

TERMS OF REFERENCE FOR CONSULTANTS

1. The TA will require a total 53 person-months of international consultants and 364-person-months of national consultants. The consultants will be required from January 2018 to December 2020. Consultant selection will be through a mix of consulting packages and individual consultant selection as indicated in Table 1. There will be a total of 4 consulting packages, recruited through quality and cost-based selection (QCBS).¹ Consulting packages will be open to consulting firms and/or civil society organizations.

2. A total of 11 individual consultant positions will be engaged, including 4 international consultants and 7 national consultant positions and requiring a total of 20 person-months of international consultants and 141 person-months of national consultants. All individual consultant contracts will be input-based contracts with liquidation of advances. Detailed terms of reference are provided below.

Table 1: Summary of consulting packages

Selection method	Title	Person-months	Fund source
QCBS [90:10]	Nature-based approaches for climate change and disaster-risk management	14 person-months international, 42 person-months national	Climate Change Fund
QCBS [90:10]	Smart infrastructure planning and designs to protect natural habitats and biodiversity	13 person-months international, 18 person-months national	TASF-6
QCBS [90:10]	Policy, law and capacity development to address illegal wildlife trade	3 person-months international, 74 person-months national	GEF Trust Fund
QCBS [90:10]	Public awareness and demand reduction to address illegal wildlife trade	3 person-months international, 89 person-months national	GEF Trust Fund
Individual consultants (international)	Sustainable forest management specialist	5 person-months international,	CCF
	Green finance specialist	4 person-months international	CCF
	Agriculture and sustainable land management specialist	6 person-months international	CCF
	Knowledge and communications expert	5 person-months national	TASF-6
Individual consultants (national)	Project management officer: illegal wildlife trade	34 person-months national	GEF Trust Fund
	Evaluation expert	6 person-months national	GEF Trust Fund
	Unallocated positions	20 person-months	GEF Trust Fund

¹ QCBS selection will use a 90:10 weighting of technical and financial scores for ranking proposals.

Selection method	Title	Person-months	Fund source
	Project coordination expert	30 person-months national	TASF-6
	Administrative assistant	30 person-months national	TASF-6
	Graphic designer	6 person-months national	CCF
	Biodiversity experts	6 person-months national	TASF-6
	Copy editor	3 person-months national	TASF-6
	Unallocated positions	6 person-months	TASF-6

QCBS = quality- and cost-based selection, TASF-6 = Technical Assistance Special Fund-6. GEF Trust Fund – Global Environment Facility Trust Fund, administered by ADB.

Source: ADB

A. Nature-based approaches for climate change and disaster-risk management (QCBS [90:10] 14 person-months international, 42 person-months national, CCF)

1. Background

3. Ecosystem services are the benefits people obtain from ecosystems. They include provisioning services (eg. raw materials), supporting services (eg nutrient recycling), regulating services (eg. climate regulation, flood control) and cultural services (eg. recreational, spiritual and research values).² Ongoing degradation of natural capital means that the flow of services from nature to people is diminished. This can lead to resource shortages and reduced natural protection from floods, erosion and landslides. In addition, loss of natural systems may lead to increased greenhouse gas emissions from loss of carbon stored within soils, wetlands, forests and other natural ecosystems.

4. Nature-based approaches – also known as ecosystem-based approaches - can help address climate change mitigation and adaptation and reduce disaster risks. For example, sustainable forest management and land restoration activities can be used to reduce greenhouse gas emissions and conserve or expand carbon sinks. For climate change adaptation, conserving or restoring ecosystem services such as wetlands or riparian areas can help reduce the negative impacts from more intense rainfall, more frequent floods, heat waves and droughts. The approaches seek to increase the resilience of ecosystems and thereby to stabilize the provisioning of important services. An important requirement for this is the stabilization and strengthening of the functional relationships within the ecosystem and between species to increase their resilience. This can be achieved through various measures, e.g., with sustainable use alongside the protection and regeneration of ecosystems.³

5. Recently nature-based approaches have gained increasing attention within literature as well as in practice. Applications are also growing, including use for coastal protection, water resource management, and urban resilience. However, experiences in designing and implementing nature-based approaches in Asia and the Pacific are still limited. It can also be difficult to gather hard evidence to assess the benefits of these solutions, including the physical benefits for regenerating ecosystems and reducing climate impacts, as well as the economic costs

² Millennium Ecosystem Assessment. 2005. *Ecosystems and Human Well-being*. Island Press, Washington, DC.

³ Naumann, S. et al. 2014. *Nature-based approaches to climate change mitigation and adaptation*. German Federal Agency for Nature Conservation. Bonn.

and benefits. The TA is designed to address this, by providing support to ADB developing member countries (DMCs) to identify, prepare, and design nature-based approaches in different contexts.

2. Objectives

6. The objective of this TA consulting package is to assist DMCs to identify, prepare, and design nature-based approaches to address issues including climate change adaptation and mitigation, disaster-risk management, and water management, among others. The work will focus on assisting DMCs to undertake baseline analytical studies to understand the current context and future scenarios, assess feasible and cost effective options, and to prepare feasibility studies and designs for specific investments. The TA consulting package will assist in preparing two projects in two DMCs. The criteria for selecting projects will include: (i) consistency with the relevant DMC Country Partnership Strategy and Country Operations Business Plan; (ii) opportunities to deliver: greenhouse gas emissions reductions; climate resilience and disaster-risk reduction; improved livelihoods; food and water security; and other benefits such as biodiversity conservation, improved human health, and improved recreational and cultural value in the focal ecosystems; and (iii) opportunities to test innovative approaches. It is expected that one project will focus on an urban area and one will focus on a broader landscape or river basin. The selection process will be finalized during the TA inception phase.

3. Scope of Work

7. The services of the component will cover the following:
- (i) Review the development and environmental context for the proposed ecosystem;
 - (ii) Assess climate change risks in the ecosystem area;
 - (iii) Assess current ecological status of the ecosystem area and trends;
 - (iv) Analyze the role that the ecosystem protection or enhancement could play in addressing environmental risks and co-benefits;
 - (v) Undertake stakeholder consultations.
 - (vi) Identify feasible, nature-based investment options;
 - (vii) Assess economic costs and benefits of proposed approaches;
 - (viii) Prepare feasibility stage designs for selected, priority investments in consultation with DMCs;
 - (ix) Design a monitoring programs to support implementation
 - (x) Prepare and deliver a training program for each DMC on nature-based project design approaches for participating government officials and other relevant stakeholders.
 - (xi) Prepare a technical report and knowledge product on the process and outcomes.

4. Team Requirement and Specific Tasks

8. The consulting team will be comprised as **Table 2**.

Table 2: Team Requirement

Position Title	Type / No. of Consultant		No. of Person-Months	
	International	National	International	National
1. Natural resource management specialist (TL/DTL)	1	2	5	10
2. Climate change adaptation specialist	1		3	
3. Ecologist		2		4
4. Water resources management specialist		2	2	6
5. Environmental economist	1	2	2	4
6. GIS specialist	1	2	2	4
7. Stakeholder consultation & training expert		2		4
8. Administrative assistant		2		10
Total	4	14	14	42

DTL = Deputy Team Leader, TL = Team Leader

9. **Team Leader/ Natural Resource Management Specialist (1 international, 5 person-months)** shall have a degree in natural resource management, water resources, or related field, preferably at postgraduate level. He/she shall have minimum of 10 years of experience in the design of nature-based approaches for climate change mitigations and/or adaptation, and at least 5 years of managerial experience in projects of a similar nature and magnitude (preferably with financing by international financing institutions). The consultant, together with his/her national specialist counterpart, will:

- (i) Review the development and environmental context for the ecosystem area.
- (ii) Develop the study methodology.
- (iii) Coordinate and lead dialogue with project counterparts, including national implementing agencies.
- (iv) Coordinate inputs from other team members.
- (v) Assess status of land use and natural resource management issues in the ecosystem areas, including drivers of change and future scenarios.
- (vi) Assess options for use of nature-based approaches to issues including climate change adaptation and mitigation, disaster-risk management, and water management, including options such as ecosystem protection and restoration, and bioengineering.
- (vii) Review inputs from other consultants and develop a process to assess technically feasible and cost effective options for nature-based approaches, and their integration/linkage with other project interventions.
- (viii) Prepare a monitoring program for the project implementation.
- (ix) Prepare training program, and deliver it with support of other consultants.
- (x) Lead the preparation of technical reports and knowledge product.

