

# Environmental Assessment and Review Framework

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## VIE: Basic Infrastructure for Inclusive Growth in the North Central Provinces Sector Project

Prepared by the Provincial People's Committee of the provinces of Nghe An, Ha Tinh, Quang Binh and Quang Tri for the Asian Development Bank.

## CURRENCY EQUIVALENTS

(as of 12 June 2017)

Currency unit	–	Viet Nam Dong (D)
D1.00	=	\$0.000044
\$1.00	=	Đ 22,680

## ABBREVIATIONS

ADB	-	Asian Development Bank
DONRE	-	Department of Natural Resources and Environment
DPC	-	District People Committee
EARF	-	environmental assessment review framework
EIAR	-	environmental impact assessment report
EMP	-	environmental management plan
EPP	-	environmental protection plan
IEE	-	initial environmental examination
LEP	-	Law on Environment Protection
LIC	-	loan implementation consultant
PMU	-	project management unit
PPC	-	Provincial People's Committee
SPS	-	Safeguard Policy Statement

## NOTE

- (i) In this report, "\$" refers to US dollars.

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## I. INTRODUCTION

### A. The Project

1. The Basic Infrastructure for Inclusive Growth Project in the North Central Provinces Sector Project including Nghe An, Ha Tinh, Quang Tri and Quang Binh, will invest Provincial Socio-Economic Development Plans with a focus on transport network connectivity, applying subregion planning which prioritizes the “inter” and “intra” relationships amongst the north central coastal region and the northern and southern regions of Viet Nam as a core strategy for accelerating growth. The Plan targets investments that utilize the subregion's comparative advantage to increase competitiveness and to attract increased private investment for the economic development of the subregion. The expected impact accelerates socio-economic development of the North Central Provinces in accordance with the Provincial Socio-Economic Development Plans. The outcome will be enhanced opportunities for increased inclusive economic growth.

2. The project has the following outputs: (i) improved transport infrastructure; (ii) improved infrastructure for business development; and (iii) professionally managed provincial infrastructure. Each province prepared a long list of proposed subprojects in accordance with the provincial socio-economic development plans. A total of 35 subprojects were put forward, out of which 24 subprojects were proposed under output 1: improved transport infrastructure, and 11 subprojects under output 2: improved infrastructure for business development.

3. Given the limited environmental impacts expected from the subprojects, the project has been categorized as ‘B’ for environment in accordance with the Safeguard Policy Statement (SPS, 2009)<sup>1</sup> of the Asian Development Bank (ADB). This environmental assessment and review framework (EARF) is prepared to guide the screening of subprojects, set out institutional arrangements, responsibilities and procedures in relation to environmental management and monitoring, and define environmental assessment requirements complying with the applicable laws and regulations of the Government and with ADB SPS (2009).

### B. Subproject Types to be Assessed

4. **Output 1:** In support of the strategy of the Government of Viet Nam and the four north central provinces to improve their competitive advantage through increasing the efficiency of the transport network. Subprojects will include upgrading and rehabilitating existing roads in the horizontal network enabling faster, safer and cheaper movement of freight, tourists and passenger services. A total of 24 road sections have been put forward by provinces for review for inclusion in the project, including 3 proposed representative subprojects covering 48.8km. Eligible infrastructure may include: (i) lengths of road; (ii) bridges and other cross drainage structures; (iii) measures to stabilize the environment around the assets against climate change impacts such as landslides and/or sea level rise; and (iv) road and traffic safety intervention. Subprojects need to reflect the following criteria:

- (i) Contributes to the inter-provincial connectivity;
- (ii) Be consistent with medium and long-term sector and socio-economic development plans at the subregion, provincial and district levels;

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<sup>1</sup> ADB. 2009. Safeguard Policy Statement. Manila.

- (iii) Supports inclusive development by promoting engagement of rural communities as beneficiaries of subprojects;
- (iv) Builds network efficiencies beyond the extent of the road section;
- (v) All subprojects will be category B or C in ADB safeguard categories;
- (vi) Include climate change considerations into the subproject detailed engineering design as per the climate change design guidelines prepared during the PPTA;
- (vii) Include road and traffic safety considerations into the design and for vulnerable road users; and
- (viii) Have investment levels estimated in the range of \$8 to \$15 million (with any exceptions specifically justified).

5. **Output 2:** This output will support improved infrastructure for business development, including water supplies, irrigation system improvements, support to natural resource management including aquaculture agriculture and horticulture and support to tourism. The provinces have put forward 11 subprojects for review, of which one, a water supply subproject, is a proposed representative subproject. Subprojects need to reflect the following criteria:

- (i) Include in the Provincial Socio-Economic Development Plan and part of the respective district plans,
- (ii) For water supply schemes the water source will be identified with supporting hydrological records
- (iii) The primary outcome of the subproject is inclusiveness in economic and social benefits and environmental protection.
- (iv) All subprojects will be category B or C in ADB safeguard categories.
- (v) Clear ownership of the assets will be established once the subproject is completed
- (vi) Assets for the speculation of land value and sales are not eligible
- (vii) Include climate change considerations into the subproject detailed engineering designs
- (viii) The economic rate of return from the investment is at least 9% the ADB discount rate for economic infrastructure
- (ix) The subprojects will have investment levels estimated in the range of \$1 to \$5 million (with any exceptions specifically justified)
- (x) Indicative subprojects are likely to include sea dykes, river embankments, drainage and irrigation canals, water supply and sanitation schemes, environmental protection and waste management systems, flood evacuation and irrigation infrastructure, aquaculture infrastructure, and water transport infrastructure.

