

Environmental Assessment and Review Framework

June 2021

Viet Nam: Climate Resilient Inclusive Infrastructure for Ethnic Minorities Project I

Prepared by the Provincial People's Committee of the Provinces of Binh Dinh and Quang Nam
for the Asian Development Bank.

CURRENCY EQUIVALENTS

(as of 4 June 2021)

Currency unit	–	dong (D)
D1.00	=	\$0.000043
\$1.00	=	D23,035

ABBREVIATIONS

ADB	–	Asian Development Bank
CCP	–	Central Coastal Province
CEMP	–	Construction Environmental Management Plan
COVID-19	–	coronavirus pandemic
CPC	–	Community People’s Committee
CSB	–	Commune Supervision Board
CSC	–	construction supervision consultant
DONRE	–	Department of Natural Resources and Environment
DPC	–	District People’s Committee
EARF	–	environmental assessment and review framework
EIAR	–	environmental impact assessment report
EMC	–	ethnic minority community
EMP	–	environmental management plan
EPP	–	environmental protection plan
ESO	–	environmental safeguards officer
ESS	–	environmental safeguards specialist
GRM	–	grievance redress mechanism
IEE	–	initial environmental examination
IFC	–	International Finance Corporation
LEP	–	Law on Environmental Protection
LIC	–	loan implementation consultant
MONRE	–	Ministry of Natural Resources and Environment
ODA	–	official development assistance
PPC	–	Provincial People’s Committee
PPMU	–	professional project management unit
REA	–	Rapid Environmental Assessment
SEA	–	strategic environmental assessment
SPS	–	Safeguard Policy Statement
TRTA	–	transaction technical assistance

NOTES

In this report, "\$" refers to United States dollars.

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I. INTRODUCTION

A. The Project

1. The Climate Resilient Inclusive Infrastructure for Ethnic Minorities Project I (the project) will support the acceleration of inclusive socioeconomic development of Quang Nam and Binh Dinh provinces. The project is aligned with the National Target Program on New Rural Development for 2016–2020 and the Master Plan on Socioeconomic Development of Central Coastal Provinces (CCPs) through 2020.

2. The project investment targets nine of 29 districts within Binh Dinh and Quang Nam provinces with the highest proportion of ethnic minorities beneficiaries. These mostly remote western districts have very low population density meaning that most local inhabitants face extended travel times to access services and markets compared with high density areas where schools and health clinics are able to be provided closer. The impact of the project will be increased economic opportunities and service delivery for ethnic minority communities with the project outcome being service delivery and economic opportunities in the CCPs increased.

3. The project has the following outputs: (i) climate-resilient transport infrastructure improved, (ii) climate-resilient water resource infrastructure improved, and (iii) data systems for climate risk management upgraded.

4. Criteria used in subproject selection included the following:

- (i) For roads - adequate subproject data including (i) start and end points; (ii) Provincial People's Committee (PPC) approval of any new alignment sections; (iii) traffic counts and forecasts to 2035; (iv) passenger car unit (PCU) ratings for 2017 and 2035; (v) confirmed prioritization within Provincial Socioeconomic Development Plans with proposed road category consistent with 2035 PCU forecast.
- (ii) For water resource infrastructure:
 - a. Domestic water supply – adequate subproject data including: (i) clear registered and legal status of asset owner and operator; (ii) water supply data and demand projections for a minimum of 25 years, including demographic projection, migration factors; (iii) as appropriate, summary of the profit and loss statements for 5 years, tariff levels and collection details;
 - b. Irrigation – availability of water supply to support proposed cropping patterns, likely financial viability based on estimated investment per hectare of command area supporting incremental crop output; and
 - c. Other water infrastructure – based on perceived risk to (i) human life; (ii) public infrastructure and the cost of that infrastructure; (iii) livelihoods; and (iv) future economic returns as well as their priority within the following criteria.
- (iii) For technology and systems for climate resilient infrastructure the project has adopted a project modality that provides investment into improved technology through upgrading the hydromet data networks and data transmission networks. Selection is based on achieving reliable, consistent, and timely access to

information for early warning, and for infrastructure design. The scope of investment is limited to:

- a. rain gauging and associated agricultural meteorological stations;
 - b. river and reservoir flow and water levels; and
 - c. data capture and transmission equipment.
- (iv) Subprojects are included within the Provincial Socioeconomic Development Plans and medium-term investment plans.
 - (v) Commitment by executing agency to prepare feasibility study with technical engineering designs.
 - (vi) Commitment by executing agency to advance actions to prepare detailed designs and tender documents for representative subprojects.
 - (vii) Simple, logical design proposals where structures are consistent with the capacity of local design capacity and recent examples of construction.
 - (viii) Maximum of two civil works packages per subproject.
 - (ix) Investment amount for roads subprojects in range \$3–\$20 million.
 - (x) Investment amount for other subprojects in range \$1– \$5 million.
 - (xi) No overlapping investments.
 - (xii) All Asian Development Bank (ADB) safeguard categories must be B or C; and activities listed on the prohibited investment activities list in Appendix 5 of ADB's Safeguard Policy Statement (SPS, 2009) should be excluded provided in attachment 8.¹
 - (xiii) Formal government commitment to (a) funding operations and maintenance, (b) counterpart funding, and (c) completion of all land acquisition and compensation costs prior to issuance of any works contractor notice to proceed.

5. A total of 11 proposed subprojects of outputs 1 and 2 (Attachment 1) were screened by the transaction technical assistance (TRTA) to conform with the above criteria. None of these subprojects are located within legally protected areas or areas recognized for their biodiversity value (KBA, IBA) as this would trigger category A. Out of which, seven are proposed under output 1; and four subprojects under output 2. Output 3 will support installation of information systems that enable prediction and monitoring extreme climate events to inform infrastructure planning, investment and management. Such systems will include advanced hydro-meteorological and remote sensing stations and upgrading of supporting data management systems. The systems will allow improved design decision based on more reliable local data that is adjusted for projected climate change impacts on hydrological determinants and inputs into detailed engineering designs

6. The project is being implemented under the ADB sector modality and as such the ADB TRTA design process uses two representative subprojects for which the TRTA consultants

¹ ADB. 2009. *Safeguard Policy Statement*. Manila.

provided the input to the environmental assessment during project preparation. Each professional project management unit (PPMU) will mobilize its own qualified national consulting firm to prepare initial environmental examinations (IEEs) and environmental protection plans (EPPs) for the remaining 9 subprojects during project implementation in accordance with this environmental assessment and review framework (EARF). The two representative core subproject IEEs will be updated by loan implementation consultant (LIC) to reflect any change in the subproject detail design, as necessary.

7. Limited environmental impacts are expected from the subprojects such that the project has been categorized as 'B' for environment in accordance with the SPS. This EARF is prepared to (i) guide the environment assessment requirement during project implementation that will be followed, including subproject screening and categorization, environmental assessment including provisions for meaningful consultation with stakeholders and information disclosure requirements; (ii) identify possible environmental impacts of subprojects likely to be supported by the project; (iii) specify institutional arrangement and capacity need for project environment safeguard implementation and; (iv) specify monitoring and reporting requirements.

B. Subproject Types to be Assessed

8. **Output 1: Climate-resilient transport infrastructure improved.** The project will upgrade seven roads totaling about 121.8 kilometers (km) in seven project districts, with design standards which include climate resilience.² The upgraded transport links will enhance the integration of remote rural production sites with markets and processing facilities, including improving the freight movement of acacia and high value crops, thereby improving connectivity and mobility of EMCs. The enhanced transport network will also reduce travel time for road users and improve access to health, education, and market services, especially for women who suffer from time poverty.

9. In support of the strategy of the Government of Viet Nam and the CCPs to increase service delivery and economic opportunities, the focus of output 1 is on improving mobility of selected road sections to save time and costs of moving rural freight – linked to smallholder managed acacia production forests, cassava production and high value fruit crops. As part of the mobility improvement there are several instances where co-benefits will include significant improvement in increasing the proximity of services and markets to local communities. These social and economic benefits derive from completing network linkages, ensuring that roads continue to support the full range of transport operators through both wet and dry seasons, and addressing seasonal disconnections due to flooding. The combination of building improved mobility and increased social and economic proximity with greater reliability will provide a significant contribution to the inclusiveness of targeted beneficiaries from ethnic groups.

10. A total of 7 road sections are proposed for inclusion in the project covering 121 km (including one representative subproject). The components include upgraded road sections (including rural categories B and A roads and category IV to VI rural roads) to existing and new acacia plantation areas, completion of provincial, inter-district and commune connections, upgrades of existing road sections and bridges to improve mobility and mitigate against flood and climate change impacts for district roads

² The seven project districts are An Lao, Hoai Nhon, Van Canh, and Vinh Thanh districts in BDP; and Bac Tra My, Nam Giang, and Nam Tra My districts in QNP.

11. **Output 2: Climate-resilient water resource infrastructure improved.** This output will (i) construct RDWS to provide water to about 18,600 people through 115 km of piped networks in An Lao district in BDP; (ii) upgrade an existing reservoir to support 117 hectares of irrigation command area with a more reliable and efficient water supply in Phuoc Son district in QNP; and (iii) construct cultural tourism infrastructure, including one river defense (3.6 km of embankment), visitor car parking, and solid waste collection in Tay Giang district in QNP, with a total population of 17,700 including 94% from EMCs. Activities under this output will benefit about 36,300 people improve the health of communities by reducing the risk of waterborne diseases and will particularly benefit women by reducing the time they spend in water collection.

12. While output 1 delivers inclusiveness for remote ethnic minority target groups, output 2 supports risk reduction for mostly ethnic groups where (i) prolonged dry seasons affect their crops and access to safe water, (ii) the increased density of residential lifestyles creates risks to dug well-water quality and quantity, (iii) access to water through communal tanks limits access to water supply and sanitation at households and institutions such as schools with commensurate costs associated with time required to access water, economic loss from health, and education participation losses from poor sanitation and access to clean water, and (iv) from increased dam safety thereby reducing risk to downstream households and economic infrastructure.

