



Technical Assistance Report

Project Number: 48145-001
Capacity Development Technical Assistance (CDTA)
December 2014

Republic of the Union of Myanmar: Environmental Safeguard Institutional Strengthening

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Asian Development Bank

CURRENCY EQUIVALENTS

(as of 5 December 2014)

Currency unit	–	kyat/s (MK)
MK1.00	=	\$0.00097
\$1.00	=	MK1,033.55

ABBREVIATIONS

ADB	–	Asian Development Bank
CEA	–	country environmental analysis
CEP	–	Core Environment Program
CSS	–	country safeguard system
ECD	–	Environmental Conservation Department
EIA	–	environmental impact assessment
EOC	–	Environment Operations Center
EQG	–	environmental quality guidelines
MOECAF	–	Ministry of Environmental Conservation and Forestry
SEA	–	strategic environmental assessment
TA	–	technical assistance

NOTE

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

Vice-President	S. Groff, Operations 2
Director General	J. Nugent, Southeast Asia Department (SERD)
Director	J. H. Mir, Environment, Natural Resources and Agriculture Division, SERD
Team leader	P. Ramachandran, Senior Environment Specialist, SERD
Team members	P. Brimble, Principal Country Specialist, SERD D. Mizusawa, Senior Infrastructure Specialist, SERD S. Ranawana, Senior Natural Resources Specialist, SERD
Peer reviewer	G. Peralta, Senior Safeguards Specialist (Environment), SERD

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CAPACITY DEVELOPMENT TECHNICAL ASSISTANCE AT A GLANCE

1. Basic Data		Project Number: 48145-001	
Project Name	Environmental Safeguard Institutional Strengthening	Department /Division	SERD/SEER
Country Borrower	Republic of the Union of Myanmar NA	Executing Agency	Environmental Conservation Department
2. Sector	Subsector(s)	ADB Financing (\$ million)	
✓ Agriculture, natural resources and rural development	Agricultural policy, institutional and capacity development		0.03
	Irrigation		0.09
	Land-based natural resources management		0.03
	Rural market infrastructure		0.03
	Rural water supply services		0.09
	Water-based natural resources management		0.03
Energy	Electricity transmission and distribution		0.10
	Large hydropower generation		0.10
Transport	Road transport (non-urban)		0.10
	Urban roads and traffic management		0.10
Water and other urban infrastructure and services	Urban sanitation		0.15
	Urban water supply		0.15
		Total	1.00
3. Strategic Agenda	Subcomponents	Climate Change Information	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Climate Change impact on the Project	Low
Environmentally sustainable growth (ESG)	Disaster risk management Eco-efficiency Environmental policy and legislation Natural resources conservation		
Regional integration (RCI)	Pillar 4: Other regional public goods		
4. Drivers of Change	Components	Gender Equity and Mainstreaming	
Governance and capacity development (GCD)	Client relations, network, and partnership development to partnership driver of change Civil society participation Institutional development	Some gender elements (SGE)	✓
Knowledge solutions (KNS)	Application and use of new knowledge solutions in key operational areas		
Partnerships (PAR)	Bilateral institutions (not client government) Civil society organizations Implementation International finance institutions (IFI)		
Private sector development (PSD)	Private Sector Conducive policy and institutional environment		
5. Poverty Targeting	Location Impact		
Project directly targets poverty	No	Rural	High
		Urban	Low
6. TA Category:	B		
7. Safeguard Categorization	Not Applicable		
8. Financing			

PROJECT AT A GLANCE

Modality and Sources	Amount (\$ million)
ADB	1.00
Sovereign Capacity development technical assistance: Technical Assistance Special Fund	1.00
Cofinancing	0.00
None	0.00
Counterpart	0.30
Government	0.30
Total	1.30

9. Effective Development Cooperation

Use of country procurement systems Yes
Use of country public financial management systems Yes

I. INTRODUCTION

1. The Government of Myanmar has articulated its intent to improve environment and natural resources management and environmental governance, which is manifested in evolving national regulatory and policy frameworks. Promulgation of the Environmental Conservation Law (2012) demonstrates a firm government commitment to mainstreaming environmental issues into national policies and planning, and development management processes.

