

7.7 Environmental Management Plan (EMP)

7.7.1 Objective of EMP

The objective of the Project's environmental management program is to propose a program to manage environmental protection issues during works preparation and construction works and in the process of putting the Project into operation; including:

- To make a plan to manage the implementation of measures for environmental impact mitigation approved by the environmental management authority and specified in the terms of the Project's technical instructions;
- To ensure proper waste management and a rapid response mechanism to environmental issues and incidents and emergency handling of environmental incidents;
- To continuously gather information on environmental quality changes during the Project implementation for promptly detecting additional adverse impacts on the environment and proposing measures for environmental pollution prevention and reduction under the National Technical Regulations.

7.7.2 Summary of Environmental Management Plan

The Environment Management Plan of the Project is summarized in Table 7.7-1.

Table 7.7-1 Summary of the Environmental Management Plan

Pre-construction / construction						
1. Air pollution (Nguyen Trai Bridge: B- Vu Yen Bridge: B- Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Demolition of house, structures, etc. within the construction sites	Dust pollution. Local residents' health.	1) Measures would be implemented to control dust emissions, such as the use of water carts, sprinklers, sprays and dust screens. The frequency of use would be modified in response to weather conditions.	Project cost included in the contract	1~3 weeks of demolition	Demolition contractors under the contract with the Project Owner	Project Owner, Supervision Consultant
Construction site levelling. Soil works, such as ground excavation, embankment, etc.	Dust pollution. Local residents' health. Impedance of business activities	1) Site inductions would be provided to make construction workers aware of air quality control practices and responsibilities. 2) Construction activities would be modified, reduced or controlled during high or unfavorable wind conditions if they would potentially increase off-site dust emissions. 3) Measures would be implemented to control dust emissions, such as the use of water carts, sprinklers, sprays and dust screens. The frequency of use would be modified in response to weather conditions. 4) Disturbed areas would be stabilized as soon as practicable to prevent or minimize windblown dust. 5) Controls, such as rumble grids or wheel wash facilities, would be implemented to minimize the tracking of dirt onto public roads. 6) Hardstand areas and surrounding public roads would be cleaned, as required. 7) Speed limits would be posted and observed by all construction vehicles on the construction site. 8) Haul trucks, plant and equipment would be switched off when not in operation for periods of greater than 15 minutes.	Project cost included in the contract	During construction period	Construction contractors under the contract with the Project Owner	Contractor Safety and Environmental Officer (SEO) Construction Supervision Consultant (CSC) Environmental Monitoring Consultant (EMC)

		<p>9) Construction plant, vehicles and machinery would be maintained in good working order and in accordance with manufacturers' specifications.</p> <p>10) A formal dust observation program would be implemented during construction, involving daily reviews of weather forecasts, observations of meteorological conditions and on site dust generation. This would inform mitigation measures or alterations to construction activities to be implemented during unfavorable weather conditions (such as dry weather and strong winds).</p>				
Transportation of construction materials	Air pollution and water pollution caused by spilled out of materials. Local residents' health. Road users' health. Impedance of business activities along the roads.	<p>1) Loaded haulage trucks would be covered at all times on public roads and on-site where there is a risk of release of dust or other materials.</p> <p>2) Transportation vehicles shall meet emission standards under general regulations.</p> <p>3) Vehicles would be maintained in good working order and in accordance with manufacturers' specifications.</p> <p>4) The environment of the construction site where vehicles reach and leave should be controlled and managed.</p> <p>5) Before starting transportation, vehicles shall be cleaned off mud and soil from their tires at the exit mechanically; and the road near the site gate shall also be cleaned.</p>	Project cost included in the contract	During construction period	Construction contractors under the contract with the Project Owner	Contractor Safety and Environmental Officer (SEO) Construction Supervision Consultant (CSC) Environmental Monitoring Consultant (EMC)
Operation of concrete mixing plants	Dust pollution. Workers' health Local residents' health.	<p>1) The material stockyards shall be shielded by enclosing canvas sheets, except for one side for moving materials onto belt conveyor;</p> <p>2) Spray water when pouring materials down from trucks;</p> <p>3) Moisten materials (sand and gravel) before pouring onto the belt conveyor leading to the mixer.</p> <p>4) Fabric dust filter shall be installed inside the silo of concrete mixing plant and regularly maintained by the contractor.</p>	Project cost included in the contract	During construction period	Construction contractors under the contract with the Project Owner	Contractor Safety and Environmental Officer (SEO) Construction Supervision Consultant (CSC) Environmental Monitoring Consultant (EMC)

2. Water pollution (Nguyen Trai Bridge: B- Vu Yen Bridge: B- Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Construction of bridge piers	Degradation of river water quality due to polluted water	1) A Construction Soil and Water Quality Management Plan which aims to outline the following issues would be prepared to manage surface water impacts during construction of the project:	Project cost included in the contract	During construction period	Construction contractors under the contract with the Project Owner	Contractor Safety and Environmental Officer (SEO) Construction Supervision Consultant (CSC) Environmental Monitoring Consultant (EMC)
Soil works such as soil excavation, road embankment, etc.	Erosion soil deposit in ditches, river, ponds, etc.	<ul style="list-style-type: none"> - Relevant legislative requirements for soil and water quality aspects - Erosion, sedimentation and water quality issues potentially arising from the Project. - Measures to manage soil and water quality during construction. - Roles and responsibilities of those involved in the design and implementation of soil and water management controls. - Monitoring, auditing and reporting framework to assess the effectiveness of the controls implemented. <p>2) Environmental-friendly construction method such as steel pipe sheet pile should be applied to the extent possible to minimized polluted water from the construction of bridge piers</p> <p>3) Site induction would be provided to project personnel, including relevant sub-contractors on soil erosion and sediment control requirements and practices and their responsibilities.</p> <p>4) Erosion and sediment control structures would remain installed and maintained until sufficient stabilization is achieved.</p> <p>5) Soil and land rehabilitation would occur as soon as practicable following construction. This would include rehabilitation in stages as the construction process allows.</p> <p>6) Temporary stockpile locations for both site establishment and earthworks would be specified prior to the commencement of construction activities in that area.</p>				

		<p>7) Scour protection and erosion protection measures would be implemented downstream of the watercourse crossings and surface water discharge points.</p> <p>8) Ground surface of construction yards and construction sites should be regularly clean up.</p> <p>9) Rain water on the ground of construction yards and construction sites should be collected and properly treated before discharge to the drainage ditches.</p>				
3. Waste (Nguyen Trai Bridge: B- Vu Yen Bridge: B- Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Demolition of houses and structures	Local residents' health Damage of landscape	<p>1) No burning of debris, construction wastes or vegetation shall be allowed on-site.</p> <p>2) Waste shall be segregated on-site to facilitate re-use, recycling, and collected and disposed by licensed companies.</p>	Project cost included in the contract	1~3 weeks of demolition	Demolition contractors under the contract with the Project Owner	Project Owner, Supervision Consultant
Construction activities Worker camps	Exacerbation of sanitary environment Soil pollution caused by the leakage of waste oil in the construction yards	<p>1) The waste management plan covering the following things should be developed:</p> <ul style="list-style-type: none"> • Specify who is responsible for managing waste on site. • Establish goals and objectives of waste management plan. • Estimate the waste types and amounts involved. • Set targets for reducing the amount of each waste sent to landfill. • Describe recycling/reuse methods for each material. • Identify the waste destinations and transport modes, including what materials are being segregated on site for reuse or recycling. • Track progress. • Describe special measures for material use and handling. • Describe communication and training to support and encourage participation from everyone on site. <p>2) Raw material requirements shall be planned at the outset of each construction activity to avoid excess material storage and wastage on-site.</p>	Project cost included in the contract	During construction period	Construction contractors under the contract with the Project Owner	Contractor Safety and Environmental Officer (SEO) Construction Supervision Consultant (CSC) Environmental Monitoring Consultant (EMC)

		<p>3) Wastes shall be stored and handled in dedicated areas with bounded sides such a way as to avoid loss or leakage and subsequent pollution.</p> <p>4) The Contractor shall segregate construction waste materials on-site to facilitate re-use, recycling and waste disposal practice in accordance with the best available technology.</p> <p>5) Contractor shall liaise with the Municipal Environmental Company of Hai Phong City to determine the appropriate location for reuse.</p> <p>6) Waste oils, chemicals, paints and other such materials used for machinery maintenance and construction shall be collected and stored in bundled areas on-site for resale/re-use or managed disposal.</p> <p>7) In locations remote from the site offices the Contractor shall provide latrine pits in suitable locations for the convenience of the construction workforce.</p> <p>8) Sewage from site toilets, kitchens and similar, shall be discharged to a septic tank and soak-away system. Grease traps shall be installed where canteen waste is collected.</p>				
4. Noise, vibration (Nguyen Trai Bridge: B- Vu Yen Bridge: B- Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Demolition of house, structures, etc. within the construction sites	Noise pollution. Local residents' health.	<p>1) Construction Noise and Vibration Management Plan would be prepared and implemented, and would include the following:</p> <ul style="list-style-type: none"> • Identification of nearby residences and other sensitive land uses. • Description of approved hours of work. • Description and identification of all construction activities, including work areas, equipment and duration. • Description of what work practices (generic and specific) would be applied to minimize noise and vibration. • A complaints handling process. • Noise and vibration monitoring procedures. 	Project cost included in the contract	1~3 weeks of demolition	Demolition contractors under the contract with the Project Owner	Project Owner, Supervision Consultant
Construction site levelling. Soil works, such as ground	Noise pollution. Local residents' health. Impedance of business activities		Project cost included in the contract	During construction period	Construction contractors under the contract with the Project Owner	Contractor Safety and Environmental Officer (SEO) Construction

excavation, embankment, etc.		<ul style="list-style-type: none"> • Overview of community consultation required for identified high impact works. 2) Induction and training would be provided to relevant staff and sub-contractors outlining their responsibilities with regard to noise. 3) Work would be undertaken during standard construction hours as far as feasible and reasonable. 4) The machinery with low sound level shall be used when construction work is undertaken in the area within 200m from the residential areas in daytime 5) A protocol would be developed to identify the need for and provision of respite measures for residential receivers. Respite measures may include the restriction to the hours of construction activities resulting in impulsive or tonal noise (such as pile driving), or other appropriate measures agreed between the contractor and residential receiver. 6) Equipment would be regularly inspected and maintained to ensure it is in good working order. 7) Noisy equipment would be orientated away from residential receivers. 8) Where feasible and reasonable, the use of temporary noise hoardings would be considered where ancillary construction facilities are in proximity to sensitive receivers. 9) Noise monitoring would be conducted at the commencement of construction activities and periodically during the construction program. 				Supervision Consultant (CSC) Environmental Monitoring Consultant (EMC)
5. Bottom sediment (Nguyen Trai Bridge: B- Vu Yen Bridge: B- Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Construction of bridge piers Excavation works	Leakage of polluted water from the construction sites to the river water.	1) Environmental-friendly construction method such as steel pipe sheet pile should be applied to the extent possible to minimized polluted water from the construction of bridge piers	Project cost included in the contract	During construction period	Construction contractors under the contract with the Project	Contractor Safety and Environmental Officer (SEO) Construction

Embankment works Construction materials excavation, transportation, stockpiling	Soil and construction materials run-off due to rain.	<ol style="list-style-type: none"> 2) The Contractor shall plan his works to minimize surface excavation works during the rainy season where practicable. 3) Particular attention shall be paid to the control of surface runoff during storm events. 4) The storm water interception and drainage system should be constructed before construction of side slopes. 5) At the sections involving high filling, the construction of road should be scheduled to avoid rainy season. 6) The overall slope of the works areas and construction yards shall be kept to a minimum to reduce the erosive potential of surface water flows. 7) The material stockpile sites shall be far away from surface water bodies and areas prone to surface run-off. Loose materials shall be bagged and covered. Open ditch shall be built around the stockpile sites to intercept wastewater. 8) Measures shall be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system. 9) At the start of site establishment, perimeter cut-off drains to direct off-site water around the site shall be constructed and internal temporary drainage works and erosion and sediment control facilities shall be implemented. 10) Channels, earth bunds, netting, tarpaulin and or sand bag barriers shall be used on site to manage surface water runoff and minimize erosion. 11) All exposed earth areas shall be completed and revegetated as soon as possible after earthworks have been completed. 		Owner	Supervision Consultant (CSC) Environmental Monitoring Consultant (EMC)	
6. Eco-system (Nguyen Trai Bridge: A- Vu Yen Bridge: A- Ring Road 3: A-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Construction of bridges	Loss of mangrove forests in the banks of Cam River and Ruot Lon River	1) Reforestation of about 18,000 m ² of area of mangrove forests should be planned as compensated forest for the mangrove forest lost by the project (14,000m ² for Ruot Lon Bridge, 2,000m ² for Nguyen Trai Bridge, and 2,000m ² for Vu Yen	Counterpart budget from the Project Owner	During construction period	Project Owner	Project owner Hai Phong Urban Development

		Bridge). 2) Plan of reforestation to compensate to the mangrove forests lost by the project can be combined with the plan prepared by Vingroup JSC with aim to develop the land in the east of Vu Yen Island as an eco-logical park.				Construction PMU Construction Supervision Consultant (CSC)
Construction of bridge piers Widening of Nguyen Trai Street Construction of approach bridges	Degradation of river water quality and eco-system	1) Environmental-friendly construction method such as steel pipe sheet pile should be applied to the extent possible to minimized polluted water from the construction of bridge piers. 2) No vegetation of any type shall be removed from lands outside the works boundary. 3) Site fencing shall be erected on the border of construction sites, storage areas, etc. to avoid unnecessary off-site damage to vegetation, trees and landscape. 4) All trees within the works boundaries shall be preserved if they are outside the permanent works areas and do not interfere with construction or operation of the Project. 5) Exposed embankments and slopes created during the works shall be stabilized, ideally by hydro-seeding (grass planting using a spray to disperse seed) to minimize erosion.	Project cost included in the contract	During construction period	Construction contractors under the contract with the Project Owner	Contractor Safety and Environmental Officer (SEO) Construction Supervision Consultant (CSC) Environmental Monitoring Consultant (EMC)
7. Hydrological conditions (Nguyen Trai Bridge: B- Vu Yen Bridge: B- Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Road embankment works	Impedance of water flows of rivers and irrigation canals	1) In the pre-construction phase, at the road sections interfering the rivers/canal, proper bridge or drainage culverts should be designed to ensure that the water flows will not be impeded.	Project cost included in the contract	During construction period	Construction contractors under the contract with the Project Owner	Contractor Safety and Environmental Officer (SEO) Construction Supervision Consultant (CSC) Environmental

						I Monitoring Consultant (EMC)
8. Involuntary resettlement (Nguyen Trai Bridge: A- Vu Yen Bridge: B- Ring Road 3: A-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Land acquisition	Involuntary resettlement. Impedance of business activities.	Measures to mitigate impacts of involuntary resettlement are described in the separately-prepared resettlement action plan (RAP) and livelihood restoration plan. The Project Owner shall ensure sufficient and timely provision of necessary information, documents on the project plans, and budgets for compensation, supports and resettlement.	Counterpart budget from the Project Owner	To be completed before construction phase	Site Clearance and Compensation Committees in district level	Project owner Hai Phong Urban Development Construction PMU
9. The poor (Nguyen Trai Bridge: B- Vu Yen Bridge: D Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Land acquisition	Involuntary resettlement. Impedance of business activities. Loss of means of livelihood.	Measures to mitigate impacts to the poor are described in the separately-prepared resettlement action plan (RAP) and livelihood restoration plan. Special support policies for the poor : <ul style="list-style-type: none"> For relocated poor or vulnerable HHs, the project will provide special assistance to ensure that they are able to move and re-establish their living at the new site. Relocated poor people, who has 20% or more of their productive land to be affected, or the affected land is smaller than 20% of the productive land but the remaining land is rendered unviable: will be received the special support according to the regulation of HPPC. Others 	Counterpart budget from the Project Owner	To be completed before construction phase	Site Clearance and Compensation Committees in district level	Project owner Hai Phong Urban Development Construction PMU
10. Local economy such as employment and livelihood (Nguyen Trai Bridge: A-, B+ Vu Yen Bridge: B-,B+ Ring Road 3: A-, B+)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency

Land acquisition Construction works	Involuntary resettlement. Difficult to access to public facilities on other sides of the new roads. Impedance of business activities.	1) Measures to mitigate impacts to local residents' employment and livelihood are described in the separately-prepared resettlement action plan (RAP) and livelihood restoration plan. 2) The contractors will be encouraged to employ project-affected residents and other local residents to work as construction worker.	Counterpart budget from the Project Owner	To be completed before construction phase	Site Clearance and Compensation Committees in district level	Project owner Hai Phong Urban Development Construction PMU
11. Land use and utilization of local resources (Nguyen Trai Bridge: B- Vu Yen Bridge: B- Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Land acquisition	Loss of residential lands and agriculture lands	1) Users of affected lands should be compensated and supported as described in RAP. 2) The utilization of land and local resources should be taken into consideration when prepare the livelihood restoration plan for households affected by the project.	Counterpart budget from the Project Owner	To be completed before construction phase	Site Clearance and Compensation Committees in district level	Project owner Hai Phong Urban Development Construction PMU
12. Water usage (Nguyen Trai Bridge: B- Vu Yen Bridge: B- Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Construction of bridge piers, roads, etc.		In the construction phase, measures described in item "2. Water pollution" of this Table should be implemented in order to mitigate impacts to river water and the aquaculture ponds.	Project cost included in the contract	During construction period	Construction contractors under the contract with the Project Owner	Contractor Safety and Environmental Officer (SEO) Construction Supervision Consultant (CSC) Environmental Monitoring Consultant (EMC)

13. Existing social infrastructure and service (Nguyen Trai Bridge: B- Vu Yen Bridge: B- Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Land acquisition. Widening of road Operation of construction machine and vehicles on the local roads	Remove of electric poles, water supply pipes, communication cables, etc. Increase in traffic jam, traffic accident on the local roads. Cause damages and deterioration to local roads. Cause soil compaction to agricultural land encroached by construction machine	<p>1) The relocation of electric cables, communication cables, water supply pipes, irrigation ditches, drainage gutters, etc. should be carefully planned and duly implemented so as these relocation works will not interrupt local residents' daily life activities and production activities for long time.</p> <p>2) Measures to mitigate impacts of traffic jam, traffic accident, etc., on local road network:</p> <ul style="list-style-type: none"> - Construction methods and staging should be designed to minimized road closures, and ensure that disruptions to existing traffic are minimized as much as feasible and reasonable; - Works which would significantly reduce the performance of the road network should be scheduled for periods of typically lower traffic volumes where feasible and reasonable; - Signage should be used to clearly indicate the traffic controls (speed restrictions, passing constraints, etc.) in use. - Access to local roads and properties should be maintained. If local roads need to be closed, suitable arrangement should be made to provide access to properties of affected residents and their visitors; - Construction machines, equipment and vehicles should not gathered on local roads; - Drivers of construction machine and vehicles should be suitably educated to duly understand and obligate traffic safety regulations; <p>3) Measures to mitigate impacts of soil compact for encroached agricultural lands:</p> <ul style="list-style-type: none"> - The site clearance areas should be enclosed by fences. The construction vehicles should operate within these permitted areas. - The areas encroached by construction vehicles shall be 	Counterpart budget from the Project Owner	To be completed before construction phase	Site Clearance and Compensation Committees in district level	Project owner Hai Phong Urban Development Construction PMU

		loosen by scarifying with a suitable depth. - After construction, the construction sites shall be cleaned and suitably scarified before handed over to the owners.				
14. Social capital, local organizations such as decision-making authorities (Nguyen Trai Bridge: B- Vu Yen Bridge: D Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Construction of roads	Split of communities Difficult to cross the road	Plan to install the pedestrian crossings (including underground crossings) near the populous residential areas should be taken into consideration when design the road, to help local residents easily access to houses, paddy fields, schools, public facilities, etc. on the other side of the road.	Project cost included in the contract	During construction period	Construction contractors under the contract with the Project Owner	Contractor Safety and Environmental Officer (SEO) Construction Supervision Consultant (CSC) Environmental Monitoring Consultant (EMC)
15. Misdistribution of benefits and damage (Nguyen Trai Bridge: B- Vu Yen Bridge: D Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Land acquisition	All residents may not be equally affected.	It is recommended that Ngu Lao Commune PC and Thuy Nguyen District PC shall continue to discuss with residents in My Dong Village and An Lu Village to find out the reasonable solution to minimize impacts of split of communities and avoid the relocation of three clan ancestral house in My Dong Village.	Counterpart budget from the Project Owner	To be completed before construction phase	Site Clearance and Compensation Committees in district level	Project owner Hai Phong Urban Development Construction PMU
16. Landscape (Nguyen Trai Bridge: B- Vu Yen Bridge: D Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency

Widening of street	Remove of street trees.	The trees along Nguyen Trai Street on the southern side of Nguyen Trai Bridge should be temporarily removed and replanted later to minimized damage to the landscape of this street.	Counterpart budget from the Project Owner	To be completed before construction phase	Site Clearance and Compensation Committees in district level	Project owner Hai Phong Urban Development Construction PMU
Construction works	Damage of landscape due to the appearance of construction machine.	Existing vegetation around the perimeter of construction sites would be retained where feasible and reasonable. Plan to plant trees along the road sides should be carefully prepared to improve landscape of the road and mitigate impacts of air pollution and noise to local residents.	Project cost included in the contract	During construction period	Construction contractors under the contract with the Project Owner	Contractor Safety and Environmental Officer (SEO) Construction Supervision Consultant (CSC) Environmental Monitoring Consultant (EMC)
17. Infectious diseases such as HIV/AIDS, disputes caused by construction workers (Nguyen Trai Bridge: B- Vu Yen Bridge: D Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Construction workers came from outside	Outside construction workers may breach the local security and order, and cause disputes with local residents especially with young residents.	<ul style="list-style-type: none"> - Cooperate with local authorities, including the Fatherland Front Committees and Women Unions to provide workers with proper understanding on social evils, prostitution, infectious diseases in the area; - Cooperate with local authorities in preventing social evils in the area; - Employ local residents for as much as feasible for the construction works, especially for unskilled works. 	Project cost included in the contract	During construction period	Construction contractors under the contract with the Project Owner	Contractor Safety and Environmental Officer (SEO) Construction Supervision Consultant (CSC) Environmental Monitoring Consultant (EMC)

18. Working environment (including work safety) (Nguyen Trai Bridge: B- Vu Yen Bridge: B- Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Construction works Construction camps	Accidents may occurred during construction. Workers' health may be affected by dust and exhaust gases Wastes generated from the construction camps may worsen the sanitary conditions	The following measures should be taken by the Contractor during construction phase: 1) Provide construction workers with sufficient personal protection equipment (PPE) such as hard hats, earpiece, safety shoes, and others; 2) Provide seminars on safety issues for local public, particularly for school students; 3) Construction workers should be provided with proper living condition and health care during construction. Construction worker camp should be appropriately provided with clean water, electric power, etc. 4) Install warning signs whereas the potential dangers are present; 5) Erect temporary fence around high risk areas to control public access and light them at night if that is on the regular roads used by the locals; 6) Assign construction staffs on or near places where construction vehicles are crowded to ensure safety.	Project cost included in the contract	During construction period	Construction contractors under the contract with the Project Owner	Contractor Safety and Environmental Officer (SEO) Construction Supervision Consultant (CSC) Environmental Monitoring Consultant (EMC)
19. Accidents (Nguyen Trai Bridge: B- Vu Yen Bridge: B- Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
All construction activities	Unexploded bomb	- An army unit of the Ministry of Defense shall be entrusted by the project owner to conduct the investigation, survey and removal of all unexploded bombs along the project site.	Project cost included in the contract	Before commencement of construction	Army unit under the contract with the Project Owner	Project Owner, Supervision Consultant
Construction works Construction machine Transportation	Accidents on the river Accidents on the roads around the construction sites	- Beacon buoy should be installed for warning and signaling the construction and navigation in the channel - Construction facilities, equipment occupying the channel should be lighted at night. - Warning devices, marine delineators, marker posts,	Project cost included in the contract	During construction period	Construction contractors under the contract with the Project Owner	Contractor Safety and Environmental Officer (SEO)

of construction materials	Accidents along the roads to be used for transporting construction materials, wastes, etc.	<p>signboards, etc. should be installed in upstream and downstream of the construction sites.</p> <ul style="list-style-type: none"> - Personnel should be assigned to the sites in upstream and downstream of the construction sites to instruct boats and regulate traffic on the waterway. - The pedestrian crossings, underpass and frontage roads should be designed at the sections near the populous residential areas to ensure traffic safety for pedestrians, and mitigate impediment to local resident movement. 				Construction Supervision Consultant (CSC) Environmental Monitoring Consultant (EMC)
Typhoons and storms	Accidents cause by natural disasters	<ul style="list-style-type: none"> - Construction workers should be constantly informed about updated weather forecast. - In preparedness for a typhoon and storm, all on-water construction equipment should be anchored in the safe places. The onshore construction equipment should be moved to the safe inland sites. All workers should move inward the mainland. The sites under construction should be securely covered. - Contractors should work closely with local relevant authorities to prepare beforehand the plans for preparedness, rescue and other counter-measures to typhoon and flood. 	Project cost included in the contract	During construction period	Construction contractors under the contract with the Project Owner	Contractor Safety and Environmental Officer (SEO) Construction Supervision Consultant (CSC) Environmental Monitoring Consultant (EMC)
20. Transboundary impacts, global warming (Nguyen Trai Bridge: B- Vu Yen Bridge: B- Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Operation of construction machineries, transportation vehicles, etc.	Generation of greenhouse gases	<ol style="list-style-type: none"> 1) Emissions intensity of construction materials would be considered during procurement. 2) Where feasible, recycled content road construction and maintenance materials such as recycled aggregates in road pavement and surfacing would be used. 3) The fuel efficiency of the construction plant and equipment would be considered during selection. 4) Project planning would be aim to minimize double handling of materials, long haulage distances and additional fuel use. 	Project cost included in the contract	During construction period	Construction contractors under the contract with the Project Owner	Contractor Safety and Environmental Officer (SEO) Construction Supervision Consultant (CSC) Environmental

		<p>5) Locally produced goods and services would be procured where feasible and cost effective to reduce transport fuel emissions.</p> <p>6) Where high or medium risks to project infrastructure have been identified, the construction contractor would review existing design policies, specifications or practices to consider the impacts of climate change.</p>				I Monitoring Consultant (EMC)
Operation phase						
1. Air pollution (Nguyen Trai Bridge: B- Vu Yen Bridge: B- Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Moving vehicles	Air pollution Affect to local residents' health Affect to local residents' business Degradation of eco-system	<p>1 Carry out regular maintenance of road and bridge pavement</p> <p>2 Spray water regularly on road surface</p> <p>3 Carry out monitoring of ambient air quality in the vicinity of the project for a specified time period following project opening. If pollutant concentrations contributed by the project are above predicted levels, additional feasible and reasonable mitigation measures would be considered.</p>	Hai Phong City's annual budget	Operation of bridges and roads	Road maintenance companies under contract with Hai Phong DOT	Hai Phong DOT
2. Water pollution (Nguyen Trai Bridge: B- Vu Yen Bridge: B- Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Moving vehicles	Water pollution Degradation of eco-system	<p>1) The management of potential surface water impacts during the operation of the project would be detailed as part of an EMP.</p> <p>2) Procedures to quickly address any contaminant spill or accident would be developed prior to operation and implemented during operation project.</p> <p>3) Operational drainage infrastructure would be regularly inspected and maintained.</p> <p>4) The road surface should be periodically cleaned up, especially before a rain, in order to collect dust and dirt, and reduce concentration of pollutants in runoff water from the road surface.</p>	Hai Phong City's annual budget	Operation of bridges and roads	Road maintenance companies under contract with Hai Phong DOT	Hai Phong DOT

3. Waste (Nguyen Trai Bridge: B- Vu Yen Bridge: B- Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Illegal disposal of wastes Road maintenance works	Degradation of river water quality, eco-system. Affect to sanitary environment and local residents' health	Illegally-disposed wastes around the bridges and roads, and wastes generated from the bridge and road maintenance works would be properly collected and treated by the competent entities.	Hai Phong City's annual budget	Operation of bridges and roads	Road maintenance companies under contract with Hai Phong DOT	Hai Phong DOT
4. Noise, vibration (Nguyen Trai Bridge: B- Vu Yen Bridge: B- Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Moving vehicles	Noise pollution Affect to local residents' health Affect to local residents' business	<ul style="list-style-type: none"> - Plant trees along sections of road near the populous residential areas; - Install warning signs on road for honking bans and speed control at the road sections close to residential areas; - Regular maintenance on road to keep good road surface condition; - Respond to monitoring results which show higher noise than projected by the EIA. 	Hai Phong City's annual budget	Operation of bridges and roads	Road maintenance companies under contract with Hai Phong DOT	Hai Phong DOT
5. Bottom sediment (Nguyen Trai Bridge: B- Vu Yen Bridge: B- Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Soil erosion from road embankments	Water pollution. Bottom sediment in rivers/canals.	Slopes of the road embankments should be properly managements to prevent erosion by rain.	Hai Phong City's annual budget	Operation of bridges and roads	Road maintenance companies under contract with Hai Phong DOT	Hai Phong DOT
6. Eco-system (Nguyen Trai Bridge: B- Vu Yen Bridge: B- Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency

13. Existing social infrastructure and service (Nguyen Trai Bridge: B± Vu Yen Bridge: D Ring Road 3: B±)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Appearance of the roads	Difficulty in crossing the roads	Regular maintenance of traffic safety structures such as dampers, traffic lights and signboards at the locations with local people's high demands for road crossing, etc., should be conducted.	Hai Phong City's annual budget	Operation of bridges and roads	Road maintenance companies under contract with Hai Phong DOT	Hai Phong DOT
14. Social capital, local organizations such as decision-making authorities (Nguyen Trai Bridge: B- Vu Yen Bridge: D Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Moving vehicles Appearance of roads	Difficulty in crossing the roads	Pedestrian crossings near the populous residential areas should be properly maintained, to help local residents easily access to houses, paddy fields, schools, public facilities, etc. on the other side of the road.	Hai Phong City's annual budget	Operation of bridges and roads	Road maintenance companies under contract with Hai Phong DOT	Hai Phong DOT
15. Misdistribution of benefits and damage (Nguyen Trai Bridge: B- Vu Yen Bridge: D Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Living after resettlement	Some relocated people may face difficulty in recovering livelihood	Compensation and supports should be provided to affected people as described in the resettlement action plan and livelihood restoration plan.	Hai Phong City's annual budget	Operation of bridges and roads	Hai Phong City Department of Labor, Disable Soldiers and Social Issues	Hai Phong City Department of Labor, Disable Soldiers and Social Issues
17. Children's rights (Nguyen Trai Bridge: B- Vu Yen Bridge: D Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Moving vehicles	Difficulty for the children in crossing	Pedestrian crossings (including underground crossings) near the populous residential areas should be properly maintained to help	Hai Phong City's	Operation of bridges	Road maintenance	Hai Phong DOT

Appearance of roads	the roads	children easily and safely across the road to go to other side.	annual budget	and roads	companies under contract with Hai Phong DOT	
19. Accidents (Nguyen Trai Bridge: B- Vu Yen Bridge: B- Ring Road 3: B-)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Appearance of the bridge piers on the rivers Moving vehicles on the roads	Risks of increase in traffic accidents on rivers and roads	<ul style="list-style-type: none"> - Signal system should be installed at the base of bridge piers to ensure safety on the waterway. - The River Transportation Management Agencies should work closely together to ensure safe navigation. - Rescue mechanism including close coordination with local hospitals should be prepared to ensure timely rescues when incident occurs. 	Hai Phong City's annual budget	Operation of bridges and roads	Water Transportation Management Agencies, Road maintenance companies under contract with Hai Phong DOT	Hai Phong DOT
20. Transboundary impacts, global warming (Nguyen Trai Bridge: B± Vu Yen Bridge: B± Ring Road 3: B±)						
Project activities	Environmental impacts	Impact mitigation measures	Financial sources	Period of Implementation	Responsible entity	Monitoring agency
Moving vehicles	Increase in greenhouse gases	<ol style="list-style-type: none"> 1) Emergency planning and management controls would be implemented during operation to reduce the risk of adverse climate impacts, maintain public safety and minimize congestion. 3) Maintenance regimes for road surface and other ancillary infrastructure would be developed to accommodate accelerated rates of asset degradation. 4) Emergency response management plans should be developed to ensure better disaster management during extreme climate events. 5) The performance of structures and materials should be monitored and reviewed in response to climate change related events. Where possible, the most cost effective response would be to include adaptive measures in the regular maintenance of the project. 	Hai Phong City's annual budget	Operation of bridges and roads	Hai Phong DOT Transportation Management Agencies; Road maintenance companies under contract with Hai Phong DOT	Hai Phong DOT

7.7.3 Implementation of Environmental Management Plan (EMP)

(1) EMP in the preparation and construction phase of the Project

The following relevant organizations and parties with different roles and responsibilities should attend the Environmental Management Plan in preparation and construction phase of the Project (Figure 7.7-1).

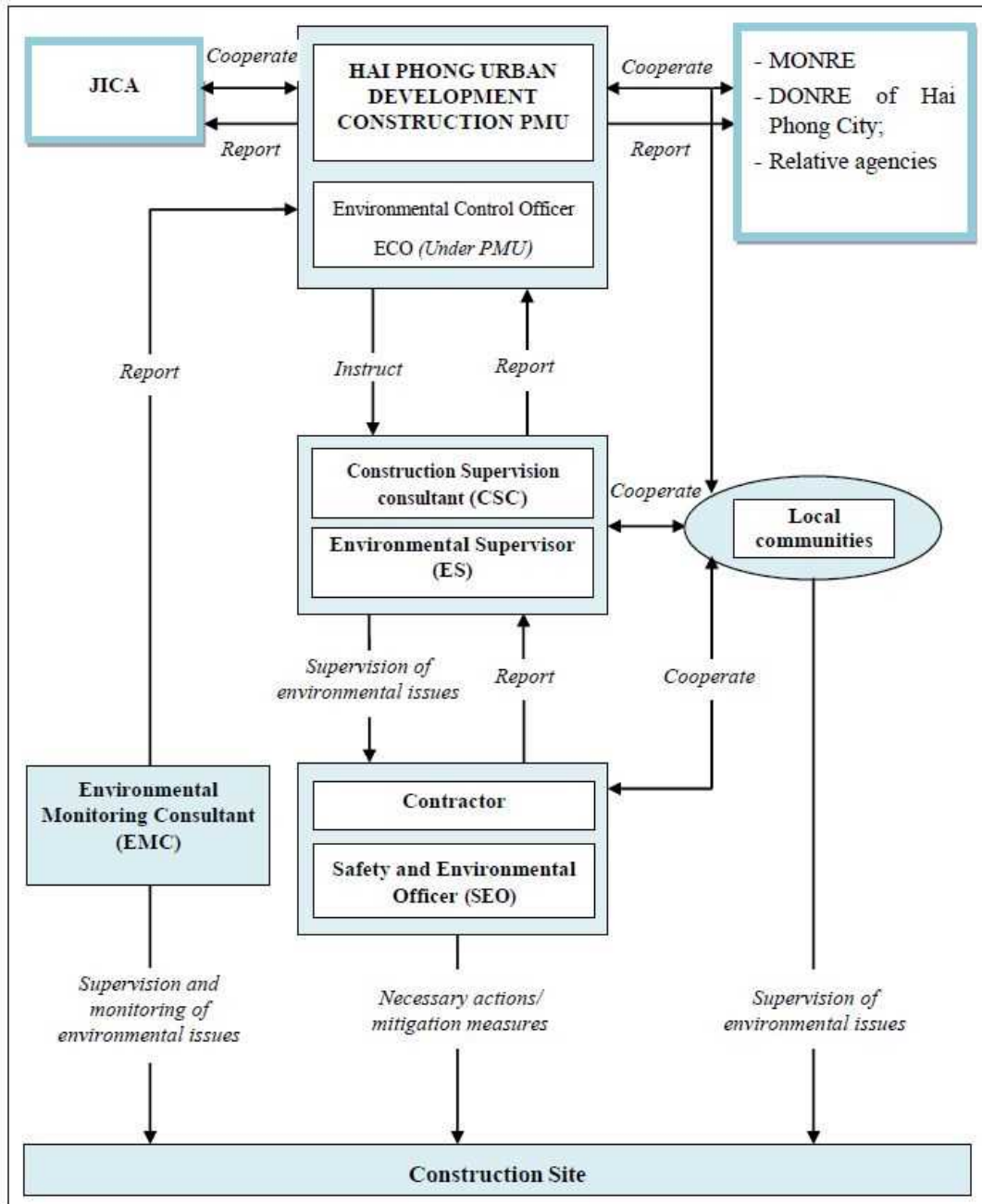


Figure 7.7-1 EMP Implementing Organization Chart

Table 7.7-2 Roles and Responsibilities of Entities Relevant to EMP Implementation

Roles	Responsibilities regarding Environment matters
Hai Phong Urban Development Construction Project Management Unit (PMU)	<p>As the Project implementation management organization, the Project Owner, Hai Phong Urban Development Construction Project Management Unit (PMU) is responsible for overall monitoring of the implementation of project, including compliance with requirements on environment. Hai Phong Urban Development Construction PMU shall take the major responsibility for environmental activities in all phases of the Project as stipulated in the Circular No. 32/2015/TT-BGTVT dated July 24, 2015 issued by the Ministry of Transport on environmental protection in traffic infrastructure development. Specifically, Hai Phong Urban Development Construction PMU shall:</p> <ul style="list-style-type: none"> - Include environmental protection commitments, waste treatment measures, measures to minimize adverse impacts on environment in the EIA report approved by competent authorities to bidding documents and contract with construction contractors. - Be responsible for organization and management of environmental protection in construction activities and shall perform the following tasks: <ul style="list-style-type: none"> ●Preparing and approving Project EMP, and then submitting to communal people's committee which has given their opinions in EIA process for publicly issuing the EMP before commencing the construction ●Giving guidance and instruction to Contractor's staff and employees on contents of EMP, waste treatment measures, and measures to minimize adverse impacts on environment with regards to the bidding package undertaken by the Contractor ●Organizing, supervising, urging contractor to implement methods of management, collection and treatment of waste (especially hazardous waste); measures to minimize dust, noise, vibration; measures to cope with incidents; occupational safety methods; Making weekly assessment of environmental compliance made by contractor; preparing and saving the assessment record under the form specified in Annex 3 – Circular No. 32/2015/TT-BGTVT. ●Performing periodic environmental monitoring; summarizing, evaluating and making report on compliance with the environmental protection contents of the project according to construction schedule; submitting the report to relevant environmental protection agency under Provincial PPCs and the agency approving EIA report. ●Immediately taking remedy and informing the agency approving the decision on investment in project and Communal/District PPC or the Department of Natural Resources and Environment at the project location in case of suspension of construction activities due to environmental incidents, ●Keeping environmental protection records with regards to the projects; coordinating with, providing the State management agency for environmental protection with relevant information for purpose of inspecting. ●Handling violations of construction contractor with regards to environmental protection in the bidding package under the terms of the contract signed.
Environmental Control Officer (ECO) - (under Urban Construction & Development PMU)	<p>To achieve effectiveness in the implementation process, the Hai Phong Urban Development Construction PMU shall appoint an ECO to address environmental issues of the Project. This ECO is responsible for helping the Hai Phong Urban Development Construction PMU to perform the following tasks:</p> <ul style="list-style-type: none"> - Considering EIA and EMP conducted by consultant; - Integrating EMP in detailed engineering design documentation and in contract documents and tender; - Including the responsibility for monitoring and supervision of EMP in the

Roles	Responsibilities regarding Environment matters
	<p>outline, contract documents and tender for Environmental Supervisor (ES);</p> <ul style="list-style-type: none"> - Providing relevant data in the process of selecting consultant; - Reviewing reports submitted by the Environmental Supervisor; - Directly monitoring the management, supervision and monitoring; - Inspecting construction activities to ensure that construction units perform all obligations as defined in job description relating to environmental impact mitigation measures. In cases any provision is not followed, the Environmental Supervisor shall report directly to the Hai Phong Urban Development Construction PMU to suspend the work of the construction unit. - Giving advice to the Director of Hai Phong Urban Development Construction PMU on resolutions for environmental issues of the Project
<p>Construction supervision consultant (CSC)/ Environmental Supervisor (ES)</p>	<ul style="list-style-type: none"> - Supporting Hai Phong Urban Development Construction PMU in establishing and operating the environmental management system; making recommendations on adjustment and enhancement of relevant parties' capacity in the process of implementation and monitoring the implementation of EMP of contractor. - CSC will be responsible for general supervision of construction activities and ensure that the Contractor complies with contractual requirements and specifications. ES belonging to CSC group will be responsible for supervising and monitoring construction activities in terms of environmental aspect and ensure that the Contractor satisfies with requirements specified in the contract signed with the project owner, in approved EIA report, as well as in EMP. - ES includes Environmental Engineers with adequate knowledge in the field of environmental protection who are responsible for fulfilling obligations and monitoring the environmental issues in construction activities of the Contractor. - Directly notifying construction units of any potential environmental issues that may hinder the progress of the Project. - Monitoring the implementation of mitigation measures by the contractor, promptly proposing and implementing additional interventions so as to complete the said mitigation measures and meet requirements on environmental protection. - Making plan to prevent and respond to environmental issues, emergency situations that may occur during construction. - Requesting Hai Phong Urban Development Construction PMU to suspend the construction partly or wholly in case the contractor fails to meet requirements on occupational safety and environmental protection as agreed or stated in the contract. - Reporting periodically on environmental monitoring results to Hai Phong Urban Development Construction PMU
<p>Environmental Monitoring Consultant (EMC)</p>	<ul style="list-style-type: none"> - Conduct periodic environmental monitoring. - Reporting periodically on monitoring results to Hai Phong Urban Development Construction PMU. - Perform additional measurements upon request.
<p>Construction contractor</p>	<p>The Contractor shall comply with all provisions on environmental protection as stipulated in the Circular No. 32/2015/TT-BGTVT dated July 24, 2015, specifically:</p> <ul style="list-style-type: none"> - Construction Contractor shall comply with all provisions of law on environmental protection, standards, technical specifications and satisfy requirements on environmental protection as specified in the contract signed with Hai Phong Urban Development Construction Project Management Unit. - During construction, the construction contractor shall perform the following basic tasks: <ul style="list-style-type: none"> ●Implementing requirements in EMP of the project, taking waste treatment measures, and measures to minimize adverse impacts on environment with

Roles	Responsibilities regarding Environment matters
	<p>regards to the bidding package undertaken by the Contractor.</p> <ul style="list-style-type: none"> ● Regularly monitoring and urging officials and employees to comply with requirements on environmental protection with regards to the bidding package in construction process; raising awareness and consciousness of environmental protection in employees. ● Collecting, storing, transporting, treating or disposing solid waste (such as mud, excavated soil, refused materials, construction waste, etc.) in the right place, method and volume. ● Collecting and storing household waste and hiring local environmental sanitation unit to transport and treat; or treating waste in accordance with regulations. ● Collecting and storing hazardous waste and hiring licenced hazardous waste management unit to transport and treat. ● Preparing toilet, waste collector and container, temporary sewage treatment works on construction sites, construction administration office and worker camps. ● Taking measures to reduce dust, noise, vibration, drainage measures, and local anti-flooding measures; designing and implementing emergency response plans; ensuring traffic safety during the construction process. ● Managing and maintaining technical state of construction vehicles, equipment and machines in accordance with regulations on quality, technical safety and environmental protection; complying with regulations on vehicle load; covering materials and waste, preventing them from leakage that causes environmental pollution while transporting during the construction process. ● Recovering the initial environmental state, cleaning the construction site, making clearance of river and channel beds after completing the construction. ● Providing the State management agency for environmental protection with relevant information for purpose of inspecting. <p>- Being subject to the management of ES, adjusting or strengthening measures when being required by the ES or ECO.</p>
<p>Owners of other project concerned</p>	<p>Vingroup JSC:</p> <ul style="list-style-type: none"> - Cooperating with Hai Phong Urban Development Construction PMU in replanting mangrove trees affected by the Project in the area planned for developing the ecological park. - Conserving the mangrove forest remaining in the eastern area of Vu Yen Island. <p>VSIP:</p> <ul style="list-style-type: none"> - Conserving the mangrove forest remaining in the southern area of VSIP Industrial Park along the north bank of Cam River.
<p>Local community (government, Non-governmental organizations, etc.)</p>	<p>Community investment monitoring is a voluntary activity performed by the residents in commune/ward under the Decision No 80/2005/QD-TTg and other relevant legal provisions, for the purpose of:</p> <ul style="list-style-type: none"> - Monitoring and assessing the compliance with regulations on investment management of competent investment decision authority, project owner, PMU, contractors and construction unit during the investment process (including environmental aspect); - Detecting and reporting to state competent authority on any violation of regulations on investment management (including environmental aspect) so as to promptly prevent and handle the violation, avoiding waste and loss of state capital and assets, as well as bad effect on interests of the community.

