

Environmental Assessment and Review Framework

Project Number: 42039-033
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Multitranche Financing Facility Socialist Republic of Viet Nam: Power Transmission Investment Program

Prepared by the National Power Transmission Corporation, Socialist Republic of Viet Nam for the Asian Development Bank (ADB)

The environmental assessment and review framework is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

CURRENCY EQUIVALENTS

(29 August 2011)

Currency unit	-	dong(D)
D1.00	-	\$0.000048
\$1.00	-	D20,820.00

ABBREVIATIONS

ADB	-	Asian Development Bank
CHSP	-	Community health and safety plan
CPE	-	Commitment Report to Protect the Environment
DoNRE	-	Department of Natural Resources and Environment
EA	-	Executing Agency
EIA	-	Environmental Impact Assessment
EMF	-	Electromagnetic field
EMoP	-	Environmental Monitoring Plan
EMP	-	Environmental Management Plan
EVN	-	Electricity of Viet Nam
GOV	-	Government of Socialist Republic of Viet Nam
IA	-	implementing Agency
IEE	-	Initial Environmental Examination
MoNRE	-	Ministry of Natural Resources and Environment
MFF	-	Multi-tranche Financing Facility
NPT	-	National Power Transmission Corporation
REA	-	Rapid Environmental Assessment
ROW	-	Right-of-Way
SPS	-	ADB's Safeguard Policy Statement (2009)

WEIGHTS AND MEASURES

ha (hectare)	-	Unit of area
Km (kilometer)	-	1,000 meters
kV	-	Kilovolt (1,000 volts)
kW	-	Kilowatt (1,000 watts)
kWh	-	Kilowatt-hour
MW	-	Mega Watt
MU	-	Million Units

NOTE

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

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the

Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

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I. INTRODUCTION

1. The Government of Viet Nam (GOV) plans to expand power generation, transmission, and distribution capacity throughout the country to meet the rapidly growing energy demand. The GOV has requested the Asian Development Bank (ADB) for a Multi-Tranche Financing Facility (MFF) to partly fund the power sector investment program that will cover the physical investments in transmission and distribution. The program is expected to (i) facilitate power transfers; (ii) remove transmission bottlenecks; and (iii) reduce transmission losses and voltage fluctuations.

2. This Environmental Assessment and Review Framework (EARF) is prepared to ensure that all environment safeguard requirements of ADB as well as the GOV are met during the course of implementing the MFF.

3. NPT and the Power Project Management Boards (PPMBs) power transmission companies will be responsible for preparing the required environmental assessments and in obtaining ADB concurrence prior to implementation. All applicable approvals must be in place prior to finalization of contracts and commencement of works. NPT and the PPMBs will be responsible for implementing the EMPs in accordance with Safeguard Policy Statement 2009. Government ensures and causes NPT to ensure that all IEEs/EIAs and EMPs are prepared in accordance with framework and legal agreements of the project.

II. DESCRIPTION OF INVESTMENT PROGRAM

4. The Transmission Network Expansion Component of the investment program will support the expansion and upgrading of 500 kV and 220 kV transmission lines and associated substations throughout Viet Nam. All subprojects considered for financing under the investment program are included in the PDMP VII. A list of subprojects identified for financing under the investment program is provided in Annex 1 of the Facility Administration Manual.

5. The National Power Transmission Corporation will be the Executing Agency (EA) of the investment program. The Implementing Agencies (IAs) will be the Northern Power Project Management Board (NPPMB), the Southern Power Project Management Board (SPPMB), and the Central Power Project Management Board (CPPMB).

III. ASSESSMENT OF LEGAL FRAMEWORK AND INSTITUTIONAL CAPACITY

6. Any of the follow-up subproject selected will be screened, classified, and assessed based on ADB's Safeguard Policy Statement (2009), Law on Environmental Protection (LEP) No. 52/2005/QH11, Decree No. 29/2011/ND-CP Guidelines for Strategic Environmental Assessment, Environmental Impact Assessment, and Environmental Protection Commitments), Circular 26/2011/TT-BTNMT (Detailed regulation on some issues of Decree No. 29/2011/ND-CP) and other environmental legislation of the GOV, as well as ratified international environmental conventions. The environmental assessment reports will be reviewed and approved by ADB and the authorized body of the GOV.