2. The mandate and role of the recently reconstituted Ministry of Environmental Conservation and Forestry (MOECAF) strongly emphasize sustainable natural resources and environmental quality management, with environmental quality management being addressed through the addition of an Environmental Conservation Department (ECD).

3. MOECAF's shift in mandate and enhanced role has important implications for institutional capacity in the short and long term. The government has requested the Asian Development Bank (ADB) for technical assistance (TA) support to fill functional and technical capability gaps to contribute to MOECAF's performance and mandate delivery. The TA responds to this expressed need to strengthen ECD's functional and technical capacity. The government has concurred with the TA's impact, outcome, outputs, implementation arrangements, cost, financing arrangements, and terms of reference for consultants. The design and monitoring framework is in Appendix 1.¹

II. ISSUES

4. **Balancing economic growth and environmental sustainability.** Myanmar is at an important inflection point—the success of its wide-ranging economic and political reforms will depend on sustainable management and utilization of natural resources. If current economic reforms continue, the country's economy is on track to expand by 7%–8% in 2014 and in 2015.² Much of this growth is likely to be fueled by the country's rich endowment of natural resources, with an inevitable upsurge in environmental pressures. Institutional and governance frameworks will need to be strengthened to underpin environmental sustainability, help screen and mitigate risks for country development strategies and investments, and mainstream climate change, biodiversity, and ecosystem services into national policies, programs, and projects.

5. **Policy and institutional context.** The 2012 Environment Conservation Law and 2014 Environmental Conservation Rules provide the legal basis for implementing a range of enhanced environmental management measures. Attention now needs to shift to drafting corresponding regulations to enact legislation, including procedures and technical guidelines on environmental safeguards and pollution abatement. Developing regulations and guidelines and creating enabling conditions for effective implementation will require substantial effort and technical expertise. Additionally, government capacity to undertake environmental impact assessment (EIA) review, monitoring, and compliance will need to be built and institutional linkages forged to ensure necessary interagency coordination on environmental management.

6. **Early ADB support for safeguards.** Reflecting ECD's core functions, early priority was given to strengthening Myanmar's country safeguard system (CSS). ECD received a short-term

¹ The TA first appeared in the business opportunities section of ADB's website on 31 October 2014.

² ADB. 2014. *Asian Development Outlook 2014 Update*. Manila.

TA through ADB's regional TA³ and the Greater Mekong Subregion Core Environment Program (CEP).⁴ Under its TA for Strengthening and Use of Country Safeguard Systems (footnote 2), during 2013–2014, ADB completed an assessment of the institutional setup for applying country safeguards, delivered workshops introducing safeguards' good practice to MOECAF and the Ministry of Electric Power, and prepared a capacity development action plan. Substantial TA has also been provided under CEP during 2012–2014 through ADB's Environment Operations Center (EOC), involving (i) drafting a new EIA procedure to strengthen the project proposal review process and ensure consistency with environmental assessment requirements set out in relevant laws, rules, and notifications; (ii) preparing environmental quality guidelines for application by approved projects in implementing environmental management plans and by MOECAF and other ministries in ambient environmental quality and pollution control monitoring; and (iii) preparing general EIA technical guidelines.

7. **Strengthening environmental safeguards: The unfinished agenda.** Notwithstanding the recognized utility of the short-term TA to ECD, it is evident that the department requires a substantial, long-term capacity development program. Official development assistance projects, including projects submitted to the Myanmar Investment Commission⁵ will need to be screened and assessed based on the new EIA procedures prior to approval. Support is needed for ECD to have sufficiently trained staff to fulfill its mandated functions, including (i) EIA report review and approval, and project compliance monitoring responsibilities; (ii) pollution control, involving building systems and human resource capacity for environmental quality guidelines application, monitoring, and interpretation; and (iii) use of an environmental information system to support country environmental reporting.