10. **Deputy Team Leader/Natural Resource Management Specialist (2 national, 5 person-months each)** shall have a degree in in natural resource management, or related field, preferably at postgraduate level. He/she shall have a minimum of 10 years of experience in natural resource management, including some relevant experience related to the use of nature-based approaches for issues including climate change adaptation and mitigation, disaster-risk management, and water management, in projects financed by international financing institutions or development agencies. The consultant, together with his/her international specialist counterpart, will be tasked to the items (i)–(x) in para. 9.

11. **Climate change adaptation specialist (1 international, 4 person-months)** shall have a degree in climate change policy or science, hydrology, or a related discipline, preferably at postgraduate level. He/she shall have minimum of 10 years of experience in climate risk and vulnerability assessment and the assessment of climate change adaptation options and design. The consultant, will:

- (i) Review the development and environmental context for the ecosystem area;
- (ii) Assess climate change and disaster risks in the ecosystem area.
- (iii) Work with other team members to assess technically feasible and cost effective options to apply nature-based approaches to address issues including climate change adaptation and mitigation, disaster-risk management, and water management.
- (iv) Work with other team members to quantify the level of risk reduction that would be delivered by the selected options.
- (v) Support other team members to identify, prepare, and design specific interventions.
- (vi) Provide inputs into the development of a monitoring program.
- (vii) Provide inputs into technical reports and knowledge product.

12. **Ecologist (2 national, 2 person-months each)** shall have a degree in ecology, biology, environmental engineering, or a related discipline, preferably at postgraduate level. He/she shall have minimum of 10 years of experience in ecological baseline assessment and the assessment of ecosystem services, particularly in the context of infrastructure projects. The consultant, will:

- (i) Review the development and environmental context for the ecosystem area.
- (ii) Gather baseline biodiversity and ecological information about the ecosystem area, including status, threats, and drivers of change.
- (iii) Assess ecosystem services in the ecosystem area, particularly services related to climate mitigation and adaptation, water resources, food security, livelihoods, health, and recreational/cultural value.
- (iv) Work with other team members to assess technically feasible and cost effective options to apply nature-based approaches to address issues including climate change adaptation and mitigation, disaster-risk management, and water management, including options that can provide co-benefits from other ecosystem services.
- (v) Support other team members to identify, prepare, and design specific interventions.
- (vi) Provide inputs into the development of a monitoring program.
- (vii) Provide inputs into technical reports and knowledge product.

13. **Water resources management specialist (1 international at 2 person-months; 2 national at 3 person-months each)** shall have a degree in water resources engineering, hydrology, river basin management, or a related discipline, preferably at postgraduate level. He/she shall have minimum of 10 years of experience in water resources assessment, water quality and pollution control, hydrology, and hydraulics, preferably with experience in the assessment of climate change adaptation options and / or the use of nature-based approaches. The consultant, will:

- (i) Review the development and environmental context for the ecosystem area.
- (ii) Assess water resources management issues in the ecosystem area.

- (iii) Assess hydrological conditions, water quality, and water hydraulics in the ecosystem area with a focus on pollution control, flood management, and climate change.
- (iv) Work with other team members to assess technically feasible and cost effective options to apply nature-based approaches to address issues including climate change adaptation and mitigation, disaster-risk management, and water management.
- (v) Work with other team members to quantify the level of risk reduction that would be delivered by the selected options.
- (vi) Support other team members to identify, prepare, and design specific interventions.
- (vii) Provide inputs into the development of a monitoring program.
- (viii) Provide inputs into technical reports and knowledge product.

14. **Environmental economist (1 international, 2 person-months)** shall have a degree in environmental economics or a related discipline, preferably at postgraduate level. He/she shall have minimum of 10 years of experience in environmental economics related to natural resources management issues, preferably with experience related to the assessment of ecosystem services and climate change impacts. The consultant, will:

- (i) Review the development and environmental context for the ecosystem area.
- (ii) Gather baseline information required to assess the economic costs and benefits of project options.
- (iii) Undertake an assessment of ecosystem service values related to project options and interventions.
- (iv) Work with other team members to assess technically feasible and cost effective options to apply nature-based approaches to address issues including climate change adaptation and mitigation, disaster-risk management, and water management.
- (v) Assess economic internal rates of return from selected project options.
- (vi) Support other team members to prepare cost estimates for proposed project concepts.
- (vii) Provide inputs into the development of a monitoring program.
- (viii) Provide inputs into technical reports and knowledge product.

15. **Environmental economist (2 national, 2 person-months each)** shall have a degree in environmental economics or a related discipline, preferably at postgraduate level. He/she shall have minimum of 10 years of experience in environmental economics related to natural resources management issues, preferably with experience related to the assessment ecosystem services and climate change impacts. The consultant, together with his/her international specialist counterpart, will be tasked to the items (i)–(viii) in para. 14.

16. **Geographical Information Systems (GIS) Specialist (1 international, 2 person-months)** shall have a degree in geography or a related discipline, preferably at postgraduate level. He/she shall have minimum of 10 years of experience in the use of GIS and remote sensing to assess changes in natural resources, ecosystems and other environmental variables. Experience in assessing the spatial dynamics of climate change issues is preferred. The consultant, will:

- (i) Review the development and environmental context for the ecosystem area.

- (ii) Gather baseline data to support the preparation of GIS maps and analytical products in support of the TA objectives.
- (iii) Work with other team members to assess technically feasible and cost effective options to apply nature-based approaches to address issues including climate change adaptation and mitigation, disaster-risk management, and water management.
- (iv) Provide inputs into the development of a monitoring program.
- (v) Provide inputs into technical reports and knowledge product.

17. **Geographical Information Systems (GIS) Specialist (2 national, 2 person-months each)** shall have a degree in geography or a related discipline, preferably at postgraduate level. He/she shall have minimum of 10 years of experience in the use of GIS and remote sensing to assess changes in natural resources, ecosystems and other environmental variables. Experience in assessing the spatial dynamics of climate change issues is preferred. The consultant, together with his/her international specialist counterpart, will be tasked to the items (i)–(v) in para. 16.

18. **Stakeholder Consultation and Training Expert (2 national, 2 person-months each)** shall have a degree in social sciences, communications, or a related discipline, preferably at postgraduate level. He/she shall have minimum of 10 years of experience in facilitating stakeholder consultations and training, with specific experience related to natural resources, ecosystems, water management, and/or climate change issues. The consultant, will:

- (i) Review the development and environmental context for the ecosystem area.
- (ii) Develop a stakeholder consultation and communications plan.
- (iii) Gather relevant baseline demographic information in the project areas, including gender disaggregated information.
- (iv) Coordinate the organization and facilitation of stakeholder consultation workshops with affected people, communities, and other relevant stakeholders. Consultations will be to gather information to inform the project as well as to facilitate participation in the evaluation and selection of technically and feasible options for the use of nature-based approaches. Attention to the use of ecosystems and natural resources by communities is needed, as well as options for their active engagement in implementation.
- (v) Work with other team members to assess technically feasible and cost effective options to apply nature-based approaches to address issues including climate change adaptation and mitigation, disaster-risk management, and water management. Options should be sensitive to gender issues and community needs and concerns.
- (vi) Coordinate, organize, and facilitate training workshops.
- (vii) Provide inputs into the development of a monitoring program.
- (viii) Provide inputs into technical reports and knowledge product.

