

**VIETNAM: MEDIUM CITIES DEVELOPMENT PROJECT
ADDITIONAL FINANCING**

**UPDATED EXECUTIVE SUMMARY
FOR THE
ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT**



LAO CAI CITY SUBPROJECT

PHU LY CITY SUBPROJECT

December 2016

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ABBREVIATIONS AND ACRONYMS

BOD	Biological oxygen demand
CSC	Construction Supervision Consultant
COD	Chemical oxygen demand
DO	Dissolved Oxygen
DOC	Department of Construction
DOF	Department of Finance
DONRE	Department of Natural Resources and Environment
DPI	Department of Planning and Investment
DPs	Displaced Persons
ESIA	Environmental and Social Impact Assessment
EM	Ethnic Minority
ESMP	Environmental and Social Management Plan
EMDP	Ethnic Minority Development Plan
GOV	Government of Vietnam
HH	Households
IDA	International Development Association
IEMC	Independent Environmental Monitoring Consultant
KfW	Kreditanstalt fuer Wiederaufbau of Germany
LAVIC	Lac Viet Investment and Infrastructure Development JS Company
LCWSC	Lao Cai Water Supply State One Member Limited Company
MCDP	Medium Cities Development Project
ODA	Official Development Assistance
PAHs	Project Affected Households
PC	People's Committee
PCR	Physical and Cultural Resources
PDO	Project Development Objective
PMU	Project Management Unit
PPC	Provincial People's Committee
PSC	Provincial Steering Committee
QCVN	Vietnam National Regulation
RoW	Right of Way
RP	Resettlement Plan
TCVN	Vietnam National Standard
TORs	Terms of Reference
URENCO	Urban Environmental Company
VIWASE	Vietnam Water, Sanitation and Environment JS Company
VND	Vietnam Dong
WB	World Bank
WHO	World Health Organization
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant

CHAPTER 1: INTRODUCTION AND PROJECT DESCRIPTION

A. Introduction

1. Summary of the Original MCDP Project

1. Vietnam is one of the fastest urbanizing countries in the East Asia and Pacific region with the urban share of the population expected to grow to 50% by 2025 from the current 30%. The urban growth rate during the 1999-2009 inter-census period was 3.4 % p.a. compared with 0.4% for rural areas. Rapid urban growth is largely fueled by significant rural urban migration and urbanization is in turn fueling economic growth. For Vietnam, the Government projects that the number of medium cities (i.e., cities with 100,000 to 500,000 population) will increase from 55 today to about 100 by 2025. Given the country's relatively low population growth rate, about 1.7% per annum, most of this urbanization process will result from increasing rural to urban migration.

2. Reflecting the important role that medium-sized cities can play in Vietnam's development and urbanization process, the Government has requested support from the World Bank for infrastructure development and, of equal importance, capacity building, in three medium sized cities: Lao Cai, Phu Ly and Vinh. These cities are broadly typical of Vietnam's medium-sized cities. They have populations between 100,000 and 300,000, and are the principal urban centers in their respective provinces. Each has a master plan that emphasizes expansion of existing urban residential areas into surrounding land that is presently rural. All have similar existing road and water supply networks, and at least basic wastewater collection and drainage networks. In locality and function, however, the cities are considerably different. Lao Cai is a border city, providing access to and from China for the rapidly developing trade and transit traffic along the Greater Mekong Sub-region's (GMS's) northeast corridor. This links Haiphong and Hanoi in Vietnam with Kunming in China's Yunnan Province. The city is also a tourist center, a gateway to the adjacent hill country areas around Sapa. Phu Ly, on the other hand, is only 50 km from Hanoi, and will develop over time as an outer urban area of the capital. Finally, Vinh is far enough from Hanoi to develop as a regional city, serving a wide hinterland, and is also linked to Laos and northern Thailand through another of the GMS transport corridors.

3. Like many cities in the developing world, where urbanization is taking place at a rapid pace, these cities are struggling to keep up with rising demand for basic urban infrastructure, both in the established urban centers and in urban expansion areas. To varying degrees, the sewage and sanitation systems are inadequate, with, untreated domestic wastewater often discharged directly into rivers, causing water pollution and serious health risks. Solid waste management deficiencies and uncontrolled dumping also adds to environmental pollution, clogged drains, and generally poor public health conditions. In some cases, water supply capacity is inadequate, and needs to be improved to meet projected demand. Roads, particularly in the older parts of the cities, are narrow, seriously degraded, and inadequate in extent, restricting efficient transport operations as city populations and household incomes increase.

4. The Government of Vietnam requested the Bank's financing for the Medium Cities Development Project (MCDP). MCDP, with the total credit of US\$210 million, was approved by the Board on December 15, 2011 and became effective on April 11, 2012; the current closing date of the project is December 31, 2017. The PDO is "to increase access to improved urban infrastructure services in Lao Cai City, Phu Ly City, and Vinh City in a sustainable and efficient manner". The original project comprises four components in each of the three cities: (1) Urban Basic Infrastructure Upgrading and Service Improvement; (2) Urban Water Supply and Environmental Sanitation; (3) Urban Roads and Bridges; and (4) Project Management Support and Technical Assistance. As of November 30, 2016, the project had committed

96.2% of the total credit, and disbursement stood at 60.0% (Phu Ly had disbursed 71.4%, Lao Cai 65.9%, and Vinh 55.0% of their respective allocations).

5. Overall, MCDP is on track to achieve its PDO-level targets. Project performance as a whole has been adversely impacted by delays in Vinh, where issues in securing timely counterpart funding and carrying out land acquisition activities have been encountered since the start of project implementation. However, the implementing agency of Vinh has taken corrective actions to significantly improve implementation progress over the past 12 months. Achievement of the PDO and Implementation Performance (IP) were rated “Moderately Satisfactory” until March 2016, when they were both upgraded to “Satisfactory”. The project is in compliance with the Bank’s fiduciary and safeguard policies, as well as all other legal covenants, except the covenant related to the adoption of an “Operation and Maintenance Plan for each asset created under project”. Compliance with the latter covenant was delayed due to a rescheduling of construction completion dates, and is expected to be achieved by December 2016 (compliance with the covenant is to be confirmed by appraisal of the AF). There are no overdue audits and no unresolved audit or internal control issues. The implementation status of individual project components, by city, is detailed below.

2. Lesson Learnt

6. Under the Original Project, the environmental safeguard implementations of the three participating cities have been assessed as Moderately Satisfactory or better. The lessons learnt on safeguard management and supervision are drawn up for the AF project during implementation:

(i) Close monitoring and guidance from Bank is important to ensure the function of safeguard management system. At the early stage of project implementation, the PMU staffs, construction supervision consultants (CSCs) and even the Independent Environmental Monitoring Consultant (IEMC) neither pay much attention to safeguard management, nor could understand, and carry out the work to the Bank’s standard. Therefore, the Bank’s hands-on training, strict quality control, and request for close coordination at the early stage are important to ensure the safeguard system works and subsequently the enhanced compliance throughout implementation.

