The need to develop ecologically stable and economically resilient urban areas has been recognized, but the concept has not been widely demonstrated.

4. To address climate change, the government enacted the Climate Change Act of 2009 (Republic Act 9729) which established the CCC as the government's sole policy-making body tasked with coordinating, monitoring, and evaluating programs and action plans related to climate change.⁵ The Climate Change Act provided the principles guiding the formulation of the National Climate Change Action Plan, 2011–2028, which supports gender-responsive and rights-based sustainable development through seven strategic priorities: (i) food security, (ii) water sufficiency, (iii) ecosystem and environmental stability, (iv) human security, (v) climate-smart industries and services, (vi) sustainable energy, and (vii) capacity development.

¹ ADB. 2012. *Technical Assistance to the Philippines for Climate Resilience and Green Growth in the Upper Marikina River Basin Protected Landscape: Demonstrating the Eco-town Framework*. Manila (TA 8111). Because of the timing, the TA has not yet produced significant findings that would affect the design of the proposed TA.

² The LGUs participating in the TA are Bombon, Calabanga, and Naga City in Camarines Sur; Baganga, Boston, and Cateel in Davao Oriental; and Cainta, Marikina City, and Quezon City in the lower Marikina River basin.

³ The TA first appeared in the business opportunities section of ADB's website on 22 February 2013.

⁴ Climate Change Commission. 2010. *National Framework Strategy on Climate Change, 2010–2022*. Manila.

⁵ The Climate Change Act was subsequently amended by Republic Act 10174, known as the People's Survival Fund Law, to make budgetary provision for climate-change-related activities of the government.

5. Pursuing green growth and climate resilience strategies through LGUs will address both the causes and the consequences of climate change. Further, carbon intensity and resource efficiency are significant in determining the economic competitiveness of LGUs. However, the capacity of LGUs to integrate climate change concerns into development planning is generally limited. The proposed TA seeks to demonstrate climate-resilient green growth options in critical watersheds in the lower Marikina River basin, Camarines Sur, and Davao Oriental. Priority is given to watersheds because of their role as water support systems for both upstream and downstream communities such as domestic water consumers, irrigation water users, and hydro power companies. The watersheds are chosen based on their (i) high biophysical vulnerability to climate change, (ii) high levels of urban poverty and population density with settlements in vulnerable locations, and (iii) high demonstration potential for integrating climate resilience and green growth into local development at both policy and operational levels.

6. The TA supports the implementation of the National Climate Change Action Plan and the Climate Change Act, which aims to integrate climate change and disaster risk reduction and management (DRRM) into national, sector, and local development plans and programs. It has strong links to the Philippine Development Plan, 2011–2016, especially with regard to goal 3 (enhanced resilience of natural systems and improved adaptive capacities of communities to cope with environmental hazards including climate-related risks) of the strategic framework for conservation, protection, and rehabilitation of the environment and natural resources.⁶

7. The TA has robust links to the ADB country partnership strategy, 2011–2016⁷ and its thematic paper on climate change and DRRM, which recognizes the need to increase the resilience to climate change and disasters while harnessing opportunities for greenhouse gas mitigation. In addition to contributing to the objective of strengthening institutional capacity, the TA closely aligns with ADB's Strategy 2020,⁸ the Southeast Asia Department's climate change implementation plan;⁹ ADB's Water for All policy; ADB's Water Operational Plan, 2011–2020; and various sector assessments, strategies, and road maps in terms of increasing resilience to climate stresses (agriculture and natural resources sector), promoting the use of renewable energy (energy sector), and enhancing water sanitation through effective waste management (water supply and other municipal infrastructure and services sector).

8. The TA builds on vulnerability assessment methodologies developed under ADB-funded regional TA on adaptation¹⁰ and DRRM projects undertaken in Manila and other areas. It will promote synergies with ADB lending programs such as the Integrated Natural Resources and Environmental Management project,¹¹ and benefit from other climate change projects funded by development partners¹² in terms of exchange of data sets and information on good practices for green growth and climate resilience.

⁶ National Economic and Development Authority. 2011: *Philippine Development Plan, 2011–2016*. Manila.

⁷ ADB. 2011. *Country Partnership Strategy: Philippines, 2011–2016*. Manila. <http://www.adb.org/sites/default/files/cps-phi-2011-2016-oth-o6.pdf>

⁸ ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank, 2008–2020*. Manila. <http://www.adb.org/sites/default/files/Strategy2020-print.pdf>

⁹ ADB. 2010. *Climate Change in Southeast Asia—Focused Actions on the Frontlines of Climate Change*. Manila.