8. The TA is designed to build on work completed under ADB's TA for Strengthening and Use of Country Safeguard Systems (footnote 2) and ongoing activities under ADB's TA for the Core Environment Program and Biodiversity Conservation Corridors Initiative in the Greater Mekong Subregion, Phase 2,⁶ and will complement support for institutional strengthening and capacity development on environmental and social safeguards for the Ministry of Construction under ADB's TA for Strengthening and Use of Country Safeguard Systems (footnote 2). Recognizing CEP's lead role in environmental safeguard strengthening in Myanmar and the formation of a national support unit to assist MOECAF in program implementation, the TA will be provided in close collaboration with CEP and involve ongoing technical inputs from EOC specialists.

9. **Strategic partnerships: Adopting a harmonized approach.** Given the nascent stage of Myanmar's environmental management systems, there is a clear opportunity for strengthening coordination and harmonizing approaches using the safeguard policies of ADB and the World Bank as the appropriate benchmarks. The TA will coordinate with the World Bank,

³ ADB. 2010. *Technical Assistance for Strengthening and Use of Country Safeguard Systems*. Manila (TA 7566-REG).

⁴ ADB. 2009. *Technical Assistance for the Greater Mekong Subregion: Biodiversity Conservation Corridors Project*. Manila (TA 7459-REG).

⁵ The Myanmar Investment Commission (MIC) is a government-appointed body under the Ministry of National Planning and Economic Development that appraises domestic and foreign investment proposals in Myanmar. The body was re-established in 2011 as a 16-member committee to scrutinize economic proposals. As of June 2014, there were over 260 proposals under review at MIC.

⁶ ADB. 2010. *Technical Assistance for the Core Environment Program and Biodiversity Conservation Corridors Initiative in the Greater Mekong Subregion, Phase 2*. Manila (TA 7987-REG). The TA implementation period is 2012–2016 and is based on a 10-year program framework document (<http://www.gms-eoc.org/resources/cep-program-framework-document-2012-2016->)

the Japan International Cooperation Agency, and the newly established environment sector working group⁷ to support CSS development through joint efforts in strengthening MOECAAF's implementation capacity and adopting standard operating protocols for key sectors.

10. **Alignment with ADB's country program.** The TA is consistent with ADB's country partnership strategy, 2012–2014 for Myanmar, to be extended to 2016, which identifies environmental sustainability as a key theme to be mainstreamed into its operations.⁸ In line with the Midterm Review of Strategy 2020, the TA will help strengthen governance and institutional mechanisms and mainstream international best practices on safeguards.⁹

III. THE CAPACITY DEVELOPMENT TECHNICAL ASSISTANCE

A. Impact and Outcome

11. The TA impact will be sustained environmental quality across investment projects in key sectors. The outcome will be ECD national and state branches exhibit improved processes and procedures for environmental assessments and review.

B. Methodology and Key Activities

12. The TA proposes a comprehensive capacity development program to expand environmental quality management capacity and capability within ECD and across relevant ministries (e.g., agriculture and irrigation, construction, electric power, energy, industry, mines, rail, tourism, and transport). Capacity development will ensure a synergistic and coordinated approach across development partners, encompassing regulatory and policy framework, managerial and procedural capacity, and technical capacity. In allocating TA resources, priority will be given to the following outputs.

13. **Output 1: Enhanced environmental impact assessment framework and capacity development plan prepared.** The TA will conduct institutional mapping of environmental management needs and requirements, including assessing consistency of policy and legal frameworks and alignment with domestic laws, and conducting an institutional readiness and capacity needs assessment. Mapping will also document links with outputs and outcomes of recently completed and ongoing ADB CSS TA projects, alignment with environmental safeguard support being provided or planned by other development partners and the potential for adoption of shared safeguard approaches, and anticipated future regional convergence on country safeguard requirements. Based on these assessments, the TA will prepare a capacity development action plan for ECD, sector ministries, and ADB project staff.

14. **Output 2: Comprehensive environmental quality management training program delivered.** The TA will provide comprehensive support for environmental safeguard application, focusing on the introduction of administrative and technical review systems, capacity development and provision of expert advice for EIA review, and EIA implementation, including integrating gender issues in EIA procedure and technical guidelines, issuing environmental compliance certificates, preparing and overseeing construction and operational phase of

⁷ The Myanmar Environmental Sector Working Group (ESWG) was established in 2013 and is one of 16 different sector working groups set up to ensure multi-stakeholder coordination. The ESWG is currently co-chaired by MOECAAF, UN-HABITAT and the Government of Norway.