(ii) Full supervision of ESMP implementation by Construction Supervision Consultant (CSC) is the key. The CSCs understand the technical aspects of the project, and carry out the monitoring of the work on the daily basis. Therefore, their role in environmental management is the key for ensuring consistent compliance.

(iii) Strong enforcement from PMUs is important for ensuring compliance. Environmental and Social Unit (ESU) have been set up within three cities. Lao Cai City has a consistently strong environmental and social team. Environmental health and safety (EHS) standards are generally high at work sites. Phu Ly and Vinh cities have been less consistent in terms of environmental and social compliance, and therefore the safeguards team will ensure a close follow-up during supervision to ensure adequate standards are maintained.

(iv) Coordination of IEMC and PMU should be enhanced. The IEMCs have satisfactorily carried out their role, i.e. providing consistent safeguard training to CSCs, PMUs, contractors and local communities as well as conduct periodical monitoring. With their respective environmental background, the IEMCs have been helpful in guiding the contractors to prepare of site-specific ESMP and dredged material management plans (DMMPs). In addition, close coordination between IEMC and PMUs should be paid attention to ensure that all the findings of IEMCs be shared with CSCs and contractors timely.

(v) Safeguard performance have been assessed as Moderately Satisfactory or better. The compliance of contractors has been increased overtime. However, similar safeguard issues

from contractors are identified over the monitoring period, which call for continuously and stringent monitoring from the CSCs and PMUs staffs. The compliance framework has not yet been applied in the original project but have been included in the AF ESMPs to enhance compliance.

(vi) Regarding land acquisition and resettlement issues, in addition to on-the-job training for the PMU staff and consultants, it is critical to work closely with local authorities to understand outstanding issues/complaints from the affected people and to ensure they (local authorities) fully understand and implement RPFs/RPs properly.

(vi) Technical Assistance Activities are important to ensure the sustainability of construction work. Under the TA sub-component of the parent project, the project has supported cities to enhance urban planning and address urban issues through: (i) Develop Urban Sanitation Strategies for Phu Ly and Lao Cai; (ii) Develop comprehensive O&M plans with detailed O&M budget for all 3 cities to ensure sustainability of investments; (iii) Review master plan and develop a strategic plan for Lao Cai city; (iv) Develop Urban Public Transport Strategy and Plan for Vinh city; and (v) Develop a Drainage and Wastewater Plan for the south Chau Giang River catchment for Phu Ly city.

(vii) Under the parent project, all three cities developed comprehensive training plans and they are implementing the plans accordingly. In addition to IEMC training, trainings on safeguards were delivered by the Sustainable Environmental Center (AIT-Vietnam). Technical assistance on urban environmental planning were provided through series of studies and strategies developed for each cities. Workshops and seminars were organized under for the purposes of capacity building.

3. Rationale for Additional Financing

7. As a result of the appreciation of US\$ against Special Drawing Right (SDR), particularly from late 2014 to early 2015, IDA funds for the project were reduced by 12%, from the original US\$210 million to US\$184 million. In the case of Vinh City, the biggest sub-project, the impact was mitigated by reducing the scope of road investments and the use of contingencies. In the cities of Lao Cai and Phu Ly, however, major investments have been affected by the reduced availability of funds. The cancellation of these investments would adversely affect the achievement of the PDO, unless corrective action through the AF is taken.

8. The proposed Additional Financing (AF) of US\$53 million has been requested by the Government of Vietnam (GoV) to: (i) close a financing gap caused by the appreciation of the US Dollar (US\$) against the SDR; and (ii) to enable scaling-up of activities in two of the three cities currently covered by the project (Lao Cai City in Lao Cai Province, and Phu Ly City in Ha Nam Province). The proposed scaled-up activities are aligned with the MCDP's existing components.

9. As part of AF project preparation, the Lao Cai and Phu Ly city prepared an Environmental and Social Impact Assessment (ESIA) reports for the investments under their respective AF subprojects. Separate Resettlement Action Plans (RPs) and an Ethnic Minority Development Plan (EMDP – for Lao Cai only) were also prepared to address the resettlement/compensation and ethnic minority issues in line with the WB safeguard policies. This executive summary highlights the salient points in the ESIA reports for the Lao Cai and Phu Ly cities AF subprojects, and also presents relevant information from the separate RPs and the EMDP.

B. Objective and Description of the Additional Financing Project

10. The objective of the MCDP AF Project is to increase access to improved urban infrastructure service in selected medium-sized cities in Vietnam.

11. The proposed AF would be utilized to support two subprojects of Lao Cai City and Phu Ly City to finance:

- Investments that were excluded from the scope of MCDP project because of the financing gap arising from the appreciation of the US Dollar vis-à-vis the SDR (~US\$13 million); and
- Additional investments in critical areas to strengthen the achievement of the PDO (~US\$40 million). Total AF proposal is US\$68.06 million, of which US\$53 million blended fund from the WB and US\$15.49 million counterpart fund (CF).

12. The project comprises two subprojects, carried about in Lao Cai and Phu Ly. Each city will implement its subproject activities through the following four components: (i) Component 1. Urban Basic Infrastructure Upgrading and Service Improvement; (ii) Component 2. Urban Water Supply and Sanitation; (iii) Component 3. Urban Roads and Bridges; (iv) Component 4. Project Management and Technical Assistance

Table 1.3: Additional Financing by Project's Cities and Components
(US\$ '000)

TT	Description	WB Financing			Counterpart Funds	Total Project Costs/Financing
		IDA	IBRD	Total		
1	Component 1: Urban Basic Upgrading and Service Improvement	7,252.95	7,324.03	14,576.98	6,091.74	20,668.72
2	Component 2: Urban Water Supply and Environmental Sanitation	2,991.65	14,281.98	17,273.62	2,639.73	19,913.36
3	Component 3: Urban Roads and Bridges	0.00	6,007.12	6,007.12	2,087.82	8,094.94
4	Component 4: Project Management Support and Technical Assistance	0.00	1,963.08	1,963.08	1,918.06	3,881.14
	Base costs	10,244.60	29,576.20	39,820.80	13,231.73	53,052.54
	Physical contingencies	512.23	1,478.81	1,991.04	906.49	2,897.53
	Price contingencies	968.98	2,957.62	3,926.60	803.07	4,729.66
	Total	11,725.81	34,012.63	45,738.44	14,941.29	60,679.73
	VAT: (10%)	1,172.58	3,401.26	4,573.84	120.02	4,693.86
	Total 2 (B):	12,898.39	37,413.90	50,312.29	15,061.30	65,373.59
C	Capitalized loan fees and interest during implementation					
1	Front-end fee		100.00	100.00		100.00
2	Commitment fee and Interest during construction	101.70	2,486.58	2,588.28		2,588.28
	Total (C):	101.70	2,586.58	2,688.28	0.00	2,688.28
	B+C:	13,000.09	40,000.47	53,000.56	15,061.30	68,061.87
	Rounded:	13,000.00	40,000.00	53,000.00	15,061.00	68,061.00

13. Key physical activities (Components 1, 2, and 3) for two city AF Lao Cai and Phu Ly subprojects are summarized in Tables 1.4 and 1.5 below. Component 4 includes project management and construction supervision services; environment, social, and other monitoring; technical assistance for urban planning, asset management and audit activities; training; and PMU operational costs.