## II. ASSESSMENT OF LEGAL FRAMEWORK AND INSTITUTIONAL CAPACITY

### A. Legal Framework

6. The principles and procedures for the environmental assessment of projects in Viet Nam are founded on the Law on Environment Protection (LEP) No.55/2014/QH13 which came into effect from 1 January 2015, (superseding the previous LEP of 1993, revised in 2005). The LEP provides the basis of the requirement for environmental assessment, key roles and responsibilities, and for public consultation. Under the LEP, the following decree and circular on environmental assessment and institutional arrangements for the approval of environmental assessments apply:

- (i) Decree No. 18/2015/ND-CP dated February 14th 2015 on regulation of Environmental Protection Planning, Strategic Environmental Assessment and Environmental Protection Plans: requires environmental assessments to be prepared concurrently with project Feasibility Studies/ Investment Reports; sets out the required degree of environmental assessment and establishes requirements for appraisal of environmental assessment documents by the Government (i.e. a Strategic Environmental Assessment, an Environmental Impact Assessment Report (EIAR) or an Environmental Protection Plan (EPP); and
- (ii) Circular No. 27/2015/TT-BTNMT dated May 29th, 2015 of the Ministry of Natural Resources and Environment for guidelines on Strategic Environmental Assessment, EIAR and EPP. This provides the required structure and content of these reports and provides further details of the required public consultation activities.

### B. Level and Process of Environmental Assessment and Public Disclosure

7. In accordance with Decree No. 18/2015/ND-CP, an Environmental Assessment Report is required for all development projects, either an EIAR or an EPP. In broad terms, an EIAR is required for projects of the type and scale listed in Annex II or Annex III of the Decree No. 18/2015/ND-CP which are deemed to have the potential to cause significant adverse impacts. This includes projects located in or adjoining protected areas or other areas that are environmentally sensitive (including proposed protected areas). A project that requires an EIAR is not necessarily equivalent to a category A project in the meaning of the ADB's safeguard policy.

8. Once EIARs are prepared, they are submitted to the Ministry of Natural Resources and Environment or Department of Natural Resources and Environment (DONRE) that provides certification on approval.<sup>2</sup> The project owner submits copies of the approved EIAR and certification to the Commune Peoples' Committees. The project owner also prepares a summary of the report for public display at the relevant Commune People's Committee office. During the course of project implementation, the project owner is required to submit details of construction and reports on compliance with mitigation and monitoring requirements in the EIAR.

9. Smaller projects without the potential for significant adverse impacts will be subject to a lesser level of assessment in the form of an EPP. EPPs are required to be submitted for appraisal at the time of Subproject Investment Report preparation. Chapter V of Decree No. 18/2015/ND-

<sup>2</sup> Annex III of the Decree No. 18/2015/ND-CP provides a list of projects requiring an EIAR, which are to be reviewed, approved and certified by the Ministry of Natural Resources and Environment; for projects of types listed in Annex II but not Annex III, the relevant DONRE will review, and certify on approval.

CP and Chapter VI of Circular No. 27/2015/TT-BTNMT details the procedures for EPPs. Under the article in these chapters, the authority that receives and certifies the EPP is the District People's Committee of the locality in which the subproject is situated. Decree No. 18/2015/ND-CP regulates that for the projects are implemented in two districts or more but within one province, the project owners should register EPP at DONRE. The content and format of the EPP are presented in the Annex 5.5 and 5.6 to Circular No. 27/2015/TT-BTNMT. The EPP must include information on mitigation measures that will be taken. The EPP obliges the Provincial People's Committee to ensure that the specified mitigation is carried out during project implementation. On receipt of the EPP, it is registered by the Commune People's Committee.

10. The essential differences between preparation processes for an EPP and an EIAR are: (i) the structure and content of the report; (ii) the level of investigation, analysis and reporting required; and (iii) the requirement for formalized consultation within the EIAR. Once EPPs are required under Circular No. 27/2015/TT-BTNMT, public consultation and disclosure are not compulsory.<sup>3</sup> However, public consultation and disclosure is required by ADB.<sup>4</sup>

### C. Compliance with ADB Safeguard Policy Statement (SPS) 2009

11. To follow SPS 2009, the project is screened and classified to reflect its type, location, scale, and sensitivity and the magnitude of its potential environmental impacts. Projects are assigned to one of the following four categories:

- (i) **Category A.** A proposed project is classified as category A if it is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works. An environmental impact assessment is required.
- (ii) **Category B.** A proposed project is classified as category B if its potential adverse environmental impacts are less adverse than those of category A projects. These impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects. An initial environmental examination is required.
- (iii) **Category C.** A proposed project is classified as category C if it is likely to have minimal or no adverse environmental impacts. No environmental assessment is required although environmental implications need to be reviewed.
- (iv) **Category FI.** A proposed project is classified as category FI if it involves investment of ADB funds to or through a financial intermediaries (FI) requirement. ADB conducts safeguard due diligence to assess the potential environmental and social impacts and risks associated with the FI's existing and likely future portfolio, and its commitment and capacity in social and environmental management.