7. The GOV environmental assessment (EA) system articulates two levels of environmental assessment for development projects as defined below:

- Commitment Report to Protect the Environment (CPE); and
- Environmental Impact Assessment (EIA).

8. The two levels of assessment are determined from a prescriptive screening protocol¹ that generally distinguishes development projects by size. For large projects that meet quantitative criteria for size, resource consumption, or process production an EIA report is required. Criteria for the location of a project near, or potentially affecting protected natural resources, critical habitat, or social assets & livelihoods also determine whether an EIA is required for a project. For smaller projects that fall under and do not meet the same quantitative criteria, the CPE is required.

9. The CPE is similar to an Initial Environmental Examination (IEE) report which presents the project and the potential environmental impacts and mitigation measures that will be employed. The report is prepared by the investor and submitted to the People Committee of the district, where the project is located. The required report is a simpler form of Environmental Impact Assessment (EIA) Report. The project is not required to be assessed by a Review Committee, measure baseline environmental condition, and conduct Public Consultation. The duration for processing the submitted report is five working days. Once approved, a Certificate of Registration on Commitment to Environment Protection is released for the project.

10. For projects requiring the submission of the EIA, the Certificate of Registration on Commitment to Environment Protection is released after complying with the requirements of the Review Committee. When the project is completed, an Environmental Clearance is issued by the Ministry of Natural Resources and Environment (MoNRE).

11. Just recently, the Decree No. 29/2011/ND-CP was issued on 18 April 2011 and Circular 26/2011/TT-BTNMT was issued on 18 July 2011 as amendments to the EA process in view of the rapid industrialization that is happening in Viet Nam. The decree outlines the regulation on strategic environmental assessment, environmental impact assessment and environmental protection commitment. This decree became in effect on 05 June 2011 but under Viet Nam's legal process, the decree can only be practiced after a guideline circular is issued. The guideline Decree No. 29/2011/ND-CP is Circular No 26/2011/TT-BTNMT which was issued on 18 July 2011. This will become effective after 45 days, i.e. 02 September 2011.

12. There is no change in the required document and processing duration between the decree No 21/2008 and No 29/2011, except for the categorization which is now based on the voltage capacity of the transmission line.

13. Therefore, future sub-projects under the investment program would have to comply with the new requirements of Decree No. 29/2011/ND-CP and should also undergo an environmental impact assessment to comply with ADB Safeguard Policy Statement (SPS 2009). The SPS 2009 introduces emphasis on the effective implementation of environmental safeguards and contains a number of operational principles that includes the requirement to ensure that the measures identified during the impact assessment are included in the environmental management plan and were implemented in agreement with the borrower.

¹ GOV Decree 21/2008/ND-CP, Annex 1

IV. ANTICIPATED ENVIRONMENTAL IMPACTS

14. The construction and operation of the substations and transmission lines may potentially result in environmental impacts. Aside from site-specific impacts related to location of environmentally sensitive areas or cultural/archaeological/historical sites can occur. The potential environmental impacts include:

15. **Physical Environment.** The construction of the project are likely to affect area topography due to the possibilities of cut and fill, borrow pits, and quarries. Other environmental impacts include the cutting of trees, transportation of construction material, and generation of soil runoff and construction wastes. Construction has the potential to contaminate the surrounding waters through erosion and sedimentation from excavation, localized air and dust pollution, noise, oil spills, pollution from temporary worker camps, and worker and community accidents. Construction activities can generate significant localized levels of dust, particularly during dry weather periods and during intense activity. Noise levels may exceed Vietnamese standards and disturb residents and other noise-sensitive receptors such as hospitals and schools. Impacts during this stage are expected to be short to medium-term, localized and manageable through appropriate mitigations.

16. **Biological Resources.** Potential impacts related to biological resources include a risk of habitat fragmentation and loss, bird collisions on the transmission line, physical disturbance of wildlife and its habitat, removal of trees, and other accidents and disturbances involving wildlife resources. The right-of-way (ROW) of the transmission lines may traverse existing or proposed protected areas or nature reserve. Noise, vibration and other disturbance during the construction of the lines and other facilities can affect biodiversity in specially protected areas. In addition, vegetation, trees and other crops may be potentially removed to make way for the proposed infrastructures of the power transmission system.