14. As part of project preparation, the two cities conducted an Environmental and Social Impact Assessment (ESIA) study and produced a report setting out the ESIA findings. Separate Resettlement Action Plans (RPs) and an Ethnic Minority Development Plan (EMDP – for Lao Cai only) were also prepared to address the resettlement/compensation and ethnic minority issues in line with the WB safeguard policies.

Table 1.4 Phu Ly City- Activities financed by AF

No.	Item	Description
1	Component 1	Urban Basic Infrastructure Upgrading and Service Improvement (US\$5.51 million)
1.1	Upgrading infrastructure for the residential area in the North Quang Trung ward	<ul style="list-style-type: none"> • Construction of a 254 m long and 11.5 m wide road as per the approved plan. • Upgrading a 1.9 km existing internal road within the existing width of 1.5 – 4.0 m. • Installing .17 km of combined drainage-sewer pipelines. • Power supply for lighting system at low-voltage power poles and adding new poles at planned routes.
1.2	Upgrading infrastructure in Duong Am, Lam Ha ward	<ul style="list-style-type: none"> • Upgrading about 1.8 km of existing internal roads within the existing width of 1.5 – 4.0 m. • Installing about 2.1 km of combined drainage-sewer pipelines. • Installing about 4.6 km of water supply network connecting to the existing main supply network. • Power supply for lighting system at low-voltage power poles and adding new poles at planned routes.
1.3	Upgrading infrastructure in Quynh Chan residential group, Lam Ha ward	<ul style="list-style-type: none"> • Upgrading about 3 km of existing internal roads within the existing width of 1.5 – 4.0 m. • Installing about 3 km of combined drainage-sewer pipelines. • Installing about 6.5 km of water supply network connecting to the main supply network. • Power supply for lighting at low-voltage power poles and adding new poles at the planned routes.
1.4	Upgrading Tran Quoc Toan primary school, Hai Ba Trung ward	Construction of two blocks and upgrading of a block of Tran Quoc Toan Primary School with total area of 3,221 m ² for 1,200 pupils.
1.5	Construction of Phu Van kindergarten in Phu Van commune, Phu Ly city	Construction of 9,935 m ² kindergarten for 500 pupils, including areas for outdoor activities of children (Bio-landscape garden, sand playground, water-splash tank, green vegetable garden) and concrete access road 170 m long and 3.75 m wide.
2	Component 2	Urban Water Supply and Environmental Sanitation (US\$9.37 million)
2.1	Upgrading	<ul style="list-style-type: none"> • Lake embankment, interceptors and protected road (1,702 m)

No.	Item	Description
	Lam Ha 1 regulation lake, Lam Ha ward	<ul style="list-style-type: none"> • Tree, lighting system
2.2	Upgrading drainage and technical infrastructure system for Bien Hoa road	<ul style="list-style-type: none"> • Rehabilitation of about 923 m of water and combined drainage-sewer pipeline. • Re-surfacing of about 906 m of road and intersections. • Rehabilitation of lighting system, • Rehabilitation of sidewalk and green tree system.
2.3	Construction of Chau Giang river southern embankment from Liem Chinh bridge to Cau Gie-Ninh Binh expressway	Construction of the 3.25 km Chau Giang River southern embankment from Liem Chinh bridge to Cau Gie-Ninh Binh expressway and construction of the 1.8 km long and 13.5 m wide road along the embankment..
3	Component 3	Urban Roads And Bridges (US\$9.19 million)
3.1	Upgrading Tran Hung Dao road	Upgrading of 1.6 km of Tran Hung Dao road from Liem Chinh bridge to Cau Gie-Ninh Binh expressway with four standard lanes, sidewalk, drainage/lighting system, and facilities for pedestrians.
4	Component 4	Project Management Support and Technical Assistance (US\$1.57 million)
4.1	Construction supervision and contract management	Support to the PMU for construction supervision and contract management.
4.2	Independent environmental and social safeguard monitoring	Independent monitoring of environmental and social safeguards.
4.3	Independent financial audit	Independent financial audit as per the agreed schedule.
4.4	Project Assessment	Project implementation evaluation at closing.

Table 1.5 Lao Cai -Activities financed by AF

No.	Investments	Detailed description
1	Component 1	Urban Basic Infrastructure Upgrading and Service Improvement (US\$14.27 million)
1.1	Upgrading infrastructure of Van Hoa Commune	<p>Construction and rehabilitation of 6.1 km of nine main internal roads, with widths ranging from 16.5 to 24.0 m.</p> <ul style="list-style-type: none"> • Construction of the separate drainage systems along the main road. <ol style="list-style-type: none"> 1. Storm water drainage for a total length of 11.0 km including 7.9 km of box culvert and 3.1 km of pipes. 2. Wastewater collection pipe of 4.0 km, pressure wastewater pipelines connecting 3.7 km, and two pumping stations to convey wastewater to the Dong Pho Moi Waste Water Treatment Plant (WWTP). • Construction of 3.7 km of water supply distribution system. • Power supply, lighting and trees for the constructed road.
2	Component 2:	Urban Water Supply and Environmental Sanitation (US\$9.93 million)
2.1	Rehabilitation of the central lake of Lao Cai city.	<ul style="list-style-type: none"> • Dredging the lake bed to a depth of 5.2 m. • Repairing damaged sections of the lake embankment (estimated total length of 100 m). • Constructing a drainage system for the lake including: 539 m interceptor; an overflow chamber; 149 m box culvert; a pumping station with capacity 324 m³/h; and 1.5 km wastewater pressure sewer pipe to convey wastewater to Ngoi Dum WWTP (which is being constructed under MCDP).
2.2	Rehabilitation of drainage system and resurfacing the remaining streets roads	<ul style="list-style-type: none"> • Rehabilitation of 71 km of existing drainage. • Construction of 5.2 km drainage at flooding locations, associated with resurfacing of 48 km of the remaining streets roads in the wards of Duyen Hai, Kim Tan, Bac Cuong, Nam Cuong, Coc Leu, Pho Moi, Binh Minh, Bac Lenh, and Pom Han.
3	Component 3	Urban Roads and Bridges (US\$0.5 million)
3.1	Construction of a bridge across Ngoi Dum stream.	The bridge is 48 m long, with 62 m of approach roads at the two ends.
4	Component 4	Project Management Support and Technical Assistance (US\$2.85 million)

No.	Investments	Detailed description
4.1	Construction supervision and contract management	Supporting for the PMU in construction supervision and contract management.
4.2	Independent environmental and social safeguard monitoring	Independent services for environmental and social safeguards monitoring.
4.3	Independent financial audit	Independent financial audit as per the agreed schedule.
4.4	Project Assessment	Project implementation evaluation at closing.