13. Output 2 is be prioritized for districts with the highest rates of ethnic minorities as a proportion of district population based on government population data. A total of four subprojects are proposed for inclusion in the project (including one representative subproject).

14. **Output 3: Data systems for climate risk management updated.** This output will provide improved access to reliable weather and climate data in a timely and cost-effective manner. These data will help strengthen early warning systems, improve disaster response, and inform a wide range of decisions, including those related to the design of climate resilient infrastructure.³ High-level online technology will be introduced to improve the capacity of the provincial governments to manage, collect, archive, and share data through client interfaces.

15. This output provides climate change resilience and high technology innovation to the project. It will improve climate surveillance data and data interpretation that can be accessed in a timely and consistent manner to inform accurate risk assessments for early warning systems and for the design of climate resilience in infrastructure for each province.

16. Proposed inputs under output 3 include (i) a client data interface with data archive and linked user interfaces that captures and makes accessible provincial and regional hydromet data to the range of existing model applications, and (ii) modernized data surveillance that feeds into the existing client data interface for high intensity rainfall, flood flow levels and agrometeorology.

³ The extent and type of investment will vary between the two project provinces, with consideration of the ongoing investments in QNP financed by the World Bank under the Dam Rehabilitation and Safety Project and by ADB under the Urban Environment and Climate Change Adaptation Project, which is developing and implementing a flood forecasting and warning system for Hoi An and Vu Gia-Thu Bon river basin.

II. ASSESSMENT OF LEGAL FRAMEWORK AND INSTITUTIONAL CAPACITY

A. National Legal Framework

17. 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 decrees and circular on environmental assessment and institutional arrangements for the approval of environmental assessments apply:

- (i) Decree No. 18/2015/ND-CP dated 14 February 2015 on regulation of Environmental Protection Planning, Strategic Environmental Assessment and Environmental Protection Plans, and Decree No.40/2019/ND-CP dated 13 May 2019 on amending and supplementing a number of articles of decrees, detailing and guiding the implementation of the Law on Environmental Protection: requires environmental assessments to be prepared concurrently with project feasibility studies and/or investment reports; sets out the required degree of environmental assessment and establishes requirements for appraisal of environmental assessment documents by the government (i.e., strategic environmental assessment (SEA), environmental impact assessment report (EIAR), or EPP;
- (ii) Decree No. 40/2019/ND-CP on amendments and supplementary of some articles to Decrees on detail regulation and guidelines for the Law on Environmental Protection; and
- (iii) Circular No. 27/2015/TT-BTNMT dated 29 May 2015 of the Ministry of Natural Resources and Environment (MONRE) for guidelines on SEA, EIAR, and EPPs, and Circular No. 25/2019/TT-BTNMT dated 31 December 2019 of MONRE on detailing the implementation of a number of articles of Decree No. 40/2019 / ND-CP of 13 May 2019 of the government on amending and supplementing a number of articles of the decrees detailing and guiding the implementation of the LEP and the regulation on management of environmental monitoring activities. 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

18. In accordance with Decree No.18/2015/ND-CP and Decree No.40/2019/ND-CP, environmental assessment is required for all development projects, either in form of 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. A project that requires an EIAR is not necessarily equivalent to a category A project in the meaning of the ADB SPS 2009.

19. Once EIARs are prepared, they are submitted to MONRE or the provincial Department of Natural Resources and Environment (DONRE) that provides certification on approval.⁴ The project owner submits copies of the approved EIAR and certification to the Commune Peoples'

⁴ 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 MONRE; for projects of types listed in Annex II but not Annex III, the relevant provincial DONRE will review, and certify on approval.

Committees (CPCs). The project owner also prepares a summary of the report for public display at the relevant CPC 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.

20. Smaller projects without the potential for significant adverse impacts will be subject to a lesser level of assessment in the form of 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-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 (DPC) of the locality in which the subproject is situated. Decree No. 18/2015/ND-CP regulates that for projects that are implemented in two districts or more but within one province, the project owners should register EPP at the provincial 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 CPC.

21. 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.⁵ However, public consultation and disclosure is required per the ADB SPS 2009.⁶

C. Compliance with ADB Safeguards Policy Statement

22. To follow ADB 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

⁵ Public consultation is required for SEA and EIAR only.

⁶ Under this policy, the "Information Disclosure, Consultation, and Participation" is required for all environment category A and B projects.

social impacts and risks associated with the FI's existing and likely future portfolio, and its commitment and capacity in social and environmental management.

23. The project excludes any category A subprojects (through the eligibility criteria) such that potential environmental impacts of 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 ADB SPS 2009 requirements, the processes of subproject selection, environment categorization and IEE preparation for each proposed subproject are identified in section (IV) and the measures required for meaningful consultation, information disclosure and grievance redress mechanism (GRM) are indicated in section (V) of this EARF.

III. ANTICIPATED ENVIRONMENT IMPACTS

24. IEEs have been prepared for two representative subprojects in order to inform the development of this EARF. The IEEs identify potential impacts, appropriate mitigation measures, and monitoring mechanisms to ensure residual environmental impacts are minimized and acceptable. Engineering designs for all civil works will accommodate greater severity and frequency of extreme climatic events related to climate change impacts and based on a detailed analysis of climate projections. During project implementation the additional subprojects IEEs and EMPs will be prepared for all subprojects classified as category B and 2 representative subproject IEE and/or EMPs will be updated to reflect any change during detail design, as necessary, in accordance with the requirements within this EARF⁷.

25. **Output 1.** Significant negative environmental impacts are unlikely since subprojects will involve upgrading of existing road/track infrastructure including bridges within the existing rights of way which will minimize land clearance and slope cutting, while improvements to drainage and slope stability will mitigate existing environmental risks. The subproject designs respond to future climate change with the integration of climate change adaptation measures based on an analysis of climate change scenarios with respect to changes to rainfall and rainfall intensity.

26. Most negative impacts may occur during the construction phase. In summary, the construction phase of road and bridge upgrading projects involves the following broad types of activities:

- (i) Quarrying and/or extraction of materials (gravel, and soft fill) and establishment of ancillary facilities, i.e., batching, crushing and cement concrete plants, transport, handling and storage of construction materials and machinery to site;
- (ii) Preparation of contractor's campsites and laydown area;
- (iii) Clearing and grubbing (shoulders and drainage including tree removal where necessary);
- (iv) Excavation and/or widening of alignment and installation/improvement of side drains;
- (v) Excavation and/or filling (cut and fill) on the existing road bench and slope;

⁷ During project preparation the screening of subprojects has confirmed that the shortlisted subprojects are category B.

- (vi) Culvert removal, installation, upgrading, extension and/or replacement;
- (vii) Minor realignment as required;
- (viii) Bioengineering and slope protection works;
- (ix) Widening, repair, reinforcement and reconstruction of bridges;
- (x) Installation of road furniture as required (guardrails, pavement markings, signage, etc.); and
- (xi) Paving and/or sealing of the roadway.

27. The potential impacts of road and bridge upgrading projects include: (i) uncontrolled erosion and sedimentation; (ii) disruption of drainage systems; (iii) surface water pollution from spills/leaks of oil and/or hydrocarbons; (iv) noise and vibration from construction equipment, e.g., excavators, rollers, pile machine; (v) dust nuisance from construction traffic and surface grading; (vi) loss of trees and other roadside vegetation; (vii) similar impacts as above related to borrow pits and quarries; (viii) release and runoff of bitumen into water bodies; (ix) occupational and community health and safety issues associated with construction and operation; (x) transmission of coronavirus disease (COVID-19) into project facilities, camps, work sites, or adjacent communities; and (xi) possible indirect impacts on biodiversity due to improved access to forested areas.

28. **Output 2.** The range of subproject types under output 2 as described in Section I.B will unlikely give rise to significant irreversible and unprecedented negative impacts. A summary of the type and locations of output 2 subprojects are provided in Attachment 1. Typical construction activities associated with output 2 subprojects will include:

- (i) Minor quarrying and/or extraction of materials and establishment of ancillary facilities, i.e. concrete batching, plants, transport, handling and storage of construction materials and machinery to site;
- (ii) Preparation of contractor's campsites and laydown area;
- (iii) Transport of materials to site (cement, steel, sand, stone, brick, planks, fill soil);
- (iv) Temporary re-provisioning of domestic and irrigation water supplies to facilitate construction including possibly draining of reservoirs;
- (v) Minor excavation for irrigation canals, replacement pipework, water treatment plants, pumps and storage tanks;
- (vi) Excavation and filling for riverbank protection and dam strengthening;
- (vii) Grouting of dam foundations with bentonite to waterproof dam (drilling from dam crest);
- (viii) Dam slope reinforcement with reinforced concrete and rip rap;
- (ix) Construction of transmission mains and distribution networks;

- (x) Slope reinforcement for riverbank protection and irrigation canal lining with reinforced concrete, masonry; and
- (xi) Structural works for headwork upgrades, water treatment plants pumps and storage tanks.

29. The potential environmental impacts associated with output 2 subprojects include (i) further reduced river flows after additional abstraction for new water supply and irrigation facilities; (ii) soil erosion and reservoir sedimentation relating to dam safety upgrading activities; (iii) temporary disruption of domestic and irrigation water supplies/agricultural activity during construction; (iv) pollution of water supplies during construction due to suspended sediment carried in runoff from exposed surfaces; (v) solid waste and wastewater from worker camps and public nuisance; (vi) air pollution and traffic safety caused by construction transport and plant operation; (vii) noise and vibration from construction plant; (viii) hazardous waste from construction (hydrocarbons and solvents); (ix) loss of small areas of agricultural land and production forest for construction of water treatment plants; (x) occupational and community health and safety issues associated with construction and operation; (xi) transmission of COVID-19 into project facilities, camps, work sites or adjacent communities; (xii) 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; (xiii) impacts of inappropriate sludge disposal from water treatment plants; (xiv) impacts associated with disposal of grey water and sanitation discharges consequent upon improved water supply infrastructure; and (xv) the effects of intensification of agriculture, such as increased use of pesticides and fertilizers when the upgraded irrigation canals are put in operation.