17. **Socio-Economic Environment.** The acquisition of land for the substations and towers of the transmission line are likely to require resettlement and compensation. The project may also affect existing historical and cultural assets located within the ROW. Potential impacts on the social environment can include both adverse impacts such as resettlement, injury and accidents to workers and the community, hazards of electromagnetic field (EMF) exposure, and lightning surge and positive impacts on income, improvement of power reliability and employment generation.

18. It will be mandatory for the contractor to adopt occupational as well as community health and safety practices to protect workers and the communities around the construction sites. Although the environmental impacts related with the project are manageable, monitoring of the implementation of the Environmental Management Plan (EMP) needs to be done to ensure that the mitigation measures are adequately addressed.

V. ENVIRONMENTAL ASSESSMENT FOR SUBPROJECTS AND/OR COMPONENTS

A. Approach to Safeguard Development for Future Subprojects

19. The following general criteria will be adopted for selection of the subprojects under the investment program

- (i) The subprojects shall only be selected from the NPT's priority transmission investment plan in accordance with the National Power Development Master Plan VII;
- (ii) The subprojects shall only involve activities that follow all the government regulations;
- (iii) Types of projects listed in ADB SPS's Appendix 5 (ADB Prohibited Investment Activities List) do not qualify for ADB's financing; and
- (iv) The subprojects that can have considerable adverse impacts to the environment or located in environmentally sensitive areas are subject to mandatory environmental assessment as detailed below:

20. The following are the specific environmental criteria for subproject selection:

- i. Subproject will not be located within national parks, wildlife sanctuaries and nature reserves, or wetlands, unless unavoidable for technical reasons
- ii. Monuments of cultural or historical importance will be avoided
- iii. Construction activities do not adversely affect the population living in the vicinity of the proposed lines and does not create any threat to the survival of any community with special reference to tribal community or public utility services like schools, parks, hospitals, etc.
- iv. An EMP with adequate budget will be developed for each subproject. Proper EMoP must be in place to monitor the EMP during the construction and operational stages of each subproject
- v. Environmental Category A subprojects must comply with ADB's 120-day disclosure policy
- vi. Potential environmental impacts will be minimized by routing and siting to avoid sensitive areas. Realignment or selection of alternative sites to minimize impacts may be required.
- vii. Clearing of any existing forest resources will be avoided if possible, and where unavoidable, will be minimized and compensated as per GOV regulatory criteria
- viii. New equipment/facilities specifications shall follow international standards and best practices to avoid use of chemicals causing Green House Gas (GHG) emissions. All equipment procured shall be free from Polychlorinated biphenyls (PCBs). IF SF6

(sulphur hexafluoride, a highly non-toxic greenhouse gas (GHG) based equipment is installed, proper maintenance management program will have to be implemented to avoid leakage beyond international norms for GHG to the atmosphere.

21. Because the GOV's requirements for EIA do not completely meet the EIA requirements of the ADB, the guidance provided below will address the important steps of both jurisdictions while focusing on the safeguard requirements of the ADB.

22. The power transmission company developing and implementing future subprojects is encouraged to consult with the Environment and Safeguards Division of the ADB for any required information on the EIA requirements of the SPS (2009) in addition to the guidance provided below. As introduced above, the new EIA requirements of the GOV described by Decree No. 29/2011/ND-CP and Circular No 26/2011/TT-BTNMT should also be followed by the subprojects.

B. Requirements to Environmental Screening and Classification

23. The proposed subprojects will be screened for compliance with the selection criteria listed above prior to additional analysis of environmental issues. Based on ADB's Safeguard Policy Statement (2009), the program and its subprojects will be subject to the following requirements:

1. Completion of the Rapid Environmental Assessment (REA) checklist (Annex A) and categorization of the project based on the nature and scale of environmental impacts anticipated.
2. Preparation of Environmental Assessment reports (Annex B), i.e. EIA for Category A and IEE for Category B projects, including the preparation of the Environmental Management Plan and Environmental Monitoring Plan.

24. Currently, there are no Category A subprojects that are anticipated under the program. However, if there are any changes in project details and context that warrants a re-categorization, a new REA checklist will be prepared. For re-categorization into a Category A subproject, an EIA report will be prepared and disclosed on the ADB website 120 days before approval of the board of each of the subprojects. For Category B project, if there are any changes in the project details or anticipated impacts, the respective EMP will be updated with mitigation measures to address the new issues.