12. BIIG 2 project has been initially classified as category B in project categorization to implicate that the potential environment impacts of its individual subprojects are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects. To comply with SPS 2009 requirements, the processes of subproject environment categorization and IEE preparation for each proposed subproject are

<sup>3</sup> In the public consultation is required for SEA and EIAR only.

<sup>4</sup> ADB. 2009. *Safeguard Policy Statement*. Manila. Under this policy, the "Information Disclosure, Consultation, and Participation" is required for all environment category A and B projects.



identified in section (IV) and the measures for filling the gap of meaningful consultation, information disclosure and grievance redress mechanism (GRM) are indicated in section (V) of this EARF.

### **III. ANTICIPATED ENVIRONMENTAL IMPACTS**

13. Initial environmental examinations (IEEs) are prepared for four representative subprojects. The IEEs will identify potential impacts, appropriate mitigation measures, and monitoring mechanisms. Serious negative environmental impacts are unlikely since subprojects will primarily involve upgrading of road infrastructure mainly within the existing right of way which will minimize land clearance and slope cutting, while improvements to drainage and slope integrity will mitigate existing environmental risks. Subprojects for business development are wider ranging and include water supply improvements comprising mainly of upgrading existing supply, distribution and treatment facilities. Other subprojects may include irrigation system improvement, installation of facilities in tourism areas such as roads, pathways and other sanitation facilities.

14. The main potential environmental concerns include (i) dam and dyke safety issues, and soil erosion and reservoir sedimentation relating to the design of upgrading dyke and reservoir; (ii) construction impacts including water pollution due to soil erosion, solid and wastewater from worker camps and public nuisance; air pollution and traffic safety caused by construction transport and; obstacles on agriculture cultivation during construction of upgrading irrigation canal and reservoir; (iii) some small areas of protection and production forest can be acquired for construction of water treatment plant and upgrading roads which will need to be compensated through implementation of an additional reforestation program; (iv) engineering design for all civil works will need to accommodate greater severity and frequency of extreme environmental events ; (v) risks associated with poor irrigation scheme operation, such as potential impact on downstream due to releasing water from reservoir and inadequate regulation of water supply leading to conflict of water use among users (vi) the effects of intensification of agriculture, such as increased use of pesticides and fertilizers when the upgraded irrigation canals putting in operation.

15. The Project has a strong capacity building support for the government, community, and academic institutions to build their technical knowledge and capacity to sustain the project benefits and consequently minimize potential environmental impact during construction and operation stages. First, it will strengthen the capacity of the local government officials, Water Supply Management Company, Irrigation Management Company and DPI, DARD, DOT by (i) improving connectivity within value chains and their supporting infrastructure and improving business development infrastructure; (ii) using whole asset life analysis with realistic maintenance assumptions as the basis for design and sustainable management; and (iii) delivering the formal and non-formal training to upgrade their qualifications and improve their knowledge on value chains and business development infrastructure.

### **IV. ENVIRONMENTAL ASSESSMENT FOR SUBPROJECTS**

#### **A. Responsibilities and Authorities**

16. The executing agency is the Provincial People's Committee (PPC) in each province, who will establish a project management unit (PMU). The PMU will retain responsibilities for central level project management and coordination. Each PMU will assign an Environmental Safeguard Officer (ESO), on behalf of the PMU responsible for supervision of environment management

plan implementation integrated in the feasibility studies, detailed design, day-to-day management of subproject implementation. Each PMU will also recruit one Environment Safeguard Specialist (ESS) under the Loan Implementation Consultants (LIC) to support subproject implementation. The ESS will support the PMU to review the prepared additional IEEs as well as monitor the implementation of subproject. Commune Supervision Boards will be engaged to monitor construction activities.

17. Subproject Screening and Categorization. Subproject selection and screening ensures that only subprojects ranked as Category B or C to follow ADB SPS 2009 will be included in the list of eligible subprojects for possible funding under the proposed Project. It is anticipated that all eligible subprojects will fall into Category B, whereby some adverse environmental impacts are expected additional subprojects will be screened by carrying out initial site visits to view local conditions, identify potential negative impacts, climate risk and complete Rapid Environmental Assessment Checklists to ensure that the potential range of impacts has been considered and the categorization confirmed. Subprojects located in protected areas or that involve significant involuntary resettlement (i.e. more than 200 affected persons will be resettled or lose 10% or more of their productive assets), will automatically be excluded. ESO appointed by the PMU will carry out the safeguard screening and determine the need for IEE/EPP or IEE/EIAR.

18. IEE/EPP Preparation. An IEE/EPP needs to be prepared if a subproject is classified as environmental category B following ADB SPS 2009. The IEE must identify and assess potential environmental impacts of the pre-construction, construction and the operation phases of the subproject including climate change resilience, especially for the dyke and reservoir upgrading subprojects. Based on the potential identified negative impacts, the IEE will propose adequate mitigation measures to address each impact of the subproject. All impacts and mitigation measures will be included in the environmental management plan (EMP). The PMU will select an appropriate national consulting firm to prepare the IEE/EPP, with support from ESO/ESS and update the representative IEE/EMP prepared by the PPTA Consultants if needed to reflect any change in the subproject detail design. The IEE/EPP should include the subproject scope, baseline information, materials to be used construction techniques, impact assessment, mitigation and environmental monitoring, and a minute of public consultation. The content and format of the IEE report should satisfy the requirements of both ADB and the Government of Viet Nam (EPP).<sup>5</sup> Adequate public consultation needs to be carried out to share and get feedback on the initial findings of the IEE.