19. **Administrative Assistant (2 national, 5 person-months each)** shall have at least a Bachelor degree in accounting, finance or related discipline, and be capable of oral and written communication in English, with at least 7 years of experience. Working experiences in international companies or projects financed by international financing institutions or development agencies are preferred. The assistant will work in the counterpart implementing agency's (IA's) office and liaise between the consulting team and ADB on all administrative issues.

5. Cost Estimates and Financing

20. The estimated cost of the contract is \$655,000, which will be fully financed under a grant from the Climate Change Fund, administered by ADB. The assignment will require a total of 14 person-months international consultant and 42 person-months national consultants.

Table 3: Cost Estimates (\$'000)

Item	Cost
1. Consultants	
(i) Remuneration and Per Diem	
(a) International Consultants	248.00
(b) National Consultants	223.80
(ii) International Travel	78.00
(iii) National Travel	18.00
(iv) Reports and Communications	3.00
2. Surveys	10.00
3. Miscellaneous administration and support costs	5.00
4. Training, seminars and conferences	20.00
5. Contingencies	49.20
Total	655.00

Source: ADB

6. Implementation Arrangements

21. **Recruitment.** The consultant will be recruited by ADB following ADB's Procurement Policy (2017, as amended from time to time) and the associated PAIs/TA Staff Instructions using QCBS, with a 90:10 quality to cost ratio.

22. **Implementation schedule.** The consulting service will be implemented over (24) months from April 2018 to March 2020.

23. **Reporting.** The consultant is expected to prepare the reports as listed in Table 4. Six copies of each report will be submitted in print and electronic version to the national implementing agencies (IAs) in each participating DMC in English and the national language (if other than English). Electronic versions may be provided to ADB.

Table 4: List of Reports for Submission

Report	Timing
Inception Report	Within 1 month
Technical Report on Issues and Options	Within 9 months
Preliminary Design and Feasibility Report	Within 18 months
Final Report	Before completion
Summary Knowledge Product	Before completion

B. Smart infrastructure planning and designs to protect natural habitats and biodiversity (QCBS [90:10] 13 person-months international, 18 person-months national, TASF-6)

1. Background

24. The pace of global infrastructure investment is accelerating dramatically. For transport infrastructure alone, 25 million paved road-lane kilometers and 335,000 rail track kilometers.

kilometers of roads are expected to be added by 2050.⁴ Ninety-percent will be Africa, Asia and Latin America. In developing Asia, it has been estimated that infrastructure investment of \$1.7 trillion per year will be required in the region between 2016 and 2030 to maintain growth, eradicate poverty and respond to climate change.⁵ About 30% of this investment is for the transport sector.

25. One of the key challenges in delivering the required infrastructure will be to ensure that environmental and social risks are adequately addressed. Traditionally this has been done through environmental and social impact assessment at the project level. In some cases, this may be informed by more upstream assessment processes – such as strategic environmental assessment. However, one aspect of sustainability that still needs much more careful attention and innovation, is the management of infrastructure impacts on natural capital, given its importance to human well-being through the provision of ecosystems services such as natural climate resilience.

26. While this is already considered to a certain extent within environmental impact assessment (EIA) processes, the focus tends to be on impact mitigation and offsets, rather than an avoidance of impacts. This is because EIA tends to occur too late in the process to effectively examine options that could more comprehensively avoid impacts on biodiversity. As a result, natural ecosystems and biodiversity in the is continuing to decline at alarming rate.⁶

27. New road development is particularly challenging, and along-side agricultural expansion, roads are one of the leading cause of biodiversity loss. Globally it has been shown that roads have already fragmented natural ecosystems into about 600,000 pieces.⁷ Consequently, only 7% of the fragments are now more than 100 square km in size. This means that habitat patch sizes are reduced, while species movement is restricted and genetic variation declines. Ultimately, this means that the viability of wildlife populations is reduced in the long-term. Furthermore, research has demonstrated that most deforestation occurs near roads. For example, in the Brazilian Amazon, 95% of all deforestation occurs within about 5.5 km of a road.⁸ In addition, road traffic often leads to wildlife collisions and increased noise, which further increases mortality and alters animal behavior.⁹

28. Shifting the trajectory of infrastructure development towards ecological sustainability is therefore critical for wildlife and natural habitats. And it is also in-line with commitments that most countries in the Asia-Pacific region have made under multi-lateral agreements including: the Sustainable Development Goals (SDGs), the Paris Agreement on Climate Change, and the Convention on Biological Diversity.

29. Achieving it, will however require new models, practices and norms. Options include: (i) early planning at appropriate scales to determine the optimal location and alignment of future infrastructure; and (ii) more detailed assessment and thoughtful design and construction practices to de-risk potential projects. This should focus on the full implementation of the so called ‘mitigation hierarchy’ which prioritizes the avoidance of impacts over mitigation; as well as the

⁴ International Energy Agency. 2013. *Global Land Transport Infrastructure Requirements*. Paris, France.

⁵ ADB. 2017. *Meeting Asia's Infrastructure Needs*. Asian Development Bank, Mandaluyong City, Philippines.

⁶ WWF. 2016. *Living Planet Report 2016: Risk and resilience in a new era*. WWF International. Gland, Switzerland.

⁷ P. Ibisch *et al.* 2016 *A global map of roadless areas and their conservation status*. *Science*. 16 Dec 2016: Vol. 354, Issue 6318, pp. 1423-1427.

⁸ C.P. Barber *et al.* 2014. *Roads, deforestation, and the mitigating effect of protected areas in the Amazon*. *Biological Conservation*. Volume 177, September 2014, Pages 203-209.

⁹ Fahrig, L. & Rytwinski, T. 2009. *Effects of roads on animal abundance: an empirical review and synthesis*. *Ecology and Society*, 14, 21.

integration of nature-based approaches to climate change and disaster risks, which can reduce hazards such as landslides, flooding and erosion.

30. The capacity of ADB developing member countries (DMCs) to design and implement such measures is however still limited. This was discussed at a recent International Forum on Sustainable Infrastructure, organized by ADB and WWF and held in Hanoi, Viet Nam in May 2017.¹⁰ The forum focused on current challenges and good practices and proposed the development of guiding principles for the planning, designing and financing of climate-resilient and ecologically sound transport infrastructure. Moving forward, it was proposed that countries could be assisted through training and guidance development, as well as technical support to implement demonstration projects. This could build off and link to ongoing efforts such as the development of a new guideline for Green Roads prepared by the Wildlife Institute of India; and ongoing work in Nepal to prepare a similar guidance with support from WWF.

2. Objectives

31. The objective of this TA consulting package is to assist DMCs to develop capacity to better integrate natural capital considerations into the planning, design and construction of new road projects and other forms of linear infrastructure, such as railways and transmission lines. The consulting services will focus on 3 main areas: (i) reviewing existing good practices and guidance materials and developing additional guidance and knowledge products; (ii) conducting training; and (iii) undertaking pilot demonstration by providing direct assistance to DMCs to undertake upstream assessments, as well as the design of projects. The TA consulting package will assist in preparing 2 projects in 2 DMCs. The criteria for selecting projects will include: (i) consistency with the relevant ADB Country Partnership Strategy and Country Operations Business Plan for the DMCs; (ii) level of risks for biodiversity and ecosystem services associated with the proposed projects; (iii) opportunities to test innovative approaches such as the use of remote sensing and ecosystem service assessment; and (iv) opportunities for co-benefits, such as greenhouse gas emissions reductions. The selection process will be finalized during the TA inception phase.