⁸ ADB. 2012. *Interim Country Partnership Strategy: Myanmar, 2012–2014*. Manila.

⁹ ADB. 2014. *Midterm Review of Strategy 2020: Meeting the Challenges of a Transforming Asia and Pacific*. Manila.

environmental management plan, and compliance monitoring. EIA capacity development will primarily target national and state level officers and ECD staff and involve seminars, workshops, and on-the-job training to develop competency on environmental safeguard application. Additional training on EIA procedure—and on sector guidelines to be prepared by ECD with sector involvement—will be delivered to technical and senior officials in sector ministries, including the Ministry of Electric Power, the Ministry of Transport, the Ministry of Construction, the Ministry of Agriculture and Irrigation, and the Ministry of Livestock, Fisheries and Rural Development, as well as other target audiences (e.g., Union Attorney General’s Office) as requested. Subnational entities will also be targeted selectively in ADB’s areas of operation.¹⁰ The overall training program design and delivery strategy will be crafted in close consultation with, and seek to amalgamate CSS support from, other development partners. The TA outputs will provide the basis for longer-term ADB CSS support in Myanmar and contribute to existing joint development partner efforts on safeguard harmonization.

15. The CDTA will deliver training to MOECAF and other ministries which are likely to have a mandate to conduct strategic environmental assessment (SEA)¹¹—introducing concepts and rationale, methods and tools, regulatory frameworks for implementation, and effective integration of environmental considerations into planning processes. Training is expected to result in better understanding of different approaches to environmental assessments of plans and programs, increased knowledge of SEA methods and tools, and contribute to progressive adoption and application of SEA by government ministries.

16. **Output 3: Improved environmental monitoring, information-sharing, and reporting documented.** The TA will extend the ECD environmental information portal developed by CEP and to be launched in the fourth quarter of 2014. This portal is designed to host environmental state and trend data and statistics as interactive charts and graphs, as well as maps, reports, and other resources. Myanmar’s new EIA procedure provides that project assessment reports can be made available through the portal. ECD is responsible for ongoing portal maintenance, whereas the TA will enable data collection and processing, ensuring that the portal contributes to improved access to and dissemination of information. The environmental information portal will improve public access to information and provide a sound basis for environmental reporting, including periodic country state of environment reports and ADB country performance assessments. Logistical considerations related to portal functionality, such as subnational internet technology infrastructure, will be informed by outputs of ADB’s TA for Design of e-Governance Master Plan and Review of Information and Communication Technology Capacity in Academic Institutions.¹² The TA will carefully map logistical and technical support gaps. While CEP intends to migrate the portal to ECD soon after launch, an off-line system may be introduced as an interim measure, and preparations have been made to host the portal on the CEP webserver should Myanmar’s internet technology infrastructure (electricity, servers, and internet technology staff for maintenance) not allow for a reliable portal operation.

¹⁰ For example, training recipients will include the executing agency (Mandalay Regional Government) and the implementing agency (Mandalay City Development Committee) of ADB’s proposed Mandalay City Urban Services Improvement Project. Project preparatory TA is ongoing (TA 8472-MYA).

¹¹ SEA is a systematic decision support process, aiming to ensure that environmental and possibly other sustainability aspects are considered effectively in policy, plan and program-making. The inclusion of SEA support under the TA reflects its integration in the new EIA procedures.

¹² ADB. 2013. *Technical Assistance to the Republic of the Union of Myanmar for Design of e-Governance Master Plan and Review of Information and Communication Technology Capacity in Academic Institutions*. Manila (TA 8398-MYA).

17. A specific activity under this output is the preparation of an ADB country environmental analysis (CEA). Drawing from the environmental information portal, the CEA will systematically evaluate development-related natural resources and environmental management trends and issues.¹³

C. Cost and Financing

18. The TA is estimated to cost \$1,300,000, of which \$1,000,000 will be financed on a grant basis by ADB's Technical Assistance Special Fund (TASF-V). The government will provide counterpart support in the form of counterpart staff, office accommodation, data collection, and other in-kind contributions. The detailed cost estimate is presented in Appendix 2.