(2) EMP Implementing Organization in Operation Stage

EMP implementing organizations in operation stage is presented in Figure 7.7-2.

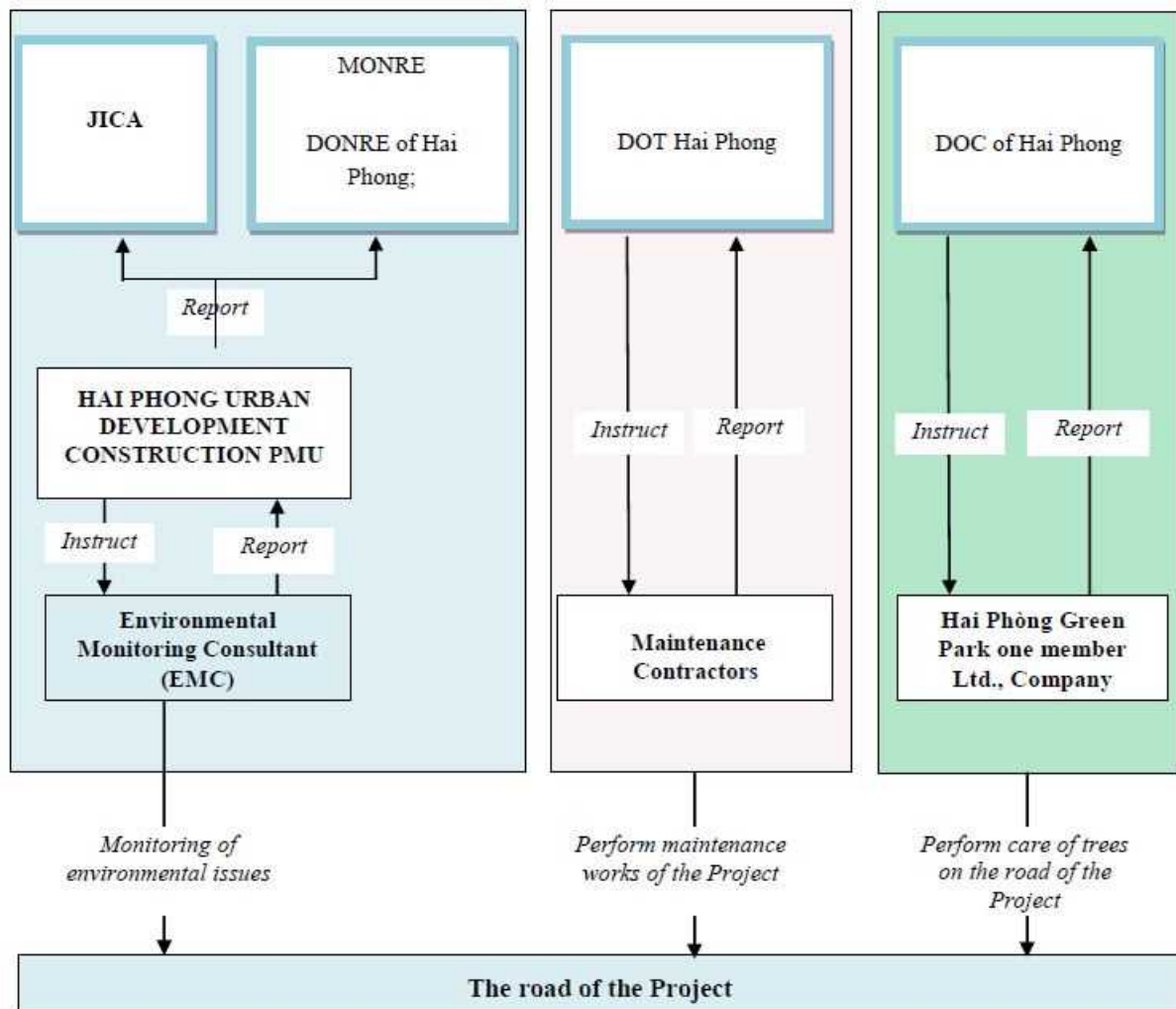


Figure 7.7-2 EMP Implementing Organization Chart in the Operation Phase

Table 7.7-3 shows the roles and responsibilities of entities involving in the implementation of EMP in the operation phase.

Table 7.7-3 Roles and responsibilities of entities involving in the EMP implementation in operation phase

Organization	Responsibilities (environmental aspect)
JICA	If the Project is implemented under JICA’s cooperation, JICA shall follow up the implementation of environmental protection measures of the Project and discuss with HPPC when it needs to carry out additional cooperation for the same purpose.
Ministry of Natural Resources and	Means the environmental management functional agency which manages and monitors the implementation of environmental protection measures as specified

Organization	Responsibilities (environmental aspect)
Environment, and Hai Phong Department of Natural Resources and Environment	in the Decision on Approval of EIA report of the Project
Department of Transport	Means the state management agency which manages, inspects, and develops traffic works maintenance plans of the project in operation stage after being handed over by the Urban Construction and Development PMU The other responsibility is to select maintenance contractor and monitor maintenance activities of traffic works of the project
Department of Construction	Means the State management agency which organizes and supervises the works of planting and caring for public trees including those planted on traffic works.
Hai Phong Urban Development Construction PMU	Urban Construction and Development PMU – Project Owner is the agency which manages the implementation of the Project, monitors and provides 24-month warranty service, including environment monitoring of the Project in operation stage
Environmental Monitoring Consultant (EMC)	Periodically monitor environmental factors Periodically report the monitoring results to Hai Phong Urban Development Construction PMU
Maintenance Contractors	Provide warranty services at his own cost with regards to works done by him upon receipt of request for maintenance from the project owner in case any damage arises during the warranty period.
Haiphong Green Park One Member Limited Company	Means the unit which plants and cares for public trees on traffic works of the city

7.7.4 Environmental Monitoring Plan

(1) Objectives

Environmental monitoring plan (EMoP) is used to ensure that all project impacts including impacts predicted in Chapter 3 and the additional impacts identified during construction will be controlled, feasibility of the mitigation measures to be strengthened and any opinion of the community comment will be resolved efficiently. Objectives of the EMoP include:

- Determine the actual extent of the impacts;
- Control impacts which are generated from construction process and mentioned in EIA report;
- Check environmental pollution standards applied to the project during construction;
- Check and supervise implementation of environmental protection solutions during construction based on EIA report.
- Suggest mitigation measures in case of unexpected impacts;
- Suggest to the Project Owner to coordinate with central and local environmental organizations to solve pending issues relating to environmental protection under the scope of the Subproject;
- Assess the effect of mitigation measures in pre-construction, construction and operation stages.

(2) Content of Environmental Monitoring Plan

1) Waste Monitoring

Monitoring of waste will be carried out periodically and regularly in the construction stage by the Environmental Monitoring Officer (ES). Waste monitoring plan are presented in Table 7.7-4.

Table 7.7-4 Waste Monitoring Plan in Construction stage

No	Items	Construction Stage
I	Construction Solid Waste	
1	Monitoring parameter	The generated volume of construction solid waste; The storage, collection, transportation and disposal of waste soil and rock; demolition materials and building materials. Dumping sites for construction solid waste: Monitoring of soil dumping at the prescribed place (the positions that are received agreement with the local authorities) and environmental management at the dumping sites.
2	Location	At the temporary storage for waste soil and rock; demolition materials and building materials. At the dumping sites for construction solid waste
3	Monitoring frequency	Regular monitoring by ES
4	Monitoring method	Check daily work records of the waste collectors; Conduct on-site observation on the performance of waste collection and treatment
5	Standard for comparison/Regulation	Decree No.38/2015/ND-CP dated April 04th, 2015
II	Domestic Solid Waste	
1	Monitoring parameter	The volume of domestic solid waste are generated Schedule of domestic solid waste collection; The quantity and quality of the garbage bins.
2	Location	At the construction sites (estimated 08 construction sites)
3	Monitoring frequency	Regular monitoring by ES
4	Monitoring method	Check daily work records of the waste collectors; Conduct on-site observation on the performance of waste collection and treatment
5	Standard for comparison/Regulation	Decree No.38/2015/ND-CP dated April 04th, 2015
III	Hazardous waste	
1	Monitoring parameter	The volume of hazardous waste are generated Schedule of hazardous waste collection; The quantity and quality of the hazardous waste containers.
2	Location	At the construction sites (estimated 08 construction sites)
3	Monitoring frequency	Regular monitoring by ES
4	Monitoring method	Check of daily work records of the hazardous waste collectors Conduct on-site observation on the performance of hazardous waste collection and treatment

No	Items	Construction Stage
5	Standard for comparison/ Regulation	QCVN 07:2009/BTNMT and Circular No.36/2015/TT-BTNMT dated June 06th, 2015
IV	Wastewater	
1	Monitoring parameter	Domestic wastewater (*): domestic wastewater collection, total volume of wastewater and monitoring parameters (including BOD5, total coliform, SS); Construction wastewater: Total volume of wastewater from maintenance activity of machine and monitoring parameters (oil).
2	Location	Domestic wastewater: will be monitored at the output of the septic tank in the construction sites. Construction wastewater: will be monitored at the output of the machinery maintenance station in the construction sites.
3	Monitoring frequency	Regular monitoring on the collection and treatment of wastewater by ES Monthly wastewater sampling and analysis by ES
4	Monitoring method	Check record of works of domestic wastewater collectors; Wastewater sampling and analysis of wastewater quality
5	Standard for comparison/ Regulation	QCVN 14:2008/BTNMT and QCVN 40:2011/BTNMT

Notes: (*) In case of using mobile toilets are not required to monitor the parameters of domestic waste water (including BOD5, total coliform)

2) Ambient air, noise & vibration, and surface water monitoring

Monitoring of ambient air, noise & vibration, and surface water will be carried out by EMC (hired by project owner) during the construction phase, and by DOT during the operation phase. Monitoring plan is presented in Table 7.7-5. The locations of monitoring sites are shown in Figure 7.7-3.

Table 7.7-5 Environment Monitoring Plan

No	Items	Stage		
		Pre-construction	Construction	Operation
I	Air quality			
1	Monitoring parameter	TSP, PM10, NO2, SO2, CO and microclimate (Temperature, humidity, speed, wind direction), atmospheric pressure.		
2	Location	Nguyen Trai Bridge Component: NT-KK1: Starting point of Nguyen Trai Bridge (intersection area of May To Ward) – Coordinates: 20°52'50"N; 106°41'24"E NT-KK2: Ending point of Nguyen Trai Bridge (at the location connects with the existing VSIP – Coordinates: 20°51'52"N; 106°41'42"E Vu Yen Bridge Component: VY-KK2: Intersection between Vu Yen Bridge and PR356 – Coordinates: 20°50'34"N; 106°44'48"E Ring road No.3 Component (RR3): RR-KK1: Starting point of RR3 (intersects with NH10) – Coordinates: 20°56'37" N; 106°40'20" E RR-KK2: RR3 intersects with PR359 – Coordinates: 20°56'17" N; 106°43'11" E RR-KK3: RR3 intersects with the crossing road (Km9+500) – Coordinates: 20°54'20" N; 106°44'10" E		

No	Items		Stage		
			Pre-construction	Construction	Operation
3		Monitoring frequency	Once prior to construction. For every point, monitoring continuous 24 hours, every 2 hours/ time.	Once every three months. For every point, monitoring continuous 16 hours, every 2 hours/ time.	Once every six months (in first 24 months – under warranty period). For every point, monitoring continuous 24 hours, every 2 hours/ time.
4		Monitoring method	Air sampling and analysis of air quality Check complaints raised by local residents Regular observation at construction sites during the construction period		
5		Standard for comparison	QCVN 05:2013/ BTNMT		
II	Noise, Vibration				
1		Monitoring parameter	Noise (Leq), Vibration (Laeq)		
2		Location	Similar to location for air quality		
3		Monitoring frequency	Once prior to construction. For every point, monitoring continuous 24 hours, every 2 hours/ time.	Once every three months. For every point, monitoring continuous 24 hours, every 2 hours/ time.	Once every six months (in first 24 months – under warranty). For every point, monitoring continuous 24 hours, every 2 hours/ time.
4		Monitoring method	Measurement of noise levels at the designated sites Check complaints raised by local residents Regular observation at construction sites during the construction period		
5		Standard for comparison	QCVN 26:2010/ BTNMT (for noise) and QCVN27:2010/BTNMT (for vibration)		
III	Surface Water				
1		Monitoring parameter	Temperature, pH, DO, SS, BOD5, COD, Coliform		
2		Location	Nguyen Trai Bridge Component: NT-Nm1: 300m from upstream of Nguyen Trai Bridge (on the Cam River) – Coordinates: 20°52'10"N; 106°41'25"E NT-Nm2: 300m from downstream of Nguyen Trai Bridge (on the Cam River) – Coordinates: 20°52'20"N; 106°41'42"E Vu Yen Bridge Component: VY-Nm1: 300m from upstream of Vu Yen Bridge (on the Cam River) – Coordinates: 20°51'8"N; 106°44'53"E VY-Nm2: 300m from downstream of Vu Yen Bridge (on the Cam River) – Coordinates: 20°50'58"N; 106°45'21"E Ring road No.3 Component (RR3): RR-Nm1: Kanh Giang River – Coordinates: 20°56'32"N; 106°40'8"E RR-Nm2: River intersects with RR3 at Km2+600 – Coordinates: 20°56'20"N; 106°41'39"E RR-Nm3: River intersects with RR3 at Km6+900 – Coordinates: 20°55'34"N; 106°43'32"E RR- Nm4: 300m from upstream of Ruot Lon Bridge (on the Cam River) – Coordinates: 20°52'30"N; 106°44'29"E RR- Nm5: 300m from downstream of Ruot Lon Bridge (on the Cam River)		

No	Items	Stage		
		Pre-construction	Construction	Operation
		– Coordinates: 20°52'42"N; 106°44'48"E		
3	Monitoring frequency	Once prior to construction. For Cam River and Ruot Lon River, taking two samples/ one point on ebb-tide and flood-tide. For other rivers or channels, taking once every point.	Once every three months. For Cam River and Ruot Lon River, taking two samples/ one point on ebb-tide and flood-tide. For other rivers or channels, taking once every point.	Once every six months. For Cam River and Ruot Lon River, taking two samples/ one point on ebb-tide and flood-tide. For other rivers or channels, taking once every point.
4	Monitoring method	Take samples of water at the monitoring sites described above, and analysis its quality. Check complaints raised by local residents Regular observation at the water bodies near the construction sites during the construction period Periodic observation at the specified water bodies which are sensitive to water pollution, including the monitoring sites described above.		
5	Standard for comparison	QCVN 08:2008/BTNMT		

3) Other monitoring

Table 7.7-6 describes the monitoring plan for other impacts, in addition to the monitoring of waste, monitoring of ambient air, noise & vibration, and surface water mentioned above.

Table 7.7-6 Other Monitoring Plan

No	Item Monitoring	Construction Stage	Operation Stage
1	Waste	<u>1) Monitoring location</u> As described in Table 7.7-4 <u>2) Monitoring frequency</u> As described in Table 7.7-4 <u>3) Monitoring method</u> As described in Table 7.7-4	<u>1) Monitoring location</u> Around Nguyen Trai Bridge, Vu Yen Bridge, approach roads, RR3 <u>2) Monitoring frequency</u> Every month by the Hai Phong DOT <u>3) Monitoring method</u> Check monthly work reports submitted by the road maintenance contractors Conduct on-site observation to confirm the performance of waste collection and treatment done by the road maintenance contractors. Check complaints raised by local residents.
2	Bottom sediment	<u>1) Monitoring location</u> River beds of Cam River, Ruot Lon River, and other irrigation canals in Thuy Nguyen District. <u>2) Monitoring frequency</u> Regular monitoring by Environmental Supervisor	<u>1) Monitoring location</u> River beds of Cam River, Ruot Lon River, and other irrigation canals in Thuy Nguyen District. <u>2) Monitoring frequency</u> Every 3 months by DOT <u>3) Monitoring method</u>

No	Item Monitoring	Construction Stage	Operation Stage
		<u>3) Monitoring method</u> Water sampling and analysis Check reports on construction works prepared by contractors Check records of complaints raised by local residents Conduct observation on construction sites	Water sampling and analysis Check complaints raised by local residents
3	Eco-system	<u>1) Monitoring location</u> Mangrove forests and wetlands along Cam River, Ruot Lon River Street trees along Nguyen Trai Street <u>2) Monitoring frequency</u> Regular monitoring by Environmental Supervisor <u>3) Monitoring method</u> Check reports on construction works prepared by contractors Check reports on progress of reforestation prepared by DARD Check reports on the works to remove and replant trees along Nguyen Trai Street, and confirm on-site the progress of these works.	<u>1) Monitoring location</u> Mangrove forests and wetlands along Cam River, Ruot Lon River Street trees along Nguyen Trai Street and RR3 <u>2) Monitoring frequency</u> Every 3 months by DARD (Forest Protection and Development Division) for mangrove forests. Hai Phong Green Park Company for street trees. <u>3) Monitoring method</u> Check complaints raised by local residents. Conduct on-site observation to confirm the performance of the works to protect and develop the mangrove forests
4	Hydrological conditions	<u>1) Monitoring location</u> Cam River, Ruot Lon River, and other irrigation canals in Thuy Nguyen District. <u>2) Monitoring frequency</u> Regular monitoring by Environmental Supervisor <u>3) Monitoring method</u> Check reports on construction works prepared by contractors Check complaints raised by local residents Conduct on-site observation at the waterbodies around the construction sites	<u>1) Monitoring location</u> Cam River, Ruot Lon River, and other irrigation canals in Thuy Nguyen District. <u>2) Monitoring frequency</u> Every month by DOT <u>3) Monitoring method</u> Check monthly work reports submitted by the road maintenance contractors Check complaints raised by local residents Conduct on-site observation on the performance of the drainage systems along the roads
5	Involuntary resettlement	As described in the monitoring plan prepared for RAP	-
6	The poor	As described in the monitoring plan prepared for RAP	As described in the monitoring plan prepared for RAP
7	Local economy	As described in the monitoring plan prepared for RAP	As described in the monitoring plan prepared for RAP
8	Land use and utilization of local resources	As described in the monitoring plan prepared for RAP	-
9	Water usage	<u>1) Monitoring location</u> As described in the monitoring plan for surface water quality in Section 7.7.5 III <u>2) Monitoring frequency</u> As described in the monitoring plan for	<u>1) Monitoring location</u> As described in the monitoring plan for surface water quality in Section 7.7.5 III <u>2) Monitoring frequency</u>