30. **Output 3.** The access to hydromet data and risk management decision support will have no environmental impact, any installation for upgrading of hydromet data network may involve installation equipment at existing sites requiring minimal civil works such as access, clearing of small construction platforms (less than 20 square meters) to house sensitive equipment, provision of power supply and construction of perimeter and security fences around the installation. Environmental impacts associated with these would be insignificant. Appropriate location and design and good construction practice will negate potential environmental impacts arising from such installations.

31. Based on the range of civil works and anticipated impacts associated with the subprojects the following issues require detailed examination during the IEE preparation process:

- (i) Ensuring sufficient environmental flow after abstraction for the water supply facilities;
- (ii) Ensuring that potential direct and/or indirect impacts on biodiversity are avoided or at worst minimized to an insignificant level;⁸
- (iii) Identification and mitigation of construction impacts including impacts associated with materials extraction, establishment and operation of workers camp and laydown areas, erosion and sedimentation, noise and dust nuisance, pollution from use of hazardous materials, impedance of traffic during construction, severance of utilities, occupational and community health and safety;

⁸ The Integrated Biodiversity Assessment Tool should be applied for each subproject area to assist with screening of potential biodiversity concerns.

- (iv) Ensuring the expected impacts of climate change are fully integrated into the engineering designs of road subprojects and water resource infrastructure;
- (v) Specifying procedures to ensure that the environment management plan (EMP) is effectively integrated into contract documents to facilitate enforcement. This will include a requirement for the contractor to prepare a site-specific construction environmental management plan (CEMP) based on the EMP that must be approved by the PPMU prior to commencement of construction work;
- (vi) Specification of a COVID-19 safety and health risk management plan to limit the risk of transmission into project facilities, work sites or adjacent communities. The Plan will be an integral part of the CEMP for each construction package;
- (vii) Specifying procedures to facilitate effective environmental supervision, monitoring and reporting of construction activities to ensure compliance with government and ADB environmental requirements including the COVID-19 management;
- (viii) Operational issues associated with improved roads including safety risks to motorists, pedestrians and roadside residents, effects on slope stability and management of drainage flows and air and noise pollution from increased road traffic; and
- (ix) Operational issues associated with water supply systems including adequacy of operation and maintenance of intakes, treatment plant operations including sludge disposal and use and/or storage of water treatment chemicals, and transmission and distribution systems to ensure supply of clean and safe water.

32. In undertaking the IEEs for the various subprojects the PPMU shall apply all relevant national environmental standards. These shall include but not be limited to the following:

- (i) National Technical Regulation on Noise (QCVN26:2010/BTNMT);⁹
- (ii) National Technical Regulation on Vibration (QCVN27:2010/BTNMT);
- (iii) National Technical Regulation on Surface Water Quality (QCVN 08:2015/BTNMT);
- (iv) National Technical Regulation on Ground Water Quality (QCVN 09:2015/BTNMT);
- (v) National Technical Regulation on Drinking Water Quality (QCVN 01:2009/BYT);
- (vi) National Technical Regulation on Allowable Levels of Heavy Metals in the Soils (QCVN 03:2008/BTNMT);
- (vii) National Technical Regulation on Ambient Air Quality (QCVN 05:2013/BTNMT); and
- (viii) National technical regulation on hazardous substances in ambient air (QCVN 06:2009/BTNMT).

⁹ ADB requires that the World Health Organization (WHO) standards for noise shall apply to ADB projects and not the Vietnamese standard.

33. Other regulations that apply to all subprojects include:
- (i) Decision No.3733/2002/QD-BYT of 10 October 2002 promulgating 21 labor hygiene standards, 5 principles and 7 labor hygiene measurements;
 - (ii) Law No.50/2014/QH13 dated 18 June 2014 of National Assembly on construction;
 - (iii) Circular No.22/2010/TT-BXD dated 3 December 2010 of Ministry of Construction on labor safety in work construction;
 - (iv) Law No.10/2012/QH13 dated 18 June 2012 of National Assembly on Labor Code;
 - (v) Law No. 20/2008/QH12 dated 11 November 2008 of National Assembly on Biodiversity Conservation;
 - (vi) Law No. 16/2017/QH14 dated 15 November 2017 of National Assembly on Forestry; and
 - (vii) Law No.28/2001/QH10 dated 29 June 2001 on cultural heritage.
34. Regulations related to COVID-19 and other infectious diseases risk management:
- (i) Law No. 03/2007/QH12 dated 21 November 2007 on Prevention and Control of Infectious Diseases;
 - (ii) Decree 101/2010/ND-CP on the application of medical isolation, enforcement of medical isolation and specific anti-epidemic measure during the epidemic period;
 - (iii) Decree 89/2018/ND-CP on border medical quarantine; and
 - (iv) Circular 17/2019/TT-BYT relating to monitoring and responding to infectious disease and epidemic regulates.
35. In addition to the above, PPMUs are required to ensure that subprojects adhere to international recognized guidance on environmental assessment and environment performance standards such as the International Finance Corporation (IFC) environmental health and safety Guidelines which provides guidance on over 60 industry and project activities in 8 sectors,¹⁰ and the World Health Organization (WHO) guidelines on COVID-19 management in the workplace.

IV. ENVIRONMENTAL ASSESSMENT FOR SUBPROJECTS

A. Subproject Screening and Categorization.

36. Subproject selection and screening ensures that only subprojects ranked as Category B or C as per ADB SPS 2009 are eligible for funding under the proposed project but subprojects classified as category A, including highly complex and sensitive subprojects, and activities listed on the prohibited investment activities list in Appendix 5 of ADB SPS 2009, are not eligible for financing.

¹⁰ IFC. [Environmental, Health, and Safety Guidelines.](#)

37. It is anticipated that all eligible subprojects will fall into Category B. For the 11 proposed subprojects, all sites were visited, the surrounding environments were identified as highly disturbed, the works proposed are relatively small scale and involve mainly upgrading of services within existing corridors, and standard mitigation measures associated with good engineering practice will ensure that the impacts are minimized and acceptable. Moreover, none of the 11 subprojects is located within or adjacent to protected areas or known biodiversity hotspots.

38. **Government categorization.** Within the identified types and scopes of investments, all proposed subprojects are classified as category B, environment safeguard in accordance with the Appendix 2 of the government Decree No. 18/2015/ND-CP. The domestic EPP to follow Decree No. 18/2015/ND-CP is required to be prepared for each proposed subproject.

39. **ADB categorization.** The categorization was carried out for the two representative core subprojects for which IEEs were prepared and cleared by ADB. To confirm category B for the non-core subprojects to be prepared and assessed during project implementation, all 9 subprojects will be screened by the environment safeguard specialist (ESS) through reviewing project documents and carrying out initial site visits to conduct consultation and view local conditions, identify potential negative impacts, and complete applicable rapid environmental assessment checklist to ensure that the potential range of impacts has been considered and the categorization confirmed. Each subproject will be classified individually. The rapid environmental assessment checklists for roads, water supply, irrigation and riverbank protection are provided in Attachment 7. 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) are ineligible for consideration within the investment project. The PPMU environment safeguard officer (ESO) and ESS under the LIC contracted by the PPMU will carry out the safeguard screening and determine any specific requirements to be addressed within the IEEs in the safeguard screening form, including recommended categorization, to be submitted to ADB for concurrence before the IEE process is initiated.

B. Initial Environmental Examination and/or Environmental Protection Plan Preparation

40. An IEE and/or EPP, needs to be prepared if a subproject is classified as environmental category B following ADB SPS 2009. The IEE needs to include an EMP, an outline of which is provided in Attachment 9. 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. Based on the possible 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 EMP. Each IEE will provide an assessment and outline the COVID-19 risk management requirements according to the Government of Viet Nam's COVID-19 directives and guidance and be informed by the recommendations for COVID-19 management in the workplace provided by the WHO.

41. The IEE and/or EPP should include the subproject scope, baseline information, materials to be used, construction techniques, impact scoping and assessment, mitigation and environmental monitoring, and a minute of public consultation. The content and format of the IEE report must satisfy the requirements of both ADB and the Government of Viet Nam (EPP).¹¹

¹¹ Most of the subprojects will involve rehabilitation or update of existing infrastructure. Under Decision 40/2019/ND-CP, subprojects to be financed under the project are unlikely to be filed in Appendix II or IV, corresponding to environmental category "B" or "C" under ADB's SPS 2009. Therefore, a simplified assessment – EPP will be required per domestic requirements.

Meaningful public consultation needs to be carried out to share the proposed engineering design, identify potential impacts and the proposed management responses and obtain feedback on the initial findings of the IEE from local communities and stakeholders (Section V).

42. An 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. An EMP is included with the IEE for each subproject and will include the required COVID-19 planning actions, monitoring and reporting requirements, (Attachment 3).

43. 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. On award of the contract or contracts, each contractor will prepare a CEMP to specify all their actions, and operational and/or management issues, including provision for COVID-19.

44. A consulting firm will be mobilized by PPMU to prepare IEEs and/or EPPs, with support from the ESO and/or ESS, for 9 additional subprojects. PPMUs will review IEE and/or EMP. If found satisfactory, PPMUs will submit EPPs to respective DPC and/or DONRE to follow government Decree 18/ND-CP for review and approval and submit IEEs to ADB for review and clearance. ADB will upload cleared IEEs on ADB's website.

C. Professional Project Management Unit – Environmental Capacity

45. Each implementing agency has significantly differing levels of environmental management safeguards capacity. Currently, each PPMU has specialist staff appointed to environmental safeguard roles, with six staff assigned to these roles across the two provinces. However, the technical training of these staff is variable ranging from environmental graduates, engineering graduates, and finance. The technical training background creates a risk in terms of their ability to technically differentiate or evaluate the potential environmental impacts of proposed subprojects, the required management options for these impacts, and the ability to plan and implement environmental monitoring responsibilities.