25. Before the processing of a new tranche, it must be ensured that adequate environmental due diligence is carried out for the earlier tranche. Once the environmental safeguard requirements of the earlier tranche are met and successful due diligence reports are produced will the next tranche be approved.

C. Preparation of Environmental Assessment Reports

26. Once the environmental category of the subproject is determined, the IEE for Category B or EIA or Category A projects will be prepared in accordance to the ADB SPS (2009). The report should include an EMP with implementation budget. Public consultation is necessary by the environmental regulations of GOV and ADB. The IEE and EIAs will be reviewed and approved by ADB and GOV before commencement of the detailed design.

27. For subprojects with potentially significant adverse impacts that are diverse, irreversible, or unprecedented, the NPT and power transmission company will examine alternatives to the project's location, design, technology, and components that would avoid, and if avoidance is not possible, minimize adverse environmental impacts and risks. The rationale for selecting the subproject location, design, technology, and components will be properly documented, taking into consideration the environmental costs and benefits of various alternatives considered into account. The "no action" alternative will also be considered.

28. The impacts and risks will be analyzed in the context of each sub-project's area that encompasses:

- (i) the primary subproject sites and related facilities;
- (ii) associated facilities that are not funded under the investment program and whose viability and existence depend exclusively on the subproject and whose goods and services are essential for successful operation of the subproject;
- (iii) areas and communities potentially affected by cumulative impacts of the investment program and other sources of similar projects in the geographical area; and
- (iv) areas and communities potentially affected by impacts from unplanned but predictable developments caused by the subproject that may occur later or at a different location.

29. The power transmission company will prepare an EMP with adequate budget that addresses the potential impacts and risks identified on the basis of the environmental analysis of the environmental impacts of power transmission and distribution projects. The mitigation measures for subsequent tranches will be developed in the spirit of principles agreed upon in this EMP framework. Any unanticipated consequence of the project will be documented by the environmental assessment.

30. Due diligence report as well as monitoring reports on implementation of the environmental management plan needs to be documented systematically and be available to the public. Environmental monitoring will consist of routine systematic checking that the above environmental management measures have been implemented effectively during each stage of the project.

VI. CONSULTATION, INFORMATION DISCLOSURE, AND GRIEVANCE REDRESS MECHANISM

A. Public Consultation

31. The power transmission company shall be responsible for ensuring that a meaningful public disclosure and consultation on the project has been undertaken with the affected stakeholders. All environmental documents shall be subject to public disclosure. These documents will be posted on the ADB website and made available to the public if requested for. All environmental assessment documents including the environmental due diligence and monitoring reports should be properly and systematically kept by the concerned power transmission company.

32. If there are any changes in subproject details and context, further consultations must be carried out and spearheaded by the concerned power transmission company to ensure that all environmental concerns of the affected households are addressed.

B. Information Disclosure

33. The results of the IEE or EIA should be communicated to the local community before commencement of construction in accordance with ADB's Public Communication Policy 2005 and the SPS 2009. For Category A projects, the EIA shall be made available to the public and the ADB Board of Directors at least 120 days before the sub-project approval by ADB.

C. Grievance Redress Mechanism

34. A Grievance Redress Mechanism (GRM) will be established within the existing institutional set-up of the power transmission company before commencement of any of the subprojects. The GRM aims to develop a means to address any environmental concerns or grievances of affected people. The existence of the GRM should be communicated to the affected communities through public consultations.

35. Under the regulations in Viet Nam, affected persons having complaints or grievances will not be responsible for paying any administrative and legal fees in filing their complaints. Also, site clearing is not allowed while the resolution of the complaint is still pending. In cases where the affected person is illiterate, the affected person can ask assistance from one representative of his household who can then write all the complaints and grievances to be submitted for resolution. Under the law, all meetings to resolve complaints and grievances should be documented and the minutes of meetings should be disclosed and posted at the Commune People's Committee.

VII. INSTITUTIONAL ARRANGEMENT AND RESPONSIBILITIES

36. NPT will recruit environmental consultants as part of engineering design to prepare the IEE/EIA reports for each subproject associated with this investment program. The costs have incorporated a budget and resource needed to implement the environmental review and screening procedure, undertake the IEE/EIA studies, monitor implementation of the EMPs, and undertaken environmental mitigation measures, as required. The costs of conducting training, monitoring, hiring environmental consultants and implementing the EARF have been incorporated in the investment program.