No	Item Monitoring	Construction Stage	Operation Stage
		surface water quality in Section 7.7.5 III <u>3) Monitoring method</u> As described in the monitoring plan for surface water quality in Section 7.7.5 III	As described in the monitoring plan for surface water quality in Section 7.7.5 III <u>3) Monitoring method</u> As described in the monitoring plan for surface water quality in Section 7.7.5 III
10	Existing social infrastructure and service	<u>1) Monitoring location</u> Relocation sites of electric cables, communication cables, water supply pipes, irrigation ditches, drainage gutters, etc. <u>2) Monitoring frequency</u> Regular monitoring by PMU during the pre-construction phase <u>3) Monitoring method</u> Check reports on the works to relocate public facilities prepared by contractors Conduct on-site observation on the relocation works.	<u>1) Monitoring location</u> Traffic signs, traffic safety facilities, road drainage ditches, etc. <u>2) Monitoring frequency</u> Every month by DOT <u>3) Monitoring method</u> Check monthly work reports submitted by the road maintenance contractors Check complaints raised by local residents Conduct on-site observation to check the conditions and performance of the road auxiliaries.
11	Social capital, local organizations	<u>1) Monitoring location</u> Sites planned for pedestrian crossings <u>2) Monitoring frequency</u> Regular monitoring by Environmental Supervisor <u>3) Monitoring method</u> Check reports on construction works prepared by contractors Check complaints raised by local residents Conduct on-site observation at the construction sites	<u>1) Monitoring location</u> Pedestrian crossings <u>2) Monitoring frequency</u> Every month by DOT <u>3) Monitoring method</u> Check monthly work reports submitted by the road maintenance contractors Check complaints raised by local residents Conduct on-site observation to check the conditions and performance of the pedestrian crossings.
12	Misdistribution of benefits and damage	As described in the monitoring plan prepared for RAP	As described in the monitoring plan prepared for RAP
13	Landscape	<u>1) Monitoring location</u> Trees along Nguyen Trai Street; and all existing vegetation along the bridge approach roads and RR3 <u>2) Monitoring frequency</u> Regular monitoring by Environmental Supervisor <u>3) Monitoring method</u> Check reports on construction works prepared by contractors Check complaints raised by local residents Conduct on-site observation at the construction sites	<u>1) Monitoring location</u> Trees along Nguyen Trai Street; and all existing vegetation along the bridge approach roads and RR3 <u>2) Monitoring frequency</u> Every month by DOT <u>3) Monitoring method</u> Check monthly work reports submitted by the Green Park Company Check complaints raised by local residents Conduct on-site observation to check the conditions of the street trees and vegetation along the roads.
14	Children's rights	<u>1) Monitoring location</u> Sites planned for pedestrian crossings	<u>1) Monitoring location</u> Pedestrian crossings, traffic safety

No	Item Monitoring	Construction Stage	Operation Stage
		<u>2) Monitoring frequency</u> Regular monitoring by Environmental Supervisor <u>3) Monitoring method</u> Check reports on construction works prepared by contractors Check complaints raised by local residents Conduct on-site observation at the construction sites	facilities, etc. <u>2) Monitoring frequency</u> Every month by DOT <u>3) Monitoring method</u> Check monthly work reports submitted by the road maintenance contractors Check complaints raised by local residents Conduct on-site observation to check the conditions and performance of the pedestrian crossings, road auxiliaries, etc.
15	Working environment	<u>1) Monitoring location</u> All construction sites and worker camps <u>2) Monitoring frequency</u> Regular monitoring by Environmental Supervisor <u>3) Monitoring method</u> Check reports on construction site management prepared by contractors Conduct on-site observation at the construction sites	=
16	Accidents	<u>1) Monitoring location</u> All construction sites and along the roads used to transport materials and wastes <u>2) Monitoring frequency</u> Regular monitoring by Environmental Supervisor <u>3) Monitoring method</u> Check reports on working safety management prepared by contractors Conduct on-site observation at the waterbodies around the construction sites	<u>1) Monitoring location</u> Traffic signs, signals, safety facilities, etc., along the bridges, approach roads, RR3 <u>2) Monitoring frequency</u> Every month by DOT <u>3) Monitoring method</u> Check monthly work reports submitted by the road maintenance contractors Check complaints raised by local residents Conduct on-site observation to check the conditions and performance of the road auxiliaries.
17	Transboundary impacts, global warming	<u>1) Monitoring location</u> All construction sites and along the roads used to transport materials and wastes <u>2) Monitoring frequency</u> Regular monitoring by Environmental Supervisor <u>3) Monitoring method</u> Check reports on construction work management prepared by contractors Conduct on-site observation at the construction sites	<u>1) Monitoring location</u> Road surface, structures of Nguyen Trai Bridge, Vu Yen Bridge, RR3 <u>2) Monitoring frequency</u> Every month by DOT <u>3) Monitoring method</u> Check monthly work reports submitted by the road maintenance contractors Check complaints raised by local residents Conduct on-site observation to check the conditions and performance of the road surface, road auxiliaries, etc.

7.7.5 Training Program on Improving Capability with Regards to Environmental Issues

The following training program is recommended to ensure the due implementation of EMP.

Table 7.7-7 Training program for EMP implementation

No.	Trainees	Trainer	Training contents
1	Environmental Control Officer in Urban Construction and Development PMU	Environmental Supervision Consultant	<ul style="list-style-type: none"> - Environmental Management Process in the overall project. - Raising awareness of the central role of environmental management system (EMS). - Supplementing new knowledge / legislation related to environment and handling of environmental violations. - Supplementing solutions to issues arising at site.
2	Officers in group of Construction Supervision Consultant	Environmental Supervision Consultant	<ul style="list-style-type: none"> - Fundamentals of Environmental Management. - EMP Supervision content approved by Urban Construction and Development PMU. - Assessment of compliance, monitoring and tracking of environmental protection activities of the Project. - Raising awareness and response process with environmental incidents. - Monitoring of environmental protection activities during the construction, etc.
3	Representative of local government	Environmental Supervision Consultant	<ul style="list-style-type: none"> - Updating new regulations on environment in contents related to the monitoring and supervision implemented by ward/communal units in collaboration with local projects. - Providing construction content and environmental protection measures in EMP of the project. - Notifying project's divisions of the mechanisms for monitoring, exchange of information and address in collaboration with local government.
4	Representative of Community Supervision Board	Environmental Supervision Consultant	<ul style="list-style-type: none"> - Raising awareness of rights and responsibilities of community with regards to EMP (as prescribed by law). - Providing environmental impact mitigation measures of the project as well as environmental management plan that will be applied to the project. - Notifying and providing the address for receiving feedback from the community and project settlement process, and giving reply to the community.
5	Environmental & Safety Officer of Construction Contractor	Environmental Supervision Consultant	<ul style="list-style-type: none"> - Providing contents in EMP of the project approved by the Urban Construction and Development PMU as the basis for making EMP of the contractor. - Updating new regulations on environment, focusing on contents related to the role of local units and of community supervision. - Notifying the monitoring procedures, information exchange mechanism within the project. - Notifying the environmental monitoring form, keeping information and documents, etc.
6	Workers of Construction Contractor	Environmental & Safety Officer of Construction Contractor	<ul style="list-style-type: none"> - Policies and regulations on occupational safety, environmental hygiene; - An overview of contractor's work and equipment under strict requirements on occupational safety and environmental hygiene

No.	Trainees	Trainer	Training contents
			<ul style="list-style-type: none"> - Environmental protection measures of the contractor applied to the project - Mechanism for testing, giving information and feedback on the implementation of environmental protection measures by contractor - Rules on occupational safety, environmental hygiene when working or operating equipment; - The process of handling environmental situations and accidents, first aid for occupational accidents.

Table 7.7-8 Plan to strengthen the capacity of environmental management

TT	Subject to be trained	Number of trainees	Times	Unit to organize	Source of cost
1	Officers of Hai Phong Urban Development Construction Project Management Unit	3 persons	01 time before construction and 01 quarter/ time during construction	Hai Phong Urban Development Construction PMU and Environmental Supervisors	- Hai Phong Urban Development Construction PMU
2	Engineers of Construction Supervision Consultant	3 persons	- ditto -	- ditto -	- ditto -
3	Representatives of local government	1 person/ commune About 20 pers in total	- ditto -	- ditto -	- ditto -
4	Representative of Community Supervision Board	1 person/ commune About 20 pers in total	- ditto -	- ditto -	- ditto -
5	Heath, Safety and Environmental Officer (SEO) of the contractor	3 persons About 18 pers in total	- ditto -	- ditto -	- ditto -
6	Workers of Contractors	All	- ditto-	Contractor and Heath, Safety and Environmental Officer (SEO)	- Contractors

TT	Subject to be trained	Number of trainees	Times	Unit to organize	Source of cost
				of the contractor	

7.7.6 Estimated Budget for Monitoring

(1) Budget for Monitoring EMP Implementation

Monitoring EMP implementation of the contractor (management and monitoring of compliance with environmental protection measures of Contractor) will be carried out by the Environmental Officer (ES). This cost should be included in the contract signed with construction supervision consultant (CSC).

Table 7.7-9 Estimated Budget for Monitoring EMP

No	Items	Unit	Volume	Unit Price (VND)	Amount	
					VND	USD
I	Construction Stage				4,853,400,000	215,707
1	Monitoring the compliance with EMP					
-	01 person, regular monitoring in 34 months for Nguyen Trai Bridge	month	34	30,000,000	1,020,000,000	45,333
-	01 person, regular monitoring in 42 months for Vu Yen Bridge	month	42	30,000,000	1,260,000,000	56,000
-	01 person, regular monitoring in 42 months for RR3	month	42	30,000,000	1,260,000,000	56,000
2	Other cost					
-	Perdiem					
	+ Nguyen Trai Bridge: 34 months x 4 weeks x 3 day/week	Day	408	150,000	61,200,000	2,720
	+ Vũ Yên Bridge: 42 months x 4 weeks x 3 day/week	Day	504	150,000	75,600,000	3,360
	+ Ring Road 3: 42 months x 4 weeks x 3 day/week	Day	504	150,000	75,600,000	3,360
-	Accommodation	Day	1,416	250,000	354,000,000	15,733
-	Car rental	Day	1,416	500,000	708,000,000	31,467
-	Take a photograph, printing,	Time	39	1,000,000	39,000,000	1,733

No	Items	Unit	Volume	Unit Price (VND)	Amount	
					VND	USD
	photocopy (once every three months)					
II	Operation Stage					
1	Monitoring the quality of engineering structures and trees				Management expenditure (from state budget) is allocated to monthly salary of staff in local units.	

Notes: - Other cost including: Preparing periodic monitoring reports, car rental, accommodation, per diem, printing, taxable income, VAT, etc.

- Cost for monitoring EMP implementation are included in the cost of project management which is regulated in paragraph no.3.5, item no.3, article no.4 of Circular no.04/2010/TT-BXD dated on May 26th, 2010 issued by Ministry of Construction

- Exchange Rate dated on January 11, 2016 of Vietcom Bank: 1USD = 22,500 VND

(2) Budget for Monitoring Parameters of Wastewater

Monitoring ambient environmental Quality will be carried out periodically in construction stage by EMC. This budget should be included in the contract signed with CSC or EMC.

Based on the above-mentioned monitoring wastewater program, the estimated budget for implementing this program is presented in the following table.

Table 7.7-10 Budget for Monitoring Parameters of Wastewater

No	Items	Construction Stage		
		Location	Amount	
			VND	USD
1	Domestic wastewater	9	251.505.000	11.178
2	Construction wastewater	6	152.400.000	6.773
3	Other cost		204.637.000	9.095
	Total		608.542.000	27.046

Note: - Other costs include taxable income, VAT tax, printing etc.

- Exchange Rate dated on January 11, 2016 of Vietcom Bank: 1USD = 22,500 VND

(3) Budget for Monitoring Ambient Environmental Quality

Monitoring ambient environmental Quality will be carried out periodically by EMC. This budget should be included in the contract signed with CSC or EMC.

Based on the above-mentioned monitoring ambient environmental program, the estimated budget for implementing this program is presented in the following table.

No	Items	Stage						Amount	
		Pre-construction		Construction		Operation		VND	USD
		Location	Cost (VND)	Location	Cost (VND)	Location	Cost (VND)		
1	Air quality	6	99.854.000	6	865.405.000	6	399.418.000	1.364.677.000	60.652
2	Noise and vibration	6	16.621.000	6	207.760.000	6	66.483.000	290.864.000	12.927
3	Surface water quality	9	15.927.000	9	210.238.000	9	63.708.540	289.873.540	12.883
4	Other cost		48.797.000		667.785.000		125.227.000	841.809.000	37.414
	Total		181.199.000		1.951.188.000		654.836.540	2.787.223.540	123.877

Table 7.7-11 Budget for Monitoring Ambient Environmental Quality

Note: Other costs include making report, taxable income, VAT tax, printing etc.

Exchange Rate dated on January 11, 2016 of Vietcom Bank: 1USD = 22,500 VND

(4) Budget for Preparing and Disclosing the EMP

Responding to the request specified in Article 16 of Decree 18/2015 / ND-CP of the Government dated February 14th, 2015 on environmental protection planning, strategic environmental assessment, environmental impact assessment and environmental protection plan, after the report on environmental impact assessment is approved, the project owner shall make environmental management plan of the project on the basis of environmental monitoring and management plan proposed in the environmental impact assessment report and disclose the EMP at the headquarters of the People's Committees of communes where were conducted the consultations during the implementation of environmental impact assessment.

Table 7.7-12 Budget for Preparing and Disclosing the EMP

No	Items	Amount	
		VND	USD
1	Preparing EMP and Disclosing EMP	122,008,000	5,423
2	Others cost	28,416,000	1,263
	Total	150,424,000	6,686

Note:

- Other costs include taxable income, VAT tax, printing etc.

- Exchange Rate dated on October January 11, 2016 of Vietcom Bank: 1USD = 22,500 VND

(5) Budget for Implementation of Capacity Building and Training Program

Budget for implementation of capacity building and training is presented in the following table:

Table 7.7-13 Budget for Implementation of Capacity Building and Training

No	Subject to be trained	Number of trainees	Amount	Source of cost
1	Officer of Under Hai Phong Urban Development Construction Project Management Unit	3 persons	3 persons x 13 times x 1,500,000 VND / persons = 58,500,000 VND	Project Owner - Hai Phong Urban Development Construction Project Management Unit (PMU)
2	Engineer Supervisors	3 persons	3 persons x 13 times x 1,500,000 VND / persons = 58,500,000 VND	

No	Subject to be trained	Number of trainees	Amount	Source of cost
3	Representatives of local government	20 persons	20 persons x 13 times x 1,500,000 VND / persons = 390,000,000 VND	
4	Representatives of Community Supervision Board	20 persons	20 persons x 13 times x 1,500,000 VND / persons = 390,000,000 VND	
5	Health, Safety and Environmental Officer (SEO) of the contractor	18 persons	18 persons x 13 times x 1,500,000 VND / persons = 351,000,000 VND	
6	Workers of Contractors	All workers		- Paid by contractor. - This cost is included in the construction cost..
	Total (1+2+3+4+5)		= 1,248,000.000 VND	(=10,400 USD)

Note:

- Exchange Rate dated on January 11, 2016 of Vietcom Bank: 1USD = 22,500 VND

(6) Total budget for EMP implementation

In addition to the costs already included in the relevant packages/contracts, one more budget will be required for EMP as follows:

Table 7.7-14 Total budget for EMP implementation

No	Items	Amount		Note
		VND	USD	
1	Monitoring EMP implementation	4,853,400,000	215,707	Table 5.9
2	Monitoring wastewater	608,542,000	27,046	Table 5.10
3	Ambient environmental quality monitoring	2,787,223,540	123,877	Table 5.11
4	Preparation and disclosure of the EMP	150,424,000	6,686	Table 5.12
5	Capacity building and training program	1,248,000,000	55,467	Table 5.13

No	Items	Amount		Note
		VND	USD	
	Sub-total (1-5)	9,647,589,540	428,782	
6	Contingency (10%)	964,758,954	42,878	
	Total (1-6)	10,612,348,494	471,660	

Note: Exchange Rate dated on January 11, 2016 of Vietcom Bank: 1USD = 22,500 VND

Total Estimated Budget for EMP Implementation is 10,612,348,494 VND (\approx 471,660 USD).

The above cost rate is estimated based on current unit price and Consultant's experiences (including VAT). Because the project will be implemented several years, price fluctuation will be unavoidable. A contingency amount should be prepared for any unavoidable price or cost increase during project implementation.

7.7.7 Recommendation

- (1) In order to properly grasp the ambient air quality of Hai Phong City in the future, it is recommended that concentration of PM2.5 shall be included in the ambient air monitoring plan of the City.
- (2) Necessary measures to manage risks and prevent accident, such as working environment introduction, safety corridor, pedestrian crossing, dissemination of information, training, etc. should be taken in each phase of the project.
- (3) Location and number of the crossing points of local traffic including pedestrian crossings along RR3 should be considered based on results of consultation with residents in the detailed design stage.

Chapter 8 RESETTLEMENT ACTION PLAN (RAP)

In accordance with the principal policy on land ownership in Vietnam, the land belongs to the entire people with the State acting as the owner's representative and uniformly managing the land. The State shall hand over land use rights to land users in accordance with the Land Law. Since private land ownership is not approved in Vietnam, the word "land recovery (thu hồi đất)" is often used in reference to land acquisition caused by development projects. This report principally uses the word "land acquisition", which is commonly used in relation to JICA's Environmental and Social Considerations Guidelines (2010) (hereinafter referred to as "JICA's Environmental Guidelines"), instead of "land recovery" which is the most popular term in relevant translated documents in Vietnam. Based on the principles of land policy stipulated in the Land Law and other relevant legal frameworks, a policy gap analysis between Vietnam's domestic system and JICA's Environmental Guidelines was performed by studying the legal framework, institutional framework, land acquisition procedures, etc., as detailed below.

8.1 Scope of Land Acquisition and Resettlement

8.1.1 Nguyen Trai Bridge

The impact of land acquisition along the planned south-side approach road is one of the critical issues for the construction of Nguyen Trai Bridge. There have been organized public hearing including the stakeholder meetings under the JICA survey, and finally expansion area of the south-side approach road, existing Nguyen Trai Street, has been settled as western side of the existing alignment.

Vietnam-Singapore Industrial Park (VSIP) located in the north side of the Cam River is preparing inner road network as their industrial park development plan. Necessary land in this VISIP area is going to be acquired by VSIP project based on HPPC's approval. According to VISIP's plan, the area related to Nguyen Trai Bridge will be acquired in next several years. Although the land acquisition process of the area will be implemented under the VSIP project, the JICA project have to confirm whether the process and level of resettlement activities had been done complying to the requirements of the JICA Environmental Guidelines such as compensation by full replacement cost. Therefore, a due diligence examination and due diligence report (DDR) would be required when the Nguyen Trai Bridge Project acquire the land in VISIP area where VSIP once acquired their land from private and/or public sectors. In addition, the Hoang Dieu Port, the main port of the Hai Phong Port, shall be relocated

before the project commencement based on existing master plan (The Project does not cover relocation of the port).

Figure 8.1-1 shows major estimated impacts in the component of Nguyen Trai Bridge. In the figure 8.1-1, the yellow line shows alignment of ramp which is discussed additionally. Figure 8.1-2 shows focused affected area by additional discussion of ramp approach to the bridge in the south area of Cam River. The affected area is within Hoang Dieu Port where the project does not cover its resettlement cost excluding some business disturbance assistance.