46. The implementing agencies have significant experience in official development assistance (ODA) projects - Binh Dinh (4) and Quang Nam (10). As such the PPMUs are aware and familiar with the procedural requirements of ODA safeguards. They are however, weak in the required technical assessment and review of environmental responsibilities.

47. Each PPMU is responsible for preparing the IEE and/or EMP for each subproject during project design. Depending on the PPMU capacity this may be done by the PPMU's ESO but is generally being completed by an appropriate consulting firm recruited by the PPMU.

48. An EARF briefing workshop was held in Tam Ky on 24 May 2019 for ESO from all project PPMUs and including some PPMU deputy directors.¹² At the workshop, participants were asked about their experience working on ADB and other development agency funded projects such as World Bank and IFC. Six out of 20 participants indicated that they had directly worked with ADB

¹² This meeting was convened under the original project proposal involving five provinces.

or World Bank safeguards requirements. Moreover, informal discussions with PPMU deputy directors at the workshop confirmed that the capacity of PPMU environmental staff in general, was relatively weak and that the PPMUs will need the support of environmental consultants to undertake the due diligence activities required of them under the project during the subproject preparation stage (subproject screening and preparation of IEEs). Within the Government of Viet Nam procedures for ODA projects all subprojects will have a feasibility study prepared prior to the loan approval. The IEEs of 9 additional subprojects will be prepared by a consulting firm mobilized by PPMUs during project implementation. The ESO and ESS roles switch to implementation and monitoring of the EMP.

49. In view of the limited capacity of PPMU environment staff, it is recommended that the ESS under LIC will work with the ESO in each PPMU for updating 2 representative subproject IEEs to reflect any change in detail design if necessary, supporting awarded contractors to prepare CEMP, supervision of EMP implementation, implementing the monitoring plan, and preparing the periodic monitoring reports to ADB. The ESS should have previous experience undertaking IEE and/or EIAR for ODA projects. The scope of services for the ESS should include a capacity building component such that they be required to provide both on the job mentoring and formal training sessions on IEE preparation and EMP implementation. Terms of reference are included in Attachment 5 for this role which is expected will require 24 person-months spread over the 5 years of project implementation during the construction season. During implementation the ESS will work closely with the environmental staff of the contractor and the construction supervision consultant (CSC) team to be contracted by the PPMU in each province. The LIC team, including ESS, will be financed using counterpart funds and as such are not required to be reviewed by ADB.

D. Review of Initial Environmental Examinations and/or Environmental Protection Plans

50. On completion, IEE and/or EPP reports will be reviewed initially by the PPMU and if satisfactory, IEE and/or EPP reports will be forwarded to:

- (i) ADB for review of IEEs, clearance and uploading on ADB website, and
- (ii) DONRE and/or District People's Committee for review and approval of EPPs.

51. Following approval of the loan agreement, each PPMU will appoint a detailed design engineer and contract a LIC team. The LIC's ESS will support to integrate IEEs and/or EMP into bidding documents. The ESS will ensure that the EMP includes the required COVID-19 safety and health risk management plan and will also be contractually liable for the compliance to this plan. The PPMU ESO will provide support to the LIC ESS in this process and will be contractually liable for supervision of the COVID-19 compliance requirements.

V. PUBLIC CONSULTATION, INFORMATION DISCLOSURE, AND GRIEVANCE

52. **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. Consultation commences during subproject feasibility study and continues throughout the project cycle. 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; and
- (iv) Acceptability of the proposed works to the stakeholders.

53. 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 and/or DPCs, and made available for public review, including the updated representative core subproject IEEs prepared during project preparation. All IEEs will be submitted to ADB for clearance and disclosure on the ADB website prior to commencement of works.

54. **Grievance redress mechanism.** The GRM has been developed (Attachment 3) to ensure that any complaint raised by the community, including complaints related to adverse environmental impacts will be addressed in a timely manner. In each subproject commune, Community Supervision Board (CSB)¹³ will be set up and facilitate the timely facilitation and mediation of the grievance process. The GRM 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. The GRM shall also be disclosed locally (construction sites, CPC office) in a language and format understandable by potentially affected people. During construction, the Contractor will appoint a member of his staff to act as the focal point, who will liaise with the CSB and, if appropriate, the complainant(s) to address and seek solutions to any grievance that relates to the contractor's actions.

55. The local government will closely coordinate with the PPMU in order to solve the problems in a timely manner during the subproject implementation, as well as during the operation and maintenance period. All complaints and their resolution shall be documented in the periodic safeguards monitoring report.

VI. INSTITUTIONAL ARRANGEMENT AND RESPONSIBILITIES

A. Responsibilities and Authorities

56. For each province the executing agency is the PPC who will establish a PPMU as the implementing agency. The PPMUs will be responsible for carrying out the feasibility studies, detailed design, day-to-day management of subproject implementation, and for arranging environmental assessment and monitoring and reporting during implementation of review of the subprojects. Each PPMU will assign one its environmental staff to be the project ESO who will

¹³ The CSB is established by Commune Fatherland Front in accordance to Decree 84/2015-ND-CP.

be responsible for the preparation of environmental safeguards documents and ensuring the implementation of environmental safeguards requirements.

57. Following approval of the loan agreement, each PPMU will contract an LIC team to support subproject detailed engineering designs, implementation of works programs in the province. The LIC will include an ESS for 24 person-months spread over the 5-year implementation period that will support the PPMU to review and update the IEE, EMP, and COVID-19 plans based on the detailed designs, update the bidding documents in respect of environmental requirements and monitor the implementation of the subprojects.

58. A CSC will be contracted by each PPMU to supervise all provincial subprojects. The CSC will include an environmental specialist to supervise, monitor and report on the implementation of the CEMP by the contractors. In addition, the CSC will provide oversight of compliance to the construction's COVID-19 safety and health risk management plan (See Attachment 6 for specific tasks of CSC environment specialist to be included in CSC contract).

59. A summary of the environmental management responsibilities of the concerned parties is provided in Table 1.

Table 1: Environmental Management Responsibilities of Concerned Parties

Organization	Environmental Management Responsibilities
PPMU (ESO)	<ul style="list-style-type: none"> • Complete ADB REA screening checklist for each subproject, recommend ADB and/or MONRE environment safeguards categorization and determine the need for IEE and/or EPP or IEE and/or EIAR. • Recruit appropriate consulting firm to prepare IEE including EMP and EPP, and submit IEE to ADB for review, clearance and upload to ADB website and EPP to DONRE and/or DPC for endorsement prior to commencement of works. • Coordinate public consultation during IEE preparation, disclose IEE to stakeholders. • Support LIC ESS update IEE and EMP during detailed design and obtain endorsement from PPC. • Ensure updated EMP is included in tender document with support from LIC. • Review and approval of CEMP with the support from LIC consultant. • Support CSC and LIC ESS in supervising and enforcing contractor's implementation of EMP and/or CEMP. • Review CSC monthly site environmental performance reports. • Review LIC quarterly EMP compliance reports. • Set up and disseminate GRM, continue stakeholder consultation as part of GRM. • Review semi-annual monitoring reports prepared by ESS and submit to ADB and/or DPC and DONRE. • Prepare subproject environmental report indicating overall subproject environmental performance and CEMP compliance at completion of construction to ADB and/or DPC and DONRE.
LIC (ESS)	<ul style="list-style-type: none"> • Update IEE and EMP to reflect and change during detailed design if necessary. • Support PPMU ESO to include updated EMP in bidding document. • Support PPMU to review and approval of CEMP. • Provide support to PPMU ESO and CSC in supervising contractors implementation of CEMP and/or EMP. • Support ESO in reviewing CSC monthly site environmental performance reports and monitoring results.

Organization	Environmental Management Responsibilities
	<ul style="list-style-type: none"> • Support PPMU ESO in stakeholder consultation as part of GRM. • Prepare quarterly EMP compliance reports to PPMU (as input to quarterly project progress reports). • Prepare semi-annual monitoring reports for ADB clearance and upload to ADB website. • Support PPMU ESO prepare subproject environmental report indicating overall subproject environmental performance and CEMP compliance at completion of construction to ADB and/or DPC and DONRE.
CSC	<ul style="list-style-type: none"> • Support contractor for preparation of CEMP. • Supervise and monitor contractor's implementation of CEMP and/or EMP and GRM on daily basis. • Request contractor undertake corrective actions in case of non-compliance with CEMP and/or EMP. • Prepare monthly site environmental performance reports guided by ESS to PPMU and/or LIC on compliance status of CEMP and/or EMP and monitoring results. • Compliance oversight of COVID-19 safety health risk management plan and management agreements monitoring and reporting.
Contractor	<ul style="list-style-type: none"> • Appoint environmental officer responsible for environmental and safety management responsibilities of contract. • Prepare and implement approved CEMP including a COVID-19 safety and health risk management plan detailing actions, required monitoring and reporting systems • Act as local entry point for GRM and maintain complaint register. • Implement corrective actions as requested by CSC or LIC in case of noncompliance with CEMP and/or EMP. • Prepare monthly progress reports on status of CEMP implementation and GRM to CSC and PPMU.
DONRE	<ul style="list-style-type: none"> • Endorse EPP for each subproject. • Review PPMU semi-annual monitoring reports. • Review PPMU subproject environmental report at completion of construction.
Provincial Department of Transportation; Transport Division of DPC; and Provincial Water Supply Company	<ul style="list-style-type: none"> • Responsible for EMP implementation in the operation phase, including environment monitoring. • Allocate budget for subproject operation and maintenance, including budget for environment monitoring. • Conduct periodic environment monitoring during project operation. • Prepare periodic environment monitoring report to submit to DONRE and/or DPC to follow Decree 18/ND-CP. • Submit environment monitoring report, for the first year of operation to ADB for review.
ADB	<ul style="list-style-type: none"> • Review REA checklist and confirm categorization. • Review, clear IEE and upload on ADB website. • Review semi-annual monitoring reports and upload to ADB website. • Undertake periodic monitoring of the EMP implementation and due diligence as part of an overall project review missions. • If required, provide advice to PPMU in carrying out its responsibilities to implement the EMP for the project. • Review PPMU subproject environmental report at completion of construction.