C. Basis of law, legislation and regulation

15. The project is required to comply with the prevailing environmental laws in Vietnam, which include the Law on environmental protection No. 55/2014/QH13 dated 23/06/2014, Decree No.35/2014/ND-CP dated April 29, 2014 of the Government; Decree No.35/2014/ND-CP dated April 29, 2014 of the Government; Circular No.27/2015/TT-BTNMT dated May 29, 2015 of Ministry of Natural Resources and Environment for preparation of strategic EIA reports,; and Vietnamese standards and regulations.

16. The project must also comply with the triggered safeguard policies of the World Bank, as summarized in Table 1.6 below.

Table 1.6: Compliance with World Bank Safeguards Policies under AF Project

Safeguard Policy	Actions
Environmental Assessment (OP/BP 4.01)	<ul style="list-style-type: none"> The two city subprojects Lao Cai and Phu Ly are assessed as category B. The category A is retained for the whole MCDP including AF to ensure project satisfactory environmental and social performance A full ESIA including an Environment Management Plan (ESMP) has been prepared as an integral part of each city ESIA
Natural Habitat (OP/BP 4.01)	<ul style="list-style-type: none"> The AF subprojects are located within urban areas and will not cause loss of sensitive forests and natural terrestrial habitats. Some civils works will be implemented on natural rivers and lakes and would potentially impact aquatic natural habitats Mitigation to mitigates the impacts to natural habitats are included in the ESMP
Physical and Cultural Resources (OP/BP 4.11)	<ul style="list-style-type: none"> About 15 graves will be relocated, in the 02 AF subprojects Chance finds procedures for archaeological artifacts found during construction have been prepared and will be included in bidding documents and contracts

Safeguard Policy	Actions
Involuntary Resettlement (OP/BP 4.12)	<ul style="list-style-type: none"> • City-specific Resettlement Plans (RPs) have been prepared for the two cities under the proposed AF
Indigenous Peoples (OP/BP 4.10)	<ul style="list-style-type: none"> • An Ethnic Minorities Development Plan (EMDP) has been prepared for the Lao Cai City subproject. There are no ethnic minority populations in the other city. An EMDP is equivalent to an Indigenous Peoples Development Plan as required by the Bank's policy.
International Waterways OP/BP 7.50	<ul style="list-style-type: none"> • Under the AF, the Lao Cai city subproject will collect the wastewater in Van Hoa Commune in Lao Cai and transfer it for treatment with subsequent discharge of the treated effluent in to an unnamed stream, which is a tributary of Red River, an international waterway. Therefore, the policy is triggered in accordance to para 7(b) of the OP 7.50. • The AF Project fall within the exception to notification provisions, namely para 7(a) of the policy. The memorandum for approval of the riparian notification exception is being prepared and submitted for RVP for approval
Public consultation and disclosure	<ul style="list-style-type: none"> • Two round meaningful consultations were undertaken in all communities in the project areas of the 02 AF cities, including with ethnic minority groups in Lao Cai, and the key comments and project responses are reported in the two ESIA, RPs, and in the EMDP for Lao Cai. Government and Non-Government organizations were also consulted in public meetings or have sent their written opinion as required by the Government's environmental regulations. The final draft of the ESIA and RPs, for the two cities and the EMDP for Lao Cai were disclosed prior to project appraisal

CHAPTER 2: BASELINE CONDITIONS IN THE PROJECT AREAS

17. Presented below are brief descriptions of the project cities.

A. Lao Cai City Subproject

18. Lao Cai City, the principal city in Lao Cai Province, is located about 280 kilometers (km) northwest of Hanoi. It has been an important trading point between Vietnam and China for many centuries. Subproject activities will be carried out both in the existing old town areas as well as in a new urban area. The old part of the city, close to the border and situated on both sides of the Red River where it emerges from China, is densely populated, with narrow streets servicing a mainly low-rise and long established commercial and residential center. The infrastructure is generally run down, with roads cracked and in poor condition, the water supply system operating at capacity, and the drainage system blocked and not operating in much of the area. There is no wastewater treatment system; wastewater is collected and channeled directly into the Red River.

19. The city's population is about 110,100 people, which includes 28 ethnic minority groups, about 23% of the population.

20. Hilly areas make up about 60% of the area of the city with an average elevation from 80-100 meters (m) above mean sea level. In the city, forest covers about 10,500 ha (46% of total area); of which about 57% is protection forest (protecting watersheds). There are no rare or endangered species as listed in the Red Book and the flora and fauna are impoverished, as is typical of an urban and highly human-modified environment in Vietnam.

21. About 70% of the population is served by water connections, and the remainder uses water from dug and drilled wells. About 30 tons of solid waste is collected each day and disposed of at the city's landfill (Tong Moon) located about 6 km from the city.

22. The Red River enters Vietnam from China at Lao Cai. The river's flow ranges from 70 to 7,800 cubic meters/second (m^3/s), for an average annual flow of about 530 m^3/s . The river contains many aquatic species, although statistical data on production and number of aquatic species caught in Lao Cai and in Chinese territory is limited.

23. Within the city, the Ngoi Dum and Ngoi Duong, both small, are the two main rivers. They receive drainage and wastewater from the city. The Ngoi Dum will receive the discharge from the project's proposed wastewater treatment plant (WWTP). There are very few aquatic species present, and no rare or high-value species have been identified.

24. Overall, the city's principal environmental issues are (i) poor surface water quality (in terms of ammonia, oils and greases, dissolved oxygen and suspended solids which exceed the standard of class A2 – QCVN 08) both in the Red River and the Ngoi Dum; (ii) high concentrations of copper, lead, zinc, cadmium, and arsenic in river sediments; and (iii) direct discharge of wastewater in natural watercourses without treatment.

B. Phu Ly City Subproject

25. Phu Ly City, the principle city in Ha Nam Province, is located 50 km southwest of Hanoi. It has an area of 8,760 ha. The city's population is 139,786, with a growth rate of about 0.8% per annum. The projected population in 2020, on which the city's approved master plan is based, is 180,000, implying a future annual growth rate of about 4.5%.

26. The city is located at the confluence of three large rivers: the Day, Nhue and Chau Giang. The Chau Giang River is the largest branch of the Nhue River and receives run-off water from the city. As a consequence, it is seriously polluted and aquatic life in the river is very limited.

27. Two water treatment plants (capacities of 10,000 m³/day and 15,000 m³/day respectively) supply water to 80% of the population living in the central part of the city. However, in the other areas of the city, only about 7% of households have access to clean water. Most households in these areas use rainwater and ground water. In addition, another wastewater treatment plant (capacity of 3000 m³/d) is under construction under the original Phu Ly MCDP subproject. The collected wastewater from communities under component 1 investments of Phu Ly city subproject will be conveyed to and treated by the WWTP.