¹⁰ ADB. 2008. *Regional Technical Assistance for Promoting Climate Change Adaptation in Asia and the Pacific*. Manila (TA 6420-REG).

¹¹ ADB. 2012. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Philippines for the Integrated Natural Resources and Environmental Management Project*. Manila (L-2957, G-0324, G-0325).

¹² World Bank, Japan International Cooperation Agency, German Agency for International Cooperation, Global Green Growth Institute, Australian Agency for International Development, United States Agency for International Development, and the United Nations Development Programme.

III. THE PROPOSED TECHNICAL ASSISTANCE

A. Impact and Outcome

9. The impact will be enhanced climate resilience and green growth in selected critical watersheds. Improvements will be monitored through (i) a reduction in economic losses due to flooding and landslides and in the rate of growth in greenhouse gas emissions (target of 15% reduction by 2023 from the 2013 baseline); and (ii) an increase in (a) adaptive capacity through improved income levels of vulnerable communities, including women; and (b) the amount budgeted for climate change and DRRM by participating LGUs (target of 15% increase).

10. The outcome will be that, by the end of the TA in July 2016, LGUs in critical watersheds will have increased capacity to integrate climate-resilient and green growth options into development plans, programs, policies, and projects. The capacity to bring together the concepts of low-carbon development, resource efficiency, and adaptation to climate change will be strengthened. By doing so, LGUs can significantly contribute to the achievement of the Millennium Development Goals, particularly in regard to poverty alleviation (goal 1) and environmental sustainability (goal 7). Successful demonstration and implementation of measures for green growth and resilience will reduce the impacts of climate change on vulnerable communities and advance the pursuit of low-carbon development at the LGU level, while contributing to sustainable urban development and poverty reduction.

B. Methodology and Key Activities

11. The proposed TA will create plans for green growth and resilience in each of three critical watersheds by considering five dimensions: (i) economic development; (ii) resilience to climate change; (iii) biodiversity, ecosystems, and social development; (iv) greenhouse gas emissions; and (v) poverty alleviation. It will deliver four outputs. Staff from national agencies will collaborate with LGUs and other stakeholders on the development and delivery of outputs through participation in dialogues and training activities. Through increased awareness of potential benefits of climate actions, funding opportunities, and other incentives, it is expected that the national agencies and participating LGUs will remain committed to implementing locally appropriate measures for green growth and resilience and integrate them into development plans.

12. **Output 1: Current and future vulnerabilities to climate change assessed and greenhouse gas inventory prepared.** This will involve stocktaking and vision setting for each watershed based on socioeconomic profiling in consultation with stakeholders including vulnerable communities, women, and the private sector. It will include (i) collection of baseline data through reviews of development plans and surveys of local institutions, governments, and businesses; (ii) assessment of vulnerability to current and future impacts of climate change; (iii) economic valuation of natural resources and ecosystem services; and (iv) preparation of greenhouse gas inventories following the global protocol for community-scale greenhouse gas emissions.¹³ Scenario setting will involve projection of future trends in the use of natural resources and associated impacts.

¹³ International Council for Local Environmental Initiatives – *Local Governments for Sustainability, C40 Cities Climate Leadership Group and World Resources Institute (2012)*. Global Protocol for Community Scale Greenhouse Gas Emissions <http://www.ghgprotocol.org/city-accounting>

13. **Output 2: Gender-responsive and locally appropriate adaptation and greenhouse gas mitigation measures identified and prioritized.** An inventory of climate change actions with the most significant impact across the five dimensions relevant to green growth will be prepared at the watershed level. Based on feedback from local stakeholders—including vulnerable communities, women, and the private sector—on the feasibility and potential costs and benefits of implementing such actions, a short list will be prepared. Cost–benefit analysis of a few priority actions will also be conducted at the LGU level. Such efforts to increase the understanding of stakeholders of the feasibility and cost-effectiveness of climate actions will be critical for effective integration of climate change into comprehensive development plans, investment plans, and DRRM plans of the participating LGUs.

14. **Output 3: Gender-responsive priority climate change actions demonstrated.** Based on specific criteria, priority adaptation and mitigation measures—such as promoting renewable energy, forest rehabilitation and reforestation, community-based DRRM, and other measures focusing on sustainable management of natural resources—will be demonstrated.¹⁴ The primary focus of the TA will be on nonstructural measures,¹⁵ which will increase the resilience of communities to climate change and improve economic well-being. Community-based measures that improve the resilience of women, children, and marginalized groups will be prioritized.