ADB = Asian Development Bank, CEMP = construction environmental management plan, COVID-19 = coronavirus disease, CSC = construction supervision consultant, DONRE = Department of Natural Resources and Environment, DPC = District People's Committee, EIAR = environmental impact assessment report, EMP = environmental management plan, EPP = environmental protection plan, ESO = environmental safeguards officer, ESS = environmental safeguards specialist = GRM = grievance redress mechanism, IEE = initial environmental examination,

LIC = loan implementation consultant, MONRE = Ministry of Natural Resources and Environment, PPC = Provincial People's Committee, PPMU = professional project management unit, REA = rapid environmental assessment.
Source: Asian Development Bank.

VII. MONITORING AND REPORTING

A. Environmental Monitoring Program

60. General environmental safeguard monitoring with associated GRM is undertaken by the CSC and the ESS on the LIC team during construction phase and by Provincial Department of Transport and/or Transport Division of DPC for road subprojects and provincial water supply company for water supply subprojects during the operation phase, to ensure that the required policies and procedures and plans for minimization of negative environmental impacts are implemented. Typical environmental monitoring programs have been developed for road and for water infrastructure subprojects (Attachment 3). Environmental monitoring programs have been developed in terms of environmental effects monitoring and environmental compliance monitoring.

61. Environmental effect monitoring is carried out by the CSC to examine impacts of the subproject in relation to ambient environmental conditions e.g., ambient air, noise, and sensitive water bodies.

62. Environmental compliance monitoring is carried out to review compliance with operating procedures and technical standards and/or contractor specifications in the EMP and approved CEMP e.g., safety during construction, construction worker camp sanitation and hygiene conditions, wastes including hazardous disposal practices during construction, erosion control including the COVID-19 safety and health risk management plan, etc.

63. 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 PPMU will recommend the appropriate level of environmental monitoring that best suits local conditions and the predicted level of environmental impact. These shall be documented in the IEE and/or EMP to be cleared by ADB.

B. Environmental Reporting System

64. Table 2 describes the reporting system that will apply to environmental management activities for each subproject.

Table 2: Environmental Reporting System

Project Phase	Type of Report	Frequency	Responsibility	Submitted to Whom
Construction	Site environmental performance report indicating compliance with CEMP and monitoring results (checklist)	Monthly	CSC	LIC and/or PPMU
	EMP compliance report indicating compliance with	Quarterly	LIC	PPMU

	all subproject's CEMPs and monitoring results			
	Environment monitoring report indicating compliance with all subproject's CEMPs and monitoring results	Minimum bi-annually, or twice during construction if construction duration is shorter than 1 year	PPMU	ADB/DPC and DONRE
	Subproject environmental report indicating overall subproject environmental performance and CEMP compliance	At completion of subproject	PPMU	ADB and/or DPC and DONRE
	COVID-19 safety and health risk management plan reporting	Symptomatic individuals within 1 hour of diagnosis; weekly reports from site office to contractor and to PPMU; monthly reports with overall statistics	Contractor	ESS and/or PPMU CSC and/or PPMU
Operation	EMP compliance report: Operation indicating compliance with subproject EMP commitments during operation	Once per 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, CEMP = construction environmental management plan, COVID-19 = coronavirus disease, CSC = construction supervision consultant, DONRE = Department of Natural Resources and Environment, DOT = Department of Transport, DPC = District People's Committee, LIC = loan implementation consultant, PPMU = professional project management unit.

Source: Asian Development Bank.

PROPOSED SUBPROJECT SHORT LIST BY OUTPUT

Short List of Subprojects – Output 1

Code	District	Number of Commune	Commune Names	Subproject name	ADB Investment Million USD	cost per km ('000\$)	Proposed	Road Length	Structures
Quang Nam									
QN-01	Nam Tra My	4	Tra Nam; Tra Linh, Tra Tap, Tra Cang	Section 1: inter-commune road Ngoc Linh, Tra Nam-Tra Linh (11.6km); Section 2: Inter-commune road Ngoc Linh: Tra Tap-Tra Cang (11.2km)	6.274	275.175	B Cat Rural Rd	22.8	1
QN-02	Bac Tra My	1	Tra Giac	Upgrade transport road of Sông Trường - Trà Giác communes, Bắc Trà My district	9.644	480.040	Rural Road VI mtn	20.1	16
QN T3	Nam Giang	1	Ca Dy	Transport road connecting resettlement area and production area (Ca Dy commune road), Nam Giang district	4.499	548.658	Rural Road VI mtn	8.6	3
Subtotal	3	6			20.417	51.50		51.50	20.0
Binh Dinh									
BD-01a	Vinh Thanh	2	Vinh Quang; Vinh Thanh Town	Upgrade PR637 Section Vinh Thanh Town	4.34	1,808.333	Road Cat IV	2.40	2.00
BD-01b	Vinh Thanh	3	Vinh Son, Vinh Kim, Vinh	Upgrade section PR 637 from Dinh Binh	10.99	281,795	Road Cat V Mountain	39.00	5.00

Code	District	Number of Commune	Commune Names	Subproject name	ADB Investment Million USD	cost per km ('000\$)	Proposed	Road Length	Structures
			Hao commune	Reservoir to Vinh Son					
BD-03	An Lao	1	An Hung commune	Intercommune Road An Hung - Tam Quan	7.67	326,383	Road Cat VI Mountain	23.50	3.00
BD-02	Van Canh	2	Canh Hiep, Canh Lien commune	Repair inter-commune road Hiệp Hưng, hamlet, Canh Hiệp commune to Canh Tiến village, Canh Liên commune, Van Canh district	4.74	395,000	Road Cat VI Mountain	12.00	2.00
Subtotal	3	8			27.74	360,728		76.90	12.00
Total	6	14			46.74	364.018	0	128.40	32.00

Shortlist Output 2 Subprojects

District		Commune		Subproject title	Total Investment (\$ million)	ADB OCR mm	Water Supply			Irrigation		Flood Protection
		No:	name				name	\$ mill	\$ Mill	Conn. (hh)	Net. length (km)	
Quang Nam												
QN-04	Tay Giang	1	A Tieng	Riverbank protection for Cot Ecotourism	8.622	6.62						3.63
QN-05	Phuoc Son	2	Phuoc Nang, Phuoc Duc	Install water supply, Upgrade irrigation	2.85	1.97	4000	20	900	126	3.6	
Subtotal		2	3		10.72	8.58	4000	20	900	126	3.6	3.63
Binh Dinh												
BN-04a	An Lao	4	An Hung, An Tan, An Trung, An Hoa, An Lao Town	Water supply for An Lao Town and Commune	1.1	1.00	5100	75	2730			
BD-04b	An Lao	4	An Quang, An Vinh, An Nghia, An Toan	Water Supply for 4 Rural Communes	2.6	1.96	1285	20	680			
Subtotal		2	4		1,1	1,00	5100	75	2730	0	0	0
Total		4	11		11.82	10	10.385	95	3.630	126	3.6	3.63

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 clearance issued	For all subprojects	PPMU
		For all subprojects	PPMU
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	PPMU
		For all subprojects	PPMU
Budget and human resources expended on IEE/EPP preparation	Collection of data on (i) consultants' fees, (ii) data acquisition and collection fees, (iii) PPMU human resources	Cumulative and average data for all subprojects	PPMU
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	PPMU

ENVIRONMENTAL MONITORING

Table A3.1: Environmental Monitoring Program for Rural Road Subprojects

A. Environmental Effects Monitoring

Target compartment	Parameters	Location	Methods	Frequency	Responsibility
Construction Stage					
Noise	Noise levels	Sensitive location (s)	Observation/ use of noise meter to measure	In response to community complaints	/ESS (LIC)
Ambient air	Dust levels	Sensitive location (s)	Observation/ Sampling and analysis	once every quarters	ESS (LIC)
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	once every quarters	ESS (LIC)
Operation Stage					
Surface water quality	Turbidity, general condition.	Representative water bodies 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 ₁₀ ; NO _x ; SO _x ; CO compared to QCVN 05: 2013/BTNMT ¹	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 IFC Guidelines ² /	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

¹ QCVN 05: 2013/BTNMT, National technical regulation on ambient air quality; IFC, Environmental, Health, and Safety Guidelines https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines

B. Environmental Compliance Monitoring

Mitigation Measure	Parameters/ indicator	Location	Methods	Frequency	Responsibility
<i>Pre-Construction Stage</i>					
Site clearance	Certification of clearance	Affected areas	Observation	Prior to commencement of site works	PPMU ESS (LIC)
<i>Construction Stage</i>					
Erosion and sediment controls	Condition and capacity of controls	Throughout construction site	Observation	After large rain events	Construction supervision consultant/ESS (LIC)
Materials storage	Condition of materials storage areas	Throughout construction site	Observation	Weekly	Construction supervision consultant/ESS (LIC)
Construction equipment and vehicles	Noise and exhaust generation; covering of trucks; oil/fuel leaks	Throughout construction site	Observation	Random	Construction supervision consultant/ESS (LIC)
Construction camp conditions	Cleanliness; waste disposal facilities; general condition	All construction camps	Observation	Weekly	Construction supervision consultant/ESS (LIC)
Vegetation clearing	Boundaries of vegetation clearing	Areas of sensitive vegetation	Observation	Weekly during clearing works	Construction supervision consultant/ESS (LIC)
Property access	Reinstatement of temporary and permanent accesses	Affected properties	Observation	Once during and once following construction	Construction supervision consultant/ESS (LIC)
Waste disposal	Site cleanliness and condition; temporary waste storage area	Throughout construction area	Observation	Weekly	Construction supervision consultant/ESS (LIC)
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/ESS (LIC)
Development of borrow areas	Relevant Environmental approvals obtained for new sites	Throughout construction area	Review of relevant documentation	Before commencement of resource extraction	PPMU