D. Implementation Arrangements

19. The ECD, in MOECAP, will serve as the executing agency for the TA. The TA will train staff from the Ministry of Electric Power, the Ministry of Transport, the Ministry of Construction, the Ministry of Agriculture and Irrigation, and the Ministry of Livestock, Fisheries and Rural Development through customized modules and orientation exercises. TA consultants will be based at ECD while in country. ADB's EOC in Bangkok, as part of the CEP, will provide technical backstopping and support on EIA and SEA training, geographic information systems, and spatial planning.

20. ADB will engage international (total of 25 person-months) and national (total of 30 person-months) consultants to carry out planned activities. An international environmental safeguards specialist (12 person-months) will support strengthening of environmental safeguards under output 1. International pollution control (6 person-months) and national environmental monitoring (12 person-months) specialists will support environmental regulation and enforcement under output 2. A national environmental information and database specialist (18 person-months) will support the environmental information system and provide inputs to the CEA, and an international natural resources and environment specialist (7 person-months) will prepare the CEA under output 3. The consultants will be recruited through individual consultant selection and will be in accordance with ADB's Guidelines on the Use of Consultants (2013, as amended from time to time). The outline terms of reference for consultants are in Appendix 3.

21. The TA will be implemented over 34 months, from 1 March 2015 to 31 December 2017. The project team will monitor implementation through semiannual reviews and in close coordination with ADB's Myanmar Resident Mission, with support from EOC.

IV. THE PRESIDENT'S DECISION

22. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$1,000,000 on a grant basis to the Government of Myanmar for Environmental Safeguard Institutional Strengthening, and hereby reports this action to the Board.

¹³ Preparation of the CEA will benefit from an ongoing United Nations Environment Programme supported initiative to develop a state of the environment report and environment outlook for Myanmar, with the CEA providing portfolio-specific analysis of natural resource and environment status and trends.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and/or Indicators with Baselines	Data Sources and/or Reporting Mechanisms	Assumptions and Risks
<p>Impact Sustained environmental quality across investment projects in key sectors</p>	<p>By 2019, compared with 2014 baseline: Increased compliance by at least 50% of official development assistance projects, including projects submitted to the Myanmar Investment Commission, with national laws, regulations, and performance standards for environmental assessment and quality management</p>	<p>ECD reports Reports of international development agencies Media and civil society reports</p>	<p>Assumption Political will to fully apply environmental assessment and compliance measures Risk Institutional and policy commitments undermined by changes in government mandates</p>
<p>Outcome ECD national and state branches exhibit improved processes and procedures for environmental assessments and review</p>	<p>By 2017, compared with 2014 baseline: Increased allocation by at least 40% of ECD budget to development and implementation of EIA review and compliance monitoring systems and procedures EIA procedures, regulatory framework, and technical guidelines for key sectors established Myanmar environmental information portal maintained and actively used (at least 50 page hits and five updates per month)</p>	<p>ECD reports TA progress and completion reports National information database Feedback from consultation workshops Dialogue with government, private sector, academia, and civil society organizations</p>	<p>Assumptions Continued government commitment to develop standards and procedures, and staff capacity Government commitment to improving data and information collection and reporting Risks Insufficient government staffing and/or human resources Low TA absorption capacity Inadequate cooperation and coordination among government ministries</p>
<p>Outputs 1. Enhanced EIA framework and capacity development plan prepared</p>	<p>By 2017, compared with 2014 baseline: Institutional assessment and mapping of policy frameworks completed and associated capacity gaps identified</p>	<p>Capacity development plans</p>	<p>Assumption Efficient coordination of related TA among development agencies Risk Ineffective management of additional government TA requests</p>
<p>2. Comprehensive environmental quality management training program delivered</p>	<p>At least six national and subnational EIA trainings completed, targeting up to 100 existing and new ECD staff with at least 40% female At least four national pollution and ambient monitoring trainings completed, targeting up to 30 ECD staff with at least 40% female Technical guidelines for key sectors</p>	<p>Training evaluations Technical guidelines Project inspection and/or monitoring reports Semiannual feedback surveys</p>	