37. To prepare the follow-up subprojects and to comply with ADB's Safeguard Policy Statement (2009) and the Environmental Protection Law of GOV, NPT and ADB agreed on the following responsibilities:

a) Power Project Management Boards

38. Power Project Management Boards will be responsible for the preparation and implementation of the IEEs / EIAs in accordance with the EARF and other legal agreements. This includes, among others, ensuring that the selection criteria are adhered to, the preparation of the IEEs/EIAs are done adequately and timely and that the environmental management plan and monitoring plan are prepared. A meaningful public consultation and institutional

requirements to carry out the EMP and EMoP should also be complied with. The power transmission company will submit the categorization checklist, IEE/EIA and monitoring reports to ADB for review.

39. Based on the environmental assessment of the project activities, an EMP will be developed to mitigate adverse environmental impacts that may occur because of the project. The EMP will include impacts and practical mitigation measures, monitoring requirements, and the responsible authorities to implement the EMP during the construction and operational phases of the project.

40. Each PPMB will also be responsible for obtaining any regulatory approvals and maintaining compliance with the GOV environmental laws as applicable to subprojects proposed for financing.

The detailed design work for each subproject will follow the recommendations of the IEE/EIA. The power transmission company will review the detailed designs before contracts are finalized and modifications will be incorporated if considered necessary. Certification to ADB that the detailed designs comply with the IEE/EIA including EMP recommendations will be required before contracts can be made effective.

41. In the initial stages of the project, a template for the construction contract will be prepared incorporating the general environmental safeguards and practices. The specific construction contracts will include the provisions outlined in the EMP to address potential construction impacts on the environment.

b) ADB

42. ADB will be responsible for the regular review and timely approval of the environmental safeguard checklists and IEEs or EIAs.

43. Technical guidance will be provided by ADB to each PPMB, as necessary, in carrying out its responsibilities and safeguard capacity building.

44. ADB will publicly disclose the final IEE prior to Board approval or draft EIA (at least 120 days prior to ADB Board consideration, or approval of the PFR for subsequent tranches) and final EIA, and/or environmental assessment and review framework, a new or updated EIA/IEE and corrective action plan prepared during project implementation. ADB will also be responsible for reviewing the regular monitoring reports and officially disclosing the IEEs/EIAs on the ADB website.

45. Government and NPT will submit periodic reports stipulated in the EMP and loan agreements. ADB will monitor the implementation of the EMP and due diligence as part of overall project review mission.

VIII. MONITORING AND REPORTING

46. The monitoring during the construction period will be the responsibility of the PPMBs. The monitoring activities should be sufficient to confirm if the construction activities meet the contractual requirements, determine the state and health of affected environmental resources,

and determine the effectiveness of mitigation measures. Reports shall be prepared by the PPMBs to ADB and the GOV on a regular basis.

Annex A. Rapid Environmental Assessment

Instructions:

- (i) The project team completes this checklist to support the environmental classification of a project. It is to be attached to the environmental categorization form and submitted to Environment and Safeguards Division (RSES) for endorsement by Director, RSES and for approval by the Chief Compliance Officer.
- (ii) This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB's (a) checklists on involuntary resettlement and Indigenous Peoples; (b) poverty reduction handbook; (c) staff guide to consultation and participation; and (d) gender checklists.
- (iii) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

Country/Project Title:

Sector Division:

Screening Questions	Yes	No	Remarks
<p>A. Project siting</p> <p>Is the project area adjacent to or within any of the following environmentally sensitive areas?</p> <hr style="border: 0.5px solid blue;"/>			
<ul style="list-style-type: none"> ▪ Cultural heritage site 			
<ul style="list-style-type: none"> ▪ Protected area 			
<ul style="list-style-type: none"> ▪ Wetland 			
<ul style="list-style-type: none"> ▪ Mangrove 			
<ul style="list-style-type: none"> ▪ Estuarine 			
<ul style="list-style-type: none"> ▪ Buffer zone of protected area 			
<ul style="list-style-type: none"> ▪ Special area for protecting biodiversity 			
<p>B. Potential environmental impacts</p> <p>Will the project cause...</p> <hr style="border: 0.5px solid blue;"/>			
<ul style="list-style-type: none"> ▪ encroachment on historical/cultural areas, disfiguration of landscape and increased waste generation? 			
<ul style="list-style-type: none"> ▪ encroachment on precious ecosystem (e.g. sensitive or protected areas)? 			