28. The city generates around 43 tons of solid waste per day, which is collected and treated by the city's Urban Works Company to produce organic fertilizer at a processing plant in the city.

29. Significant environmental issues are related to poor sanitation infrastructure resulting in poor quality of surface water, with BOD, COD, nitrogen (NO₃⁻), ammonia (NH₄⁺), and phosphate being of particular concern. High nitrogen and ammonia levels were also observed in some groundwater samples.

CHAPTER 3: ANALYSIS OF ALTERNATIVES

30. The project's proposed investments are in line with the cities' master plans which have been approved by the Government. Alternatives were considered in the preparation of the master plans, which are also subject to review by environmental authorities as per Vietnamese law. Alternatives were further considered by the cities where appropriate during the project's feasibility study and related ESIA preparation.

1. Lao Cai City AF Subproject

31. For Lao Cai City Sub-Project, the principle investments for which alternative analyses were carried out were (i) the proposed road for Van Hoa Commune; (ii) the alternatives for water supply in Van Hoa Commune; (iii) options for wastewater treatment from Van Hoa Commune; (iv) alternatives for wastewater collection and treatment from central lake in Lao Cai city; (v) alternatives for the location of Ngoi Dum bridge. The results of the analyses are presented below. All the alternatives were considered based on the technical, cost, social and environmental aspects.

- ***Alternatives for the designed elevations of proposed roads in Van Hoa.*** Two options were considered for the elevation of the 09 proposed urban roads within Van Hoa Commune. In option 1, the elevation of the road will in line with the master plan. In option 2, the elevation of road will be designed to suit current terrain and avoid large excavation. Compared to option 1, the option 2 will cause less environmental impacts during the construction period. However, it requires higher investment cost. Most importantly, it is not consistent with the urban planning and thus the connectivity with other proposed roads in the future will not be ensured. In consideration of all aspects, the option 1 is selected.
- ***Alternatives on provision of clean water for Van Hoa Commune.*** Two options were considered for the water supply sources for local resident in Van Hoa Commune. In option 1, a new water supply scheme will be constructed within the commune. In option 2, the water supply pipeline of the Van Hoa commune will be connected with the city water supply pipe D250 on Road 1-5 via Giang Dong Bridge. Option 1 is better than option 2 in all analysed aspects as it causes less environmental impacts during construction, does not require the land acquisition, is more cost effectiveness. Therefore, option 2 is selected.
- ***Alternatives for waste water treatment and collection in Van Hoa Commune.*** Three options were considered for treatment of collected wastewater from Van Hoa Commune. In option 1, collected waste water will be conveyed at the Ngoi Dum WWTP, which is 6.2 km distant from the Commune. In option 2, a new WWTP will be built within the commune to treat the collected wastewater. In option 3, collected wastewater will be treated in Dong Pho Moi WWTP, about 3.7 km distant from the commune. The option 1 is not feasible as its design capacity could not afford the additional amount of wastewater from the commune. Among options 2&3, option 3 is selected as it : (i) causes less environmental impacts, (ii) requires less land acquisition and investment cost; (iii) O&M is much easier.
- ***Alternatives for rehabilitation of the central lake in Lao Cai city.*** Three options were considered for rehabilitation of the central lake: (i) dredging the lake without waste water collection; (ii) dredging the lake and construction of interceptor to collect and waste water to the Ngoi Dum WWTP, being constructed under original MCDP; rain water will be discharge into the lake; and (iii) dredging the lake and construct interceptor to redirect wastewater and rain water out of discharging into the lake; wastewater will be then conveyed to Ngoi Dum for treatment; surface water from Ngoi Dum stream will be pumped to supplement for the lake. The social aspect is similar in three options. Option 2 is selected as: (i) it is acceptable on environmental aspect; (ii) low investment cost; (iii) technically feasible and operated.

- **Alternatives for location of Ngoi Dum Bridge.** Two options were considered for the location of Ngoi Dum Bridge: (i) the bridge is about 340 distant to the existing Kim Tan bridge, and in line with the city urban master plan; and (ii) The bridge is next to Kim Tan bridge. The two options are similar regarding the technical, cost and environmental aspects. Option 1 is selected as it brings about higher social impact on enhancing the connectivity for local residents at the two sides of the proposed bridge at the selected location.

2. Phu Ly City Subproject AF

32. For Phu Ly City, the principle investments for which alternative analyses were carried out were (i) alternatives wastewater collection plans for the residential area in the North of Quang Trung Ward; (ii) alternatives for wastewater collection systems in residential areas in both in Duong Am and Quynh Chan, Lam Ha ward; (iii) alternatives for the design of the proposed kindergarten in Phu Van Commune; (iv) alternatives for the upgrading plans for Tran Quoc Toan primary school; (v) alternatives for wastewater and rainwater collection along in Bien Hoa road; (vi) alternatives on the types of embankment at Chau Giang River side, section from the bridge Liem Chinh to bridge overpassing highway Cau Gie - Ninh Binh. All the alternatives were considered based on the technical, cost, social and environmental aspects. The results of the analyses are presented below:

- **Alternatives for wastewater collection in the residential area in the North of Quang Trung Ward.** Two options were considered: (i) construct WWTP at small scale, allocated in residential areas for wastewater treatment (ii) do not construct WWTP in residential area; after collection, the sewage will be conveyed and treated in Bac Chau Giang WWTP constructed under original MCDP project. Among the above two options, option 1 has lower cost, and has more land clearance. However, this option is difficult to operate and manage, has more impacts that are adverse on the environment. Option 2 has been selected after being considered all aspects.
- **Alternatives for the wastewater collection systems in residential areas in both in Duong Am and Quynh Chan, Lam Ha ward.** Two options were considered: (i) construction of combined drain canals and wastewater culverts in area; after collection, rain-water and wastewater will be separated using combined sewer overflows in the final step. Rainwater is conveyed to Hoa Lac area; sewage will be collected and brought to SH1 treatment station before discharging to the receiving water; (ii) use separate drain canal and culvert in area; rainwater and wastewater are collected by 02 separate systems. Rain-water will be brought to Hoa Lac area. Sewage will be collected and brought to SH1 WWTP plant before discharging to the receiving water. Option 1 is selected as it is environmentally acceptable while being much more economical than option 2.
- **Alternatives for the design of the proposed kindergarten in Phu Van Commune.** Two alternatives were considered: (i) U-face design is in the Northern Eastern direction. Construction of the road with 240 m length connected from the school entrance gate to the communal inter-transportation road. (ii) U-face design is in the Southern Western direction. Construction of the road with 170 m length connected from the school entrance gate to the communal inter-transportation road. The two options have the same impacts on the environment including advantages and disadvantages. Compared to these under option 1, the classrooms in option 2 will be warmer in the winter, but hotter in the summer. However, investment cost of option 2 is lower. Considering all the factors, option 2 is selected.
- **Alternatives for the upgrading plans for Tran Quoc Toan primary school:** Two alternatives on the upgrading plans for Tran Quoc Toan primary were considered: (i) Rehabilitate two studying blocks No1 and No2; (ii) Destroy and newly construct the block

No1 and upgrade studying block No2. Option 2 is selected because it is more aesthetically pleasing and provides more entertaining space for the students. This option gets a consensus of City Steering Board, Educational Department of the city and all school inspection committee.