3. Scope of Work

32. The services of this TA consulting package will cover the following:
- (i) Review of existing literature and guidance materials, documenting good practices and additional knowledge needs.
 - (ii) Preparing training materials and delivering training for at least 100 trainees from at least 2 DMCs, including government officials, academic institutes, civil society organizations, consultants and contractors. Training will include training of trainers to promote additional replication. Where possible, training will be undertaken in partnership with national partners.
 - (iii) Undertaking analytical studies and provide support to project or plan preparation, including baseline assessment, impact analysis and the design of measures to avoid, as a priority, and then minimize, mitigate and if necessary, offset impacts. This would include the integration of innovative aspects, such as the use of remote sensing and GIS, consideration of ecosystem services, consideration of climate change, use of bioengineering and design features such as wildlife crossings (where appropriate).
 - (iv) Design a monitoring programs to support implementation of projects.

¹⁰ <http://www.gms-eoc.org/events/forum-on-sustainable-infrastructure->

- (v) Prepare a project technical report and knowledge product on the process and outcomes.

4. Team Requirement and Specific Tasks

33. The consulting team will be comprised as **Table 5**.

Table 5: Team Requirement

Position Title	Type / No. of Consultant		No. of Person-Months	
	International	National	International	National
1. Road ecology specialist (TL)	1		5	
2. Ecosystem service specialist	1		2	
3. GIS specialist	1	2	2	4
4. Environmental economist	1		2	
5. Bioengineering specialist	1		2	
6. Ecologists		2		6
7. Coordination and administrative assistant		2		8
Total	5	6	13	18

TL = Team Leader

34. **Team Leader/ Road Ecology Specialist (1 international, 5 person-months)** shall have a degree in ecology, natural resource management, or related field, preferably at postgraduate level. He/she shall have minimum of 10 years of experience in the assessment of ecological issues with road projects, and at least 5 years of managerial experience in projects of a similar nature and magnitude (preferably with financing by international financing institutions). The consultant, will:

- (i) Review of existing literature and guidance materials, documenting good practices and additional knowledge needs.
- (ii) Develop methodologies for the assessments of plans and/or projects for the selected roads and/or other linear infrastructure. At least 2 projects will be selected in at least 2 DMCs.
- (iii) Guide the rest of the team in undertaking analytical studies and provide support to project or plan preparation. Tasks would include, but not be limited to the following: review the development context for the proposed plan and/or projects; provide support to design and undertaking baseline ecological studies, including identifying protected areas and threatened species, populations and ecological communities and their habitats; identifying the direct and indirect impacts of the propose plan or project activity, including impacts on critical and natural habitats; assessment of the nature, extent, frequency and duration of impacts; analysis of the significance of potential impacts; proposing measures to avoid, as a first priority and then minimize, mitigate and if necessary, offset impacts.
- (iv) Ensure that the project studies integrate innovative aspects, such as the use of remote sensing and GIS, consideration of ecosystem services, consideration of climate change, use of bioengineering and design features such as wildlife crossings (where appropriate).
- (v) Coordinate and lead dialogue with project counterparts, including national implementing agencies.
- (vi) Coordinate inputs from other team members and ensure that proposed options are technically feasible and cost effective options.
- (vii) Finalize a monitoring program for the implementation of specific projects.

- (viii) Prepare a training program, and deliver it with support of other consultants.
- (ix) Lead in the preparation of technical reports and knowledge products documenting the studies undertaken, including the methods, results and lessons learned.

35. **Ecosystem Service Specialist (1 international, 2 person-months each)** shall have a degree in natural resource management, or related field, preferably at postgraduate level. He/she shall have minimum of 10 years of experience related to the assessment of ecosystem services, including some relevant experience related to the use of nature-based approaches for climate change mitigation and/or adaptation. Experience with projects financed by international financing institutions or development agencies is preferred. The consultant will assist the team lead with the tasks listed in para 34, with a specific focus on assessing ecosystem services. This will include: (i) defining the scope of the assessment including the main development issues to be addressed and their relationship with ecosystem services; (ii) screening and prioritizing ecosystem services; (iii) identifying and assessing ecosystem service conditions, trends and trade-offs; (iv) undertaking consultations with stakeholders; (v) appraising options and developing recommendations and project design inputs.

36. **Bioengineering Specialist (1 international, 2 person-months)** shall have a degree in environmental engineering, natural resource management, ecology or a related field, preferably at postgraduate level. He/she shall have minimum of 10 years of experience in the design of bioengineering approaches, including methods for slope stabilization and erosion control, and water management. Experience with projects financed by international financing institutions or development agencies is preferred. The consultant will assist the team lead with the tasks listed in para 34, with a specific focus on the design of bioengineering options for the selected road projects. This will include: (i) inspect the selected projects, sites for any geotechnical issues that may have a bearing on the design, and provide advice to the team leader accordingly; (ii) preparation of a susceptibility–hazard–risk framework; (iii) identify low-cost solutions for increasing climate resilience and infrastructure sustainability; (iv) prepare feasibility stage design and cost estimates; and (v) preparation of monitoring framework.

37. **Geographical Information Systems (GIS) Specialist (1 international, 2 person-months)** shall have a degree in geography or a related discipline, preferably at postgraduate level. He/she shall have minimum of 10 years of experience in the use of GIS and remote sensing to assess changes in natural resources, ecosystems and other environmental variables. Experience in assessing the spatial dynamics of climate change issues is preferred. The consultant, will:

- (i) Review the development context for the selected projects;
- (ii) Gather baseline data to support the preparation of GIS maps and analytical products in support of the TA objectives;
- (iii) Work with other team members to assess the ecological conditions and trends in the project area, including ecosystem services.
- (iv) Provide inputs into the development of a monitoring program.
- (v) Provide inputs into technical reports and knowledge product.

38. **Geographical Information Systems (GIS) Specialist (2 national, 2 person-months each)** shall have a degree in geography or a related discipline, preferably at postgraduate level. He/she shall have minimum of 10 years of experience in the use of GIS and remote sensing to assess changes in natural resources, ecosystems and other environmental variables. Experience in assessing the spatial dynamics of biodiversity issues is preferred. The consultant, together with his/her international specialist counterpart, will be tasked to the items (i)–(v) in para. 36.

39. **Ecologist (2 national, 3 person-months each)** shall have a degree in ecology, biology or a related discipline, preferably at postgraduate level. He/she shall have minimum of 10 years of experience in ecological baseline assessment and the assessment of ecosystem services. The consultant, will:

- (i) Review the development context for the selected project;
- (ii) Gather baseline biodiversity and ecological information about the project areas, including the status, threats and drivers of change;
- (iii) Assess ecosystem services in the project areas, particularly services related to climate mitigation and adaptation, water resources, food security, and livelihoods,
- (iv) Work with other team members to assess technically feasible and cost effective options to address impacts to biodiversity and ecosystem services from the projects.
- (v) Support other team members to design specific interventions.
- (vi) Provide inputs into the development of a monitoring program.
- (vii) Provide inputs into technical reports and knowledge product.

40. **Environmental economist (1 international, 2 person-months)** shall have a degree in environmental economics or a related discipline, preferably at postgraduate level. He/she shall have minimum of 10 years of experience in environmental economics related to natural resources management issues, preferably with experience related to the assessment of ecosystem services and climate change impacts. The consultant, will:

- (i) Review the development context for the project;
- (ii) Gather baseline information required to assess the economic costs and benefits of project options;
- (iii) Undertaken an assessment of ecosystem service values related to project options and interventions.
- (iv) Assess economic costs and benefits from selected project options.
- (v) Support other team members to prepare cost estimates for project interventions.
- (vi) Provide inputs into the development of a monitoring program.
- (vii) Provide inputs into technical reports and knowledge product.