Design Summary	Performance Targets and/or Indicators with Baselines	Data Sources and/or Reporting Mechanisms	Assumptions and Risks
	<p>developed and submitted for ministerial endorsement</p> <p>At least two national SEA trainings completed, targeting 50 staff with at least 40% female, from key sector ministries (transport, energy, agriculture and irrigation, and livestock, fisheries, and rural development)</p> <p>Applications of improved EIA procedures and guidelines documented for at least four projects across ADB's country operations business plan, 2014–2016 for Myanmar^a</p>	of trained or assisted departments	
3. Improved environmental monitoring, information-sharing, and reporting documented	<p>Environmental information portal actively used, with at least 30 new entries on environmental performance and safeguards</p> <p>CEA report completed, integrating a gender perspective in the analysis</p>	<p>Online database and website</p> <p>Consultant reports</p> <p>CEA report</p>	
<p>Activities with Milestones</p> <p>TA Administration</p> <ol style="list-style-type: none"> 1. Recruit consultants to support TA implementation (by months 3–4) 2. Establish technical team, comprising consultants and Environmental Operations Center specialists (by month 5) 3. Prepare midterm review reports (by month 3) 4. Prepare final TA report (by month 9) <p>Output 1: Enhanced EIA framework and capacity development plan prepared</p> <ol style="list-style-type: none"> 1.1 Complete institutional mapping (within 8 months) 1.2 Complete capacity gap assessment (within 9 months) 1.3 Prepare capacity development action plan (within 10 months) <p>Output 2: Comprehensive environmental quality management training program delivered</p> <ol style="list-style-type: none"> 2.1 Complete technical guidelines for EIA review (within 9 months) 2.2 Conduct EIA review training (commenced by month 10) 2.3 Conduct pollution and ambient monitoring training (commenced by month 9) 2.4 Complete technical monitoring guidelines (within 12 months) 2.5 Review systems established (within 12 months) 2.6 Conduct SEA training (commenced by month 15) <p>Output 3: Improved environmental monitoring, information-sharing, and reporting documented</p> <ol style="list-style-type: none"> 3.1 Data quality assessments (commenced by month 3) 3.2 Update environmental information portal data (commenced by month 5) 3.3 Prepare CEA report (commenced by month 6) 3.4 Complete CEA report (by month 18) 			<p>Inputs</p> <p>ADB Technical Assistance Special Fund (TASF-V): \$1.0 million</p> <p>Note: The government will provide counterpart support in the form of counterpart staff, office accommodation, data collection, and other in-kind contributions.</p>

ADB = Asian Development Bank, CEA = country environmental analysis, ECD = Environmental Conservation Department, EIA = environmental impact assessment, SEA = strategic environmental assessment, TA = technical assistance.

^a ADB. 2013. *Country Operations Business Plan: Myanmar, 2014–2016*. Manila.

Source: Asian Development Bank.

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Amount
Asian Development Bank^a	
1. Consultants ^b	
a. Remuneration and per diem	
i. International consultants	500.0
ii. National consultants	150.0
b. International and local travel	100.0
2. Training, seminars, and conferences ^c	150.0
3. Miscellaneous administration and support costs ^d	40.0
4. Studies and surveys	50.0
5. Contingencies	10.0
Total	1,000.0

Note: The technical assistance (TA) is estimated to cost \$1.3 million, of which contributions from the Asian Development Bank are presented in the table above. The government will provide counterpart support in the form of counterpart staff, office accommodation, data collection and other in-kind contributions. The value of government contribution is estimated to account for 23% of the total TA cost.

^a Financed by ADB's Technical Assistance Special Fund (TASF-V).

^b Budget for consultants does not include allocation for studies and surveys.

^c Includes staff travel as resource persons and engagement of external resource persons.

^d Includes report preparation, publications, communications, translations, and other administrative expenses.