15. **Output 4: Knowledge products disseminated and stakeholder capacities strengthened.** This will involve (i) disseminating the TA findings to national and local governments, the private sector, and civil society through workshops, seminars, and knowledge products; (ii) documenting the process of integrating climate change into local development planning for future reference of stakeholders in other areas; (iii) preparing guidelines for effective integration of climate concerns in local development plans; and (iv) strengthening the capacity of key stakeholders including women in vulnerability assessment, economic analyses, and piloting of climate change actions. Such efforts will strengthen the understanding and capacity of LGUs and national agencies to implement climate actions beyond the TA period.

C. Cost and Financing

16. The TA is estimated to cost \$1,850,000 equivalent, of which \$1,750,000 will be financed on a grant basis by the Japan Fund for Poverty Reduction, and administered by ADB. The government will provide support in the form of counterpart staff, office accommodation, and other in-kind contributions. The cost estimates and financing plan are in Appendix 2.

D. Implementation Arrangements

17. The TA will be implemented over 30 months from 16 January 2014 to 15 July 2016. ADB will be the executing agency and the CCC will be the implementing agency, in close collaboration with participating LGUs and national agencies including the Department of Environment and Natural Resources and the Department of Interior and Local Government. The Department of Environment and Natural Resources, which collaborates with the LGUs on natural resource management, and the Department of Interior and Local Government, which directly oversees the LGUs, are both members of the Climate Change Adaptation and Mitigation

¹⁴ The climate actions to be short listed and piloted vary with LGU and ecosystem characteristics. The final choice depends on cost-effectiveness, potential for scaling up, mitigation potential, adaptive capacity, and other criteria.

¹⁵ Nonstructural measures do not involve physical construction; instead, they use knowledge, practice, or agreement to reduce risks and impacts through policies and laws, public awareness raising, training, and education (United Nations International Strategy for Disaster Reduction. 2009. *UNISDR Terminology on Disaster Risk Reduction*. http://www.preventionweb.net/files/7817_UNISDR_Terminology_English.pdf).

Cabinet Cluster.¹⁶ The national agencies shall provide technical assistance in accordance with the mandate specified under Republic Act 10174 (People's Survival Fund Law).

18. The TA will finance an estimated 14 person-months of international consultant inputs and 200 person-months of national consultant inputs, to be engaged through a consulting firm in accordance with ADB's Guidelines on the Use of Consultants (2013, as amended from time to time). ADB will recruit the consulting firm following the quality- and cost-based selection method (90:10) and full technical proposal procedures. The outline terms of reference for consultants are in Appendix 3. Procurement and disbursement will be done in accordance with ADB's Procurement Guidelines (2013, as amended from time to time) and ADB's *Technical Assistance Disbursement Handbook* (2010, as amended from time to time). Procured items will be turned over to the implementing agency upon TA completion.

19. The CCC will be responsible for coordinating and implementing all TA activities, including effective monitoring of the work progress of consultants. The CCC will assign a senior staff member as the focal person to coordinate project activities and delivery outputs of the TA. ADB will accept the consulting firm's claims upon receipt of CCC endorsement certifying that the work has been done satisfactorily for the period, with the corresponding reports attached.

20. The CCC will serve as the focal organization among involved LGUs and national agencies. The commission will organize a project technical working group with representatives from participating LGUs; agencies such as the Department of Environment and Natural Resources, Department of Interior and Local Government, Department of Energy, Department of Science and Technology, Department of Transport and Communications, and National Disaster Risk Reduction and Management Council; development partners such as ADB and the Japan International Cooperation Agency; academia; civil society organizations; and the private sector. The CCC will work with the LGUs in formulating, signing, and implementing the memorandum of agreement between the CCC and the LGUs stipulating that (i) the CCC will provide the necessary technical and financial support from the Japan Fund for Poverty Reduction; and (ii) the LGUs will (a) provide free access to data, information, and facilities; (b) ensure the safety and security of the project personnel; and (c) facilitate effective coordination among stakeholders in implementing the local climate change action plans and demonstration of green growth and climate resilience measures.

21. Progress of the TA will be monitored through the outcomes and outputs described in the design and monitoring framework. The consulting firm will submit progress reports, knowledge products, and other key deliverables to ADB after getting endorsement from the CCC. The commission will monitor project progress in accordance with the project implementation schedule, and will keep ADB informed of any significant deviations from the schedule. Within 3 months of the TA's completion, the CCC will submit a project completion report to ADB. The form and content of the reports will be agreed upon during the TA inception mission.

IV. THE PRESIDENT'S RECOMMENDATION

22. The President recommends that the Board approve ADB administering technical assistance not exceeding the equivalent of \$1,750,000 to the Government of the Philippines to be financed on a grant basis by the Japan Fund for Poverty Reduction for Climate Resilience and Green Growth in Critical Watersheds.