Mitigation Measure	Parameters/ indicator	Location	Methods	Frequency	Responsibility
Safety and Health including COVID 19 Risk Management Plan	PPE, construction threat and risk management, Sanitation, transport safety risk management, body temperature	Through construction and site and adjacent area	Review of relevant documents, observation	Every day	Construction supervision/ ESS (LIC) consultant/ESS (LIC)
<i>Operation Stage</i>					
Erosion or scouring of waterways, areas of cut and fill	Condition of landscaping; stability of cut/fills	At all 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 all 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 all 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 A3.2: Environmental Monitoring Program for Irrigation & Water Supply Subprojects**A. Environmental Effects Monitoring**

Target compartment	Parameters	Location	Methods	Frequency	Responsibility
Construction Stage					
Noise	Noise levels	At nearest residence(s)	Observation, use of noise meter to measure	In response to community complaints	ESS (LIC)
Ambient air	Dust levels	At nearest residence(s)	Observation; Sampling and analysis	once every quarters	ESS (LIC)
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	once every quarters	ESS (LIC)
Operation Stage					
Domestic water supply quality	Parameters identified in Drinking Water Hygienic Standards QCVN 01:2009/BYT ³ / QCVN 02: 2009/BYT ⁴	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, 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	Observation	2 times per year for first 2 years (1 time in wet	DARD District Office and/or

³ QCVN 01:2009/BYT National technical regulation on drinking water quality by the Minister for Health⁴ QCVN 02: 2009/BYT National technical regulation on domestic water quality by the Minister for Health

Target compartment	Parameters	Location	Methods	Frequency	Responsibility
		locations in irrigated area		season, 1 time in dry season)	Operating Company

B. Environmental Compliance Monitoring

Mitigation Measure	Parameters/ Indicator	Location	Methods	Frequency	Responsibility
<i>Pre-Construction Stage</i>					
Site clearance	Certification of clearance	Affected areas	Observation	Prior to commencement of site works	Construction supervision consultant/ESS (LIC)
<i>Construction Stage</i>					
Erosion and sediment controls	Condition and capacity of controls	Throughout construction site	Observation	After large rain events	Construction supervision consultant/ ESS (LIC)
Materials storage	Condition of materials storage areas	Throughout construction site	Observation	Weekly	Construction supervision consultant/ESS (LIC)
Construction equipment and vehicles	Noise and exhaust generation; covering of trucks; oil/fuel leaks	Throughout construction site	Observation	Random	Construction supervision consultant /ESS (LIC)
Construction camp conditions	Cleanliness; waste disposal facilities; general condition	All construction camps	Observation	Weekly	Construction supervision consultant /ESS (LIC)
Vegetation clearing	Boundaries of vegetation clearing	Areas of sensitive vegetation	Observation	Weekly during clearing works	Construction supervision consultant/ ESS (LIC)
Property access	Reinstatement of temporary and permanent accesses	Affected properties	Observation	Once during and once following construction	Construction supervision consultant /ESS (LIC)
Waste disposal	Site cleanliness and condition; temporary waste storage area	Throughout construction site	Observation	Weekly	Construction supervision consultant /ESS (LIC)
Avoidance of heritage items	Boundaries of works in vicinity of heritage items	At affected items	Observation	Once during construction works	Construction supervision consultant/ ESS (LIC)
Safety and Health including COVID 19	PPE, construction threat and risk management,	Through construction and site and adjacent area	Review of relevant documents, observation,	Every day	Construction supervision consultant/ ESS (LIC)

Mitigation Measure	Parameters/ Indicator	Location	Methods	Frequency	Responsibility
Risk Management Plan	Sanitation, body temperature		Body temperature check		
<i>Operation Stage</i>					
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; sediment loads in water	In unlined sections	Observation	6 monthly for first 2 years of operation	DARD District Office and/or 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
Dam Safety	Regular inspections in accordance with Government Decree No. 72/2007/ND-CP on Dam Safety Management.	Dam	Inspection	Twice per year before and after flood season	DARD District Office or Dam operating company

Table A3.3: Environmental Monitoring Program for River Bank Flood Protection Subprojects

A. Environmental Effects Monitoring

Target compartment	Parameters	Location	Methods	Frequency	Responsibility
Construction Stage					
Noise	Noise levels	At nearest residence(s)	Observation, use of noise meter to measure	In response to community complaints	ESS (LIC)
Ambient air	Dust levels	At nearest residence(s)	Observation; Sampling and analysis	once every quarters	ESS (LIC)
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	once every quarters	ESS (LIC)
Operation Stage					
Embankment stability	Regular inspection of riverside and landward embankment area	Embankment area (both sides)	Inspection	Twice per year before and after flood season	DARD District Office

B. Environmental Compliance Monitoring

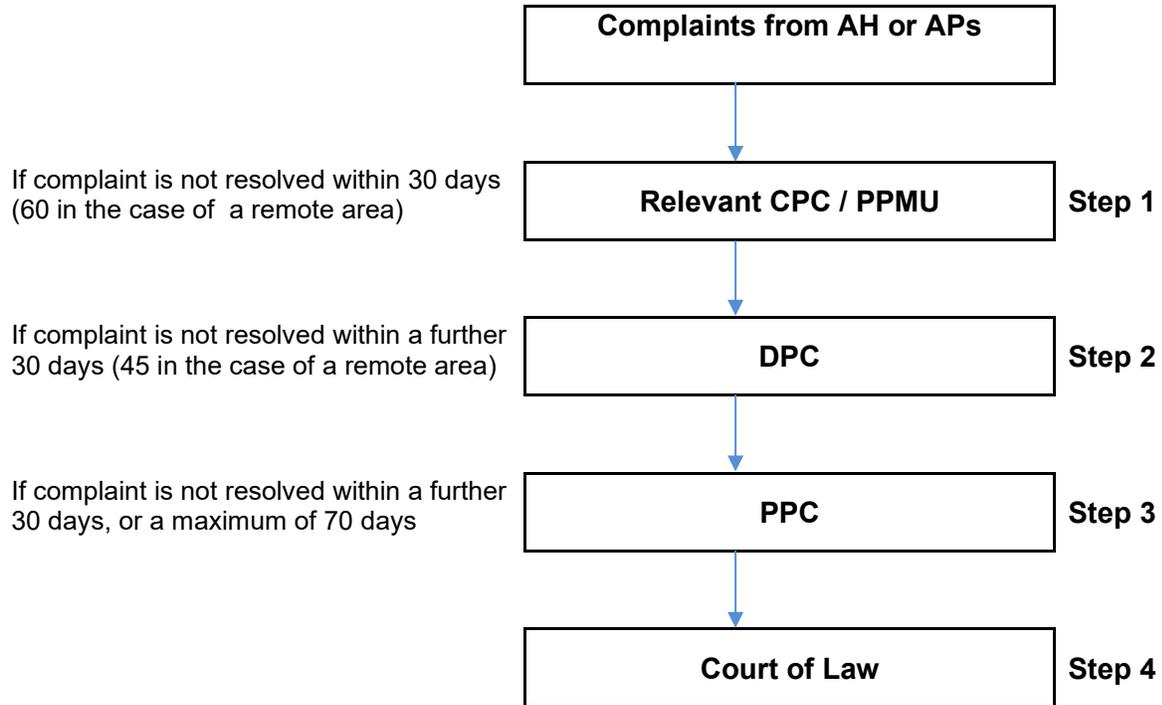
Mitigation Measure	Parameters/ Indicator	Location	Methods	Frequency	Responsibility
Pre-Construction Stage					
Site clearance	Certification of clearance	Affected areas	Observation	Prior to commencement of site works	Construction supervision consultant/ESS (LIC)
Construction Stage					
Erosion and sediment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

Mitigation Measure	Parameters/ Indicator	Location	Methods	Frequency	Responsibility
Construction camp conditions	Cleanliness; waste disposal facilities; general condition	All construction camps	Observation	Weekly	Construction supervision consultant/ESS (LIC)
Vegetation clearing	Boundaries of vegetation clearing	Areas of sensitive vegetation	Observation	Weekly during clearing works	Construction supervision consultant/ESS (LIC)
Property access	Reinstatement of temporary and permanent accesses	Affected properties	Observation	Once during and once following construction	Construction supervision consultant/ESS (LIC)
Waste disposal	Site cleanliness and condition; temporary waste storage area	Throughout construction site	Observation	Weekly	Construction supervision consultant
Development of borrow areas	Relevant Environmental approvals obtained for new sites	Throughout construction area	Review of relevant documentation	Before commencement of resource extraction	PPMU
Avoidance of heritage items	Boundaries of works in vicinity of heritage items	At affected items	Observation	Once during construction works	Construction supervision consultant/ESS (LIC)
<i>Operation Stage</i>					
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 embankments	Condition of embankments sediment loads in water	In embankment areas	Observation	6 monthly for first 2 years of operation	DARD District Office and/or Operating Company

GRIEVANCE REDRESS MECHANISM

1. In order to ensure that all affected persons' (AP) 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. **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) or directly to the PPMU. The CPC will work with PPMU to solve complaints and a representative PPMU will respond in written form to the complainant. During construction, the Contractor will appoint a member of the management team as focal point to liaise with the community monitoring board and, if appropriate, the complainant(s) to address any grievance that relates to the Contractor's actions. 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.
4. **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 or in verbal form, 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) or Natural Resource and Environment Division (NRED) of any decision made and the DRC/NRED are responsible for supporting DPC to resolve affected household's (AH) complaint. The DPC must ensure that the complainant is notified of the decision made.
5. **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.