Screening Questions	Yes	No	Remarks
▪ alteration of surface water hydrology of waterways crossed by roads and resulting in increased sediment in streams affected by increased soil erosion at the construction site?			
▪ damage to sensitive coastal/marine habitats by construction of submarine cables?			
▪ deterioration of surface water quality due to silt runoff, sanitary wastes from worker-based camps and chemicals used in construction?			
▪ increased local air pollution due to rock crushing, cutting and filling?			
▪ risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?			
▪ chemical pollution resulting from chemical clearing of vegetation for construction site?			
▪ noise and vibration due to blasting and other civil works?			
▪ dislocation or involuntary resettlement of people?			
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?			
▪ social conflicts relating to inconveniences in living conditions where construction interferes with pre-existing roads?			
▪ hazardous driving conditions where construction interferes with pre-existing roads?			
▪ creation of temporary breeding habitats for vectors of disease such as mosquitoes and rodents?			
▪ dislocation and compulsory resettlement of people living in right-of-way of the power transmission lines?			
▪ environmental disturbances associated with the maintenance of lines (e.g. routine control of vegetative height under the lines)?			

Screening Questions	Yes	No	Remarks
<ul style="list-style-type: none"> ▪ facilitation of access to protected areas in case corridors traverse protected areas? 			
<ul style="list-style-type: none"> ▪ disturbances (e.g. noise and chemical pollutants) if herbicides are used to control vegetative height? 			
<ul style="list-style-type: none"> ▪ large population influx during project construction and operation that cause increased burden on social infrastructure and services (such as water supply and sanitation systems)? 			
<ul style="list-style-type: none"> ▪ social conflicts if workers from other regions or countries are hired? 			
<ul style="list-style-type: none"> ▪ poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases from workers to local populations? 			
<ul style="list-style-type: none"> ▪ risks to community safety associated with maintenance of lines and related facilities? 			
<ul style="list-style-type: none"> ▪ community health hazards due to electromagnetic fields, land subsidence, lowered groundwater table, and salinization? 			
<ul style="list-style-type: none"> ▪ risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation? 			
<ul style="list-style-type: none"> ▪ community safety risks due to both accidental and natural hazards, especially where the structural elements or components of the project (e.g., high voltage wires, and transmission towers and lines) are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning? 			

Climate Change and Disaster Risk Questions	Yes	No	Remarks
<p>The following questions are not for environmental categorization. They are included in this checklist to help identify potential climate and disaster risks.</p>			
<ul style="list-style-type: none"> ▪ Is the Project area subject to hazards such as earthquakes, floods, landslides, tropical cyclone winds, storm surges, tsunami or volcanic eruptions and climate changes (see Appendix I)? 			

<ul style="list-style-type: none"> ▪ Could changes in precipitation, temperature, salinity, or extreme events over the Project lifespan affect its sustainability or cost? 			
<ul style="list-style-type: none"> ▪ Are there any demographic or socio-economic aspects of the Project area that are already vulnerable (e.g. high incidence of marginalized populations, rural-urban migrants, illegal settlements, ethnic minorities, women or children)? 			
<ul style="list-style-type: none"> ▪ Could the Project potentially increase the climate or disaster vulnerability of the surrounding area (e.g., increasing traffic or housing in areas that will be more prone to flooding, by encouraging settlement in earthquake zones)? 			

Annex B. Outline of an Environmental Assessment Report

This outline is part of the Safeguard Requirements 1. An environmental assessment report is required for all environment category A and B projects. Its level of detail and comprehensiveness is commensurate with the significance of potential environmental impacts and risks. A typical EIA report contains the following major elements, and an IEE may have a narrower scope depending on the nature of the project. The substantive aspects of this outline will guide the preparation of environmental impact assessment reports, although not necessarily in the order shown.

A. Executive Summary

This section describes concisely the critical facts, significant findings, and recommended actions.

B. Policy, Legal, and Administrative Framework

This section discusses the national and local legal and institutional framework within which the environmental assessment is carried out. It also identifies project-relevant international environmental agreements to which the country is a party.

C. Description of the Project

This section describes the proposed project; its major components; and its geographic, ecological, social, and temporal context, including any associated facility required by and for the project (for example, access roads, power plants, water supply, quarries and borrow pits, and spoil disposal). It normally includes drawings and maps showing the project's layout and components, the project site, and the project's area of influence.