Source: ADB estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS¹

A. **Environmental Safeguards Specialist and Team Leader** (international, intermittent, 12 person-months)

1. The specialist will perform the following tasks:
 - (i) review the roles, responsibilities, and resources of the existing environment safeguard framework and identify priority capacity development needs;
 - (ii) prepare an action plan to strengthen environmental impact assessment (EIA) and strategic environmental assessment (SEA) capacity and awareness;
 - (iii) prepare training materials needed for EIA and SEA training;
 - (iv) prepare technical EIA and SEA guidelines for key sectors;
 - (v) prepare a field-based training program on current EIA practice;
 - (vi) conduct at least six EIA and two SEA training courses at national and subnational levels;
 - (vii) ensure that EIA procedures and guidelines to be proposed are guided by considerations for human impacts of environment (poverty, social, and gender)";
 - (viii) for each training course, carry out a pretest of participant knowledge and skills and a practical evaluation at course completion;
 - (ix) review current EIA procedure and technical guidelines for equivalence with the Safeguard Policy Statement (2009) of the Asian Development Bank (ADB) and propose improvements;
 - (x) review and develop recommendations to integrate biodiversity conservation and management including biodiversity offsets principles and tools, climate change adaptation, and disaster risk reduction into EIA systems and procedures guided by international best practice;
 - (xi) suggest activities and actions to improve existing structures for EIA review and issuance of environmental compliance certificates;
 - (xii) advise on EIA screening and scoping stage, including refining generic terms of reference, and review EIA reports;
 - (xiii) advise on EIA approvals and relevant conditions; and
 - (xiv) advise on undertaking monitoring and auditing of approved projects.

2. The specialist will have the following qualifications: (i) a master's degree in environmental science, environmental management, environmental engineering, natural resource management, or a related field; (ii) at least 15 years' experience working on environmental assessment, including EIA and SEA experience, in Asia and the Pacific; (iii) excellent understanding of international good practices in environmental safeguards, and extensive experience undertaking peer review and post-project monitoring; (iv) experience in integrating gender considerations into safeguard frameworks; and (v) demonstrated experience in capacity development.

B. **Pollution Control Specialist** (international, intermittent, 6 person-months)

3. The specialist will perform the following tasks:
 - (i) undertake a pollution monitoring capacity assessment for the Environmental Conservation Department (ECD), involving:

¹ To reduce administrative burden and improve economy and efficiency and value for money, all consulting services under the technical assistance will be engaged on output-based (lump-sum) contracts.

- (a) review of departmental core functions and provision of advice on gaps and/or overlaps that inhibit the department's proper functioning regarding pollution control responsibilities;
 - (b) identification of core competencies required to fulfill ECD's main functions relating to pollution control; and
 - (c) assessment of staff competencies, availability of human resources, systems and equipment against identified departmental competencies;
- (ii) prepare a capacity development strategy that responds to findings from the departmental capacity assessment;
 - (iii) prepare an action plan to implement policy measures and apply environmental quality guidelines (EQG);
 - (iv) advise on developing a pollution control regulation consistent with relevant laws, regulations, and guidelines or standards;
 - (v) advise on establishing an ambient environmental quality monitoring network;
 - (vi) prepare technical guidelines for applying ambient and emissions or effluent EQG; and
 - (vii) deliver at least four national trainings on EQG application, enforcement, and inspection, including field trips and case studies.

4. The specialist will have the following qualifications: (i) a master's or higher degree in environmental engineering, environmental science, or a related field, (ii) at least 15 years' experience in development of EQG and/or standards and ambient and effluent industry compliance monitoring, (iii) extensive experience working in Asia and the Pacific, and (iv) demonstrated experience in capacity development.

C. Environmental Monitoring Specialist (national, intermittent, 12 person-months)

5. The specialist will perform the following tasks:

- (i) contribute to review of ECD's pollution monitoring systems and human resource capacity,
- (ii) assist in designing a training strategy and compile relevant course materials,
- (iii) assist ECD to establish a reliable procedural framework for environmental monitoring and compliance,
- (iv) assist ECD to establish an ambient environmental quality monitoring network, and
- (v) provide on-the-job mentoring to ECD's Pollution Control Division on EQG application.

6. The specialist will have the following qualifications: (i) a master's degree or equivalent in environmental science or engineering, natural resources and environmental management, or a related field; (ii) at least 7 years' experience in EIA, environmental effects monitoring, and industry compliance monitoring; (iii) strong familiarity with international industry environmental best practice guidelines; and (iv) good written and spoken English.