¹⁶ Created by the 2011 Presidential Executive Order No. 43: Pursuing Our Social Contract with the Filipino People through the Reorganization of the Cabinet Cluster.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p>Impact Enhanced climate resilience and green growth in critical watersheds</p>	<p>By 2023: Economic losses from flooding and landslides and rate of growth in GHG emissions reduced by 15% (from the 2013 baseline)^a</p> <p>Household income and budget allocation by LGUs for climate change and DRRM increased by 15% (from the 2013 baseline)^a</p> <p>Environmental, economic, and social governance index increased to 4.00 on average for LGUs (from the 2013 baseline)^a</p>	<p>Government statistics (e.g., National Disaster Risk Reduction and Management Council)</p> <p>LGU annual reports, project post-evaluation, provincial statistics</p> <p>Local Governance Performance Management System^b</p>	<p>Assumption Strong commitment of LGUs to integrate climate concerns into local development and investment planning</p> <p>Risks LGUs do not officially endorse the plans, policies, and other actions proposed through the TA</p> <p>Changes in national government policies derail efforts in participating LGUs</p>
<p>Outcome Improved ability of participating LGUs and other stakeholders to integrate climate-resilient and green growth options into development programs, plans, and policies</p>	<p>By 2016: At least 50% of the total number of investment plans, development plans, or DRRM plans of nine participating LGUs integrate climate change concerns (2013 baseline: 0%)</p> <p>Nine participating LGUs develop green growth and resilience plans by involving all stakeholders including vulnerable communities, the private sector, women, and youth (2013 baseline: 0)</p> <p>At least 300 stakeholders in nine LGUs have enhanced understanding of and capacity to address climate change in future programs</p>	<p>Government statistics (Climate Change Commission, Housing and Land Use Regulatory Board)</p> <p>LGU annual reports</p> <p>City and municipal statistics</p> <p>LGU development plans</p> <p>LGU land use plans</p> <p>TA completion report</p>	<p>Assumption Appropriate climate change risk management tools and measures are available to the national agencies, LGUs, and user communities</p> <p>Risks Insufficient buy-in from LGUs for integrating climate resilience and green growth measures</p> <p>Lack of support from other national and provincial stakeholders</p>
<p>Outputs</p> <ol style="list-style-type: none"> Current and future vulnerabilities to climate change assessed and GHG inventory prepared Gender-responsive and locally appropriate adaptation and GHG mitigation measures 	<p>By 2016: Gender-inclusive vulnerability analysis and impact assessments in each watershed completed for at least three sectors (2013 baseline: 0)</p> <p>GHG inventory completed in nine participating LGUs (2013 baseline: 0)</p> <p>Gender-responsive^c local climate change action plans for nine participating LGUs formulated through effective</p>	<p>Stocktaking and consultation reports</p> <p>LGU annual reports</p> <p>Local development plans</p> <p>Project implementation reports</p>	<p>Assumptions Continued cooperation and coordinated actions of LGUs, other major stakeholders, and concerned national agencies in achieving the green growth vision</p> <p>LGUs pass resolution through town/city council to support the TA</p>

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
identified and prioritized	engagement of stakeholders including vulnerable communities, women, youth, and businesses (2013 baseline: 0)		Risk Lack of commitment from LGU leadership
3. Gender-responsive priority climate change actions demonstrated	Cost-benefit analysis of two priority climate actions in each participating LGU conducted (2013 baseline: 0)		
	Two pilot demonstration areas selected and a plan for green resilient growth prepared for each of the three critical watersheds (2013 baseline: 0)	Department of Interior and Local Government reports	
	Four gender-equitable ^d resilience and GHG mitigation measures demonstrated (2013 baseline: 0)	Project implementation reports	
		LGU annual reports	
4. Knowledge products disseminated and stakeholder capacities strengthened	One process documentation report and four guidance manuals prepared (2013 baseline: 0)	Project implementation reports	
	Six training workshops with at least 30% women beneficiaries organized (2013 baseline: 0)	LGU annual reports	
	Six knowledge products focusing on resilience and green growth prepared (2013 baseline: 0)		
	One synthesis report on best practices prepared (2013 baseline: 0)		