19. Review of IEE/EPPs: On completion, IEE/EPP reports will be reviewed initially by the PMU with the support from ESS, and if satisfactory, IEE/EPP reports will be forwarded to relevant PPC for approval. The environmental assessment and review procedures for IEE/EPP are as follows:

- (i) PMU reviews IEE/EPP reports;
- (ii) If found satisfactory, the PMU will forward to relevant PPC for approval and submit the IEE/EPP for each subproject to ADB for review, endorsement and uploading on the ADB website.

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<sup>5</sup> Most of the subprojects will involve rehabilitation or update of existing infrastructure. Under Decision 18/2015/ND-CP, subprojects to be financed under the Project are unlikely to be failed in Attachment II or IV, corresponding to environmental category "B" or "C" under ADB's policy. Therefore, a simplified assessment –Environmental Protection Plan (EPP) will be required.

20. All these institutional arrangements for environment have been discussed and agreed with execution agency and budget included in the project documents.

## **B. Environmental Monitoring Requirements**

21. Environmental monitoring consists of environmental effects and compliance monitoring (Attachment 2). Environmental effects monitoring includes air and water quality monitoring parameters.

22. An Environmental Management Plan (EMP) needs to be included in all IEE reports. The EMP summarizes all mitigation measures (in the pre-construction, construction and operations phases) that have been identified in respect of potential environmental impacts. For each mitigation measure, the EMP must list the impact to be mitigated, describe the mitigation measure, and estimate the cost or allocate responsibility for meeting the cost, and state the agency responsible for implementation of each mitigation measure. For guidance, an EMP is included with the IEE for each representative subproject.

23. The EMP is used in the preparation of bidding documents for the construction works, ensuring that bidders are aware of the environmental mitigation to be undertaken during construction, and to enable them to price their bids accordingly. The EMP also serves to guide the agencies responsible for project operation in exercising required mitigation measures.

## **V. PUBLIC CONSULTATION, INFORMATION DISCLOSURE AND GRIEVANCE**

24. **Public Consultation and Disclosure.** Public consultation shall include discussions with members of project beneficiary groups, affected persons and commune officials, as a part of IEE preparation, in order to ascertain any concerns that may need to be addressed. The consultation procedures shall be conducted as set out in the ADB's SPS (2009):

- (i) A summary of the proposed works under the subproject;
- (ii) A summary of subproject objectives and likely positive and negative environmental impacts, covering the impacts in design, construction and operation phases for engaging stakeholders, including information disclosure and consultation with affected people and other stakeholders;
- (iii) Invitation for feedback in respect of any areas of concern that the public may have, and suggested means of implementation; A summary will be prepared of 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;
- (iv) Acceptability of the proposed works to the public; and
- (v) Request for information on the known occurrence of unexploded ordinance in the area where the scheme components will be built and facilitating participation of affected people during project implementation.

25. Dates, attendees, topics covered and conclusions should be recorded and included with the IEE report. Once the IEE is completed, it should be made available to the public for a period

of at least 30 days. For this purpose, the IEEs should be translated into the local languages and distributed to the CPCs/DPCs, and made available for public review. All IEEs will be submitted to ADB for disclosure on the ADB website.

26. **Grievance Redress Mechanism.** The grievance redress mechanism has been developed (Attachment 3) to ensure that any complaint raised by the community related to adverse environmental impacts will be addressed in a timely manner. In each subproject commune, Community Supervision Board will be set up and facilitate the timely facilitation and mediation of the grievance process. The grievance redress mechanism will be disclosed with the IEE and other safeguard documents to ensure that potentially affected persons are aware of it and their entitlement to raise complaints. During construction, the Contractor will appoint a member of his staff to act as the focal point, who will liaise with the Community Supervision Board and, if appropriate, the complainant(s) to address and seek solutions to any grievance that relates to the contractor's actions.

27. The local government will closely coordinate with the PMU to solve the problems in a timely manner during the subproject implementation, as well as during the operation and maintenance period.

## **VI. INSTITUTIONAL ARRANGEMENT AND RESPONSIBILITIES**

28. National environmental specialists (24 person months) for each provincial PMU Loan Implementation Consultant (LIC) team that each project owner will contract. The specialist will assist PMUs to monitor and report the implementation of environmental measures. The proposed terms of reference are provided in the project administration manual.

## **VII. MONITORING AND REPORTING**

### **A. Environmental Monitoring Programs**

29. General environmental safeguard monitoring with associated grievance mechanisms is undertaken, by the construction supervision consultant and the environmental specialist on the LIC team during construction phase and by the Department of Transportation or any operating company during the operation phase, to ensure that the required policies and procedures and plans for minimization of negative environmental impacts. Typical environmental monitoring programs have been developed for road and for water subprojects. Environmental monitoring programs have been developed in terms of environmental effects monitoring and environmental compliance monitoring;

30. Environmental effects monitoring is carried out to examine impacts of the subproject in relation to ambient environmental conditions e.g. ambient air, noise, sensitive water bodies, soil and groundwater and sensitive ecosystems.

31. Environmental compliance monitoring is carried out to review compliance with operating procedures and technical standards and/or contractor specifications in the EMP e.g., the safety during construction, construction worker camp sanitation and hygiene conditions, wastes including hazardous disposal practices during construction, erosion control etc.