- **Alternatives for wastewater and rainwater collection along in Bien Hoa road.** Two options were considered: (i) sewage is collected to the separate sewer system, then comes back to the combined drainage system on Bien Hoa road, (ii) daily sewage is collected to the separate sewer system, then brought to pumping station and then to Me WWTP. The option 1 is selected, as it will: (i) prevent the road excavation and cutting in the future, (ii) ensure the separate ability of the combined drainage and sewer system into the separate system in the next period with high effectiveness of the investment.
- **Alternatives on the types of embankment at Chau Giang River side, section from the bridge Liem Chinh to bridge overpassing highway Cau Gie - Ninh Binh.** Two options were considered: (i) river revetment by vertical steel-reinforced concrete structure, (ii) river revetment by sloped-roof steel-reinforced concrete structure with the change of the slope as per the geographic structure of the area. Two options have the similar investment cost. Option 1 is proposed, as it will: (i) requiring less complex construction method, (ii) ensuring stability and synchronization with other infrastructures along the whole routes, (iii) causing less impact on society and environment.

CHAPTER 4: IMPACT ASSESSMENT AND IDENTIFICATION OF MITIGATION MEASURES

33. Impact assessments and mitigation measures for each subproject investment were developed based on document reviews, meetings with key agencies, field visits to project sites and collection of environmental (air, noise, vibration, sediment, sludge analysis, etc) and social data. A checklist method was used to identify key issues and the required mitigation measures, based on knowledge and experience in the country and taking into account good international practices. In addition to the ESIA reports, subproject Resettlement Plans (RPs), and an Ethnic Minorities Development Plan (EMDP) for Lao Cai, have also been prepared in line with relevant WB's safeguard policies. These have all been taken into account in ESIA preparation.

A. Overview of the Project Impacts

1. Potential Positive Impacts

34. The overall environmental and social project impacts will be positive. Improving basic infrastructure (roads, drainage, water supply, and sanitation) in existing urban areas would improve access to better services, as well as improving existing living conditions and human health. Upgrading and dredging of main lakes, and other facilities associated with wastewater management would improve drainage and flood control capacity as well as improving water and environmental quality in the project areas. In addition, the construction of linear parks and green spaces along the lakes and embankment will bring about additional economic, social, environment and aesthetic values. The park along the embankment which provides public spaces for people walking, physical exercise, and recreation etc. It will also create conditions for river tourism development. In addition, it will bring about a new face to the city, an urban river civilized country, a city of green - clean – beautiful. Site-specific benefit of the subprojects are highlighted below:

- **Lao Cai AF Subproject:** Upgrading and dredging of Central Lake of Lao Cai City, and other facilities associated with wastewater management would improve drainage and flood control capacity as well as improving water and environmental quality in the project areas. Construction and renovation of the existing infrastructure would improve living conditions of affected populations, while constructing new roads and bridge would improve connectivity within and between cities and promote socio-economic development of the regions within which they are located.
- **Phu Ly AF Subproject.** The positive impacts include: (i) improved environmental conditions and urban landscape in many public and residential areas; (ii) increased wastewater collection and treatment; (iii) minimized discharge of untreated wastewater into the environment; (iv) reduction of public health risks associated with water-borne diseases and related healthcare cost; (v) reduction of traffic jam or safety risks caused by inundation; (vi) increased the accessibility of local people to nearby areas

35. Overall, the project will result in better infrastructure services providing socio-economic benefits. Wastewater collection, drainage and wastewater collection will result in improved environmental conditions and health conditions. The extensive capacity building and technical assistance that is incorporated in the project will result in more efficient and effective management and sustainability of the cities' assets.

2. Potential Negative Impacts

36. The project will result in some negative impacts on the local environment and populations. Key direct impacts for all three cities arise from (a) land acquisition and resettlement, (b) site clearance and construction, and (c) operation after completion.

B. Impacts during the Land acquisition and resettlement phase

37. The proposed project components (in component 1, 2, and 3) will involve the involuntary taking of land, resulting in physical relocation and impacts on livelihoods and resources. The need to minimize to the extent possible land acquisition and resettlement was a factor taken into account during the feasibility study, especially for roads and bridges. Table 4-1 summarizes the number of affected households, the area of land to be acquired, and the number of graves to be relocated for each city. The Lao Cai subproject also affects 18 ethnic minority households, of which 05 will be relocated (Table 4.2).

Table 4-1: AF - Affected households, acquired land and relocated graves

Impact	Unit	Lao Cai	Phu Ly
Land acquisition (agricultural and residential land)	Ha	9.5	20.9
Affected households	Household	117	278
Of which, relocated households	Household	25	53
Relocated graves	Grave	5	10

Table 4-2: Lao Cai-Impacts on ethnic minority households

Ward	No. of households	No. of HHs losing more than 10% of productive land	Affected Productive land area – m ²	No. of relocating households	Affected residential area (m ²)
Van Hoa	18	18	3,837	5	800

38. An *Ethnic Minority Development Plan* (EMDP) was developed for the Lao Cai subproject, consistent with the World Bank policy OP 4.10 on Indigenous Peoples. The EMDP is based on the results of surveying, interviewing and group discussions with affected ethnic minority people. The discussion focused on mitigating adverse impacts and enhancing socio-economic benefits from the project for the affected ethnic minority people in the project area (about 330 EM people of 98 EM households in four villages of Van Hoa commune).

C. Impacts and Mitigation during Site Clearance, Construction, and Operation

Potential Adverse Impacts

39. The main social impacts/risk during the construction of civil work would include: (i) reduced sources of income due to loss of agricultural land, land use for animal breeding, (ii) and temporary loss of income (estimated to be minor) from doing business along transportation routes and roads to be resurfaced and (ii) disturbance to daily socio-economic activities in project area and limited access to several social and religious structures during construction phase; (iv) risks of traffic safety, degradation of existing roads and noise and dust related health issues are also concerned. These social impacts and corresponding mitigation measures are described in details in the ESIA report.