Activities with Milestones	Inputs												
Output 1: Current and future vulnerabilities to climate change assessed and GHG inventory prepared	Japan Fund for Poverty Reduction: \$1,750,000												
1.1 Multi-stakeholder consultations (LGUs, academic institutions, civil society, and businesses) held to prepare plans for climate resilience and green growth in each watershed (by month 3)													
1.2 Synthesis of baseline information for GHGs, vulnerability assessment, and other indicators of green growth and climate resilience (by month 3)													
1.3 Preparation of GHG emission inventory and report on the economic valuation of natural resources and ecosystem services (by month 8)													
1.4 Preparation of gender-conscious vulnerability and sector impact assessment maps (by month 9)													
1.5 Analysis of future climate change scenarios and localized impacts (by month 9)													
	<table border="1"> <thead> <tr> <th>Item</th> <th>Amount (\$'000)</th> </tr> </thead> <tbody> <tr> <td>Consultants</td> <td>1,200</td> </tr> <tr> <td>Equipment</td> <td>50</td> </tr> <tr> <td>Training, seminars, and conferences</td> <td>180</td> </tr> <tr> <td>Surveys</td> <td>200</td> </tr> <tr> <td>Administration and support costs</td> <td>20</td> </tr> </tbody> </table>	Item	Amount (\$'000)	Consultants	1,200	Equipment	50	Training, seminars, and conferences	180	Surveys	200	Administration and support costs	20
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Consultants	1,200												
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Activities with Milestones	Inputs
<p>Output 2: Gender-responsive and locally appropriate adaptation and GHG mitigation measures identified and prioritized</p> <p>2.1 Formulation of a multicriteria framework for selection of locally appropriate green growth and climate resilience measures (by month 6)</p> <p>2.2 Assessment and prioritization of potential adaptation and mitigation measures in each LGU, including assessment of gender equity and resilience (by month 10)</p> <p>2.3 Preparation of a report on detailed cost–benefit analysis of selected climate mitigation and adaptation actions (by month 11)</p> <p>2.4 Preparation of climate change action plans for each LGU (by month 12)</p> <p>Output 3: Gender-responsive priority climate change actions demonstrated</p> <p>3.1 Preparation of guidelines for integrating climate concerns into LGU development plans, programs, and projects (by month 13)</p> <p>3.2 Selection of at least two areas for demonstration of measures for green resilient growth in each watershed (by month 15)</p> <p>3.3 Preparation of simulated geographic information systems maps to show projected natural capital usage and impacts after implementation of measures (by month 20)</p> <p>3.4 Demonstration of gender-equitable adaptation and mitigation measures that contribute to sustainable economic development of the area (by month 25)</p> <p>Output 4: Knowledge products disseminated and stakeholder capacities strengthened</p> <p>4.1 Preparation of an implementation report that provides options, barriers, enablers, and delivery partners of the adaptation and mitigation measures (by month 28)</p> <p>4.2 Preparation of guidance manuals for (i) baseline calculation methodology (by month 4), (ii) GHG inventory (by month 6), (iii) economic valuation of natural resources and ecosystem services and environment and natural resources accounting (by month 14), and (iv) payment for ecosystem services (by month 28)</p> <p>4.3 Preparation of knowledge products focusing on climate resilience and green growth (by month 26)</p> <p>4.4 Preparation of a synthesis report on the best practices and lessons learned (by month 28)</p> <p>4.5 Conduct of training workshops on economic valuation of natural resources (by month 14) and payment for ecosystem services (by month 24)</p> <p>4.6 Dissemination of best practices, tools, and methods captured from the project through seminars, conferences, and websites (by month 29)</p>	<p>Contingencies 100</p> <p>Note: The government will provide counterpart support in the form of counterpart staff, office accommodation, and other in-kind contributions.</p>

DRRM = disaster risk reduction and management, GHG = greenhouse gas, LGU = local government unit, TA = technical assistance.

^a To be determined during inception phase; 2013 baseline refers to the 5-year average for 2009–2013.

^b The Local Governance Performance Management System is a self-assessment, management, and development tool that enables provincial, city, and municipal governments to determine their capabilities and limitations in the delivery of public services. It provides benchmark data that can be used for program prioritization, policy formulation, and policy direction for development purposes of LGUs. Of relevance to this TA are social services, economic development, and environmental management indices. (Bureau of Local Government Supervision of the Department of the Interior and Local Government) <http://www.blgs.gov.ph/lgpms>.

^c Gender-responsive climate change plans include targeted actions to enhance gender equality and women's empowerment.

^d Gender-equitable actions include those that support women's access to clean energy, fresh water, and transport services; increase their participation in disaster preparedness and adaptation planning; and include women's traditional knowledge on coping with extreme climate events.

Source: Asian Development Bank.

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Amount
Japan Fund for Poverty Reduction^a	
1. Consultants	
a. Remuneration and per diem	
i. International consultants	280.0
ii. National consultants ^b	800.0
b. International and local travel	40.0
c. Reports and communications	80.0
2. Equipment ^c	50.0
3. Training, seminars, and conferences ^d	180.0
4. Surveys ^e	200.0
5. Miscellaneous administration and support costs ^f	20.0
6. Contingencies	100.0
Total	1,750.0

Note: The technical assistance (TA) is estimated to cost \$1,850,000 equivalent, of which contributions from the Japan Fund for Poverty Reduction are presented in the table above. The government, through the Climate Change Commission, will provide in-kind contributions in the form of office space, remuneration of counterpart staff, and other in-kind contributions. Air fares, hotel, and daily subsistence allowance for government staff attending the workshops and seminars held outside Manila will be paid by the consulting firm in accordance with ADB procedures. The value of government contribution is estimated to account for 5.4% of the total TA cost.