6. **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 AND BUDGET FOR EARF IMPLEMENTATION

Environmental Management Activity	Staffing Requirements per Subproject PPMU Safeguards / Environment Officer	Marginal Cost Estimate per Subproject ¹
Application of environmental criteria to subproject selection	Approximately 0.5 weeks	Included in project personnel salaries of PPMU
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	Included in project personnel salaries of PPMU include in the FS preparation consultant budget.
Public consultation and disclosure	Approximately 1 week	Included in IEE/EPP consultant, LIC and CSC contracts and personal salaries of PPMU.
Review of environmental assessment documents by GOV and issuance of IEE clearance by ADB	Approximately 3 weeks for liaison with ADB/GOV as required	Included in project personnel salaries (ADB, DONRE, PPMU)
Monitoring and reporting of EMP implementation		Included in LIC and CSC contracts and personal salaries of PPMU

¹ Marginal cost estimates include those costs above and beyond salary costs for key project financed staff involved in EARF implementation

Table A5.1: Indicative budget² for environmental safeguards component of LIC team per province, estimate budget of US\$64,000 (equivalent to VND 1.500.000.000)

Item	Unit Cost	Quantity	Cost
National Environment Safeguards Specialist	\$1,500	24 months	\$36,000
Per Diem	\$34	12 months	\$12,240
Total for all IA's			\$48,240
- Fees			\$36,000
- Per diems			\$12,240
Subtotal			
Water Testing: Water Supply subprojects (Collection, delivery and analysis of samples)	\$150	48 (4 tests per subproject for assumed max of 8 subprojects)	\$5,760
Two IA monitoring costs			\$5,000
EMP Miscellaneous costs	Depends on requirements of additional subprojects		\$5,000
Two IA ,misc. costs			\$64,000
Total			\$128,000

² Budget requirement will be determined by the final subproject designs

**TERMS OF REFERENCE FOR LIC ENVIRONMENTAL SAFEGUARDS SPECIALIST
Environment Specialists (24 p-m national)**

Category	Description
A: Position /Title	National Environmental Safeguards Consultants – total 5 – 1 per IA
B: Position / Type	Consultant As part of Loan Implementation Consultant (LIC) team contract
C: International or National	National
D: Qualifications	Degree in an environmental subject (e.g. soil science, botany, zoology, physical geography, ecology, forestry, agronomy or environmental science). Preferably an advanced degree in a similar subject.
E: Experience	At least five years of experience environmental safeguards monitoring and supervision in construction-based projects and at least 3 years safeguard requirements of ADB / WB rural infrastructure development projects (i.e. in project implementation).
F: Posting	PPMU – Counterpart Financed
G: Reporting To	LIC Team Leader
H: Duration of role	6 person months per year being expected construction cycle of subprojects spread over four years
I: Input by yr. (pmnth)	By Pyr 4,5,6,6,3
J: Deliverables	The consultant shall have sole responsibility for the following deliverables. <ol style="list-style-type: none"> 1. EMP monitoring and reporting for each CRIEM subproject approved by the PPC 2. Project Quarterly Environmental Monitoring Reports (from Q1 of year 2 onwards). 3. Project Annual Environmental Monitoring Reports (end of each year) as a component of annual reports.
K: Outputs	The consultant will contribute as follows to the Project outputs: <ol style="list-style-type: none"> 1. Support PPMU in establishment and operation of an environment management system described in EMP; 2. Manage and support the PPMU to ensure compliance with the EMP provision for each subproject. 3. Manage and support the PPMU in carry out environment safeguard monitoring 4. Manage and support the PPMU in preparation of periodic monitoring report ,including semi-annual monitoring report to be submitted to ADB for review and upload on ADB website
L: Tasks	Overall: <ol style="list-style-type: none"> i. Review the environmental recommendations of the TRTA Final Report and the formats for initial environmental examinations contained therein; ii. Brief the staff of the PPMUs in participating provinces on environmental procedures and requirements for subproject IEE preparation; iii. Provide capacity development support in the form of advice and seminars to ESO, CSC, contractor, community supervision board and other project stakeholder, covering all aspects of subproject environmental management and monitoring

Category	Description
	<ul style="list-style-type: none"> <li data-bbox="500 247 1446 310">iv. Visit each subproject the subproject sites and support ESO/PPMU in preparation of subproject categorization to be submitted to ADB for clearance <li data-bbox="500 321 1471 384">v. Support to update IEE/EMP to reflect any change in subproject detailed design if necessary; <li data-bbox="500 394 1442 489">vi. Assist the PPCs with the internal review of the initial environmental examinations and associated environmental management plans prepared for each subproject prepared by IEE consulting firm <li data-bbox="500 499 1393 562">vii. Assist the PPMUs to ensure that EMP is adequately integrated in bidding document and civil contract; <li data-bbox="500 573 1430 636">viii. Assist the PPMU to review and clear Construction EMP (CEMP)prepared by contractor <li data-bbox="500 646 1463 709">ix. Assist in the preparation and implementation of training activities with regard to the environmental aspects of the Project <li data-bbox="500 720 1446 783">x. Assist CSC to carry out supervision of CEMP, preparation of daily weekly and monthly report integrated contractor environment safeguard performance <li data-bbox="500 793 1455 888">xi. undertake regular supervision of all contractor's environmental performance and carry out environment sampling program for surface/ground water quality, dust and noise as required in the EMP <li data-bbox="500 898 1409 993">xii. Liaise with the project stakeholders to collect and interpret additional environmental data that may be necessary as part of EMP implementation review <li data-bbox="500 1003 1446 1098">xiii. Review all environment information sources, analysis and consolidate them in semiannual monitoring report for submission to ADB and government environment authority <li data-bbox="500 1108 1446 1266">xiv. Oversee the implementation of the COVID-19 Plan, ensure daily recording of site entry, symptom assessments and tracing data is maintained, ensure safe workplace practices are in place and operating according to current Govt Directives and provide accurate and up to date monitoring reports. Inform the contractor, IA, EA and ADB of noncompliance within 24 hours.

TASKS OF CSC ENVIRONMENT SPECIALIST TO BE INCLUDED IN CSC CONTRACT

1. The CSC's environmental specialist will have an appropriate tertiary qualification in environmental science or natural resource management from a recognized institution and will have at least 8-year experience working in the field of environmental management of development projects, including at least one internationally funded project. The experience will include environmental monitoring and the specialist will be familiar with the laws and regulations of Viet Nam associated with the environment.

2. The overall objective of the CSC's environmental supervision task is to monitor and supervise the implementation of the Environmental Management Plan by the construction contractors. This will be achieved through implementing a number of specific tasks as identified below.

- (i) Support contractor to prepare the Contractor's Construction Environmental Management Plan (CEMP) ensuring accordance with all relevant aspects of the approved EMP
- (ii) Establishment and documentation of procedures and methodology for supervising environmental compliance of the Contractor on site (
- (iii) Implementation of the site Environmental Supervision Plan including GRM during construction
- (iv) Report any environmental non-compliances with the EMP/CEMP to the supervising Engineer/PPMU and recommend corrective actions.
- (v) With support from ESS, undertake environmental compliance monitoring, , in accordance with subproject EMPs including the COVID-19 plan monitoring and reporting
- (vi) Prepare daily, weekly and monthly contractors site environmental performance reports and ad-hoc environmental reports;
- (vii) Coordinate with the ESS, ESO/PPMU, local authorities and the Contractor to minimise adverse impacts on environmental issues, addressing them as required

Note 1. The Environmental Supervision Plan will include the following components:

- 1 *Methodology for implementing environmental supervision*
 - a. *Review approved CEMP;*
 - b. *Review of other documents; e.g.) Contractor's monthly progress reports on environmental compliance, accident/incident reports, noncompliance reports*
 - c. *Methodology and procedures for monitoring contractors environmental compliance; e.g.)checklists, monitoring methodology of environmental effects and compliance, frequency of monitoring, procedures for notification of corrective action requests and follow up when non compliances are identified*
- 2 *Organisation of Environmental Supervision – staff involved, communication procedures*
- 3 *Reporting Procedures*

ADB RAPID ENVIRONMENTAL APPRAISAL CHECKLISTS

REA - Roads and Highways Projects

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 the 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
A. Project Siting Is the project area adjacent to or within any of the following environmentally sensitive areas?			
▪ Cultural heritage site			
▪ Protected Area			
▪ Wetland			
▪ Mangrove			
▪ Estuarine			
▪ Buffer zone of protected area			
▪ Special area for protecting biodiversity			
B. Potential Environmental Impacts Will the Project cause...			
▪ encroachment on historical/cultural areas; disfiguration of landscape by road embankments, cuts, fills, and quarries?			
▪ encroachment on precious ecology (e.g. sensitive or protected areas)?			

Screening Questions	Yes	No	Remarks
<ul style="list-style-type: none"> ▪ alteration of surface water hydrology of waterways crossed by roads, resulting in increased sediment in streams affected by increased soil erosion at construction site? 			
<ul style="list-style-type: none"> ▪ deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction? 			
<ul style="list-style-type: none"> ▪ increased local air pollution due to rock crushing, cutting and filling works, and chemicals from asphalt processing? 			
<ul style="list-style-type: none"> ▪ risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation during project construction and operation? 			
<ul style="list-style-type: none"> ▪ noise and vibration due to blasting and other civil works? 			
<ul style="list-style-type: none"> ▪ dislocation or involuntary resettlement of people? 			
<ul style="list-style-type: none"> ▪ dislocation and compulsory resettlement of people living in right-of-way? 			
<ul style="list-style-type: none"> ▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups? 			
<ul style="list-style-type: none"> ▪ other social concerns relating to inconveniences in living conditions in the project areas that may trigger cases of upper respiratory problems and stress? 			
<ul style="list-style-type: none"> ▪ hazardous driving conditions where construction interferes with pre-existing roads? 			
<ul style="list-style-type: none"> ▪ poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases (such as STI's and HIV/AIDS) from workers to local populations? 			
<ul style="list-style-type: none"> ▪ creation of temporary breeding habitats for diseases such as those transmitted by mosquitoes and rodents? 			
<ul style="list-style-type: none"> ▪ accident risks associated with increased vehicular traffic, leading to accidental spills of toxic materials? 			
<ul style="list-style-type: none"> ▪ increased noise and air pollution resulting from traffic volume? 			
<ul style="list-style-type: none"> ▪ increased risk of water pollution from oil, grease and fuel spills, and other materials from vehicles using the road? 			
<ul style="list-style-type: none"> ▪ social conflicts if workers from other regions or countries are hired? 			

Screening Questions	Yes	No	Remarks
<ul style="list-style-type: none"> ▪ large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)? 			
<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 causes, especially where the structural elements or components of the project 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. 			