D. Description of the Environment (Baseline Data)

This section describes relevant physical, biological, and socioeconomic conditions within the study area. It also looks at current and proposed development activities within the project's area of influence, including those not directly connected to the project. It indicates the accuracy, reliability, and sources of the data.

E. Anticipated Environmental Impacts and Mitigation Measures

This section predicts and assesses the project's likely positive and negative direct and indirect impacts to physical, biological, socioeconomic (including occupational health and safety, community health and safety, vulnerable groups and gender issues, and impacts on livelihoods through environmental media), and physical cultural resources in the project's area of influence, in quantitative terms to the extent possible; identifies mitigation measures and any residual negative impacts that cannot be mitigated; explores opportunities for enhancement; identifies and estimates the extent and quality of available data, key data gaps, and uncertainties associated with predictions and specifies topics that do not require further attention; and examines global, transboundary, and cumulative impacts as appropriate.

F. Analysis of Alternatives

This section examines alternatives to the proposed project site, technology, design, and operation - including the no project alternative - in terms of their potential environmental impacts; the feasibility of mitigating these impacts; their capital and recurrent costs; their suitability under local conditions; and their institutional, training, and monitoring requirements. It also states the basis for selecting the particular project design proposed and, justifies recommended emission levels and approaches to pollution prevention and abatement.

G. Information Disclosure, Consultation, and Participation

This section:

- (i) describes the process undertaken during project design and preparation for engaging stakeholders, including information disclosure and consultation with affected people and other stakeholders;
- (ii) summarizes comments and concerns received from affected people and other stakeholders and how these comments have been addressed in project design and mitigation measures, with special attention paid to the needs and concerns of vulnerable groups, including women, the poor, and Indigenous Peoples; and
- (iii) describes the planned information disclosure measures (including the type of information to be disseminated and the method of dissemination) and the process for carrying out consultation with affected people and facilitating their participation during project implementation.

H. Grievance Redress Mechanism

This section describes the grievance redress framework (both informal and formal channels), setting out the time frame and mechanisms for resolving complaints about environmental performance.

I. Environmental Management Plan

This section deals with the set of mitigation and management measures to be taken during project implementation to avoid, reduce, mitigate, or compensate for adverse environmental impacts (in that order of priority). It may include multiple management plans and actions. It includes the following key components (with the level of detail commensurate with the project's impacts and risks):

(i) Mitigation:

- a. identifies and summarizes anticipated significant adverse environmental impacts and risks;
- b. describes each mitigation measure with technical details, including the type of impact to which it relates and the conditions under which it is required (for instance, continuously or in the event of contingencies), together with designs, equipment descriptions, and operating procedures, as appropriate; and
- c. provides links to any other mitigation plans (for example, for involuntary resettlement, Indigenous Peoples, or emergency response) required for the project.

(ii) Monitoring:

- a. describes monitoring measures with technical details, including parameters to be measured, methods to be used, sampling locations, frequency of measurements, detection limits and definition of thresholds that will signal the need for corrective actions; and
- b. describes monitoring and reporting procedures to ensure early detection of conditions that necessitate particular mitigation measures and document the progress and results of mitigation.

(iii) Implementation arrangements:

- a. specifies the implementation schedule showing phasing and coordination with overall project implementation;
- b. describes institutional or organizational arrangements, namely, who is responsible for carrying out the mitigation and monitoring measures, which may include one or more of the following additional topics to strengthen environmental management capability: technical assistance programs, training programs, procurement of equipment and supplies related to environmental management and monitoring, and organizational changes; and
- c. estimates capital and recurrent costs and describes sources of funds for implementing the environmental management plan.

(iv) Performance indicators: describes the desired outcomes as measurable events to the extent possible, such as performance indicators, targets, or acceptance criteria that can be tracked over defined time periods.

J. Conclusion and Recommendation

This section provides the conclusions drawn from the assessment and provides recommendations.

Annex C. Terms of Reference for Consulting Services for Environmental Assessment

A. Objectives

The objective of the consulting services is to ensure the environmental soundness and sustainability of the project and to support the integration of environmental considerations into the project-making process. This will be achieved by conducting environmental impact assessment (EIA) or initial environmental examination (IEE) of the proposed subproject to identify potential environmental impacts on physical, ecological, socioeconomic, and physical cultural resources, and preparing EIA/IEE report with environmental management plan in accordance with the ADB's Safeguard Policy Statement (2009). The duration of an EIA study is 4 months and an IEE study - 2 months.