41. **Administrative Assistant (2 national, 4 person-months each)** shall have at least a Bachelor degree in accounting, finance or related discipline, and be capable of oral and written communication in English, with at least 7 years of experience. Working experiences in international companies or projects financed by international financing institutions or development agencies are preferred. The assistant will work in the counterpart implementing agency's (IA's) office and liaise between the consulting team and ADB on all administrative issues.

5. Cost Estimates and Financing

42. The estimated cost of the contract is \$464,184, which will be fully financed under a grant from the Climate Change Fund, administered by ADB. The assignment will require a total of 14 person-months international consultant and 42 person-months national consultants.

Table 6: Cost Estimates (\$'000)

Item	Cost
1. Consultants	
(i) Remuneration and Per Diem	
(a) International Consultants	227.92
(b) National Consultants	87.56
(ii) International Travel	62.40
(iii) National Travel	9.20
(iv) Reports and Communications	20.00
2. Surveys	10.00
3. Miscellaneous administration and support costs	5.00
4. Training, seminars and conferences	20.00
5. Contingencies	22.10
Total	464.18

Source: ADB

6. Implementation Arrangements

43. **Recruitment.** The consultant will be recruited by ADB following ADB's Procurement Policy (2017, as amended from time to time) and the associated PAIs/TA Staff Instructions using QCBS, with a 90:10 quality to cost ratio.

44. **Implementation schedule.** The consulting service will be implemented over (18) months from April 2018 to September 2019.

45. **Reporting.** The consultant is expected to prepare the reports as listed in Table 7. Six copies of each report will be submitted in print and electronic version to the national implementing agencies (IAs) in each participating DMC in English and the national language (if other than English). Electronic versions may be provided to ADB.

Table 7: List of Reports for Submission

Report	Timing
Inception Report	Within 1 month
Technical Report on Issues and Options	Within 4 months
Preliminary Design Report	Within 6 months
Final Report	Before completion
Summary Knowledge Product	Before completion

C. Policy, Law and Capacity Development to Address Illegal Wildlife Trade (QCBS, [90:10], 3 person-months international, 74 person-months national) – funded by and the GEF Trust Fund.

1. Background

46. The Asia-Pacific region has a very high dependence on natural capital to sustain economic growth. However severe declines in natural capital in recent decades threaten to constrain future economic growth and development. Agriculture expansion, rapid urbanization, and related consumption patterns, are among the drivers of increasing demand for natural resources. Climate change further exacerbates the situation. A linked issue is poaching and illegal wildlife trafficking (IWT), which is threatening the long-term survival of numerous keystone species such as elephants, rhinos, tigers and pangolins. Globally, illegal wildlife trade (IWT) is estimated at \$7.8-

10 billion per year and is driven by rising demand for illegal wildlife products, particularly in East and Southeast Asia. Along with increased demand and rural poverty - conflict over natural resources, weak enforcement, corruption, and political instability are major drivers. For DMCs in the region, IWT undermines other investments in natural capital and negatively impacts on local livelihoods, national revenues and jobs, particularly in the tourism sector. The grant from the Global Environmental Facility (GEF) will finance the following consulting services.

2. Objectives

47. The main objective is to process amendments to the Wildlife Act, and support implementation of the Wildlife Law Enforcement Action Plan (WildLEAP) lead by the Department of Environment and Natural Resources (DENR).

3. Scope of Work:

48. The scope of work will include:

- (i) Address policy gaps, specifically amendment of the Philippines Wildlife Act and the creation of subsidiary local ordinances in identified pilot hotspot areas,
- (ii) Strengthen legal frameworks through a joint department resolution recognizing wildlife crime a serious transnational crime, and a memorandum circular adopting WildLEAP
- (iii) Mainstream, with partner agencies, policy, legal, and regulatory instruments through a series of capacity-building activities to train employees of DENR and its regional and local offices in project sites on the ELEMIS and the CITES e-permitting system will be conducted
- (iv) Increase sharing of information and knowledge to facilitate multi-agency coordination, and support adoption of enforcement tools and methods, and
- (v) Build the capacity of selected government agency personnel for the Environmental Law Enforcement Management Information System (ELEMIS) and CITES e-permitting system.

4. Team requirements and specific tasks:

The table below presents summary information on the proposed team composition for this component of work:

Table 8: Team Requirement

Position Title	Type of Consultant		No. of Person-Months	
	International	National	International	National
Wildlife Law Enforcement Specialist (s)	1	1	3	28
Wildlife Trade Policy Analyst	0	1	0	12
Information Management Specialist	0	1	0	6
Curriculum Development Specialist	0	1	0	28
Total	1	4	3	74

49. **Team Leader / Wildlife Law Enforcement Specialist** (1 international; 3 person-months) will provide guidance on design of capacity development and training programs on wildlife crime based on international best practice in intelligence led law enforcement operations. The specialist shall have: (i) a graduate degree in environmental law, public policy management, international affairs or related field, from recognized university, and (ii) at least 10 years' practical experience

in the design and delivery of international capacity development and training programs or projects on addressing wildlife crime issues, preferably in South East Asia. The specialist shall be responsible for:

- (i) Surveys of relevant literature and relevant documentation produced by international wildlife crime agencies
- (ii) Contributions to project team discussions on policy and legislative actions in the Philippines, drawing on experience of other countries in Asia-Pacific and Africa
- (iii) Peer review of proposed capacity development and training design approaches and documents, supplemented by analytical insights to strengthen quality and effectiveness of curriculum
- (iv) Advice to DENR on the best possible options for delivery of capacity development and training modules, and
- (v) Assistance in development and dissemination of knowledge products.

50. **Wildlife Law Enforcement Specialist** (1 national, 28 person-months) should have: (i) a university degree or equivalent training in law enforcement operations, environmental law, public policy management / public safety, and (ii) at least 7 years' practical experience in the design and delivery of capacity development and training programs or projects on addressing wildlife crime issues. The Specialist will be the lead trainer for capacity development and training activities related to policy reform, coordination and law enforcement. Included among the main deliverables:

- (i) Analytical inputs to curriculum development process and development of knowledge products, particularly on case handling, intelligence gathering, wildlife forensics; as well as complementarity with capacity development initiatives of USAID Protect Wildlife project
- (ii) Coordination of all logistical requirements of the capacity-building activities and subsequent monitoring and evaluation activities in and around project sites
- (iii) All capacity development and training modules delivered to targeted project stakeholders, and
- (iv) Proceedings of capacity development and training documented with relevant inputs for knowledge management and demand reduction activities.

51. **Wildlife Trade Policy Analyst** (1 national, 12 person-months) will assist in providing data to support inputs into amendments for Wildlife Act, as well as the ELEMIS. The Specialist should have: (i) a university degree in environmental sciences, environmental law, public policy management, public safety, social / cultural anthropology, and (ii) at least 5 years' experience in the conduct of public policy research as it relates to wildlife crime issues; including the drafting of briefs, policy papers, technical reports and other relevant documentation. The Specialist shall undertake:

- (i) Review of international and local wildlife legislation and ancillary legislation using related literature, key informant interviews, and law enforcement data
- (ii) Comparative analysis of wildlife laws in the region and trade routes
- (iii) Drafting of recommendations for the amended Wildlife Act, harmonized version of proposed bills in the Senate and Congress, and local ordinances in support of the amended Wildlife Act
- (iv) Creating a work and communications plan with online and offline components to raise awareness on the process of amending the Wildlife Act, and content of the proposed Wildlife Act

- (v) Development of knowledge products targeting legislators, and
- (vi) Organization of knowledge exchange events targeting legislators.