32. The environmental monitoring programs have been developed to reflect the generally low level of environmental impact expected to arise from subproject implementation. Moreover, monitoring methods have been developed in recognition of existing human and technical

resource levels and focus on observation based methods with quantitative monitoring recommended for key environmental issues only. For each specific subproject, the PMU will determine the appropriate level of environmental monitoring that best suits local conditions and the predicted level of environmental impact.

## B. Environmental Reporting System

33. Table 1 describes the reporting system that will apply to environmental management activities for each subproject.

**Table 1: Environmental Reporting System**

<b>Project Phase</b>	<b>Type of Report</b>	<b>Frequency</b>	<b>Responsibility</b>	<b>Submitted to Whom</b>
<b>Construction</b>	<b>Site Environmental Performance Report</b> indicating compliance with Site EMP and monitoring results	Monthly	Construction supervision consultant	LIC/PMU
	<b>EMP Compliance Report</b> indicating compliance with all subproject's EMPs and monitoring results	Quarterly	LIC	PMU
	<b>EMP Compliance Report</b> indicating compliance with all subproject's EMPs and monitoring results	Bi-annually or twice during construction depending on construction duration	PMU	ADB/DPC or DONRE
	<b>Subproject Environmental Report</b> indicating overall subproject environmental performance and EMP compliance	At completion of subproject	PMU	ADB/DPC or DONRE
<b>Operation</b>	<b>EMP Compliance Report: Operation</b> indicating compliance with subproject EMP commitments during operation	1 year for first two years of operation. Ongoing frequency to be determined based on review after 2 years.	DOT and/or Operating Company	ADB

ADB = Asian Development Bank, DONRE = Department of Natural Resources and Environment, DOT = Department of Transportation, DPC = District People Committee, EMP = environmental management plan, LIC = loan implementation consultant, PMU = project management unit.

### Attachment 1: Monitoring of IEE/EPP Implementation

Monitoring Parameter	Monitoring Method	Frequency of Monitoring	Responsibility for Monitoring
Verification of IEE/EPP preparation and approval before commencement of subproject construction	Verification of: (i) IEE/EPP document produced, (ii) GOV certificate issued, (iii) ADB no-objection issued	For all subprojects	PMU
		For all subprojects	PMU
Adequacy of IEE/EPP documentation to meet GOV requirements and ADB safeguard requirements	Review of IEE/EPP content to meet GOV safeguard requirements	For all subprojects	PMU
		For all subprojects	PMU
Budget and human resources expended on IEE/EPP preparation	Collection of data on (i) consultants fees, (ii) data acquisition and collection fees, (iii) PMU human resources	Cumulative and average data for all subprojects	PMU
Adequacy of public consultation / disclosure activities to meet GOV requirements and ADB safeguard requirements	Number and type of public consultation and disclosure events and key issues raised	For all subprojects	PMU

## Attachment 2: Environmental Monitoring

### Table 2.1: Environmental Monitoring Program for Rural Road Subprojects

#### A. ENVIRONMENTAL EFFECTS MONITORING

Target compartment	Parameters	Location	Methods	Frequency	Responsibility
<b>Construction Stage</b>					
Noise	Noise levels	Sensitive location (s)	Observation, use of noise meter to measure	In response to community complaints	Construction supervision consultant
Ambient air	Dust levels	Sensitive location (s)	Observation; Sampling and analysis	Weekly or during windy conditions	Construction supervision consultant
Water and Soil environment	Sediment loads, rubbish, oil or other visible pollutants	Waterbodies identified in the IEE as being potentially affected by the subproject	Observation, Sampling and analysis	Weekly and after large rain events	Construction supervision consultant
<b>Operation Stage</b>					
Surface water quality	Turbidity, general condition.	Representative waterbodies receiving road runoff	Observation and public consultation	2 times per year for first 2 years (1 time in wet season, 1 time in dry season)	DOT and/or Operating Company
Air quality	TPM or PM <sub>10</sub> ; NO <sub>x</sub> ; SO <sub>x</sub> ; CO compared to QCVN 05: 2013/BTNMT <sup>1</sup>	At representative receivers along road alignment	TCVN methods	1 time per year for first 2 years	DOT and/or Operating Company
Noise levels	Day time and night time dB(A) compared to QCVN 26:2010/BTNMT <sup>2</sup>	At representative receivers along road alignment	TCVN methods	1 time per year for first 2 years	DOT and/or Operating Company
Road safety	Number of road accidents and causes and severity of accidents	Along road alignment	Discussions with local authorities	1 time per year for first 2 years	DOT and/or Operating Company

<sup>1</sup> QCVN 05: 2013/BTNMT, National technical regulation on ambient air quality.

<sup>2</sup> QCVN 26:2010/BTNMT National Technical Regulation on Noise.