40. *Gender related issues:* Gender gaps often happen in the water and sanitation sectors. Although in the city most of the households have access to tap water, in some suburban areas, most of the households are using traditional wells and other sources of water, so women and girls are typically responsible for obtaining and treating water (SDC). The water component is

likely to bring greater benefits to women. The same can be said about sanitation. Improved access to sanitation leads to better health and less illness. This would reduce work burden for women to take care of sick family members. The survey results showed that while in Lao Cai man are more active in community activities and local organizations, in Phu Ly, woman often participate more in community activities, so meaningful consultation with both of men and women during project preparation and implementation would ensure the project design and implementation be more successful. In addition, it is necessary to ensure that women and female-headed households have equal access to project benefits. So the project will have some results indicators with sex-disaggregated data to ensure both man and women are benefited from the project

41. The potential negative environmental during preparation and construction period include: (i) loss of vegetation cover and trees, disturbance to the habitats of aquatic species, (ii) increased level of dust, noise, vibration; (iii) pollution risks related to generation of waste and wastewater, particularly moderate amount of non-contaminated excavated/dredging materials; (iv) traffic disturbance, and increased traffic safety risks; (v) erosion and land slide risk on slopes and deeply excavated areas as well potential negative impacts on existing weak facilities; vi) interruption of existing infrastructure and services such as water and power supply.

42. For each type of common construction impacts discussed above, the causes, the nature, the duration and level of impacts, and receptors vary between by type of investments and the sensitiveness of receptors. Therefore, for effective management of the potential impacts and risks, the ESIA have also identified the type-specific impacts and sensitive receptors in the Project area.

43. Some of the site-specific impacts are described in detailed below:

Dust and exhaust gases, noise, vibration: The specific areas to be affected by increased dust and exhaust gases, noise, vibration due to construction activities such as excavation, dredging, loading and unloading of construction materials and wastes, transportation are as follows:

- Lao Cai Subproject: Van Hoa commune, Red River dyke road, District Road 157, Hoang Lien, Pho Moi Bridge, Dinh Bo Linh Street
- Phu Ly subproject: Tran Hung Dao, Bien Hoa, Bien Hoa, Le Loi, Le Cong Thanh, Truong Chinh, Nguyen Van Troi, National Highway 1A

Solid wastes: These include top soil removed from the construction sites, excavated and dredging materials, packaging materials, garbage from workers' camps etc. It is noted that the dredged sediments from the lakes dredging are not contaminated with heavy metals. However, it contains high amounts of organic substances, and therefore should not be directly used for agricultural purpose. Rather, it could be used for planting trees of landscape purpose.

- Lao Cai: 67,000 cubic meters (m³) of sediment from the central lake, 460,000 m³ of excavated materials mainly from the construction of roads in Van Hoa community.
- Phu Ly: 40,000 m³ of sediment from the Lam Ha lake and the bank of Chau Giang river, 230,000 m³ of excavated material from Tran Hung Dao road.

44. The main issues during the operation of project investments would include the small amount of sludge generated from sewage and drainage system, wastewater and domestic solid waste from the constructed and upgraded schools, traffic management during the operation of the newly constructed roads and bridge. These impacts are long-term, moderate and manageable.

Mitigation Measures

45. These environmental and social impacts and corresponding mitigation measures are addressed in details in the ESIA and RP/EMDP reports. During the detailed design of the project works, attention will be given to mitigating these impacts to the extent possible by incorporating into the designs, bidding documentation, and resulting contracts. Specifically, the bidding documents and the contracts will reflect (i) the provisions of the comprehensive Environmental Codes of Practice (ECOPs) for small-scale urban construction works that have been prepared for the project; and (ii) site specific impact and mitigation measures that have been prepared for each of the subproject works where impacts and mitigation measures are beyond, or in addition to, the provisions of the ECOPs. Full details on the ECOPs and the site-specific measures are included in the ESIA. The site specific details include impacts and mitigation measures for each of the works once they have been completed and have entered service.

46. For dredged material, the Dredged Material Management Plans (DMMPs) have been prepared and included in the subprojects ESIA. To supplement the work done during the feasibility study, detailed design scope will include additional analysis of chemical composition, and update the DMMPs with more details on amount and quality of sludge, transportation, and disposal that are appropriate and cost-effective. The updated DMMPs will be incorporated into the related bidding documents and contracts, and will be the basis upon which the contractors will prepare their specific plans for each site that requires dredging and disposal of dredged materials.

D. Potential impacts on Physical and Cultural Resources

47. **Phu Ly City AF Subproject:** with additional financing in Phu Ly, based on the survey, about 10 graves will be relocated for the investment on the residential area in the North Quang Trung ward. There are several sensitive sites and PCRs identified and examined including several schools, pagoda, and temples in a distance of 10-200 m to the routes.

48. **Lao Cai City AF Subproject:** In the project site in Lao Cai city there are total 05 graves in Van Hoa area to be relocated. There are several sensitive sites identified and examined including several schools, market, clinic houses and pagoda, temples in a distance of 100-300m to the routes.

49. Impacts on identified cultural resources, associated mitigation measures and environmental monitoring are addressed in each of the subproject ESIA. The ESMPs for each of the subprojects include clear guidance for project activities on identified PCR locations, and also chance finds procedures to be followed, in line with Government regulations and consistent with World Bank policy.

E. Impacts on Natural Habitat

50. The subproject ESIA indicated that the AF would not impact any protected area nor will it affect important/endangered flora or fauna species or biodiversity areas of high value. The project is anticipated to have potential impacts on natural habitats of the lakes and rivers running through city due to the wastewater collection, dredging, and embankment activities. The embankment of Chau Giang river in Phu Ly and the collection and treatment of wastewater in Van Hoa Commune, Lao Cai city before discharging into Red River will bring about positive impacts i.e. reduced soil erosion and reduced pollution load to these watercourses. The impacts during the dredging of the Lam Ha 1 Lake and Nhap Son Lake include the loss of benthic habitat and disturbance of benthic organisms during the construction period. These impacts are assessed as temporary and could be mitigated. The mitigation measures to address these impacts have been included in the subproject ESIA and ESMPs.

F. Due Diligence Review

The ESIA conducted a due diligence review of related and ancillary aspects of the city subprojects.

Lao Cai AF Subproject.

The Dong Pho Moi WWTP, receiving freely runoff wastewater from Van Hoa Commune for treatment. It is noted that the current WWTP has not yet been under operation. Therefore, additional monitoring on the quality of wastewater is recommended during the operation of this WWTP.

Tong Mon landfill will receive the dredged sediment from the central lake. It is located in Tong Mon Hamlet, Dong Tuyen Commune of Lao Cai City. The treatment plant has been constructed as part of the landfill. The landfill has an area of 46ha with waste handling capacity of 70 tons/day. Operating from 1999, its capacity is designed to serve for 25 years until 2024. The landfill is managed by Lao Cai Urban Environment JSC (Lao Cai URENCO). Periodic analysis results of effluent quality at leachate treatment station by Lao Cai DONRE show that the parameters BOD, COD, Pb, Arsenic, CO, SO₂, NO₂ are within the allowable limits of national standards for landfills.