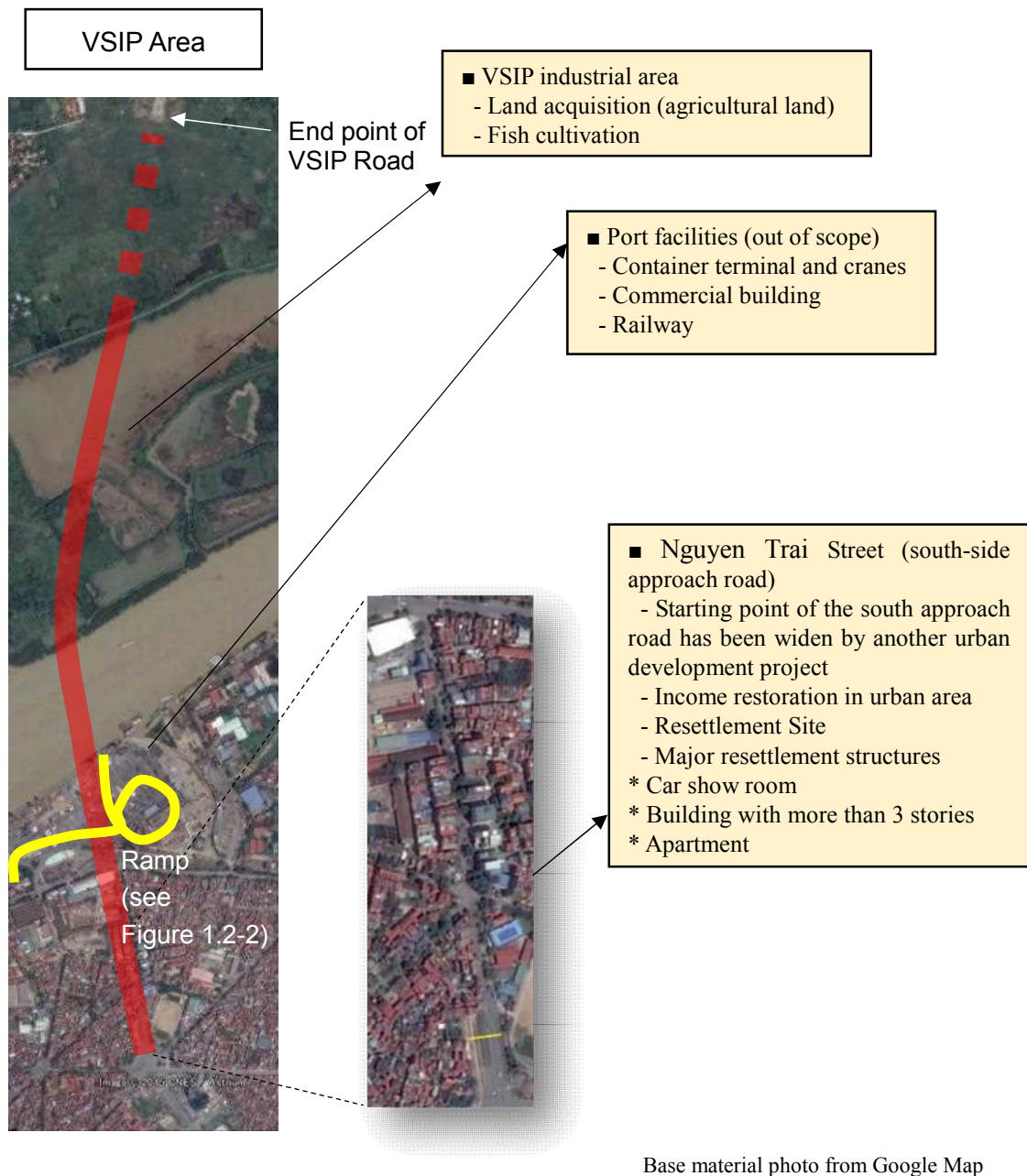


Figure 8.1-1 Resettlement Elements (Nguyen Trai Bridge)

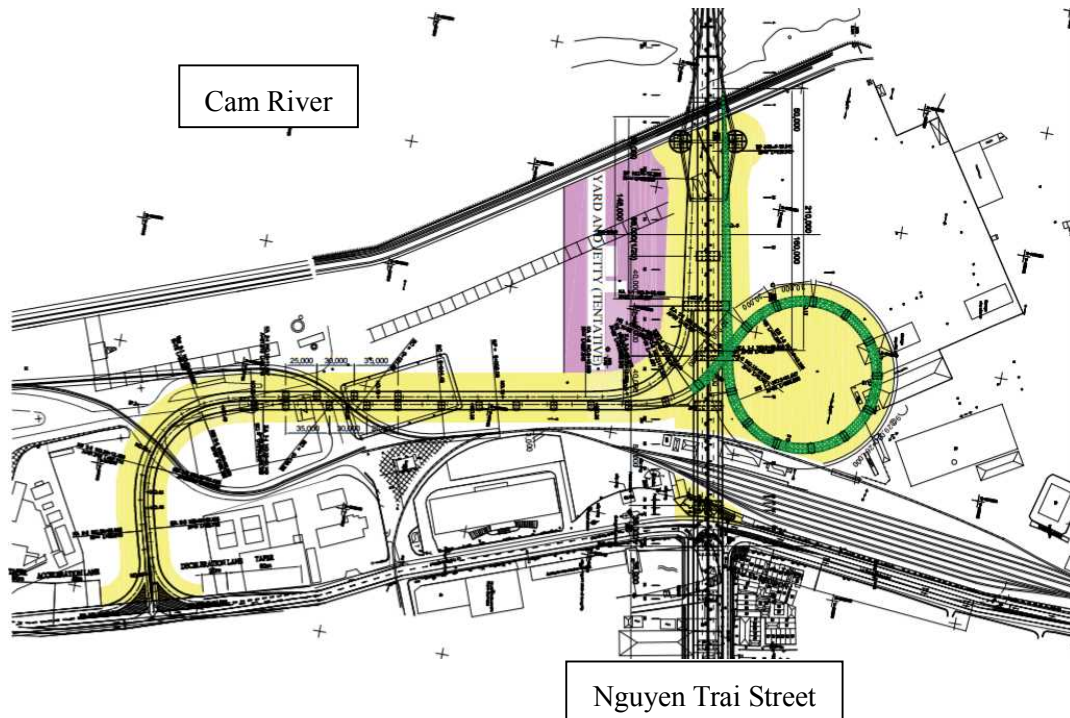


Figure 8.1-2 Ramp in the south side of Nguyen Trai Bridge (out of scope for compensation)

8.1.2 Vu Yen Bridge

The port facilities in the southern approach road would be relocated. Wetlands including the fish cultivation areas in Vu Yen Island would be acquired by Vin Group which has started their development project including commerce, tourism, golf, and other activities. Although the land acquisition process of the area will be implemented under the Vin Group's project, the JICA project have to confirm whether the process and level of resettlement activities had been done complying to the requirements of the JICA Environmental Guidelines such as compensation by full replacement cost. Therefore, a due diligence examination and due diligence report (DDR) would be required when the Vu Yen Bridge Project acquire the land in Vu Yen Island where Vin Group once acquired their land from private and/or public sectors.

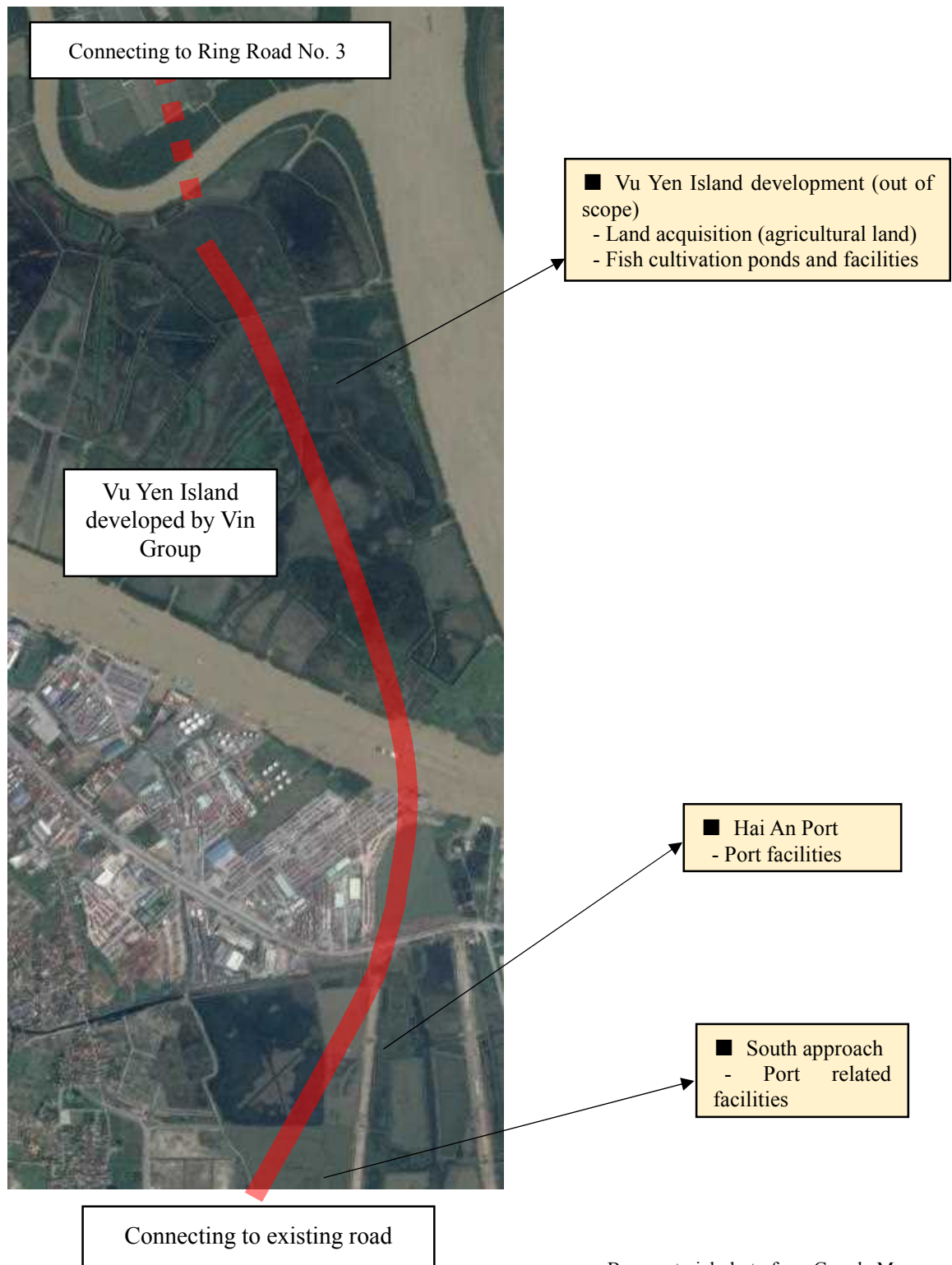
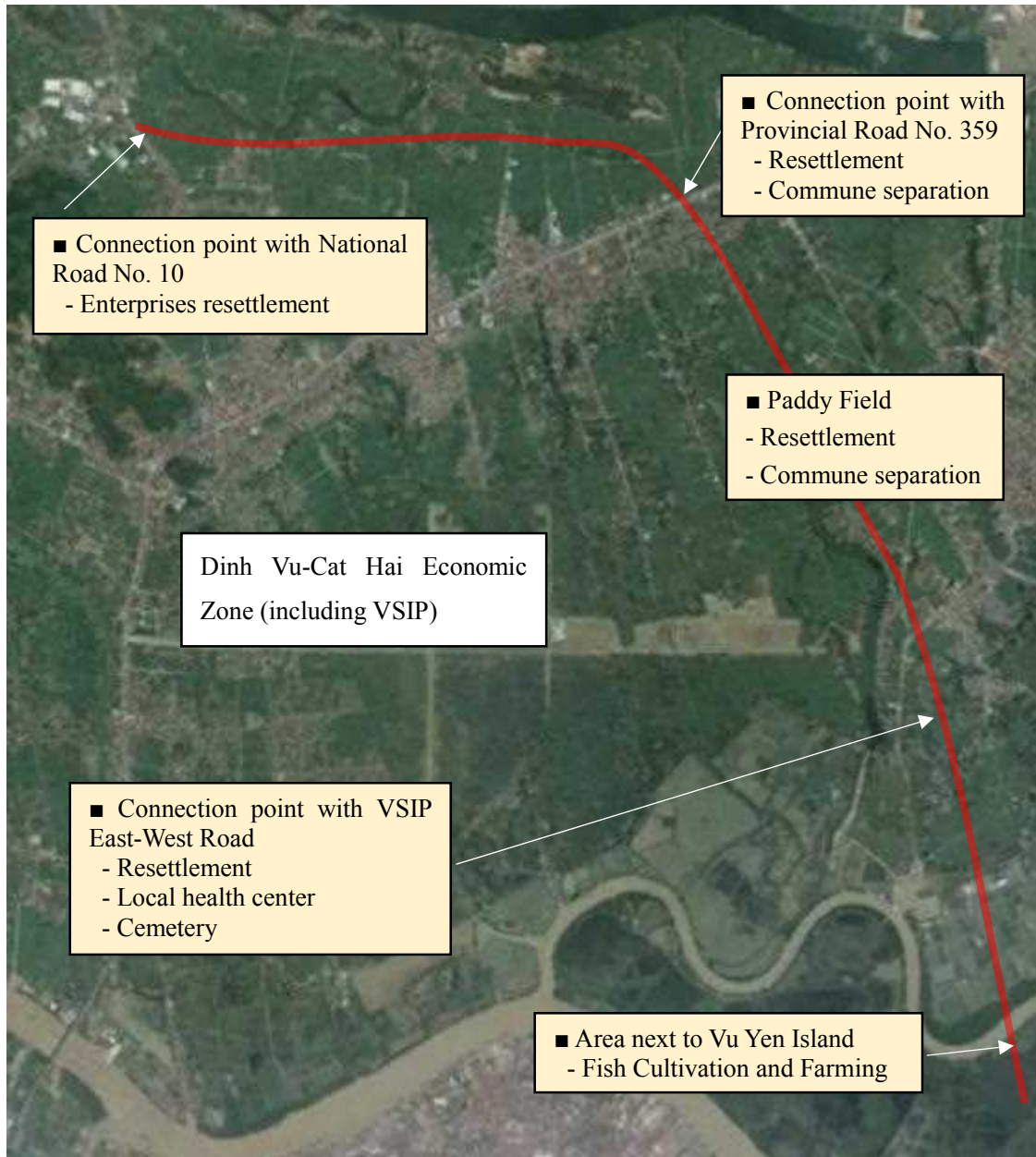


Figure 8.1-3 Resettlement Elements in Vu Yen Bridge

8.1.3 Ring Road No. 3 (RR3)

As a remarkable environmental element, mangrove forests are located at the starting point of the south side of RR3. Fish cultivation areas and paddy fields are located behind the mangrove forests. In addition, rural villages and public cemeteries are scattered in the paddy field areas and there are some dense concentration of houses along the existing rural roads.



Base material photo from Google Map

Figure 8.1-4 Resettlement Elements in Ring Road No. 3

8.2 Estimated Impact

This chapter describes resettlement impacts on households which are affected by the land acquisition of the project. During the period of alignment and design consideration, the survey tried to avoid any kind of resettlement impacts at first, and consider minimization of resettlement cases as the secondary countermeasure to reduce the impact. As a result, appropriate mitigation measures are discussed for inevitable resettlement impacts in accordance with relevant laws, regulations, policies and guidelines. Estimated project impacts related to land acquisition and resettlement are described as below. Further information on each property such as structure, land, crops, trees, etc., is elaborated in the report of replacement cost survey (Appendix-1)

8.2.1 Positive Impact

(1) Nguyen Trai Bridge

Nguyen Trai Bridge is connecting the current administrative center on the southern side of Cam River and the newly planned administrative center on the northern side. Thus, Nguyen Trai Bridge construction aims to accommodate and connect increase traffic between both sides of the Cam River for the future development of Hai Phong City.

(2) Vu Yen Bridge

Vu Yen Bridge construction aims to promote efficiency of local distribution between industrial complex on the north bank of the Cam River and Lach Huyen Port or Hanoi - Hai Phong Highway.

(3) Ring Road No. 3 (RR3)

RR3 is planned for logistics circulation route connecting from south bank of Hai Phong City to National Highway No. 10 (NH10). Transportation network including logistics and human travel between south bank and north bank of the Cam River will be expected to improve and reduce traffic congestion around the area.

8.2.2 Adverse impacts

The estimated impacts caused by the project have different characteristics and degrees depending on the component, such as bridges, roads, and intersections. Based on the field surveys including IOL surveys, census survey, socio-economic survey, etc., the estimated impacts by land acquisition and resettlement of the Project are as shown in Table 8.2-1 and Table 8.2-2. It is estimated that total number of 312 house structures and/or other properties such as gate and fence, are to be affected (among them 258 may be physically relocated) and land area of 1,174,821 m² (approximately 117 ha) are to be acquired by the Project. The number of affected houses and the area of acquired land are likely to change due to further

design of civil works.

Table 8.2-1 Estimated Impact of Land Acquisition and Resettlement

Components	Side	Number of Affected Houses (Structures)	Area of Land Acquisition	Notes
Nguyen Trai Bridge	North	-	18,565 m ²	Fish cultivation ponds and agricultural land are affected.
	South	106	116,068 m ²	The most populous residential area of the project and land of Hoang Dieu Port.
Vu Yen Bridge	North	-	40,550 m ²	Fish cultivation ponds and agricultural lands are affected on Vu Yen Island.
	South	-	33,135 m ²	Hai An Port and related facilities are affected.
Ring Road No. 3	-	206	966,503 m ²	Most parts are farming land. However there are some local residential areas along the planned alignment
Total	-	312	1,174,821 m²	

Table 8.2-2 Land Acquisition by Type of Land

Components	Residential Land (m ²)	Agriculture Land (m ²)	Aquaculture surface water (m ²)	Business Land (m ²)	Public Land (m ²)	Total (m ²)
Nguyen Trai Bridge	9,419	18,565	-	11,640	95,009	134,633
Vu Yen Bridge	-	-	38,200	26,085	9,400	73,685
Ring Road No. 3	75,960	560,116	126,456	17,000	186,971	966,503
Total	85,379	578,681	164,656	54,725	291,380	1,174,821

8.2.3 Affected Households

A total number of 1,883 households and 7 organizations with 6,184 people could be affected in any way by the project. Among the number, it is estimated that 779 households (HHs) will be affected by the project with their loss of more than 30% of agricultural land under the impact of land acquisition. Table 8.2-3 shows estimated affected households.

Table 8.2-3 Numbers of Affected Households

Components	PAPs affected their residential land	PAPs living together with residential land owner	PAPs affected their agriculture land	PAPs living together with agriculture land owner	PAPs affected their business land (organization)	Total
Nguyen Trai Bridge	106	0	0	0	7	113
Vu Yen Bridge	-	-	-	-	-	-
Ring Road No. 3	181	25	1,448	123	-	1,777
Total	287	25	1,448	123	7	1,890

(1) Affected Land

Required land acquisition by the project is described as tables below.

1) Residential Land

Residential land is affected in the southern part of Nguyen Trai Bridge and RR3 alignment (Vu Yen Bridge may not cause residential land acquisition with living structures). The house structures recorded in Table 8.2-4 will be required to be relocated physically.

Table 8.2-4 Estimated Impact of Residential Land

No.	Area	Ward/Commune	Number of affected households (Structures)			Affected area (m ²)
			Partly	Wholly	Total	
I	Nguyen Trai Bridge					
	Ngo Quyen District	May To	5	101	106	9,419
II	Vu Yen Bridge					
	-	-	-	-	-	-
III	Ring Road No. 3					
1	Thuy Nguyen District	Dong Son	3	9	12	15,640
2		Hoa Binh	6	24	30	10,540
3		Trung Ha	0	12	12	2,100
4		Ngu Lao	8	79	87	28,560
5		Lap Le	11	54	65	19,120
	GRAND TOTAL		33	279	312	85,379

2) Agricultural Land

Agricultural land is affected in the northern part of Nguyen Trai Bridge and RR3 alignment. Aquaculture surface water including artificial ponds are located in the area of Vu Yen Bridge. In the case of RR3, almost 50% cases are affected more than 30% of their using land. Table 8.2-5 shows summary results.

Table 8.2-5 Estimated Impact of Agriculture Land

No.	Area	Ward/ Commune	Number of affected households			PAPs living together with agriculture land owner	Total number of affected agricultural households	Affected crop land (m ²)	Affected Aquaculture surface water (m ²)
			Affected area <30 %	Affected area >30 %	Total				
I Nguyen Trai Bridge*									
	Thuy Nguyen District	Duong Quan	-	-	-	-	-	18,565	
II Vu Yen Bridge*									
	Hai An District	Vu Yen Island	-	-	-	-	-	-	31,150
		Nam Hai	-	-	-	-	-	-	7,050
III Ring Road No. 3									
1	Thuy Nguyen District	Dong Son	-	-	-	-	-	-	-
2		Hoa Binh	98	97	195	82	277	86,641	-
3		An Lu	-	33	33	3	36	7,146	-
4		Trung Ha	105	118	223	-	223	44,287	-
5		Thuy Trieu	97	119	216	-	216	57,360	-
6		Ngu Lao	139	68	207	7	214	74,374	-
7		Phuc Le	-	6	6	-	6	10,880	-
8		Pha Le	155	126	281	-	281	101,948	-
9		Lap Le	75	212	287	31	318	177,480	37,456
	Hai An District	Vu Yen Island	-	-	-	-	-	-	89,000
	GRAND TOTAL		669	779	1,448	123	1,571	578,681	164,656

* Agricultural lands in the component of Nguyen Trai Bridge and Vu Yen Bridge are only located in north bank of the Cam river. These area will be acquired by on-going project of VSIP and Vin Group respectively, therefore, the IOL to identify the land owners was not implemented in these areas. In general, the land in the areas are belonging to state land, out of the bank, or permitted for limited fish cultivation.

3) Business Land

It is estimated that 11,640 m² business land in May To Ward and 26,085 m² business land in Dong Hai 2 Ward will be affected by loss of more than 30% of land under the impact of land acquisition of the project

(2) Affected Structures

1) Residential Houses

The construction of the Project components will cause residential houses acquisition in 5 communes in Thuy Nguyen District and 1 ward in Hai Phong City. According to the

preliminary design, the Project will affect 36,427.7 m² of houses and 291 households.