52. **Environmental Law Enforcement Management Information Systems Specialist** (1 national; 6 person-months), will provide overall support for the implementation of the ELEMIS as it relates to wildlife crime. The specialist should have: (i) at least a bachelor degree or equivalent in information technology, including knowledge of programming languages, including, but not limited to SQL, Java, Javascript, C# and C++, HTML, PHP or Go, (ii) demonstrated understanding of the eCITES Implementation Framework, and (iii) prior experience in creating databases to capture, store, update and manage environment-related information from highly dispersed locations, with specific decision support functionalities. The Specialist shall deliver:

- (i) Advice on the development of the learning curricula and delivery mechanisms related to the ELEMIS and CITES e-permitting system
- (ii) A methodology/framework for measuring the effectiveness of the training, including methods for skills assessment and any recommendations for long term, institutional capacity development
- (iii) Training of DENR relevant personnel on ELEMIS and eCITES systems – develop an operations manual in this regard
- (iv) M&E activities at project sites and within DENR Central office
- (v) Improvements of ELEMIS and CITES e-permitting systems (the current Philippines pilot) based on the eCITES toolkit, and
- (vi) Technical inputs on how to scale up the eCITES permitting system to consider eControl (interoperability with other systems of the two other CITES Management Authorities in the country as well as Bureau of Customs) and eReporting functions.

53. **Curriculum Development Specialist** (1 national; 28 person-months) will take the lead in development of learning curricula and delivery of required capacity development and training modules for targeted stakeholders. The specialist should have: (i) a graduate degree in education, environmental law, economics or relevant field, and (ii) at least 7 years of experience in design, packaging and delivery of capacity development programs in the law enforcement field. The specialist shall deliver:

- (i) Comprehensive report on key gaps in IWT law enforcement chain in the Philippines based on background research, literature review and key informant interviews with stakeholders
- (ii) A pedagogical approach for measuring the effectiveness of the training, including methods for skills assessment and any recommendations for long term, institutional capacity development
- (iii) At least 3 IWT law enforcement capacity development and training modules at project sites, developed, tested and delivered
- (iv) M&E activities on-site and integrate data into relevant M&E information systems at DENR, and
- (v) Knowledge products from the modules (e.g., PowerPoint presentations, handbooks).

5. Cost Estimates and Financing

54. The estimated cost of the contract is \$460,828, which will be fully financed under a grant from the GEF Trust Fund, administered by ADB. The assignment will require a total of 3 person-months international consultant and 74 person-months national consultants.

Table 9: Cost Estimates (\$'000)

Item	Cost
1. Consultants	
(i) Remuneration and Per Diem	
(a) International Consultants	48.5
(b) National Consultants	177.23
(ii) International Travel	7.40
(iii) National Travel	8.75
(iv) Reports and Communications	25.00
2. Surveys	0.00
3. Miscellaneous administration and support costs	2.00
4. Training, seminars and conferences	170.00
5. Contingencies	21.95
Total	460.83

Source: ADB

6. Implementation Arrangements

55. **Recruitment.** The consultant will be recruited by ADB following ADB's Procurement Policy (2017, as amended from time to time) and the associated PAIs/TA Staff Instructions using QCBS, with a 90:10 quality to cost ratio.

56. **Implementation schedule.** The consulting service will be implemented over (33) months from April 2018 to December 2020.

57. **Reporting.** The consultant is expected to prepare the reports as listed in Table 10. Six copies of each report will be submitted in print and electronic version to the national implementing agencies (IAs) in each participating DMC in English and the national language (if other than English). Electronic versions may be provided to ADB.

Table 10: List of Reports for Submission

Report	Timing
Inception Report	Within 2 months
Annual progress reports	End of each calendar year
Mid-term review report	Within 18 months
Draft final report	6 months before completion
Final Report	Before completion

D. Public Awareness and Demand Reduction (QCBS, [90:10] 3 person-months international, 89 person-months national) – funded by the GEF Trust Fund.

1. Background

58. The Asia-Pacific region has a very high dependence on natural capital to sustain economic growth. However severe declines in natural capital in recent decades threaten to constrain future economic growth and development. Agriculture expansion, rapid urbanization, and related consumption patterns, are among the drivers of increasing demand for natural resources. Climate change further exacerbates the situation. A linked issue is poaching and illegal wildlife trafficking

(IWT), which is threatening the long-term survival of numerous keystone species such as elephants, rhinos, tigers and pangolins. Globally, illegal wildlife trade (IWT) is estimated at \$7.8-10 billion per year and is driven by rising demand for illegal wildlife products, particularly in East and Southeast Asia. Along with increased demand and rural poverty - conflict over natural resources, weak enforcement, corruption, and political instability are major drivers. For DMCs in the region, IWT undermines other investments in natural capital and negatively impacts on local livelihoods, national revenues and jobs, particularly in the tourism sector. The grant from the Global Environmental Facility (GEF) will finance the following consulting services.

2. Objectives

59. The objectives of this component of work are to: (i) increase public awareness of the impacts of biodiversity and ecosystems loss through the trade in illegal wildlife, and (ii) implement demand reduction measures for two identified species in the Philippines.

3. Scope of Work:

60. The scope of work will include

- (i) Completion of economic valuation studies covering two priority species (and related ecosystems if possible), and
- (ii) Production and delivery of audience-segmented communications materials engaging Key Opinion Leaders and other influencers. Special consideration should be given to the engagement of youth.

4. Team requirements and specific tasks:

61. Below is a summary table of team requirements for this component.

Table 11: Team Requirement

Position Title	Type of Consultant		No. of Person-Months	
	International	National	International	National
Social Marketing Specialist: Illegal Wildlife Trade	1	1	3	28
Wildlife Trafficking Researcher	0	1	0	24
Consumer Research Specialist(s)	0	1	0	28
Environmental Economist	0	1	0	9
Total	1	4	3	89

62. **Team Leader / Social Marketing Specialist: Illegal Wildlife Trade (1 international; 3 person-months)**, shall have: (i) a university degree in communications, business administration and marketing, public administration or related field, and (ii) at least 10 years-experience in the design and delivery of behavior change communications campaigns and advocacy related to illegal wildlife trade, in Southeast and East Asia. Main outputs will include:

- (i) Capacity-building and training modules assessed for relevance and linkages to other regional and international programs and projects
- (ii) Pre-campaign and post-campaign surveys designed and implemented

- (iii) Technical, advisory and analytical inputs to the conceptualization, design and delivery of social marketing /behaviour change campaigns provided, based on international best practice, and
- (iv) International and national partnerships (public and private sector) to support demand reduction efforts in the Philippines leveraged.
- (v) Coordination with related international efforts to address IWT including the GWP.

63. **Social Marketing Specialist: Illegal Wildlife Trade (1 national; 28 person-months)**, (i) a university degree in communications, business administration and marketing, public administration or related field, and (ii) at least 7 years' experience in the design and delivery of behavior change communications campaigns and advocacy related to illegal wildlife trade, in the Philippines. The specialist shall develop and implement a suite of behavior change actions which include:

- (i) Communications plan based on outputs from consumer research and economic valuation studies, review of related literature, and stakeholder consultations
- (ii) Suite of demand reduction knowledge products which target and engage Key Opinion Leaders
- (iii) Media partners leveraged to provide discounts or sponsored media mileage
- (iv) Audience-segmented demand reduction knowledge products using multi-media approaches, and leveraging public and private sector resources and participation to the extent possible, including youth involvement.
- (v) Other public awareness and demand reduction knowledge products rolled out
- (vi) Focused social media platform active and maintained in timely manner, and
- (vii) Monitoring and evaluation system operational and integrated with ELEMIS.