D. Environmental Information and Database Specialist (national, intermittent, 18 person-months)

7. The specialist will perform the following tasks:

- (i) collect statistical data from primary and secondary sources for input to ECD's portal;
- (ii) review data quality and assess their relevance;

- (iii) collate and process data to integrate seamlessly with information in ECD's online data portal;
- (iv) improve and adjust ECD's database structure and tools to align to changing information needs, including ensuring the collection of sex-disaggregated data;
- (v) identify data gaps and propose managerial and technical steps to close gaps and improve integration of existing data;
- (vi) search and review online publications and databases for relevant information;
- (vii) liaise with other ministries to inquire on and collect off-web statistical data (or published documents containing these);
- (viii) clean up and collate all collected data into easy-to-access formats, and upload them into the ECD environmental information portal;
- (ix) regularly review the ECD environmental information portal for outdated entries, and undertake necessary database maintenance;
- (x) prepare and layout individual products (tables, charts) for presentation and knowledge products; and
- (xi) support preparation of a country environmental analysis (CEA) report for Myanmar.

8. The specialist will have the following qualifications: (i) a master's degree or equivalent in natural resources management, forestry, geography, or a related field; (ii) at least 5 years' experience in database management and statistical analysis; and (iii) good written and spoken English. Knowledge of geographic information systems is an advantage.

E. Natural Resources and Environment Specialist (international, intermittent, 7 person-months)

9. The specialist will perform the following tasks:
- (i) Characterize and review the characterize Myanmar's development framework, including core sectors of the economy, development trends, and future prospects;
 - (ii) prepare an overview of Myanmar's legal, regulatory, and institutional environment;
 - (iii) assess Myanmar's natural resources management and profile the country's climate and topography, land resources and degradation, biodiversity, forests, marine and coastal resources, freshwater resources, geology and soils/mineral resources and cultural resources;
 - (iv) review and profile environmental quality management, including water quality and quantity, air quality and air pollution, noise environment, land contamination sources, and solid waste management based on primary and secondary data collected in the monitoring network;
 - (v) assess climate change status, including vulnerability, country contribution to global climate change, and mitigation and adaptation strategy;
 - (vi) identify policy leverages for ADB intervention in the improvement of natural resources management with an emphasis on green growth, including promotion of water- and energy-saving technologies, employment of clean and renewable energy resources, promotion of safe foods through good agricultural practices, and improvement of management systems for using natural capital and maintaining and enhancing ecosystem services;
 - (vii) collect evidence of human and livelihoods impacts of—and coping mechanisms against—climate change, analyze poverty, social, and gender issues within these, and propose an appropriate strategy for integration into the overall environmental strategies and the CEA report;

- (viii) provide recommendations on overall environmental strategies, sector strategies, and work programs that are appropriate for ADB interventions in Myanmar;
- (ix) Identify key policy leverages for ADB intervention with respect to SEA and development of key sector plans and programs to avoid and minimize environmental impacts associated with development projects; and
- (x) be responsible for production and timely delivery to ADB of inception, midterm, and draft final reports, as well as final CEA reports.

10. The specialist will have the following qualifications: (i) a master's or higher degree in natural resources and environmental management or a related field; (ii) at least 15 years' experience in natural resources and environmental policy and planning; (iii) experience preparing or contributing to country diagnostic assessment, CEA, and country partnership strategy; and (iv) experience analyzing gender issues related to natural resources and environment. Myanmar working experience is desirable.

F. Deliverables

11. The consultants' outputs will include the following:
- (i) report on institutional and capacity gap assessment and policy framework mapping,
 - (ii) capacity development strategy and action plan,
 - (iii) workshop manuals, and evaluations for national and national EIA and SEA trainings,
 - (iv) workshop manuals, and evaluations for national pollution and ambient monitoring trainings,
 - (v) technical guidelines for EIA review, monitoring and compliance,
 - (vi) technical guidelines for pollution and ambient monitoring,
 - (vii) technical EIA guidelines for key sectors,
 - (viii) updated and functional environmental information portal,
 - (ix) CEA report; and
 - (x) TA completion report.