**B. ENVIRONMENTAL COMPLIANCE MONITORING**

<b>Mitigation Measure</b>	<b>Parameters/indicator</b>	<b>Location</b>	<b>Methods</b>	<b>Frequency</b>	<b>Responsibility</b>
<b><i>Pre-Construction Stage</i></b>					
UXO clearance	Certification of clearance	Affected areas	Observation	Prior to commencement of site works	PMU
<b><i>Construction Stage</i></b>					
Erosion and sediment controls	Condition and capacity of controls	Throughout construction site	Throughout construction site	After large rain events	Construction supervision consultant
Materials storage	Condition of materials storage areas	Throughout construction site	Observation	Weekly	Construction supervision consultant
Construction equipment and vehicles	Noise and exhaust generation; covering of trucks; oil/fuel leaks	Throughout construction site	Observation	Random	Construction supervision consultant
Construction camp conditions	Cleanliness; waste disposal facilities; general condition	All construction camps	Observation	Weekly	Construction supervision consultant
Vegetation clearing	Boundaries of vegetation clearing	Areas of sensitive vegetation	Observation	Weekly during clearing works	Construction supervision consultant
Property access	Reinstatement of temporary and permanent accesses	Affected properties	Observation	Once during and once following construction	Construction supervision consultant
Waste disposal	Site cleanliness and condition; temporary waste storage area	Throughout construction area	Observation	Weekly	Construction supervision consultant
Avoidance of heritage items	Boundaries of works in vicinity of heritage items	At affected items	Observation	Once during construction works	Construction supervision consultant
Areas of standing water	Ponded or undrained water	Throughout construction area	Observation	Weekly during rainy season	Construction supervision consultant
Development of borrow areas	Relevant Environmental approvals	Throughout construction area	Review of relevant documentation	Before commencement	PMU



Mitigation Measure	Parameters/indicator	Location	Methods	Frequency	Responsibility
	obtained for new sites			of resource extraction	
<b>Operation Stage</b>					
Erosion or scouring of waterways, areas of cut and fill	Condition of landscaping; stability of cut/fills	At representative sections along road alignment	Observation	6 monthly for first 2 years of operation	DOT and/or Operating Company
Drainage and flooding	Condition of drains, culverts and evidence of flooding of adjacent land use	At representative sections along road alignment	Observation	6 monthly for first 2 years of operation	DOT and/or Operating Company
Ponding of water on road alignment	Evidence of areas of ponded water	At representative sections along road alignment	Observation	During rainy season for first 2 years of operation	DOT and/or Operating Company
Waste management	Site cleanliness and condition	Throughout subproject area	Observation	6 monthly for first 5 years of operation	DOT and/or Operating Company

**Table 2. 2: Environmental Monitoring Program for Irrigation & Water Supply Subprojects**

**A. ENVIRONMENTAL EFFECTS MONITORING**

Target compartment	Parameters	Location	Methods	Frequency	Responsibility
<b>Construction Stage</b>					
Noise	Noise levels	At nearest residence(s)	Observation, use of noise meter to measure	In response to community complaints	Construction supervision consultant
Ambient air	Dust levels	At nearest residence(s)	Observation; Sampling and analysis	Weekly or during windy conditions	Construction supervision consultant
Water and Soil environment	Sediment loads, rubbish, oil or other visible pollutants	Water bodies identified in the IEE as being potentially affected by the subproject	Observation; Sampling and analysis	Weekly and after large rain events	Construction supervision consultant
<b>Operation Stage</b>					

Target compartment	Parameters	Location	Methods	Frequency	Responsibility
Domestic water supply quality	Parameters identified in Drinking Water Hygienic Standards QCVN 01:2009/BYT <sup>8</sup> / QCVN 02: 2009/BYT <sup>9</sup>	Communities in vicinity of subproject	Observation; Sampling and analysis	6 monthly for first 2 years of operation	DARD District Office and/or Operating Company
Public health	Reported incidence of waterborne diseases	Communities in vicinity of subproject	Interview	6 monthly for first 2 years of operation	DARD District Office and/or Operating Company
Water use conflicts	Reported conflicts in access to water resources	Communities in vicinity of subproject	Direct interview	6 monthly for first 2 years of operation	DARD District Office and/or Operating Company
Surface water quality	BOD, COD, pH, TSS, salinity, Total P, E. coli, Total coliform, Total N compared to QCVN 08-MT: 2015/BTNMT	Representative water bodies receiving agricultural runoff from subproject	TCVN methods	6 monthly for first 2 years of operation	DARD District Office and/or Operating Company
Soil quality	Evidence of salinity or acidification	At representative locations in irrigated area	Observation	2 times per year for first 2 years (1 time in wet season, 1 time in dry season)	DARD District Office and/or Operating Company

## B. ENVIRONMENTAL COMPLIANCE MONITORING

Mitigation Measure	Parameters/ Indicator	Location	Methods	Frequency	Responsibility
<b>Pre-Construction Stage</b>					
UXO clearance	Certification of clearance	Affected areas	Observation	Prior to commencement of site works	Construction supervision consultant
<b>Construction Stage</b>					
Erosion and sediment controls	Condition and capacity of controls	Throughout construction site	Observation	After large rain events	Construction supervision consultant

<sup>8</sup> QCVN 01:2009/BYT National technical regulation on drinking water quality by the Minister for Health.

<sup>9</sup> QCVN 02: 2009/BYT National technical regulation on domestic water quality by the Minister for Health.