64. **Consumer Research Specialist (1 national; 28 person-months)**, shall have: (i) a university degree in business administration, commerce, communications or related field, (ii) at least 7 years' experience in design of survey instruments and models for consumer research studies in the Philippines, and (iii) empirical knowledge of issues and patterns related to demand for wildlife products and derivatives in Southeast and East Asia. The Specialist will deliver:

- (i) Pre and post-campaign survey instruments covering at least 2 species and related ecosystems, developed through multi-stakeholder consultations, research and analysis
- (ii) Pre- and post-campaign consumer research studies conducted, with focus on project sites, and
- (iii) Analytical reports produced and feeding into implementation of communications strategy of component team.

65. **Wildlife Trafficking Researcher (1 national; 24 person-months)**, should have: (i) a university degree in environmental sciences, ecology, biology or related field, and (ii) at least 7 years of experience in research and administration related to biodiversity and ecosystems management. The Researcher will assist the Wildlife Division of DENR by providing back up technical and administrative support for implementation of all components, specifically:

- (i) Periodic reviews of related literature and documentation such as news articles, police reports, DENR, Bureau of Customs, National Bureau of Investigation and other data sources
- (ii) Analytical reports summarizing how IWT is portrayed in the media in the Philippines and other South East Asian countries

- (iii) Data organized into appropriate presentation formats for use by Wildlife Division and other TA personnel /specialists, and
- (iv) Inputs to development, maintenance and institutionalization of M&E system in DENR.

66. **Environmental Economist (1 national; 9 person-months)**, should have: (i) graduate degree or equivalent in environmental sciences, development economics, business administration or related field, with (ii) at least 7 years' demonstrable experience in applying resource valuation techniques to ecosystems services. The specialist shall be responsible for:

- (i) Species selection process for demand reduction efforts
- (ii) Economic valuation studies using appropriate tools and methods, which will focus on at least two species at national level (transshipped) and domestic (at minimum within selected project sites). Studies will also apply principles of natural resource damage assessment as appropriate; and inform policy, law and regulatory reform processes
- (iii) Project stakeholders, particularly legislators, oriented on economic valuation assessments
- (iv) Behaviour change communications strategy (demand reduction) informed by studies, and
- (v) Knowledge products and other public awareness initiatives take up results of valuations studies.

5. Cost Estimates and Financing

67. The estimated cost of the contract is \$1,105,142, which will be fully financed under a grant from the GEF Trust Fund, administered by ADB. The assignment will require a total of 3 person-months international consultant and 89 person-months national consultants.

Table 12: Cost Estimates (\$'000)

Item	Cost
1. Consultants	
(i) Remuneration and Per Diem	
(a) International Consultants	50.26
(b) National Consultants	250.86
(ii) International Travel	4.90
(iii) National Travel	8.75
(iv) Reports and Communications	422.75
2. Surveys	160.00
3. Miscellaneous administration and support costs	5.00
4. Training, seminars and conferences	150.00
5. Contingencies	52.62
Total	1105.14

Source: ADB

6. Implementation Arrangements

68. **Recruitment.** The consultant will be recruited by ADB following ADB's Procurement Policy (2017, as amended from time to time) and the associated PAIs/TA Staff Instructions using QCBS, with a 90:10 quality to cost ratio.

69. **Implementation schedule.** The consulting service will be implemented over (33) months from April 2018 to December 2020.

70. **Reporting.** The consultant is expected to prepare the reports as listed in Table 13. Six copies of each report will be submitted in print and electronic version to the national implementing agencies (IAs) in each participating DMC in English and the national language (if other than English). Electronic versions may be provided to ADB.

Table 13: List of Reports for Submission

Report	Timing
Inception Report	Within 2 months
Annual progress reports	End of each calendar year
Mid-term review report	Within 18 months
Draft final report	6 months before completion
Final Report	Before completion

E. Individual Consultants (ICS, 20 person-months international, 141 person-months national) – funded by CCF, TASF-6 and the GEF Trust Fund.

71. The TA will need to engage a range of individual consultants to fill role to covered by the 4 consulting services packages listed above. Individual consultants will be funded by CCF, TASF-6 and the GEF Trust Fund, and administered by ADB. Funding sources for the positions are indicated below. The TA will engage 4 international specialists and 7 national specialists. A budget will also be set aside for several unallocated positions. Details are provided below.

72. **Sustainable Forest Management Specialist (International, 5 person-months, intermittent, funded by CCF).** The consultant will have at least 10 years' experience in sustainable forest management and REDD+ related work with a relevant Master's degree or higher in forestry, or a related area. The consultant should have experience working with international development projects and extensive experience in assisting government institutions. The main tasks will be to support the identification of project opportunities for sustainable forest management, REDD+, and watershed management interventions linked to ADB country programs and projects. The consultant should have knowledge of climate change related issues and experience in calculating greenhouse gas emissions reductions and carbon sequestration benefits from forestry and land use changes. The consultant will work with at least 2 projects providing inputs into project feasibility assessment and design. An inception report will be prepared with 3 weeks of mobilization, as well as a mid-term review and final report.

73. **Agriculture and Sustainable Land Management Specialist (International, 6 person-months, intermittent, funded by CCF).** The consultant will have at least 10 years' experience in agriculture and sustainable land management, with a relevant Master's degree or higher in agriculture, or a related area. The consultant should have experience working with international development projects and extensive experience in assisting government institutions. The main tasks will be to support the identification of project opportunities for sustainable land management linked to ADB country programs and projects. The consultant should have knowledge of climate change related issues and experience in climate smart agriculture approaches. The consultant will work with at least 2 projects providing inputs into project feasibility assessment and design. Design considerations would include the integration of biodiversity and natural capital sustainability into agriculture. Certification of agribusiness commodities and supply chain should also be considered. An inception report will be prepared with 3 weeks of mobilization, followed by a mid-term review and final report.

74. Green Finance Specialist (International, 4 person-months, intermittent, funded by CCF). The consultant will have at least 10 years' experience in finance and investment banking, with specific experience in green finance. The consultant will have business or finance degree preferably at Master's degree or higher. Experience in Asia and experience with international organizations, particularly multi-lateral development banks are highly desirable. The consultant will work with ADB to identify specific opportunities for the use of green finance approaches for natural capital. Specifically, the consultant will undertake the following tasks: (i) prepare a review lessons and experience in applying green finance mechanisms for natural capital; (ii) review ADB business process and project pipelines and assess options for green finance products and services; (iii) provide professional advice to ADB projects teams on the design of green finance mechanisms and bankable project structures to enhance the financial viability of natural capital projects. Projects will be selected on a demand basis and ideally linked to other activities under the TA. The consultant will work with at least 2 projects providing inputs into project feasibility assessment and design. An inception report will be prepared with 3 weeks of mobilization, as well as a mid-term review and final report.

75. Knowledge and Communications Specialist (International, 5 person-months, intermittent, funded by TASF-6). The consultant should have Bachelor's degree in journalism, media or communications with minimum of 7 years of relevant professional experience. Background in writing and editing environmental content for publications.. Experience working with ADB or a similar international organization is desirable. Key tasks for the consultant will include: (i) prepare a knowledge and communications strategy for the TA; (ii) preparation of web-based content and publication materials based on the outputs of the TA; (iii) developing information dissemination, communication and education campaigns in line with the objectives of the TA; (iv) supporting project teams to organize training courses and events; (v) coordinating social media-campaigns based on the TA objectives and outputs; (vi) ensuring that the communications of the TA are gender inclusive and also consider aspects such as engagement with youth.