B. Scope of Work

The consultant's scope of work will include the following tasks:

- Primary data (including baseline data if there are no existing data) collection and analysis;
- Analysis of the earlier studies including ecological, geotechnical, hydrogeologic, and other relevant studies for each sub-project;
- Assessment of environmental impacts and development of mitigation measures.
- Examination of alternatives that will include alternatives to the project's location, design, technology, as well as "no project" alternative;
- Public consultations with affected people (at least two round consultations for EIA and one consultation for IEE) ensuring participation of all stakeholders including non-governmental organizations, women. The list of people attended the consultation, time and locations, subjects discussed during consultation will be recorded in systematic manner and attached in the EIA/IEE report as an appendix;
- Establish the Grievance Redress Mechanism to address stakeholder's complaint on the environment;
- Preparation of EMP and EMoP
- Preparation of IEE/EIA report in accordance with ADB's Safeguard Policy Statement (2009).

C. Team Composition and Organization

Composition of an environmental assessment team will depend on the level of environmental assessment required (IEE or EIA), as well as location, type and magnitude of the project. In general, it will be based on the following requirements:

- both international and domestic specialists will be involved in environmental assessment process;
- in case of an IEE, the team will be composed of, in most cases, environmental specialists;
- in case of an EIA, sub-specialists such as biologists, hydrologists, botanists, etc. will be brought into the process depending on the subproject sensitive field;
- the Team Leader (International Environmental Specialist) will have 10-15 years of experience in environmental assessment, environmental management and monitoring, construction supervision of projects including road construction, team management skills, experience working in teams of multi-discipline experts and leading a national

team of consultants, understanding of administrative, procedural, and technical requirements of environmental assessment;

- Domestic Specialists will be graduates in environmental science, environmental engineering, geological science, engineering hydrology, biology or related discipline with significant experience in environmental management and monitoring of projects, environmental assessment and/or design and implementation of environmental mitigation measures.

Annex D. Terms of Reference for Project Implementation Consultant (Environment and Natural Resources Specialist)

OBJECTIVES:

1. Lead and coordinate safeguard policy compliance for environment and provide assessment during project implementation.
2. Lead, monitor, and report on compliance of the subproject(s) with the implementation of the Environmental Management Plan (EMP) and Environmental Monitoring Plan (EMoP) to ensure that ADB and GOV environmental policy requirements are met.
3. Lead in the implementation of an environment, health and safety training program for workers and community.
4. Ensure relevant safeguard compliance documentation of the subprojects.

SCOPE OF WORK:

1. Guidance and Advisory Function

- Lead and provide guidance and advice on environment safeguard compliance issues for the subprojects, in consultation with the NPT, EVN, and power management board.
- Identify and resolve environmental issues
- Advise the power transmission company on the improvement of environmental compliance
- Coordinate closely with the power transmission company and contractors in ensuring environmental safeguard compliance.

2. Environmental Safeguard Policy Compliance Monitoring

- Monitor environmental safeguard policy compliance of subprojects during implementation and review implementation issues
- Identify, monitor and report on outstanding issues related to environmental compliance and coordinate immediate action to resolve these issues
- Validate implementation of EMP and EMoP by the contractors during the construction phase.
- Work closely with power transmission company in the implementation of the EMP and EMoP.
- Prepare regular monitoring reports for ADB and GOV in coordination with the power transmission company.

3. Institutional Capacity Building

- Conduct a training program on environmental management, occupational health and safety and community health and safety/awareness in coordination with contractors and power transmission company staff.
- Share information on best international environmentally sustainable construction practices
- Ensure the on-going learning and development of power transmission company staff on environmental management.
- Supervise the performance of assigned staff on environmental management, provide clear direction and regular monitoring and feedback on performance.

EDUCATION REQUIREMENTS

A university degree in environmental management/sciences, environmental engineering, or other related fields.

RELEVANT EXPERIENCE AND OTHER REQUIREMENTS

- At least 8 years of relevant professional experience in environmental management
- Familiarity with ADB environment policy, and environmental safeguard compliance requirements
- Sound knowledge of environmental policy and regulatory frameworks of GOV.