<b>Mitigation Measure</b>	<b>Parameters/ Indicator</b>	<b>Location</b>	<b>Methods</b>	<b>Frequency</b>	<b>Responsibility</b>
Materials storage	Condition of materials storage areas	Throughout construction site	Observation	Weekly	Construction supervision consultant
Construction equipment and vehicles	Noise and exhaust generation; covering of trucks; oil/fuel leaks	Throughout construction site	Observation	Random	Construction supervision consultant
Construction camp conditions	Cleanliness; waste disposal facilities; general condition	All construction camps	Observation	Weekly	Construction supervision consultant
Vegetation clearing	Boundaries of vegetation clearing	Areas of sensitive vegetation	Observation	Weekly during clearing works	Construction supervision consultant
Property access	Reinstatement of temporary and permanent accesses	Affected properties	Observation	Once during and once following construction	Construction supervision consultant
Waste disposal	Site cleanliness and condition; temporary waste storage area	Throughout construction site	Observation	Weekly	Construction supervision consultant
Avoidance of heritage items	Boundaries of works in vicinity of heritage items	At affected items	Observation	Once during construction works	Construction supervision consultant
<b>Operation Stage</b>					
Use of irrigation water for domestic use	Water usage/allocation	Households in vicinity of irrigation canals	Observation and consultation	6 monthly for first 5 years of operation	DARD District Office and/or Operating Company
Condition of water storage	Condition of water storage facilities	Water storage areas	Observation	6 monthly for first 2 years of operation	DARD District Office and/or Operating Company
Protection of public safety	Presence of signage and measures to avoid accidents	In populated areas	Observation and consultation	6 monthly for first 2 years of operation	DARD District Office and/or Operating Company
Erosion or scouring of canals	Condition of canals;	In unlined sections	Observation	6 monthly for first 2 years of operation	DARD District Office and/or

<b>Mitigation Measure</b>	<b>Parameters/ Indicator</b>	<b>Location</b>	<b>Methods</b>	<b>Frequency</b>	<b>Responsibility</b>
	sediment loads in water				Operating Company
Prevention of slumping or erosion of canal banks	Bank condition	Representative locations in subproject	Observation	6 monthly for first 5 years of operation	DARD District Office and/or Operating Company
Waste management	Site cleanliness and condition; temporary waste storage areas	Throughout subproject area	Observation	6 monthly for first 5 years of operation	DARD District Office and/or Operating Company

### Attachment 3: Grievance Redress Mechanism

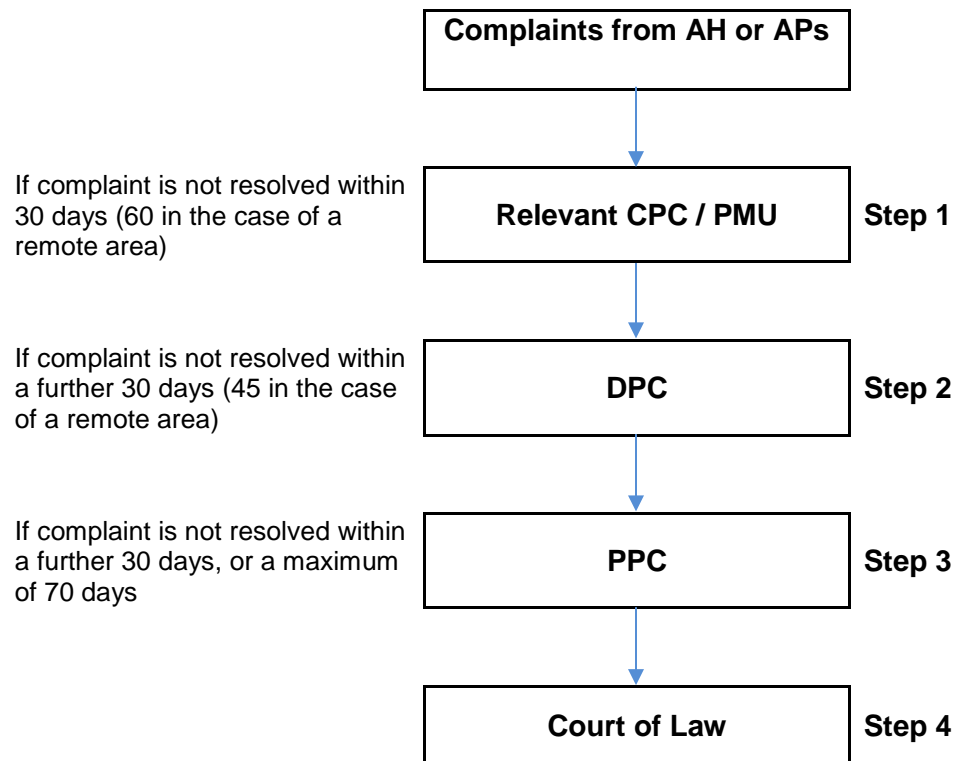
1. To ensure that all APs' grievances and complaints on any aspect of land acquisition, compensation and resettlement are addressed in a timely and satisfactory manner, and that all possible avenues are available to APs to air their grievances, a well-defined grievance redress mechanism needs to be established and disclosed to DPs and communities. All APs can send any questions to implementation agencies about their rights in relation with entitlement of compensation, compensation policy, rates, land acquisition, resettlement, allowance and income restoration. Furthermore, APs will not be ordered to pay any fee for the grievance and complaints at any level of trial and court. Efforts will be made to resolve complaints at the commune level. If not resolved, a complaint will be referred to the district and provincial level. If still not resolved, the complaint will be referred to the court for resolution. The project will shoulder all administrative and legal fees that might be incurred in the resolution of grievance and complaints.
2. The following stages for grievance redress are established based on Complaint Law no. 02/2011/QH13, dated 11/11/2011:
3. There are three steps to address complaints received from stakeholders:

**Stage 1:** If a household or individual has any complaint he/she can submit a complaint in written or verbal form to the representative of the CPC-community monitoring board (usually the Deputy Chairman of the commune/town). The CPC will work with PMU to solve complaints and a representative PMU will respond in written form to the complainant. The CPC, as a whole body will meet personally with the aggrieved affected household and will have 30 days and a maximum of 60 days after the lodging of the complaint to resolve the complaint, however, depending upon whether it is a complicated case or case comes from a remote area. The CPC secretariat is responsible for documenting and keeping file of all complaints that it handles.