Table 8.2-6 Estimated Impact of Residential Houses

No	Area	Ward/Commune	Affected House				
			House-holds (Structures)	Area (m ²)			
				1-story house	2-story house	3-story house	Over 3-story house
I	Nguyen Trai Bridge						
	Ngo Quyen District	May To	106	51.5	5,741.2	13,799.85	7,871.9
II	Vu Yen Bridge						
	-	-	-	-	-	-	-
III	Ring Road No. 3						
1	Thuy Nguyen District	Dong Son	12	2,242	1,594.8	195	1,500
2		Hoa Binh	30	1,936.4	160	442.5	650
3		Trung Ha	12	445	120	320	-
4		Ngu Lao	87	3,553.03	3,756	1,614	1,000
5		Lap Le	65	2,741	1,412	1,272	-
	GRAND TOTAL		312	10,968.9	12,784.0	17,643.4	11,021.9

2) Secondary Structure

According to the result of inventory of loss survey, there are recorded secondary structures and facilities, such as auxiliary works, toilets, kitchens, yards, walls, wells, tombs, etc. These kind of structures are not for living but related to people's life and livelihood. The summary of recorded structures on such works and architecture is shown in the Table 8.2-7.

Table 8.2-7 Estimated Impact of Secondary Structure

No	Area	Ward/ Commune	Works/Architectures				
			1	2	3	4	5
			m ²	number	m ²	number	m ²
I	Nguyen Trai Bridge						
	-	-	-	-	-	-	-
II	Vu Yen Bridge						
	-	-	-	-	-	-	-
III	Ring Road No. 3						
1	Thuy Nguyen District	Dong Son	316	-	465	10	61.8
2		Hoa Binh	1,021.5	60	294	100	150
3		Trung Ha	-	-	-	-	-
4		Thuy Trieu	-	40	-	-	-
5		Ngu Lao	1,950	-	2,127	12	376
6		Pha Le	-	10	-	-	-
7		Lap Le	1,606	102	534	1	363
	GRAND TOTAL		4,893.5	212	3420	123	950.8

Notes:

1 = Auxiliary works (kitchens, cages, toilets...)

2 = Tomb

3 = Wall

4 = Well

5 = Water tank

(3) Affected Crops and Trees

According to the result of inventory of loss survey, there are recorded annual crops including paddy and trees including fruit trees in the component of Nguyen Trai Bridge and RR3. The summary of recorded crops and trees are shown in the Table 8.2-8.

Table 8.2-8 Estimated Impact of Crop and Tree

No.	Area	Ward/Commune	Crop (m ²)	Tree (number)
I	Nguyen Trai Bridge			
	Thuy Nguyen District	Duong Quan	18,565	-
II	Vu Yen Bridge			
	Ngo Quyen District	Vu Yen Island	-	-
		Nam Hai	-	-
III	Ring Road No. 3			
1	Thuy Nguyen District	Kenh Giang	-	-
		Dong Son	-	126
2		Hoa Binh	86,641	606
3		An Lu	7,146	-
4		Trung Ha	44,287	-
5		Thuy Trieu	57,360	-
6		Ngu Lao	74,374	1,414
7		Phuc Le	10,880	-
8		Pha Le	101,948	-
9		Lap Le	177,480	1,740
	GRAND TOTAL		578,681	3,886

8.3 Socioeconomic Survey

Socioeconomic survey and other field surveys of census and inventory of loss survey have implemented as the complete survey (not sample survey) with 100% of targeted project affected households. These surveys in the fields were implemented with duration from the beginning of July 2015 to the end of October 2015. After the socioeconomic survey, PMU implemented their own counting of affected of households along the Nguyen Trai Street (only the southern approach road area of Nguyen Trai Bridge). Number of households/persons and areas are updated in this report, however, other property situation and socioeconomic data are from the result of original survey before PMU's updating. These data shall be updated at the time of detailed measurement survey (DMS), after land acquisition decision.

8.3.1 Census

According to survey results and census of affected people, Project could affect 1,862 households (107 households are living together with agriculture land owners) with a total of 6,184 people and 7 organizations. All affected people are the Kinh (100%) ethnic group. No ethnic minorities or indigenous groups are observed in the project areas. The average scale of the demographic affected households is 3.35 persons per household. The average percentage of women is 50.4% of the total affected population, slightly higher than the percentage of men (49.6%).

Table 8.3-1 Population by gender

No.	Commune	HHs	Persons	Gender	
				Male	Female
I	Nguyen Trai Bridge				
1	May To	85	226	101	125
II	Ring Road No.3				
2	Dong Son	12	39	19	20
3	Hoa Binh	307	979	502	477
4	An Lu	36	155	81	74
5	Trung Ha	235	460	231	229
6	Thuy Trieu	216	907	462	445
7	Ngu Lao	301	914	487	427
8	Phuc Le	6	26	18	8
9	Pha Le	281	1145	540	605
10	Lap Le	383	1333	624	709
	GRAND TOTAL	1,862	6,184	3,065	3,119

8.3.2 Source of Income

As a result of the socio-economic survey as shown in the table below, the largest proportion is wage labor in May To Ward of Ngo Quyen District (accounted for 20.5%), followed by worker (14.7%) and trading (13.2%). On the other hand, in Thuy Nguyen District area, the largest proportion is agriculture (61.3%), the next is worker (13.1%) and trading (12.1%).

Table 8.3-2 Structure of Affected Population by Main Occupation

No.	Commune	Main occupation (%)						
		Agriculture	Trading	Worker	Wage labour	Fishermen	Aquaculture	Other
I	Nguyen Trai Bridge							
1	May To	0	13.2	14.7	20.5	0	0	51.6
II	Ring Road No.3							
2	Dong Son	8.1	62.2	5.4	8.1	0	0	16.2
3	Hoa Binh	40.0	9.5	25.4	5.3	0	0	19.8
4	An Lu	78.8	1.3	17.9	0	0	0	2.0
5	Trung Ha	73.5	9.0	14.6	2.0	0.5	0.2	0.2
6	Thuy Trieu	70.1	8.7	15.6	2.6	0	0	3.0
7	Ngu Lao	57.8	9.3	18.8	4.3	0	0.4	9.4
8	Phuc Le	100	0	0	0	0	0	0
9	Pha Le	68.5	0.3	11.7	1.5	1.4	0	16.6
10	Lap Le	54.9	8.9	8.2	2.7	5.4	4.0	15.9
	<i>Total</i>	<i>61.3</i>	<i>12.1</i>	<i>13.1</i>	<i>2.9</i>	<i>0.8</i>	<i>0.6</i>	<i>9.2</i>

Table 8.3-3 Distribution of PAPs by income groups (%)

Commune	Distribution of PAPs by income groups (1,000VND/person/month)				Average income (VND/person/month)
	<250	250-500	500-1000	>1000	
I	Nguyen Trai Bridge				
May To	0.00	0.00	2.16	97.84	6,502,302
II	Ring Road No.3				
Dong Son	0.00	0.00	0.00	100.00	13,319,048
Hoa Binh	0.11	3.04	15.86	80.99	3,257,987
An Lu	0.00	79.29	0.00	20.71	1,209,071
Trung Ha	0.00	0.00	15.95	84.05	2,187,500
Ngu Lao	1.09	8.07	22.02	68.81	3,677,291
Pha Le	35.19	33.56	1.82	29.43	1,259,756
Lap Le	27.29	30.72	11.44	30.56	2,549,000

8.3.3 Household Assets

Living conditions including domestic infrastructure, such as electricity, water, and other sanitations of the households are summarized in the following Table 8.3-4 ~ Table 8.3-6.

Table 8.3-4 Living Conditions of Affected People - Source of Water and Electricity

No	Commune	Electric (%)		Water (%)			
		Meter	Indirect	Tap-water	Excavated well	Rainwater	Other
<i>I</i>	<i>Nguyen Trai Bridge</i>						
1	May To	100	0	96.5	0	7.0	0
<i>II</i>	<i>Ring Road No.3</i>						
1	Dong Son	100	0	100	15.3	38.5	0
2	Hoa Binh	99.3	0.7	90.5	20.4	24.3	0.3
3	An Lu	100	0	100	63.6	96.9	0
4	Trung Ha	99.6	0.8	89.2	10.8	0	0
5	Thuy Trieu	99.8	0.2	90.3	8.1	21.4	0
6	Ngu Lao	99.75	0.55	95.75	30.1	59.9	0.25
7	Phuc Le	100	0	100	0	28.6	0
8	Pha Le	100	0	98.9	10.0	59.4	0
9	Lap Le	90.2	5.55	90.55	14	67.75	2.8
	Total	582%	585%	95.4%	35.8%	1.0%	3.2%

Note: Percentage is calculated based on the number of persons answering “yes” per total interviewed persons. The total of percentages may be more than 100% because interviewee can select multi-choice for a same question.

Table 8.3-5 Living Conditions of Affected People - Sanitation

No	Commune	Septic tank	Non septic tank	Without toilet
I	Nguyen Trai Bridge			
1	May To	100	0	0
II	Ring Road No.3			
2	Dong Son	100	0	0
3	Hoa Binh	76.7	23.4	0
4	An Lu	97.0	3.0	0
5	Trung Ha	70.9	26.9	0
6	Thuy Trieu	89.2	10.8	0
7	Ngu Lao	91.15	11.85	0.55
8	Phuc Le	57.1	42.9	0
9	Pha Le	99.3	0.7	0
10	Lap Le	84.95	2.95	0.85
	Total	86.63	12.25	0.14

Note: Percentage is calculated based on the number of persons answering "yes" per total of interviewed persons. The total of percentages may be more than 100% because interviewee can select multi-choice for a same question.

Table 8.3-6 Assets of Affected People

No	Item	Nguyen Trai Bridge (%)	Ring Road No. 3 (%)
I	Agricultural Equipment/ Tools		
1	Field Engine	0.00	0.64
2	Towing vehicle	0.00	0.28
3	Beater	0.00	0.64
4	Reaping - machine	0.00	1.07
5	Water truck	0.00	0.14
6	Hand pump	0.00	4.33
7	Electric pump	0.00	12.00
II	Asset in family		
1	Television	86.15	97.59
2	Refrigerator	86.15	85.01
3	Gas cooker	80.00	90.34
4	Electric cooker	43.08	14.06
5	Electric heater	81.54	35.01
6	Electric fan	81.54	85.72
7	Washing machine	72.31	18.47
8	Microwave oven	50.77	3.69
9	Radio set	1.54	3.41
10	Computer	53.85	20.31
11	Telephone	49.23	67.68
12	Air Conditioner	55.38	14.84
III	Other assets		
1	Bicycle	70.77	94.96
2	Motorcycle	81.54	82.17
3	Three-wheel vehicle	0.00	1.07
4	Car	10.77	1.42
5	Truck	0.00	1.28
6	Mini Bus	0.00	0.21
7	Pulling cattle	0.00	0.14
8	Other	0.00	0.78

Note: Percentage is calculated based on the number of persons answering "yes" per total interviewed persons. The total of percentages may be more than 100% because interviewee can select multi-choice for a same question.

8.3.4 Infrastructure

(1) Road traffic

1) Ngo Quyen District

The south approach roads of Nguyen Trai Bridge and Vu Yen Bridge are located in Ngo Quyen District. Road traffic network in the Project area is relatively matured system as urban roads. All roads have been equipped with drainage system and lighting system. Currently, the district continues to develop road traffic system through interchange construction and route expansion.

2) Thuy Nguyen District

The north approach roads of Nguyen Trai Bridge and Vu Yen Bridge and RR3 are located in Thuy Nguyen District. Road traffic in the Project location has been developed by national roads and provincial roads as axis. In this area, NH 10 is the main route connecting to National Highway No. 5 (NH 5) and National Highway No. 18 (NH 18). Besides, Provincial Roads No. 351, 352, and 359 have been completed and operated. In addition, many inter-village and inter-commune roads have been developed under the National Target Program for New Rural Construction.

(2) Waterway traffic

1) Ngo Quyen District

The Cam River is the major waterway route playing very important role in economic activities and seaport services. This is the main circulation route for vessels and boats to land Hoang Dieu and Hai An ports for trading purpose.

2) Thuy Nguyen District

The district has 84 km of inland waterway, mainly for transport of building materials and agricultural products including fishery. There are river ports such as Da Bac, Xuan Lai, Kien, Minh Duc, Cong Son and Lap Le river wharves.

(3) Electricity

1) Ngo Quyen District

Electric network for domestic use and for business purpose is installed in all residential areas in the district.

2) Thuy Nguyen District

National grid has currently installed in all communes and towns of Thuy Nguyen district. The

district also has 282 substations with 373 km high-voltage and low-voltage transmission lines. Maintenance and repair of transmission lines and substations have been maintained regularly.

(4) Clean water

1) Ngo Quyen District

All residential areas in the district are provided with clean water

2) Thuy Nguyen District

Around 80% of the population in communes and town of Thuy Nguyen district is provided with clean water, the rest uses groundwater resources. More than 30 small water plants are available in many different communes and towns.

(5) Environmental Sanitation

1) Ngo Quyen District

Regular waste collection unit is established in the district. All households are using cesspool

2) Thuy Nguyen District

Regular waste collection unit is established in each communes and towns. All households are using cesspool. Waste treatment system is also installed in breeding farm.

(6) Education and Health

1) Ngo Quyen District

Education and training quality has been improved; there are 2 schools meeting standard of level 2 among 8 schools. National target programs of health, population, family and children have been fully implemented. All children are fully immunized.

2) Thuy Nguyen District

In terms of education and training, district's system of vocational schools and centers have been upgraded to meet training requirements. There are 37 kindergartens, 38 primary schools, 37 secondary schools, and 7 high schools in the district, of which 35 schools meet national standards.

In terms of health, healthcare quality has been improved; doctors and nurses have been trained to improve proficiency. Health care service in all communes and towns in the district meets national standards. There are 1 hospital, 4 general clinics and 37 communal health stations with a total of 474 beds and 378 medical workers. Currently, all grassroots-level health units have 1-2 doctors.

(7) Vulnerable Group

Vulnerable households are defined as the households living under poverty line, female-headed households and social policy treated households. The definition of poverty used here is based on Ministry of Labour, Invalids and Social Affairs (MOLISA)'s criteria of "poor" and "close to poor". The "poor" is defined as households with monthly per capita incomes of less than 400,000 VND for rural areas and 500,000 VND for urban areas, while the "close to poor" is defined as households with monthly per capita incomes from 401.000 to 520.000 VND for rural areas and from 501.000 to 650.000 VND for urban areas (Circular 24/2014/TT-BLĐTBXH by MOLISA).

The female-headed household is defined as the household where the head of the family is women and there are dependent persons in her family.

The social policy treated household is defined as the persons joining in the revolutionary activities before 1945, heroes of armed forces, heroic mothers, labour heroes, war invalids, sick soldiers, families deserved well of revolution and family of martyr and handicapped.

These households are listed in the Table 8.3-7. Data below is based on respondents' declarations at time of census and will need to be verified / reviewed at time of updating the RAP.

Table 8.3-7 List of Vulnerable Households

No	Ward/Commune	Poor HH		Female-headed		Social Policy	
		Quantity	%	Quantity	%	Quantity	%
1	May To	0	0	39	45.9	14	16.5
2	Dong Son	0	0	1	8.3	1	8.3
3	Hoa Binh	5	1.6	48	15.6	31	10.1
4	An Lu	2	5.5	6	16.7	1	2.8
5	Trung Ha	2	0.8	48	21.5	4	1.8
6	Thuy Trieu	2	0.9	45	20.8	10	4
7	Ngu Lao	7	2.3	52	17.3	26	8.6
8	Phuc Le	0	0	0	0.0	0	0.0
9	Pha Le	5	1.8	209	75.5	32	11.6
10	Lap Le	11	2.8	118	30.8	71	18.5
Total		34	1.82	566	30.4	190	10.2

8.4 Stakeholder Meeting and Public Disclosure

During the survey, stakeholder meeting (SHM) has been conducted with aim to collect information and opinion from the residents nearby planned project sites. The process may reduce or eliminate potential negative impacts of the project for the local residents and prepare in advance to deal with the remaining impact caused by the project preparation, implementation and operation. Main objectives of the SHM are:

- (1) Dissemination of information on the Project plan to the PAPs and local communities.
- (2) Collection of opinions and comments of the PAPs and local communities on the Project plan, particularly on the proposed impact mitigation measures.
- (3) Promotion of the active participation of the PAPs and local communities into the Project implementation from the early stage of the Project planning.
- (4) In particular, promoting the participation of the PAPs and local communities into the tasks relating to compensation, resettlement, and land clearance for the Project.
- (5) Ensuring the accountability of the tasks relating to land acquisition, compensation, resettlement, and livelihood restoration.

According to the JICA Environmental Guidelines, it is required to organize 2 times of SHM for a Category A project as this project. The first SHM, which is conducted at the time of discussing draft scoping document according to EIA preparation, should include the following items:

- (1) Dissemination of information on the Project (background, development needs, etc.)
- (2) Explanation on anticipated impacts
- (3) Collection of participants' opinions/comments on the Project.

The second SHM, which is conducted at the time of draft survey report with the results of scoping, should have the following items:

- (1) Explanation on mitigation measure;
- (2) Promotion of public participation into the Project implementation
- (3) Explanation of compensation policy.

8.4.1 The First Stakeholder Meeting

The first SHM were organized at 13 communes from April to June 2015. In a SHM, firstly the project outlines including purposes, benefit, planned affected area, expected negative impacts are explained to the participants and followed by questions and answer session. At the same time, participants were informed that the timing of the census survey, socio-economic survey and IOL following the SHM is considered cut-off-date to determine eligible persons and properties.

The schedule and outline of each meeting is shown in the table below.

Table 8.4-1 Schedule of the First Consultation Meeting

No	Location	Date	Number of participants		
			Male	Female	Total
1	May To Ward, Ngo Quyen District	18/4/2015; 30/5/2015	(103) and (41)	(56) and (12)	(159) and (53)
2	Duong Quan Commune, Thuy Nguyen District	17/4/2015	9	5	16
3	Dong Hai 2 Ward, Hai An District	29/5/2015	13	6	19
4	Nam Hai Ward, Hai An District	30/5/2015	4	1	5
5	Kenh Giang Commune, Thuy Nguyen District	04/6/2015	15	4	19
6	Hoa Binh Commune, Thuy Nguyen District	20/4/2015	149	32	181
7	An Lu Commune, Thuy Nguyen	22/4/2015	52	50	102
8	Trung Ha Commune, Thuy Nguyen District	15/4/2015	55	40	95
9	Thuy Trieu Commune, Thuy Nguyen District	18/4/2015	38	28	66
10	Ngu Lao Commune, Thuy Nguyen District	21/4/2015	101	23	124
11	Phuc Le Commune, Thuy Nguyen District	16/4/2015	16	12	28
12	Pha Le Commune, Thuy Nguyen District	21/4/2015	29	84	113
13	Lap Le commune, Thuy Nguyen District	20/4/2015	44	106	150

Major questions and answers of the first SHM are synthesized in Table 8.4-2.

Table 8.4-2 Major Dialogues in the 1st Stakeholder Meeting

No.	Issues	Opinions/Comments	Answers
	May To Ward		
1	Information on the project implementation	Residents should be notified and provided with updated information to avoid anxiety affecting their daily life.	The project owner try to coordinate with the local authority to provide necessary information
2	Land acquisition may affect income. Residents were anxious about policies on compensation or relocation. Additionally, the construction delay will	<ul style="list-style-type: none"> - The project study should consider minimizing resettlement impact. - The scope of affected households must be clearly determined. - Fairness, transparency, publicity and compliance with the state regulations. 	The study will consider minimization of resettlement impact. The project owner has responsibility to provide adequate compensation and assistance.