76. Project coordination expert (National, 30 person-months, full time, funded by TASF-6). The consultant will have at least 10 years of experience in project management and coordination, with a bachelor's degree in a related discipline. Demonstrated knowledge and experience of environment and climate change issues is essential. Experience with ADB is highly desirable. The consultant should be a national citizen of the Philippines and will be responsible for the following tasks:

- (i) Support the TA and team leader in organizing and coordinating the implementation of the TA;
- (ii) Support the coordination and scheduling of inputs by consultants working on various consulting service contracts;
- (iii) Develop and manage project implementation schedules and apply adaptive management to ensure smooth delivery of the TA outputs;
- (iv) Coordinate and organize national and regional workshops and trainings
- (v) Support the team leader in organizing and facilitating capacity-building activities;
- (vi) Support the preparation of project knowledge products and information dissemination, including background research and synthesis, and editing of information;
- (vii) Coordinate arrangements for the publication of key knowledge products,
- (viii) Carry out any other tasks as needed to ensure the smooth implementation of the TA.

77. Administrative assistant (National, 30 person-months, full-time, funded by TASF-6)

The consultant will have at least 7 years' experience in TA administration, with a Bachelor's degree or higher in communications, accounting, management or related discipline. Also required are abilities to work effectively with government representatives, development partners and other stakeholders. The consultant should be a national citizen of the Philippines and will be based at ADB headquarters in Manila and will assist the ADB TA team leader as well as TA consultants to implement the TA effectively and efficiently. Specific terms of reference include the following:

- (i) Support overall administration for the TA
- (ii) Maintain accurate administrative and financial records with ADB staff on consultant recruitment, financial disbursement and procurement issues.
- (iii) Preparation of invitations and logistics for events and trainings.
- (iv) Undertake any other function directly related to the administration of the TA

78. Copy editor (National, 3 person-months, intermittent, funded by TASF-6).

The consultant should have Bachelor's degree in journalism, media or communications with minimum of 7 years of relevant professional experience. Background in writing and editing environmental content for publications is highly preferred. Experience working with ADB or a similar international organization is desirable. The consultant will carry out editing of knowledge materials produced under the TA. The consultant should be a national citizen of the Philippines. The consultant is expected to perform duties of a copyeditor as detailed below:

- (i) Copyedit TA knowledge documents within stipulated deadlines.
- (ii) Ensure consistency in the text and improve its structure.
- (iii) Reorganize and revise tables, figures, boxes, and other material, as appropriate, to convey messages more effectively.
- (iv) Conduct preliminary edit of the language of the documents to ensure that they are accordance with ADB style and usage.
- (v) Check references for format and accuracy.
- (vi) Work closely with authors and relevant staff at ADB, and provide feedback as needed.
- (vii) Other tasks as requested.

79. Biodiversity experts (National 6 person-months, intermittent, funded by the TASF-6):

The consultant should have at least a Bachelor Degree in biology, environmental science or similar discipline with at least 7 years of working experience. The consultant will provide support to ADB projects to assess and monitor the effectiveness of wildlife underpasses constructed for ADB financed projects. The consultant will conduct periodic site visits to project areas and undertake monitoring using camera trapping, including checking and replacement of memory cards from the camera traps installed in the underpasses (during project implementation), checking for signs of wildlife presence/usage, and conducting consultations with nearby communities. Download data from the memory cards and analyze the findings to understand effectiveness of the underpasses. Prepare a report to document the findings and provide recommendations to improve effectiveness of the underpasses as necessary.

80. Graphic designer (National, 6 person-months, intermittent, funded by CCF).

The consultant will have a Bachelor's degree in multimedia design, animation or equivalent with minimum of 7 years of relevant professional experience. Background in producing multimedia content on environmental topics is highly preferred. Experience with ADB or a similar international organization is desirable. The consultant will integrate digital graphics into web-based text, and

publications for use in Development Asia and the ADB website. The consultant should be a national citizen of the Philippines. The key tasks will include:

- (i) Share good practices, current trends and effective approaches in digital and multimedia design.
- (ii) Identify graphics and multimedia support for the specific knowledge content types.
- (iii) Work with the Web Editor on content and design/produce appropriate digital assets including infographics, video, and animations.
- (iv) Work closely with the other members of the TA team to deliver the items mentioned above.
- (v) Other tasks as requested.

81. Project management officer: illegal wildlife trade (National, 34 person-months, funded by the GEF Trust Fund). The consultants shall have a graduate degree, or equivalent in biological sciences, environmental economics, environmental law, conservation communications or relevant field, with at least 7 years of experience working in biodiversity conservation and/or environmental law in the Philippines. Experience working with an international organization is preferred. Knowledge of the key issues, approaches, instruments and state of the art in addressing issues related to environmental transnational crime, including direct experience with Philippines participation in multilateral environmental agreements as Convention on Biological Diversity (CBD), Convention on International Trade in Endangered Species (CITES), and Convention on the Conservation of Migratory Species of Wild Animals. Solid understand of the institutional framework for combating transnational environmental organized crime, particularly the policies, programs and projects supported by bilateral donors, United Nations technical agencies, international foundations and NGOs - and in the Philippines - national and sub-national governments, local foundations, NGOs, indigenous peoples' organizations and the private sector. Prior and/or ongoing working relationship with Biodiversity Management Bureau (BMB) of the Department of Natural Resources and Environment (DENR) in the Philippines would be useful. Superior speaking and writing skills in English, and Tagalog are essential. Knowledge of Bisaya would be an asset. Proven ability to communicate key issues and concerns to policy-makers, legislators, practitioners, corporate leaders and other 'influencers' in the Philippines and the Asia-Pacific region is desirable.

82. The overall objective of the position is to provide technical direction and oversight for this component of the TA, in close collaboration with the Wildlife Division, Biodiversity Management Bureau, Department of Natural Resources and Environment. This will require field level operations, administration and financial processes to be established to standards required by ADB and GEF. The specific scope of work for the consultant will include:

- (i) Prepare annual and quarterly work plans and budgets
- (ii) Foster collaborative working relationships with other donor-funded projects, international agencies, non-government and civil society organizations and relevant government ministries and departments,
- (iii) Ensure that project level M&E system is developed and operational according to TORs defined in the project documentation, and that the system is effectively embedded into DENR – BMB operations, particularly with respect to ELEMIS
- (iv) Assist in monitoring financial disbursements and all administrative procedures in line with ADB and DENR requirements
- (v) Ensure that contracts development processes required for the smooth operation of the project are executed and maintained

- (vi) Review, monitor, supervise, guide and report on contractor performance as needed
- (vii) Lead and finalize preparation and timely submission of all financial and technical reports required by ADB and GEF.
- (viii) Organize and provide Secretariat support for all capacity-building activities
- (ix) Represent the team in various and relevant international and national fora as needed

83. Evaluation expert (2 National, 3 person-months each, funded by the GEF Trust Fund). Two national evaluation experts from the Philippines will be engaged to prepare a mid-term review report and terminal evaluation report for the GEF, based on ADB and GEF requirements for monitoring and evaluation. The consultants will have a degree in biological sciences, environmental economics, environmental law or similar discipline, preferably at post graduate level. At least 7 years' experience in undertaking evaluation studies is required, preferably with experience with ADB, the GEF or another international organization.

84. Unallocated positions (National, 20 person-months, funded by the GEF Trust Fund) Independent consultants are not included within the firm's contract. This provision will be used for additional or supplemental inputs as needed during implementation. Specific terms of reference will be prepared by ADB based on identified needs.

85. Unallocated positions (National, 6 person-months, funded by the TASF-6) Independent consultants. This provision will be used for additional or supplemental inputs as needed during implementation. Specific terms of reference will be prepared by ADB based on identified needs.