^a Administered by the Asian Development Bank.

^b Includes the cost of about \$40,000 for hiring three project assistants for 30 person-months (TA duration) each.

^c Includes the cost of computers, printers, and geographic information system software. Items will be turned over to the implementing agency upon TA completion.

^d Includes participation in local and regional climate-change-related events for information exchange and sharing.

^e Includes baseline studies (collection of hydrological, meteorological, socioeconomic, and environmental data including greenhouse gas emissions), vulnerability and adaptation assessments, and demonstration activities.

^f Includes the cost of secretarial services and participation of Asian Development Bank staff as resource persons in workshops.

Source: Asian Development Bank estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

1. The impacts of climate change on the Philippine economy, environment, and communities are projected to be profound. The government enacted the Climate Change Act of 2009, which stipulated the creation of the Climate Change Commission (CCC) and the establishment of a policy framework and strategic program to proactively address climate change. The National Climate Change Action Plan, 2011–2028 identifies key actions. The plan's implementation is anchored at the local level through the building of ecologically stable and economically resilient towns. The technical assistance (TA) is aimed at strengthening the capacity of local government units (LGUs) and other stakeholders including the private sector to integrate climate change concerns into local development planning.

2. The TA will require an estimated 14 person-months of international consultant inputs and 200 person-months of national consultant inputs, to be engaged through a consulting firm in accordance with the Guidelines on the Use of Consultants (2013, as amended from time to time) of the Asian Development Bank (ADB). The detailed terms of reference for various consultants are given in paras. 4–9. The firm will also provide three technical project assistants to assist the CCC and LGUs. The assistants, under the overall guidance of the consulting team leader and the CCC focal person, will perform the following tasks: (i) assist with collecting information, literature, and other documents relevant to the TA and in developing databases to support TA activities; (ii) manage the logistics of and coordinate content development for meetings, training events, and other TA-related activities; (iii) assist with the development and dissemination of TA products and reports; (iv) assist in arranging official review missions and making appointments with the TA stakeholders; (v) assist LGUs and the project team in monitoring the project activities; (vi) assist in the preparation and timely submission of progress reports; (vii) assist the project team in conducting a post-completion analysis of the project; (viii) assist in various administrative and forwarding procedures; (ix) provide support in the implementation and delivery of TA outputs; and (x) perform other activities deemed necessary within the framework of the TA.

3. ADB will recruit the consulting firm using the quality- and cost-based selection method (90:10) and full technical proposal procedures. Procurement and disbursement will be done in accordance with ADB's Procurement Guidelines (2013, as amended from time to time) and ADB's *Technical Assistance Disbursement Handbook* (2010, as amended from time to time). Items procured under the TA will be turned over to the implementing agency upon TA completion. Progress of the TA will be monitored using intended outcomes and outputs described in the design and monitoring framework. The consulting firm, under the overall guidance of the project steering committee comprising the CCC and representatives of LGUs, national agencies, development partners, the private sector, and academia, will be responsible for organizing capacity building workshops, training seminars, study tours, and surveys. The consulting firm will submit quarterly progress reports, knowledge products, and other key deliverables to ADB for approval after getting endorsement from the CCC. The form, content, and applicable quality standards of the reports will be agreed upon during the TA inception mission.

A. Climate Change Adaptation and Disaster Risk Management Specialists (30 person-months, national; 5 person-months, international; intermittent)

4. The specialists will have experience (6 years for the national specialist and 8 years for the international specialist) in work related to climate change and disaster risk reduction and

management, and have a master's or higher degree in environmental management, climate change, or a related discipline. The national specialist will serve as the team leader and will have at least 5 years of prior experience as a team leader and in assisting government institutions. The ability to work with governments (at the national and local levels), development partners, the private sector, and civil society in building sustainable capacity to address climate change and to report effectively in strategic consultations and in written reports is also required. Specific duties include the following:

- (i) Manage the consulting team and take overall responsibility for ensuring production and delivery of quality outputs (inception report, quarterly progress reports, and final report).
- (ii) Lead the stocktaking process on greenhouse gas mitigation, adaptation, and disaster risk management initiatives in the selected watersheds and assist stakeholders in mapping out a shared vision for green growth.
- (iii) Coordinate the team's technical outputs, including baseline information on relevant indicators of climate resilience and green growth; assessment of vulnerabilities and impacts; climate change scenarios; and selection and monitoring of the effectiveness of climate actions, including economic analysis.
- (iv) Oversee the preparation of plans for green growth and climate resilience and identify climate-change-related investments up to 2025.
- (v) Undertake consultations with stakeholders—including LGU authorities, the private sector, and vulnerable communities—to validate climate actions (e.g., renewable energy, energy efficiency, reforestation, waste management, low-carbon transport, water conservation, flood control, disaster risk management, biodiversity protection, sustainable agriculture, and climate-proofing of infrastructure).
- (vi) Ensure effective implementation of selected adaptation measures, with due consideration to environmental and social safeguards, national and LGU regulations, and other compliance requirements.
- (vii) Coordinate awareness raising and capacity strengthening activities, such as
 - (a) preparing plans for green growth and climate resilience drawing on best practices, Intergovernmental Panel on Climate Change and national assessments, and other publications;
 - (b) preparing climate change action plans and operational guidelines for integrating adaptation concerns into LGU development plans;
 - (c) develop training materials such as guidebooks on adaptation (e.g., integrating climate risk management and resilience into watershed management);
 - (d) implementing an awareness raising campaign on green growth and climate resilience, and organizing seminars and workshops for various stakeholders, including LGUs and the private sector; and
 - (e) disseminating the TA findings in various local, national, regional, and international forums on climate change and by using public meetings and focus group discussions with community leaders, the private sector, and the media.

B. Climate Change Mitigation Specialists (30 person-months, national; 5 person-months, international; intermittent)

5. The specialists will have a master's or higher degree in environmental science, management, or policy; climate change; or a related area, with experience (5 years for the

national specialist and 6 years for the international specialist) in greenhouse gas inventories, mitigation projects, and watershed management. The national specialist will serve as deputy team leader and will have at least 5 years of prior experience in team management. Experience in preparing project design documents for the Clean Development Mechanism (CDM) and in implementing various steps of the CDM project cycle and knowledge of reducing emissions from deforestation and forest degradation is an advantage. Also required is the ability to work with governments (at both national and local levels), development partners, the private sector, and other stakeholders in building sustainable capacity to address climate change and to report effectively in consultations and in written reports. Specific duties include the following:

- (i) Provide inputs to the inception and quarterly progress reports.
- (ii) Review national documents on climate change, including national communications to the United Nations Framework Convention on Climate Change, and compile information on mitigation policies and measures.
- (iii) Collect baseline information on relevant indicators of green growth; assess the technical and institutional needs and capacities to address greenhouse gas mitigation in watersheds; and develop a capacity building action plan with a focus on policy makers, the private sector, and local communities.
- (iv) Conduct consultations with decision makers and technical staff of national agencies, LGUs, the private sector, and local communities (including women and indigenous people) to assess greenhouse gas mitigation priorities, and identify key policies and measures for implementation in the selected watersheds.
- (v) Identify locally appropriate greenhouse gas mitigation measures that can benefit from international carbon markets.
- (vi) Ensure effective implementation of selected mitigation measures, with due consideration to environmental and social safeguards, national and LGU regulations, and other compliance requirements.
- (vii) Organize information dissemination and capacity strengthening activities such as
 - (a) preparing action plans for greenhouse gas mitigation and capacity building specific to the selected watersheds;
 - (b) developing operational guidelines for integrating mitigation into the green growth plan;
 - (c) developing training materials and organizing seminars on market mechanisms (such as the CDM and reducing emissions from deforestation and forest degradation) for various stakeholders including LGUs and the private sector; and
 - (d) disseminating the TA findings in various local, national, regional, and international forums on climate change, and by using public meetings and focus group discussions with community leaders and the media.

C. Natural Resource Management Economists (30 person-months, national; 4 person-months, international; intermittent)

6. The economists will have a master's or higher degree in environmental economics, natural resource management, climate change, or a related area, with substantial experience (5 years for the national economist and 6 years for the international economist) in natural resource valuation. Experience in economic modeling is required. Also required is the ability to work with governments (at both national and local levels), development partners, the private sector, and other stakeholders and to report effectively in strategic consultations and in written reports. Specific duties include the following:

- (i) Provide inputs to the inception and quarterly progress reports.

- (ii) Serve as land use planning experts for the team and provide technical inputs.
- (iii) Undertake modeling and related cost–benefit analyses of potential measures.
- (iv) Assist in consultations with LGUs to assess priorities for mitigation and adaptation investments.
- (v) Provide technical inputs for the green growth plan.
- (vi) Assist in information dissemination and capacity strengthening activities.