No.	Issues	Opinions/Comments	Answers
	cause negative effects to carry out new construction or renovate houses or land investment, etc.	- The resettlement areas for residents must be arranged reasonably.	The project owner will study and select resettlement areas in accordance with local planning.
3	Effects on works of agencies and schools including Einstein High School and Hai Phong Water Supply Company.	<p>- Einstein High School: A specific plan should be prepared and announced to make the learning plans for teachers and students at the school.</p> <p>- Hai Phong Water Supply Company: The Project will likely affect May To pumping station. It was recommended that the pumping station should be relocated with funds for no effects on the use of water by households, businesses and industrial parks.</p>	<p>The project is in the study phase and the scope of the project is under discussion. In the next step, more detailed designs will be provided. The project owner received the ideas and promised to apply proper compensation and support policies.</p> <p>* As a result of alignment discussion, project area does not affect both school and company.</p>
Duong Quan Commune			
4	Acquisition of aquatic farming land and part of shipbuilding facilities	<p>The safety issues and technical assurance of machinery, facilities and manpower should be considered in the implementation process, to minimize damages to people's lives.</p> <p>The project owner should make reasonable compensation to remaining land since the land not subject to acquisition will no longer be used for the original purposes.</p>	The residents' ideas were received. Safety and technical assurance will be ensured during the project implementation.
5	During the construction process, there will generate dust and noise affecting trading and production activities of residents.	The project owner must implement measures to minimize environmental impacts during the project implementation, and publicly declare mitigation measures. The project should commit to enable residents to monitor environmental impacts.	EIA report will contain all measures to minimize environmental impacts. After approved by the MONRE, it will be publicly posted at the Communal/ward peoples' committees.
6	Currently there are various suspended projects	The project owner must publicly announce the construction schedule and time to people for checking.	The implementation schedule and construction time will be informed timely.
Dong Hai No. 2 Ward			
7	- Hoang Cau Trading	The project owners must take	The project owner will

No.	Issues	Opinions/Comments	Answers
	<p>JSC: The project will affect the enterprise while the remaining land is not enough for business activities.</p> <p>- VNT Logistic Company: Land acquisition affects the company's production and workers' lives.</p>	<p>measures to compensate and facilitate production stabilization for enterprises.</p>	<p>study the measures and support for its business and production operations.</p>
	<p>Nam Hai Ward: As within the scope of the project, the only affected entity is Nam Hai Maritime Investment Co. Ltd, the meeting was held right at such company.</p>		
8	<p>- The enterprise has experienced land acquisition by Hanoi - Hai Phong Expressway Project acquiring (20ha), Lach Tray - Ho Dong Road Project (12ha), Dinh Vu Service Area (12ha)</p>	<p>- The project owner should have the suitable compensation policy for it to have the alternative facility to ensure the current business operations.</p> <p>- The local authority should implement the project according to the approved planning after acquiring land.</p>	<p>The project owner will study the measures to support for its business and production operations.</p>
	<p>Kenh Giang Commune</p>		
9	<p>Selection of route alternatives</p>	<p>Most local government and community representatives proposed to select the best alternative to reduce the level of impacts on people.</p>	<p>The project route will be further studied in consideration of opinions to make the most appropriate plan for ensuring the technical and social welfare issues.</p>
	<p>Hoa Binh and An Lu Communes</p>		
10	<p>The project will require the farmland and cause loss of livelihood and production tools</p>	<p>The project owner should prepare the compensation for residents in a transparent and fair manner so that people feel secure and stable in life. The project owner should create jobs for people who lose their jobs.</p> <p>The location of resettlement site will be discussed with and notified to residents. Also, the selection of the route alternative must be carefully studied to minimize the degree of influence.</p>	<p>The study will select the optimal alternative to reduce damages and influence on the residents. The compensation policy will be developed in compliance with the regulations of the State and the donor - JICA.</p>

No.	Issues	Opinions/Comments	Answers
Trung Ha Commune			
11	During the construction, canals, electricity poles, and rural roads, etc., may be affected	Temporarily occupied works should be reverted into their original after the construction completion.	For temporal impact on public utilities, mitigation measures and compensation would be considered during the project implementation.
Thuy Trieu Commune			
12	The affected enterprise is Khang Vu JSC will be affected depending on the route.	The project owner should choose the route to reduce the damages to the enterprise and to minimize the impacts on the livelihood of the enterprise's workers. It should be avoided to interrupt the water supply for the local people.	The project is in the study phase and the scope of the project is under discussion. In the next step, more detailed designs will be provided. * The final alignment does not affect the water supply area as their recommendation.
Ngu Lao Commune			
13	The project will hinder agricultural production and cause village split. Farmland fragmentation and relocation of family shrines are also expected.	The project owner should choose the route with minimum impact.	Currently, the Project is in the research phase; therefore the project scope is merely at the relative level. Detailed design will be provided in the next steps.
Phuc Le Commune			
14	During the project construction, dust, noise, waste water and waste will be generated, affecting the environment	The project owner should take measures to minimize environmental pollution and ensure labor safety during the construction.	The measures to minimize the impacts of dust, noise, waste water and waste and those to ensure labor safety will be presented in details in the EIA report, which will be publicly posted at the locality for people.
Pha Le Commune			
15	During the project construction, there will be mobilized a large number of workers from other places.	The project owner should closely coordinate with the local authority to ensure the security and order of the local areas.	- The project will employ the local workers as many as possible to minimize the number of external workers. - The project will

No.	Issues	Opinions/Comments	Answers
			request temporary residence registration for workers at the local public security. - The project will educate workers on ethical behaviors
Lap Le Commune			
16	Residents worried that the lasting project may affect their living, production and business activities.	The project owners should publicly provide the detailed implementation plan, and promptly notify people of any changes in the project's scope and progress.	The implementation period and plan will be studied, adjusted and notified through the local authority
17	There will have conflicts between residents and construction units regarding irrigation, travelling and daily activities ...	The construction units must comply with the rules of the units and the locality.	The project owner will manage any incidents in the construction area and construction units

8.4.2 The Second (2nd) Stakeholder Meeting

After receiving the comments in the 1st public consultations, the project owner studied and provided the project design solutions accordingly. At the request of JICA, the project owner will carry out the 2nd public consultation for explanation of the measures to implement the comments gained from the 1st one and also to answer and clarify the communities' requests.

The consultation on communities directly affected by the Project was conducted in the form of community meetings jointly chaired by the Project Owner - Hai Phong City) Urban Construction and Development Work Management Unit and the respective communal People's Committees (CPC). The CPCs convened the meeting participants who are representatives from the Communal Fatherland Front and the socio-political organizations, social professional organizations, urban groups and hamlets with a notice of the meeting purposes, time and place. The opinions of the meeting participants were expressed fully in the minutes of the meetings.

The schedule and outline of each meeting is shown in the table below.

Table 8.4-3 Schedule of the Second Consultation Meeting

No	Location	Date	Number of participants		
			Male	Female	Total
1	May To Ward, Ngo Quyen District	8/12/2015	80	39	119
2	Duong Quan Commune, Thuy Nguyen District	9/12/2015	9	3	12
3	Dong Son Commune, Thuy Nguyen District	4/12/2015	21	13	34
4	Kenh Giang Commune, Thuy Nguyen District	7/12/2015	8	4	12
5	Hoa Binh Commune, Thuy Nguyen District	4/12/2015	97	23	120
6	An Lu Commune, Thuy Nguyen	1/12/2015	37	19	56
7	Trung Ha Commune, Thuy Nguyen District	10/12/2015	123	62	185
8	Thuy Trieu Commune, Thuy Nguyen District	3/12/2015	69	33	102
9	Ngu Lao Commune, Thuy Nguyen District	10/12/2015	62	21	83
10	Phuc Le Commune, Thuy Nguyen District	9/12/2015	17	13	30
11	Pha Le Commune, Thuy Nguyen District	2/12/2015	21	289	310
12	Lap Le commune, Thuy Nguyen District	2/12/2015	42	85	127

Major questions and answers of the first SHM are synthesized in Table 8.4-4.

Table 8.4-4 Major Dialogues in the 2nd Stakeholder Meeting

No.	Public Consultations	
	Residents' concerns regarding the Project	Recommendations for the Project Owner
1	<p><i>Site clearance and resettlement:</i></p> <p>- The project shall occupy residential, agricultural and aquaculture farming land, affecting the resident's income due to production and farming land loss, relocation and resettlement. This is the most concern of the majority. They were doubted whether the compensation policy would be satisfying, whether the project would be delayed, preventing them from carrying out new construction, renovation of buildings or investment in land, etc.</p> <p>-Whether the resettlement area could ensure living conditions for people with the advantage of living and trading. The resettlement locations should be consulted by local residents. For example, the households in May To Ward would like to resettle in No. 4 Tran Phu or the plot behind Big C Supermarket, or the T-junction, six-way crossroads while residents in Dong Son Commune desired to resettle at the locality (at Hamlet 5, adjacent to the National Highway No.10 with the gardening area of about 7000m²), etc.</p>	<p>- The Project owner was required to comply with the provisions of law, ensure fairness and transparency for residents. They would like to be compensated for site clearance at the market prices. People whose aquaculture ponds are subjected to recovery, recommended that if the remaining area is not qualified for continuance of production, the plan of recovering the remaining area or transferring the production model should be provided.</p> <p>- The Project owner was required to early announce before compensation and land clearance for the better preparation of residents as well as people's engagement in the compensation and site clearance process.</p> <p>-The resettlement area should be located near the existing areas, or in the same hamlet/commune as people have been familiar with the local customs and practices. They desired to be consulted in the process of development of policies and compensation price.</p>
2	<p><i>Drainage, irrigation ditch improvement:</i> the project shall pass through many irrigation ditch systems which causes some passing fields to receive water difficultly from the temporary occupied ditches, affecting agricultural production due to loss of irrigation water or localized flooding.</p>	<p>- The Project owner was required to overcome the above situation and avoid affecting the production activities of people. The temporarily occupied work should be reconverted to the original state.</p> <p>- The dike safety measures should be paid attention.</p>
3	<p><i>Environmental pollution (air, dust, noise or vibration):</i> The excavation activities in hot, dry and windy weather may generate dust, affecting</p>	<p>- The project owner should provide an opera measures to minimize dust.</p> <p>- The construction should be avoided</p>

No.	Public Consultations	
	Residents' concerns regarding the Project	Recommendations for the Project Owner
	people living along the roadsides. The transportation of redundant sand and soil as well as construction waste may cause much dust. The operation of construction machinery and transportation vehicle is also a source of noise and vibration, affecting to households near the construction location.	during peak hours; meanwhile, the construction machineries and vehicles should be inspected carefully to ensure proper technical standards.
4	<i>Worker concentration:</i> The project is predicted to gather a large number of workers from different places, easily causing epidemics and conflicts to the local residents.	<ul style="list-style-type: none"> - The project owner must implement worker's temporary residence registration at the localities and regular health check as well as promulgate specific rules and regulations to them. - The local residents should be prioritized to implement the simple tasks.
5	<i>Spiritual issue:</i> The Project will cross several ancient graves on the field (at Hamlet 10- Hoa Binh, Lap Le and Pha Le Commune), areas with places of worship (at My Dong village - Ngu Lao Commune), near the temples, shrines and Khuong Pagoda, etc. During the construction process, the demolition, leveling activities may affect these works.	<ul style="list-style-type: none"> - Some residents at Hamlet 8-Ngu Lao Commune required the project owner to implement the plan of avoiding passing their places of worship. -The project owner must provide land for relocating the graves in compliance with their customs and worship activities.
6	<i>Local traffic and works:</i> The local roads will be used to transport materials and waste for the project, possibly affecting the structure of roads, dams and resulting to settlement and cracks of houses along the roadsides due to the passing of large trucks.	<ul style="list-style-type: none"> - The oversized and overloaded vehicles should be prohibited from passing through the communal roads. - The damaged road during construction process should be timely repaired. - Residents at Duong Quan and Lap Le Commune required the Project owner to implement safety measures for the dams under the supervision of representatives of the local governments and residents.

8.4.3 Focus Group Meeting (FGM)

To follow-up and supplement field surveys, focus group meeting (FGM) is conducted for specific group of peoples, such as farmer's groups, fisher-men groups, and fish cultivation groups. FGMs were conducted at home or in the feeding pond of one household in the group. The meeting with farmer's group has been conducted in the Pha Le Commune. The meeting with fisher-men groups and the meeting with fish cultivation groups has been conducted in the Lap Le Commune. Major opinions and concerns from FGMs are described as Table 8.4-3.

Table 8.4-5 Summary of Focus Group Meeting

Group	Number of participants	Residents' concerns about the Projects
Farmer	10	<p>Regarding the acquired productive land, if the rest part is too narrow and is not able to continue production, it should be acquired all. Even the pieces of field that remains between the project roads and local roads should be also acquired because cannot continue due to lack of access to the water resources.</p> <p>Need compensation with adequate price to support job change, such as workers in industrial zones, drivers, livestock and fishing.</p> <p>The participants of the meeting propose to support loans to affected households to develop household economy, vocational training and employment priorities at the construction site of the project.</p> <p>Most of the representatives who attending the meetings proposed that it should be particularly concerned about the economic recovery programs for vulnerable groups.</p>
Fisherman	6	<p>Most families have main income from fishing and have from 2 or more people are working as fisherman regularly. These people go fishing around 20-25 days / month. Income from fishing is an average of 15,000,000 - VND 20,000,000 / month. For ship owners' households, the income can be 50,000,000 – 70,000,000 VND/month. The people who stays in the house as the elderly, women mainly do the extra job with negligible income.</p> <p>Those people who attend the meeting preferred compensation by land. Time compensation and resettlement arrangements should publish and implement early before land acquisition.</p> <p>There should be grants because of income damage during the relocation to new places because they cannot go fishing. The other grants that households interested in are supported loans for major shipbuilding to increase fishing efficiency.</p>

Fish Cultivation	5	<p>The Fish Cultivation households gathered in Lap Le Commune near the places of bridge which is planned over the Ruot Lon River. The households grows black carp and tilapia (no shrimp in the project area). Investment costs for a pond is about 5 billion to 7 billion VND / 20,000 m². The average income of the households is about 20 million to 50 million VND / month.</p> <p>They wish project to have support for Fish Cultivation group. Households have opinions that in cases of acquiring fish cultivation ponds partially they cannot use the rest part any more. They propose project to fully recover or compensate the entire aquaculture land. The pond near the project area will also be affected and may not be impacted by pollution from construction waste. They proposed project is not only compensate for land but also compensate all the parcel that they have invested and lost earnings caused by land acquisition.</p> <p>For livelihood recovery, they want the project to coordinate with local authorities to introduce them new fish cultivation land, support preferential loans with preferential policies such as tax exemption in a period term, land rent exemption for them to restore production. In cases of there is no land for production, they wish to support investment on ships to engage in fishing group.</p>
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8.4.4 Information Disclosure and Public Information

Information disclosure regarding the project is an important part of the project preparation and implementation to ensure that the PAPs are timely and fully informed of land acquisition, compensation and resettlement. This will also enable the PAPs to participate in and express their desires on resettlement policy and programs. Representatives of the District People's Committee (DPC) and the Commune People's Committee (CPC) in the project area, and leaders of the communities shall co-ordinate with PMU to implement information disclosure and public information appropriately.

The drafted RAP should be disclosed on the website of related PC (Vietnamese version) as well as JICA's website (English version). Following document in implementation stage, such as the plan of compensation, assistance and resettlement (hereinafter referred to as "CAR Plan") also should be disclosed at PC and/or PC's website for public.

The agencies and individuals affected by land acquisition and resettlement, the representative of People's Committees (PCs), mass organizations such as Farmer Association, Women Association, local Vietnam Fatherland Front of the affected communes in the Project site shall participate in the public information meeting during the land acquisition processes such as detailed measurement survey (DMS), negotiation and compensation, and resettlement.

The PAPs may ask for information about compensation policy anytime without having to wait for the public information campaign. PAPs may take part in the planning process and assist the project owner and PCs in conducting public consultation, inform them of issues relating to compensation, assistance and resettlement (CAR) that are under concern of PAPs through communication channels (such as telephone or letter to the commune PC and Consultant office, etc.)

8.5 Legal Framework

The legal framework in Vietnam related to RAP with respect to land acquisition, compensation and resettlement is based on the Constitution of the Socialist Republic of Vietnam (2013), the Land Law (2013), and other relevant decrees/guidelines. The principal legal documents applied for the RAP includes the followings:

- Constitution of Vietnam, 2013
- The Land Law 2013 which has been effective since July 1, 2014
- Construction Law No.50/2014/QH13 dated 18/6/2014 by National Assembly;
- Urban Plan Law No. 30/2009/QH12 dated 17/6/2009 by National Assembly;
- Decree No. 35/2015/ND-CP dated 13/4/2015 by Government regarding managing, using paddy field land;
- Decree No. 43/2014/ND-CP guiding in detail some articles of the Land Law 2013
- Decree No. 44/2014/ND-CP provides on method to determine land price; make adjust land price brackets, land price board; valuate specific land price and land price consultancy activities.
- Decree No. 47/2014/ND-CP providing compensation, support, resettlement when land is recovered by the State
- Decree No. 38/2013/ND-CP of 23 April 2013, on management and use of official development assistance (ODA) and concessional loans of donors.
- Circular No. 36/2014/TT-BTNMT dated 30 June 2014, regulating method of valuation of land; construction, land price adjustment; specific land valuation and land valuation advisory
- Circular No. 37/2014/TT-BTNMT dated 30 June 2014, regulating compensation, assistance and resettlement when the State acquires land.
- Decision No. 1956/2009/QD-TTg, dated November 17 2009, by the Prime Minister approving the Master Plan on vocational training for rural labors by 2020;
- Decision No. 52/2012/QD-TTg, dated November 16 2012, on the support policies on employment and vocational training to farmers whose agricultural land has been

- recovered by the State;
- Document of Prime Minister No. 1665/TTg-CN, dated October 17 2006, regarding management of clearance of site, mine and explosive ordnance for transport construction
 - Decision No. 2680/2014/QD-UBND dated 03/12/2014 by HPPC issued Regulation on detail of contents on compensation, assistance, resettlement when State implement land acquisition in area of Hai Phong city;
 - Decision No. 2970/2014/QD-UBND dated 25/12/2014 by HPPC issued Regulation on land price of Hai Phong city in 05 year (2015-2019);
 - Decision No.58/2015/QD-UBND dated 12/01/2015 by HPPC issued plant, aquaculturing unit handbook, investment cost to aquaculturing land for compensation, assistance work when State implement land acquisition in Hai Phong city area;
 - Decision No. 324/QD-UBND dated 05/02/2015 by HPPC regarding issuing unit price of architecture structure for compensation, assistance work when State acquire land in Hai Phong City area;

Table 8.5-1 shows most important laws and regulations structure under the Land Law relevant to land acquisition and resettlement.

Table 8.5-1 Laws and Regulations Relevant to Land Acquisition and Resettlement

Name	Enactment Year / Enforcement Year / Number	Outline / Function
Land Law	Enactment: 29 November 2013 Enforcement: 1 July 2014 Number: Law No. 45/2013/QH13	Integrated land policy of Vietnam
Decree: Detailing a Number of Articles of the Land Law	Enactment: 15 May 2014 Enforcement: 1 July 2014 Number: Decree No. 43/2014/ND-CP	Implementation guidelines for some specific clauses in the Land Law including land acquisition
Decree: Regulations on Land Price	Enactment: 15 May 2014 Enforcement: 1 July 2014 Number: Decree No. 44/2014/ND-CP	Regulations for land pricing method including land price framework, price list and other consultancy services
Decree: On compensation, support and resettlement upon land recovery by the State	Enactment: 15 May 2014 Enforcement: 1 July 2014 Number: Decree No. 47/2014/ND-CP	Regulations for land acquisition and expropriation
Stipulating the certificates of land use right, house ownership and other assets on land	Enactment: 19 May 2014 Enforcement: 5 July 2014 Number : Circular No. 23/2014/TT-BTNMT	Guidance for land use right certification by Ministry of Natural Resources and Environment (MONRE)

At the same time with the enactment of the Land Law (2013), several subordinate legal and administrative documents were abolished. Table 8.5-2 shows the abolished subordinate legal documents under the new Land Law and the new legal frameworks. The table summarizes the contents of the major legal documents.

Table 8.5-2 Major Abolished Decrees after the New Land Law (2013)

Name	Number	Number of Decree Replaced
On the Implementation of the Land Law	Decree 181/2004/ND-CP	Decree No. 43/2014/ND-CP
Amending and supplementing a number of articles of the Decrees guiding the implementation of the Land Law and Decree no. 187/2004/ND-CP on transformation of state companies into joint-stock companies	Decree No. 17/2006/ND-CP	Decree No. 43/2014/ND-CP Decree No. 47/2014/ND-CP
Additionally stipulating the grant of land use right certificates, recovery of land, exercise of land use rights, order and procedures for compensation, support and resettlement upon land recovery by the State, and settlement of land related complaints	Decree No. 84/2007/ND-CP	Decree No. 43/2014/ND-CP
Additionally providing for land use planning, land prices, land recovery, compensation, support and resettlement	Decree No. 69/2009/ND-CP	Decree No. 47/2014/ND-CP
Methods of determining land prices and assorted-land price brackets	Decree 188/2004/ND-CP	Decree No. 44/2014/ND-CP
Amending and supplementing a number of articles of Decree No. 188/2004/ND-CP of 26 November 2004 on methods of determining land prices and price brackets of land of different categories	Decree No. 123/2007/ND-CP 27	Decree No. 44/2014/ND-CP
Compensation, support and resettlement when land is recovered by the State.	Decree 197/2004/ND-CP	Decree No. 47/2014/ND-CP

8.5.1 Land Law (2013)

The Land Law (2013) prescribes the frameworks of land use rights, powers and responsibilities of the Government in representing the Vietnamese people and uniformly managing land, the regime of land management and use, and the rights and obligations of land users involving land. The principal framework is based on the former Land Law (2003), however, there has been some restructurings of the legal framework among other relevant laws and regulations including newly introduced regulations and decisions.

In the Land Law (2013), the land as a resource is the property of all the people and the State represents its uniformed management. This concept aims at boosting modernization and industrialization of the country through unified and effective management of the land. In addition, in matters related to real estate development and transactions including land categories and land prices, the government bears the responsibility for decision making.

Under the Land Law, land users may be allocated land or leased land, have land use rights recognized by the State, or receive transfer of land use rights in accordance with the Land Law. The land use rights are to be returned to the State for the stipulated purpose including socio-economic development for the national or public interest by the Land Law including infrastructure projects with Official Development Assistance (ODA). Such land acquisition (land recovery) concepts are elaborated in Chapter 6 of the Land Law (2013).

The Land Law also mentions land evaluation, pricing, and its publication. According to Article 33 of the Land Law, a People's Committee at provincial level shall establish a land price framework and price list (tariffs) every 5 years starting in 2015 based on the price framework provided by Ministry of Natural Resources and Environment. However, Article 114 provides the list of cases using land price table and according to that, compensation for land acquisition does not covered by the 5 years updating pricing system. Based on Provision 4 of Article 114, unit price of compensation for land acquisition is belonging to special cases and determined by independent evaluating method.

In addition to compensation for land and structures, the Land Law stipulated principles of compensation for damage to assets and damage incurred due to stopped production and business when State recovers land in Article 88, and compensation for plants and livestock in Article 90.