**Stage 2:** If after 30 days or 45 days (in remote areas) the aggrieved affected household does not hear from the CPC, or if the affected household is not satisfied with the decision taken on his/her complaint, the affected household may bring the case, either in writing, to any member of the DPC. The DPC in turn will have 30 days or a maximum of 70 days after the lodging of the complaint to resolve the case, however, depending on whether the case is complicated or in remote area. The DPC is responsible for documenting and keeping file of all complaints that it handles and will inform the District Resettlement Committee (DRC) of any decision made and the DRC is responsible for supporting DPC to resolve AH's complaint. The DPC must ensure that the complainant is notified of the decision made

**Stage 3:** If after 30 days or 45 days (in remote area) the aggrieved affected household does not hear from the DPC, or if the affected household is not satisfied with the decision made on his/her complaint, the affected household may bring the case, either in writing, to any member of the PPC. The PPC has 30 days or a maximum of 70 days to resolve the complaint to the satisfaction of all concerned. However, depending if the case is complicated or from a remote area The PPC is responsible for maintaining records of complaints received, action taken and outcomes.

**Stage 4:** If efforts to resolve disputes using the grievance procedures remain unresolved or unsatisfactory, after a period of thirty days, complainants have the right to bring the case to a Court of law for adjudication. The decision of the Court is binding on all parties.



### Staffing Requirements & Budget for EARF Implementation

Environmental Management Activity	Staffing Requirements per Subproject		Marginal Cost Estimate per Subproject <sup>10</sup>
	PPMU Safeguards / Environment Officer		
Application of environmental criteria to subproject selection	Approximately 0.5 weeks		Included in project personnel salaries
Environmental categorization	Approximately 0.25 Weeks		Included in project personnel salaries
Preparation of environmental assessment documents: - Preparation of IEE/EPP	Approximately 2 weeks for IEE/EPP for TOR preparation, engagement of consultants, supervision of preparation, review and submission to PPMU		\$9,000 per IEE/EPP for consultant fees, data collection, site visits etc.
Public consultation and disclosure	Approximately 1 week		Included in budget for subproject management
Review of environmental assessment documents by GOV and issuance of no-objection by ADB	Approximately 1 week for liaison with ADB/GOV as required		Included in project personnel salaries
Monitoring and reporting of EMP implementation	Approximately 1 week		Included in project

### Indicative budget<sup>11</sup> for environmental safeguards component of LIC team per province

Item	Unit Cost	Quantity	Cost
National Environment Safeguards Specialist	\$3,000	24 months	\$72,000
Per Diem	\$1,050	12 months	\$12,600
Water Testing: Water Supply subprojects (Collection, delivery and analysis of samples)	\$150	48 (4 tests per subproject for assumed max of 8 subprojects)	\$7,200
EMP Miscellaneous costs	Depends on requirements of additional subprojects		\$83,000
<b>Total</b>			<b>\$174,800</b>

<sup>10</sup> Marginal cost estimates include those costs above and beyond salary costs for key project financed staff involved in EARF implementation

<sup>11</sup> Budget requirement will be determined by the final subproject designs

## **Attachment 4: Terms of Reference for LIC Environmental Safeguards Specialist**

### **Environment Specialists (24 p-m national)**

1. The specialist will have an appropriate tertiary qualification in environmental science or natural resource management from a recognized institution and will have more than 10 years' experience working in the field of environmental management of development projects, including at least two internationally funded projects. The experience will include environmental monitoring and the specialist will be familiar with the laws and regulations of Viet Nam associated with the environment. Training skills would also be an advantage.
2. Duties of the specialists will include the following:
  - (i) Review the environmental recommendations of the PPTA Final Report and the formats for environmental examinations contained therein;
  - (i) Assist with the screening of subprojects, completing REA checklists for candidate subprojects;
  - (ii) Brief the staff of the PMUs in participating provinces on environmental procedures and requirements for subproject preparation;
  - (iii) Visit each subproject during the subproject preparation to ensure environmental safeguards are being properly conducted providing advice and support for IEE preparation;
  - (iv) Assist the PPCs with the internal review of the initial environmental examinations and associated environmental management plans prepared for each subproject and assist with updating the draft IEEs in response to comments received;
  - (v) Assist the PMUs to ensure that EMP is adequately integrated in bidding document and civil contract;
  - (vi) Assist PMU in establishment and operation of environment management system described in EMP;
  - (vii) Undertake regular supervision of the contractor's environmental performance and carry out environment sampling program for surface/ground water quality, dust and noise as required in the EMP and, prepare semiannual monitoring report for submission to ADB and government environment authority and;
  - (viii) Assist in the preparation and implementation of training activities with regard to the environmental aspects of the Project.