D. Capacity Building and Gender Mainstreaming Specialists (60 person-months, national, two specialists)

7. The specialists will have a master’s or higher degree in environmental policy, social development, or a related area, with at least 5 years of experience in the capacity building aspects of climate change. One of the specialists will be well versed in gender mainstreaming aspects. The specialists will have good facilitation and networking skills to work effectively with various stakeholders. The specialists will have excellent organizational and presentation skills and strong interpersonal skills with the ability to promote participation and teamwork. The specialists will be proficient in English with the ability to prepare reports independently. Specifically, the specialists will perform the following tasks:

- (i) Provide inputs to the inception and quarterly progress reports.
- (ii) Review relevant documents and conduct consultations with decision makers and technical staff in relevant agencies and LGUs to assess human and institutional capacities for integrating climate concerns into local development plans.
- (iii) Assess and prioritize capacity needs, and prepare a capacity building action plan.
- (iv) Conduct gender analysis and prepare an action plan to effectively integrate gender concerns into the formulation and implementation of climate resilience and green growth measures; indicators include reference to gender or gender equality in project documents, gender needs and vulnerability assessments, extent of engagement with women’s organizations or groups, the number of targeted women beneficiaries and women in project staff management, and the use of gender-disaggregated data.
- (v) Assist in identifying and implementing gender-responsive and gender-equitable adaptation and mitigation measures, and facilitate the consultative process for the use of available mechanisms and funds related to climate change for the use of women’s empowerment and addressing women’s vulnerability to climate change impacts.
- (vi) Lead other experts in information dissemination and capacity strengthening activities, such as
 - (a) implementing a capacity building action plan for climate change adaptation and mitigation specific to the selected watersheds;
 - (b) preparing training materials for integrating mitigation and adaptation concerns in local development plans, and guidebooks and manuals on green growth and resilience specific to the selected watersheds;
 - (c) organizing seminars and workshops on market mechanisms such as the CDM and reducing emissions from deforestation and forest degradation, and climate resilience for various stakeholders including LGUs and the private sector; and
 - (d) disseminating the TA findings in various local, national, regional, and international forums on climate change and by using public meetings and focus group discussions with community leaders and the media.

E. Geographic Information Systems Specialist (20 person-months, national, intermittent)

8. The geographic information systems (GIS) specialist will have at least 5 years of experience in applications in natural resource management with a degree in information technology, engineering, or a related area. Knowledge of GIS hardware, software, and data systems, and skills in providing advanced advice, training, and consultation with respect to GIS and global positioning system technology are required to ensure that the latest developments in the field are incorporated in the work processes. Knowledge of database management systems—including data standards, data structure, data management, relational database theory, and spatial data to capture and produce needed resource information—is required. Familiarity with three-dimensional mapping and remote sensing technologies is desirable. The specialist will have a strong command of spoken and written English, and the ability to prepare reports independently. Specific duties include the following:

- (i) Provide inputs to the inception and quarterly progress reports.
- (ii) Perform as an information coordinator for the project, which involves acquiring, coordinating, and maintaining a comprehensive spatial information database for watersheds in collaboration with stakeholders.
- (iii) Serve as a technical specialist in the use of GIS to support climate change and resource management planning efforts.
- (iv) Liaise with national agencies and LGU representatives to obtain required data.
- (v) Develop agreed GIS methodologies to map climate change vulnerability and impacts and other relevant information.
- (vi) Work with natural resource management economists in preparing land use plans.
- (vii) Work with capacity building and gender mainstreaming specialists, and develop awareness raising and training programs to support institutional strengthening for climate change action.

F. Multimedia and Communication Specialist (30 person-months, national)

9. The specialist will have an advanced degree in information technology and knowledge management and at least 3 years of experience in developing and implementing information systems and websites. Knowledge of the latest desktop publishing, video production, and animation software is desirable. The expert will also have a strong sense of user interface and website usability for the intended users. Specific tasks include the following:

- (i) Maintain and update the project website, including content management, research, and design, and implement site improvements.
- (ii) Develop original reports, stories, findings, graphics, and images from project data sets that will be of interest to the media and targeted project audiences.
- (iii) Design and implement a multimedia-based awareness raising campaign on climate change impacts in the selected watersheds.
- (iv) Produce content for internet and mainstream media outlets (TV and print).
- (v) Prepare project-related brochures and flyers; edit and proofread project-related communications; and maintain a photo library, video logs, and other documents.
- (vi) Manage, analyze, and translate large data sets into strong scientifically grounded findings that are of significant interest to the media.
- (vii) Assist the TA team in preparing various materials for information dissemination and capacity strengthening activities.