For special cases of compensation, assistance and resettlement, Clause 2 of Article 87 stipulated that:

"For projects using loans from international or foreign organizations for which Vietnam has committed to a policy framework for compensation, support and resettlement, that framework policy shall apply."

8.5.2 Decree: Detailing a Number of Articles of the Land Law (No. 43/2014/ND-CP)

This Decree covers and describes some specific articles of the Land Law as shown below:

- The system of land management office
- Land use plan
- Land acquisition, land distribution, land lease, change of land purpose
- Land registration, land use right, ownership of properties on the land
- Land use framework
- Land management and administrative procedures

8.5.3 Decree: Regulations on Land Price (No. 44/2014/ND-CP)

The Decree defines the determination of land price based on the Land Law as shown below;

- Land price determination method, such as the sales comparison approach, income approach, discount cash flow method, etc.
- The land price framework managed by MONRE is the basis for the land price tariff determined by a People's Committee at the provincial level
- Consultancy services for land price determination

However, these land pricing system is not applicable to land acquisition by the State based on e), 4, of Article 114 of the Land Law, where "Specific land price" are defined. Based on this regulation under the new Land Law (2013), the most important function of this Decree in terms of resettlement is Section 3: Specific Land Price in Chapter 2, which shows the measures for evaluate and calculate compensation amount.

Other regulations or administrative decisions related to resettlement plan to be issued by HPPC in relation to the Land Law (2013), and its relevant decrees and circulars.

8.5.4 JICA's Policy on Involuntary Resettlement

The policy provisions on involuntary resettlement of JICA are shown in the JICA Environmental Guidelines. And item 3 of Article 2.6 in this guideline describes that "JICA confirms that projects do not deviate significantly from the World Bank's Safeguard Policies". Therefore, the main documents relevant to the land acquisition and resettlement of the Project are:

- JICA Guidelines for Environmental and Social Considerations (2010)
- The World Bank's Safeguard Policies (Operational Policy / Bank Policy 4.12 and its Annex in particular)
- Involuntary Resettlement Sourcebook (the World Bank)

Item 2 of Article 1.6, "Requirement of project proponents" of the JICA Environmental Guidelines describes that involuntary resettlement in case of Category A project must be fulfill Article 7, "Involuntary Resettlement" of Annex 1 "Environmental and social consideration required for intended project": "it is desirable that the resettlement action plan include elements laid out in the World Bank Safeguard Policy, OP. 4.12, Annex A". JICA's fundamental policy on involuntary resettlement is as following:

Table 8.5-3 JICA's Policy on Involuntary Resettlement

- I. The Government of recipient country will use the Project Resettlement Policy (the Project Policy) for a JICA's project specifically because existing national laws and regulations have not been designed to address involuntary resettlement according to international practice, including JICA's policy. The Project Policy is aimed at filling-in any gaps in what local laws and regulations cannot provide in order to help ensure that PAPs are able to rehabilitate themselves to at least their pre-project condition. This section discusses the principles of the Project Policy and the entitlements of the PAPs based on the type and degree of their losses. Where there are gaps between the recipient country legal framework for resettlement and JICA's Policy on Involuntary Resettlement, practicable mutually agreeable approaches will be designed consistent with Government practices and JICA's Policy.
- II. Land acquisition and involuntary resettlement will be avoided where feasible, or minimized, by identifying possible alternative project designs that have the least adverse impact on the communities in the project area.
- III. Where displacement of households is unavoidable, all PAPs (including communities) losing assets, livelihoods or resources will be fully compensated and assisted so that they can improve, or at least restore, their former economic and social conditions.
- IV. Compensation and rehabilitation support will be provided to any PAPs, that is, any person or household or business which on account of project implementation would have his, her or their:
 - Standard of living adversely affected;
 - Right, title or interest in any house, interest in, or right to use, any land (including premises, agricultural and grazing land, commercial properties, tenancy, or right in annual or perennial crops and trees or any other fixed or moveable assets, acquired or possessed, temporarily or permanently;
 - Income earning opportunities, business, occupation, work or place of residence or habitat adversely affected temporarily or permanently; or
 - Social and cultural activities and relationships affected or any other losses that may be identified during the process of resettlement planning.
- V. All affected people will be eligible for compensation and rehabilitation assistance, irrespective of tenure status, social or economic standing and any such factors that may discriminate against achievement of the objectives outlined above. Lack of legal rights to the assets lost or adversely affected tenure status and social or economic status will not bar the PAPs from entitlements to such compensation and rehabilitation measures or resettlement objectives. All PAPs residing, working, doing business and/or cultivating land within the project impacted areas as of the date of the latest census and inventory of lost assets(IOL), are entitled to compensation for their lost assets (land and/or non-land assets), at replacement cost, if available and restoration of incomes and businesses, and will be provided with rehabilitation measures sufficient to assist them to improve or at least maintain their pre-project living standards, income-earning capacity and production levels.
- VI. PAPs that lose only part of their physical assets will not be left with a portion that will be inadequate to sustain their current standard of living. The minimum size of remaining land and structures will be agreed during the resettlement planning process.
- VII. People temporarily affected are to be considered PAPs and resettlement plans address the issue of temporary acquisition.
- VIII. Where a host community is affected by the development of a resettlement site in that community, the

- host community shall be involved in any resettlement planning and decision-making. All attempts shall be made to minimize the adverse impacts of resettlement upon host communities.
- IX. The resettlement plans will be designed in accordance with recipient country's Involuntary Resettlement Policy and JICA's Policy on Involuntary Resettlement.
- X. The Resettlement Plan will be translated into local languages and disclosed for the reference of PAPs as well as other interested groups.
- XI. Payment for land and/or non-land assets will be based on the principle of replacement cost.
- XII. Compensation for PAPs dependent on agricultural activities will be land-based wherever possible. Land-based strategies may include provision of replacement land, ensuring greater security of tenure, and upgrading livelihoods of people without legal land titles. If replacement land is not available, other strategies may be built around opportunities for re-training, skill development, wage employment, or self-employment, including access to credit. Solely cash compensation will be avoided as an option if possible, as this may not address losses that are not easily quantified, such as access to services and traditional rights, and may eventually lead to those populations being worse off than without the project.
- XIII. Replacement lands, if the preferred option of PAPs, should be within the immediate vicinity of the affected lands wherever possible and be of comparable productive capacity and potential¹. As a second option, sites should be identified that minimize the social disruption of those affected; such lands should also have access to services and facilities similar to those available in the lands affected.
- XIV. Resettlement assistance will be provided not only for immediate loss, but also for a transition period needed to restore livelihood and standards of living of PAPs. Such support could take the form of short-term jobs, subsistence support, salary maintenance, or similar arrangements.
- XV. The resettlement plan must consider the needs of those most vulnerable to the adverse impacts of resettlement (including the poor, those without legal title to land, ethnic minorities, women, children, elderly and disabled) and ensure they are considered in resettlement planning and mitigation measures identified. Assistance should be provided to help them improve their socio-economic status.
- XVI. PAPs will be involved in the process of developing and implementing resettlement plans.
- XVII. PAPs and their communities will be consulted about the project, the rights and options available to them, and proposed mitigation measures for adverse effects, and to the extent possible be involved in the decisions that are made concerning their resettlement.
- XVIII. Adequate budgetary support will be fully committed and made available to cover the costs of land acquisition (including compensation and income restoration measures) within the agreed implementation period. The funds for all resettlement activities will come from the Government.
- XIX. Displacement does not occur before provision of compensation and of other assistance required for relocation. Sufficient civic infrastructure must be provided in resettlement site prior to relocation. Acquisition of assets, payment of compensation, and the resettlement and start of the livelihood rehabilitation activities of PAPs, will be completed prior to any construction activities, except when a court of law orders so in expropriation cases. (Livelihood restoration measures must also be in place but not necessarily completed prior to construction activities, as these may be ongoing activities.)
- XX. Organization and administrative arrangements for the effective preparation and implementation of the resettlement plan will be identified and in place prior to the commencement of the process; this will include the provision of adequate human resources for supervision, consultation, and monitoring of land acquisition and rehabilitation activities.
- XXI. Appropriate reporting (including auditing and redress functions), monitoring and evaluation mechanisms, will be identified and set in place as part of the resettlement management system. An external monitoring group will be hired by the project and will evaluate the resettlement process and final outcome. Such groups may include qualified NGOs, research institutions or universities.

¹ Agricultural land for land of equal productive capacity means that the land provided as compensation should be able to produce the same or better yield the AP was producing on his/her land prior to the project. The production should be in the planting season immediately following the land acquisition. It can be for a future period if transitional allowance equal to the household's previous yield is provided to the AP household while waiting for the land to get back to the same productivity as the previous land.

Cut-off-date of Eligibility

The cut-off-date of eligibility refers to the date prior to which the occupation or use of the project area makes residents/users of the same eligible to be categorized as PAPs and be eligible to Project entitlements. In the Project, cut-off dates for titleholders are the beginning date of the population census survey; May - July, 2015). This dates have been disclosed to each affected village by the relevant local governments and the villages have disclosed to their populations. The establishment of the eligibility cut-off date is intended to prevent the influx of ineligible non-residents who might take advantage of Project entitlements

Principle of Replacement Cost

All compensation for land and non-land assets owned by households/shop owners who meet the cut-off-date will be based on the principle of replacement cost. Replacement cost is the amount calculated before displacement which is needed to replace an affected asset without depreciation and without deduction for taxes and/or costs of transaction as follows:

For example:

- a. *Productive Land (agricultural, aquaculture, garden and forest) based on actual current market prices that reflect recent land sales in the area, and in the absence of such recent sales, based on recent sales in comparable locations with comparable attributes, fees and taxes or in the absence of such sales, based on productive value;*
- b. *Residential land based on actual current market prices that reflect recent land sales, and in the absence of such recent land sales, based on prices of recent sales in comparable locations with comparable attributes; fees and taxes.*
- c. *Existing local government regulations* for compensation calculations for building, crops and trees will be used where ever available.*
- d. *Houses and other related structures based on actual current market prices of affected materials;*
- e. *Annual crops equivalent to current market value of crops at the time of compensation;*
- f. *For perennial crops, cash compensation at replacement cost that should be in line with local government regulations, if available, is equivalent to current market value given the type and age at the time of compensation.*
- g. *For timber trees, cash compensation at replacement cost that should be in line with local government regulations, if available, will be equivalent to current market value for each type, age and relevant productive value at the time of compensation based on the diameter at breast height of each tree.*

8.6 Policy Gap Analysis

Policy gaps related to land acquisition and resettlement were analyzed by comparing the JICA Environmental Guidelines and the Vietnam's legal system. Referring to past projects in Vietnam, key gaps or notable points were discussed.

As stipulated in the Clause 2, Article 87 of the Land Law, the project is one of the special cases and committed policy between GOV and development partners, JICA Environmental Guidelines in this case, shall apply principally.

Table 8.6-1 shows the result of the gap analysis concerning land acquisition and resettlement and the countermeasures written on this table will be applied for the Project.

Table 8-6-1 Policy Gap Analysis between JICA Guidelines and Vietnamese Country System

No .	(A) JICA Guidelines for Environmental and Social Considerations with World Bank Safeguard Policy	(B) Vietnamese Law & Regulations	Gaps between (A) and (B)	Countermeasures for filling gaps
1.	Involuntary resettlement and loss of means of livelihood are to be avoided when feasible by exploring all viable alternatives.	N/A	This item is not completely covered by Vietnamese legal system	Based on the JICA Environmental Guidelines, land acquisition and resettlement shall be avoided and/or minimized during alignment decision process, structure planning, and any other discussion related to resettlement impact.
2.	When population displacement is unavoidable, effective measures to minimize impact and to compensate for losses should be taken.	N/A	This item is not covered by Vietnamese legal system	
3.	People who must be resettled involuntarily and people whose means of livelihood will be hindered or lost must be sufficiently compensated and supported, so that they can improve or at least restore their standard of living, income opportunities and production levels to pre-project levels.	Clause 1 of Article 83 of the Land Law stipulated that all land users whose land is recovered (acquired) are considered for receiving State support which includes the measures for stabilizing their livelihoods, production and development. Article 85 of the Land Law stipulates that "in the concentrated resettlement areas, infrastructure must be developed synchronously, ensuring construction standards and regulations and conformity with the conditions, customs and practices of each region and area".	This item is not covered fully by Vietnamese country system. Clause 1 of Article 83 of the Land Law mentions assistance by the Government for livelihood stability and Article 85 of the Land Law requires to provide basic infrastructure in resettlement sites. However, it is not regulated or stipulated that PAPs can improve or at least restore their standard of living, income opportunities and production levels to pre-project levels.	Based on the JICA Environmental Guidelines, RAP secures "improve or at least restore their standard of living, income opportunities and production levels to pre-project levels" by using appropriate entitlement matrix.

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4.	Compensation must be based on the full replacement cost as much as possible.	[Land] Compensation principle on land is written in Article 74 of the Land Law and stated that "specific land price" is applied to calculate the compensation amount. Specific land price is defined in Article 114 and Clause 4 e) of Article 114 of the Land Law states it is used as a basis for compensation amount when State recovers (acquired) land. For agricultural land which was used before July 01, 2004, of which land users are households and individuals directly engaged in agricultural production but have not been granted a certificate or not being eligible to be granted a certificate of land use right and ownership of houses and other land attached assets under the Land Law, Clause 2 of Article 77 of the Land Law states that the compensation must be made for the land area which is actually used and does not exceed the agricultural land allocation quota prescribed in Article 129 (e.g. Not exceeding 02 hectares for each type of land).	[Land] It is not clear whether the expression "Market Price" has the same meaning as "replacement cost" under the JICA Environmental Guidelines. In addition, eligibilities on farming land are different in some cases stipulated in Article 77 of the Land Law [Structure] It is not clear whether the expression "equivalent to the value of new construction..." has the same meaning of "replacement cost" under the JICA Environmental Guidelines	Replacement Cost Survey (RCS) was conducted based on the standard of the JICA Environmental Guidelines (the World Bank's definition and level of standards). The result is compared with the government's official unit price for determining validity. The result shall be respected for future CAR Plan in Vietnamese domestic procedures. If there are cases stipulated in Clause 2 of Article 77 or Clause 2 of Article 89 of the Land Law, compensation and assistance should be given by using concept of the JICA Environmental Guidelines.

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		<p>[Structures] Clause 1 and Clause 3 of Article 89 of the Land Law specifies that "the compensation amount is equivalent to the value of new construction facilities with equivalent technical standards prescribed by specialized law". However, the case of Clause 2, PAPs except the cases illustrated in Clause 1 does not mention clearly "compensation by replacement cost".</p> <p>In addition, business/production loss and other properties such as plants and livestock are stipulated in the Land Law, however, it is not clearly mentioned "compensation by replacement cost".</p>		
5.	Compensation and other kinds of assistance must be provided prior to displacement.	Article 74 of the Land Law stipulated that "The compensation when State recovers land must be made in a democratic, impartial, equal, public, timely and lawful manner ". Practical procedures in Ngo Quyen District of Hai Phong City, payment is prior to handover of the resettlement targeted land and the procedures confirmed by MONRE in Hai Phong orally.	Based on practical procedures in district level, there is no significant gaps, however, the word "timely" is not clear if the timing is before/after compensation.	Based on the JICA Environmental Guidelines, compensation, assistance, and relocation site have to be done and prepared prior to displacement.

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6.	For projects that entail large-scale involuntary resettlement, resettlement action plans must be prepared and made available to the public.	There is no system to prepare resettlement action plan at the time of pre-feasibility study or environmental review by development partners. Land Acquisition Plan is prepared based on the Land Law and other related decrees and circulars after the decision of land acquisition (recovery).	This item is not covered fully by Vietnamese country system.	The RAP is developed with sufficient adherence to the JICA Environmental Guidelines.
7.	In preparing a resettlement action plan, consultations must be held with the affected people and their communities based on sufficient information made available to them in advance.	Article 69 of the Land Law specifies public consultation at planning and implementation stage.	No significant gaps	Not required
8.	When consultations are held, explanations must be given in a form, manner, and language that are understandable to the affected people		Language using for the consultations are not specified in the Vietnamese legal system	Based on the JICA Environmental Guidelines, consultations have to be implemented in understandable language
9.	Appropriate participation of affected people must be promoted in planning, implementation, and monitoring of resettlement action plans.		This item is not covered by the Vietnamese legal system in monitoring stage	Based on the JICA Environmental Guidelines, in case of the Category A projects, stakeholder meetings are organized at least two times, at the time of the draft scoping and at the time of draft reporting, supplemented by focus group meetings as

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				parts of public participation in planning stage. In addition to above mentioned meetings, the RAP proposed promotion of public participation in monitoring stage as well as implementation stage.
10.	Appropriate and accessible grievance mechanisms must be established for the affected people and their communities.	N/A	This item is not covered by the Vietnamese legal system	Based on the JICA Environmental Guidelines, Grievance Redress Mechanism is planned in the RAP.
11.	Affected people are to be identified and recorded as early as possible in order to establish their eligibility through an initial baseline survey (including population census that serves as an eligibility cut-off date, asset inventory, and socioeconomic survey), preferably at the project identification stage, to prevent a subsequent influx of encroachers of others who wish to take advance of such benefits.	After project approval by the Government followed by the decision of land acquisition by the People's Committee, a detailed measurement survey (DMS) is implemented.	At the early stage, or during F/S period before the project officially certified, a cut-off date is not clearly declared. The time of land acquisition decision was recognized as practical cut-off date in past cases.	Based on the JICA Environmental Guidelines, the cut-off date is explained at the 1st time stakeholder meetings.

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12.	Eligibility of benefits includes, the PAPs who have formal legal rights to land (including customary and traditional land rights recognized under law), the PAPs who don't have formal legal rights to land at the time of census but have a claim to such land or assets and the PAPs who have no recognizable legal right to the land they are occupying.	<p>Article 82 of the Land Law stipulates that illegal land use can be recovered by the State without compensation.</p> <p>Clause 2 of Article 92 of the Land Law stipulates illegal land attached assets can be acquired without compensation.</p> <p>Clause 2 of Article 77 of the Land Law, the Government does not compensate land users who violate land legislation, elaborated in Article 64 of the Land Law, and owners of illegally established land attached assets, and unregistered land users of agricultural land after 1 July 2004.</p> <p>Article 88 and 92 of the Land Law does not allow compensation for non-legitimate owner of the land attached assists.</p> <p>Article 94 and 157 of the Land Law covers compensation for the damage caused by limited land use and damage on land attached assets in case of restrictions due to establishment of safety corridors, but only for legally recognized land users.</p>	This item has gaps regarding the eligibility of legal rights and illegal cases. In addition, it is not sure that the Clause 1 a) of Article 83 of the Land Law: "When State recovers land, in addition to receiving compensation in accordance with this Law, land users shall also be considered for receiving support from the State;" can apply to informal PAPs in terms of assistance even in the case that they does not have eligibility for compensation.	Based on the JICA Environmental Guidelines, appropriate entitlements are discussed in the RAP for both formal and informal cases. In principle, both formal and informal settlers are eligible for compensation and other conditions, including assistances, rights to relocate to the resettlement site, etc.

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13.	Preference should be given to land-based resettlement strategies for displaced persons whose livelihoods are land-based.	Article 74 of the Land Law mentions the "land for land" compensation in principle. In the case of relocation site preparation, Article 85 of the Land Law describes the introduction of necessary infrastructure and considerations on harmonization with surrounding communes.	This item has no significant gaps.	PAPs shall be given compensation options based on the RAP to select "land for land" of "cash for land".
14.	Provide support for the transition period (between displacement and livelihood restoration).	Article 84 of the Land Law covers some kinds of assistance for business disturbance and income restoration. However, unregistered owners of commercial structures/business for the cost of re-establishing their business activities, net income loss during the transition period, and cost of transferring and re-installing plant, machinery, etc. are not eligible for compensation.	Non-registered cases and transition period are not covered by the domestic legal systems.	The RAP may cover the non-registered cases and compensation for temporary business disturbance, income restoration at the early stage, or any other allowance are considered.
15.	Particular attention must be paid to the needs of the vulnerable groups among those displaced, especially those below the poverty line, landless, elderly, women and children, ethnic minorities etc.	There is no clear description of special considerations for socially vulnerable groups except Article 27 of the Land Law regarding land use fee and land allocation.	This item is not covered by the Vietnamese legal system	Based on needs assessment through stakeholder meetings, socio-economic surveys, focus group meetings etc., special considerations for vulnerable groups, such as households headed/with woman, handicapped, elderly, poor, and etc., are discussed and reflected in the RAP.

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16.	For projects that entail land acquisition or involuntary resettlement of fewer than 200 people, abbreviated resettlement plan is to be prepared.	There is no requirement for preparing an abbreviated RAP at the level required under the JICA Environmental Guidelines.	This item is not covered by the Vietnamese legal system	Based on the JICA Environmental Guidelines, abbreviated RAP shall be prepared under the stipulated conditions
17.	Internal and external monitoring system must be established and implemented properly	Article 13 of the Land Law covers general monitoring and evaluation, but not particularly resettlement.	This item is not covered by the Vietnamese legal system	Based on the JICA Environmental Guidelines, a monitoring framework composed by internal monitoring, external monitoring, and evaluation is established in the RAP.