REA – Water Supply Projects

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 the Environment and Safeguards Division (RSES) for endorsement by the 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
A. Project Siting Is the project area...			
▪ Densely populated?			
▪ Heavy with development activities?			
▪ Adjacent to or within any environmentally sensitive areas?			
• Cultural heritage site			
• Protected Area			
• Wetland			
• Mangrove			
• Estuarine			
• Buffer zone of protected area			
• Special area for protecting biodiversity			
• Bay			
B. Potential Environmental Impacts Will the Project cause...			
▪ pollution of raw water supply from upstream wastewater discharge from communities, industries, agriculture, and soil erosion runoff?			

Screening Questions	Yes	No	Remarks
▪ impairment of historical/cultural monuments/areas and loss/damage to these sites?			
▪ hazard of land subsidence caused by excessive ground water pumping?			
▪ social conflicts arising from displacement of communities?			
▪ conflicts in abstraction of raw water for water supply with other beneficial water uses for surface and ground waters?			
▪ unsatisfactory raw water supply (e.g. excessive pathogens or mineral constituents)?			
▪ delivery of unsafe water to distribution system?			
▪ inadequate protection of intake works or wells, leading to pollution of water supply?			
▪ over pumping of ground water, leading to salinization and ground subsidence?			
▪ excessive algal growth in storage reservoir?			
▪ increase in production of sewage beyond capabilities of community facilities?			
▪ inadequate disposal of sludge from water treatment plants?			
▪ inadequate buffer zone around pumping and treatment plants to alleviate noise and other possible nuisances and protect facilities?			
▪ impairments associated with transmission lines and access roads?			
▪ health hazards arising from inadequate design of facilities for receiving, storing, and handling of chlorine and other hazardous chemicals.			
▪ health and safety hazards to workers from handling and management of chlorine used for disinfection, other contaminants, and biological and physical hazards during project construction and operation?			
▪ dislocation or involuntary resettlement of people?			
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?			
▪ noise and dust from construction activities?			
▪ increased road traffic due to interference of construction activities?			
▪ continuing soil erosion/silt runoff from construction operations?			

Screening Questions	Yes	No	Remarks
<ul style="list-style-type: none"> ▪ delivery of unsafe water due to poor O&M treatment processes (especially mud accumulations in filters) and inadequate chlorination due to lack of adequate monitoring of chlorine residuals in distribution systems? 			
<ul style="list-style-type: none"> ▪ delivery of water to distribution system, which is corrosive due to inadequate attention to feeding of corrective chemicals? 			
<ul style="list-style-type: none"> ▪ accidental leakage of chlorine gas? 			
<ul style="list-style-type: none"> ▪ excessive abstraction of water affecting downstream water users? 			
<ul style="list-style-type: none"> ▪ competing uses of water? 			
<ul style="list-style-type: none"> ▪ increased sewage flow due to increased water supply 			
<ul style="list-style-type: none"> ▪ increased volume of sullage (wastewater from cooking and washing) and sludge from wastewater treatment plant 			
<ul style="list-style-type: none"> ▪ large population influx during project construction and operation that causes 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"> ▪ 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 operation and construction? 			
<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 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? 			

REA - Irrigation Projects**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 the Environment and Safeguards Division (RSES) for endorsement by the 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
A. Project Siting Is the Project area adjacent to or within any of the following environmentally sensitive areas?			
▪ Protected Area			
▪ Wetland			
▪ Mangrove			
▪ Estuarine			
▪ Buffer zone of protected area			
▪ Special area for protecting biodiversity			
B. Potential Environmental Impacts Will the Project cause...			
▪ loss of precious ecological values (e.g. result of encroachment into forests/swamplands or historical/cultural buildings/areas, disruption of hydrology of natural waterways, regional flooding, and drainage hazards)?			
▪ conflicts in water supply rights and related social conflicts?			
▪ impediments to movements of people and animals?			
▪ potential ecological problems due to increased soil erosion and siltation, leading to decreased stream capacity?			

Screening Questions	Yes	No	Remarks
▪ Insufficient drainage leading to salinity intrusion?			
▪ over pumping of groundwater, leading to salinization and ground subsidence?			
▪ impairment of downstream water quality and therefore, impairment of downstream beneficial uses of water?			
▪ dislocation or involuntary resettlement of people?			
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?			
▪ potential social conflicts arising from land tenure and land use issues?			
▪ soil erosion before compaction and lining of canals?			
▪ noise from construction equipment?			
▪ dust during construction?			
▪ waterlogging and soil salinization due to inadequate drainage and farm management?			
▪ leaching of soil nutrients and changes in soil characteristics due to excessive application of irrigation water?			
▪ reduction of downstream water supply during peak seasons?			
▪ soil pollution, polluted farm runoff and groundwater, and public health risks due to excessive application of fertilizers and pesticides?			
▪ soil erosion (furrow, surface)?			
▪ scouring of canals?			
▪ clogging of canals by sediments?			
▪ clogging of canals by weeds?			
▪ seawater intrusion into downstream freshwater systems?			
▪ introduction of increase in incidence of waterborne or water related diseases?			
▪ dangers to a safe and healthy working environment due to physical, chemical and biological hazards during project construction and operation?			
▪ large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?			

Screening Questions	Yes	No	Remarks
▪ social conflicts if workers from other regions or countries are hired?			
▪ 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?			
▪ community safety risks due to both accidental and natural hazards, especially where the structural elements or components of the project (e.g., irrigation dams) 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?			

REA - General (for Dam Safety and Riverbank Protection Projects)**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 the 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
A. Project Siting Is the Project area adjacent to or within any of the following environmentally sensitive areas?			
▪ Cultural heritage site			
▪ Legally protected Area (core zone or buffer zone)			
▪ Wetland			
▪ Mangrove			
▪ Estuarine			
▪ Special area for protecting biodiversity			
C. Potential Environmental Impacts Will the Project cause...			
▪ impairment of historical/cultural areas; disfiguration of landscape or potential loss/damage to physical cultural resources?			
▪ disturbance to precious ecology (e.g. sensitive or protected areas)?			
▪ alteration of surface water hydrology of waterways resulting in increased sediment in streams affected by increased soil erosion at construction site?			
▪ deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?			

Screening Questions	Yes	No	Remarks
▪ increased air pollution due to project construction and operation?			
▪ noise and vibration due to project construction or operation?			
▪ involuntary resettlement of people? (physical displacement and/or economic displacement)			
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?			
▪ poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases (such as STI's and HIV/AIDS) from workers to local populations?			
▪ creation of temporary breeding habitats for diseases such as those transmitted by mosquitoes and rodents?			
▪ social conflicts if workers from other regions or countries are hired?			
▪ large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?			
▪ risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?			
▪ 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?			
▪ community safety risks due to both accidental and natural causes, especially where the structural elements or components of the project 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?			
▪ generation of solid waste and/or hazardous waste?			
▪ use of chemicals?			
▪ generation of wastewater during construction or operation?			

**ADB PROHIBITED INVESTMENT ACTIVITIES LIST
(SPS 2009: Appendix 5)**

No.	SECTORS/ PROJECTS
1	Production or activities involving harmful or exploitative forms of forced labor or child labor. Refer to <i>Vietnamese Law of Labor and "Minimum Age Convention"</i> by the International Labor Organization (www.ilo.org)
2	Production of or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements or subject to international phaseouts or bans, such as: (a) pharmaceuticals (A list of pharmaceutical products subject to phaseouts or bans is available at http://www.who.int/medicines/regulation/medicines-safety/publications/restrictions/en/) (b) pesticides, and herbicides (A list of pesticides and herbicides subject to phaseouts or bans is available at http://www.pic.int/TheConvention/Chemicals/AnnexIIIChemicals/tabid/1132/language/en-US/Default.aspx) (c) ozone-depleting substances (A list of the chemical compounds that react with and deplete stratospheric ozone resulting in the widely publicized ozone holes is listed in the Montreal Protocol, together with target reduction and phaseout dates. Information is available at http://ozone.unep.org/montreal-protocol-substances-deplete-ozone-layer/32506) (d) polychlorinated biphenyls (A group of highly toxic chemicals, polychlorinated biphenyls are likely to be found in oil-filled electrical transformers, capacitors, and switchgear dating from 1950 to 1985) and other hazardous chemicals (A list of hazardous chemicals is available at http://www.pic.int) (e) wildlife or wildlife products regulated under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (A list is available at https://cites.org/eng/app/appendices.php) (f) transboundary trade in waste or waste products (As defined by the Basel Convention; see http://basel.int/TheConvention/Overview/TextoftheConvention/tabid/1275/Default.aspx)
3	Production of or trade in weapons and munitions, including paramilitary materials
4	Production of or trade in alcoholic beverages, excluding beer and wine (This does not apply to project sponsors who are not substantially involved in these activities. Not substantially involved means that the activity concerned is ancillary to a project sponsor's primary operations)
5	Production of or trade in tobacco (This does not apply to project sponsors who are not substantially involved in these activities. Not substantially involved means that the activity concerned is ancillary to a project sponsor's primary operations)
6	Gambling, casinos, and equivalent enterprises tobacco (This does not apply to project sponsors who are not substantially involved in these activities. Not substantially involved means that the activity concerned is ancillary to a project sponsor's primary operations)
7	Production of or trade in radioactive materials, including nuclear reactors and components thereof (This does not apply to the purchase of medical equipment, quality control (measurement) equipment, and any equipment for which ADB considers the radioactive source to be trivial and adequately shielded)
8	production of, trade in, or use of unbonded asbestos fibers (This does not apply to the purchase and use of bonded asbestos cement sheeting where the asbestos content is less than 20%)
9	commercial logging operations or the purchase of logging equipment for use in primary tropical moist forests or old-growth forests
10	Marine and coastal fishing practices, such as large-scale pelagic drift net fishing and fine mesh net fishing, harmful to vulnerable and protected species in large numbers and damaging to marine biodiversity and habitats

SPS 2009: ANNEX TO APPENDIX 1

Outline of IEE and EMP

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) (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.