Phu Ly City AF Subproject. There is a linked activity in Phu Ly (Liem Chinh resettlement site). A due diligence review of land acquisition activities has been conducted and included in the subproject RP. Most of the land acquisition activities and site clearance were completed in 2005 (about 80.5% of the total site area with 32 PAHs) and the remaining land has been acquired in April-June, 2016 (with 23 PAHs). All 55 PAHs were marginally affected. The site clearance and compensation activities have been reviewed to assess compliance with the Gov. regulations for 32 PAHs who received compensation in 2005 and with the project policies (OP4.12) for 23 PAHs receiving compensation in 2016. The reviews showed that all the compensation were done in line with the Gov regulations, hence, there are some gaps in compensation for 23 PAHs receiving compensation in 2016 compared with those stipulated in the policies of the MCDP project. Therefore, the Phu Ly city will re-consider the compensation plans for these households to ensure compliance with the project's policies.

CHAPTER 5: ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

51. Based on the assessment of the potential negative impacts discussed and the mitigation measures outlined in Chapter 5, this chapter presents a summary of the Environmental and Social Management Plans (ESMPs) that are included in each of the city subproject ESIA. The ESMPs identify actions to be carried out under each city subproject including the environmental monitoring program and the implementation arrangements. These take into account the need to comply with the Government's EIA regulations and the World Bank's safeguard policies.

A. Basic Principles

52. As a part of the ESIA, an Environmental and Social Management Plan (ESMP) is a safeguards instrument that consists of information on and guidance for the process of mitigating and managing adverse environmental impacts throughout project implementation. Typically in Vietnam, an ESMP comprises a list of mitigation measures to be carried out by contractors, an environmental monitoring program, organizational arrangements, and an estimated monitoring cost.

53. There is a comprehensive regulatory framework in Vietnam related to ESIA preparation, environmental standards, protection and management of forest and cultural property, and other aspects related to construction and operation of facilities and infrastructures. The project ESMP's are consistent with these regulations.

54. To facilitate effective implementation of the ESMPs, the city subproject PMUs will: (a) establish an Environment and Social Unit (ESU) responsible for ensuring timely implementation of the ESMP, including monitoring, reporting, and capacity building related to safeguards; (b) assign the Construction Supervision Consultant (CSC) to be responsible for supervision of the contractor's safeguard performance as part of the construction contract and this requirement will be included in the CSC terms of reference (TOR); and (c) hire qualified national consultants as the Environmental Management Consultant (IEMC) to assist the ESU in performing these tasks.

55. The city water supply, drainage, and urban maintenance companies, as appropriate, will be responsible for implementing the mitigation measures during the operation stage of the project and they will ensure that the mitigation measures are implemented and adequate budget is provided. The Provincial Steering Committee (PSC) chaired by the Chairman or Vice Chairman of the Provincial People's Committee (PCP) of the respective province will provide the overall policy guidance and oversight of project implementation.

56. In terms of laying out the mitigation measures of the ESMP, there are two fundamental parts. Firstly, the project has developed and will use Environmental Codes of Practice (ECOPs). These ECOPs, which are presented in the ESIA, outline typical general low-level impacts that can be expected to occur in a wide range of construction activities of the project. These include mitigation measures for these impacts and a process for including them in the project's construction contracts.

Secondly, all site-specific impacts that are either not covered in the general ECOPs or which are of an order of magnitude that require mitigation measures not covered in the ECOPs, are described in more detail in the ESMP.

57. Impacts due to, and mitigation measures for, land acquisition and resettlement are presented separately in the respective subproject RPs and they will be implemented and monitored separately.

58. Impacts on ethnic minority people in Lao Cai will be enhanced/mitigated through implementation of the prepared EMDP.

59. Some components of the project will finance environmental measures, above and beyond mitigation measures as described in the ESMP. This is the case for Component 4.1 which will finance the PMUs' ESMP program, including safeguard training; and Component 4.2 which will finance environmental and resettlement monitoring.

B. Management Organization and Responsibilities

60. Environment management responsibilities have been defined in the ESIA and the related ESMPs. Environmental management during construction involves the PMUs of the respective cities, their CSCs, contractors, and the Independent Environmental Monitoring Consultants (IEMCs) that each city will be required to select and appoint. Details of these responsibilities are provided in the ESIA.

C. Environmental Monitoring

61. It is essential to design the monitoring program and monitoring frequency appropriately to be able to record both the overall performance of the project works as well as the short-term impact due to construction activities. The environmental monitoring program will be implemented during the pre-construction and construction phases at 3 levels:

- Monitoring the level of compliance with mitigation measures,
- Community-based monitoring, and
- Monitoring the environmental parameters set out in the ESIA.

D. Environmental Supervision

62. Environmental supervision during construction will be the responsibility of the CSCs, who will be required to include in their supervision teams personnel with experience in supervising the environmental aspects of projects financed by international agencies such as the World Bank. They must also be familiar with the environmental legislation requirements of the Government. In accordance with their supervision contracts, and with the provisions of the construction contracts, the CSCs will be responsible for supervising all construction activities, including the mitigation measures that have been incorporated into the contracts on the basis of the ESMPs, and more broadly for ensuring that any negative environmental impacts of the project are minimized.

63. Under parent project, all three cities developed comprehensive training plans and they are implementing the plans accordingly. In addition to IEMC training, trainings on safeguards were delivered by the Sustainable Environmental Center (AIT-Vietnam). Technical assistance on urban environmental planning were provided through series of studies and strategies developed for each cities. Workshops and seminars were organized under for the purposes of capacity building. In the AFs, technical assistance will be used to support all activities of the PMUs in construction supervision and contract management, and independent environmental and social safeguard monitoring

64. Given the nature, locations, and scale of construction, it is anticipated that the safeguard technical assistance support and training will be provided at least during the first 3 years of the project implementation. WB safeguard specialists will participate in the capacity building in particular in the training activities as appropriate.

E. Independent Environmental Monitoring Consultant (IEMC)

65. The monitoring and related audit of the subprojects will be carried out by Independent Environmental Monitoring Consultants (IEMC) appointed by each of the city PMUs for their respective subprojects. The IEMCs will be responsible for carrying out environmental sampling and monitoring at least twice a year, on all environmental-related issues regarding the works. They will check, review, verify and validate the overall environmental

performance of the respective subprojects through regular inspections and review. This review will provide confirmation that the results reported by the contractors to the construction management consultants and the PMUs are valid and that the relevant mitigation measures and monitoring programs provided in the subproject ESMPs are being fully complied with. The IEMCs will also supply specialized assistance to the PMUs and, if required, to the CSCs, on environmental matters.

Grievance and Redress Mechanism (GRM):

66. Under the AF Project, each subproject safeguard instrument (ESMP, RPs, EMDP) also includes a GRM to provide the framework within which complaints about safeguards compliance can be handled, grievances can be addressed and disputes can be settled quickly. The GRM will be in place before the subproject construction commences. Within the Vietnamese legal framework citizen rights to complain are protected. As part of overall implementation of the subproject, the GRM will be established by Environmental and Social Unit of the city PMU. It will be readily accessible, handle grievances and resolve them at the lowest level as quickly as possible. The key process and elements of the GRM include, procedures for submission of complaints and grievance resolution, responsible person, and contact information.

Borrower Safeguards Capacity:

67. During the project implementation, the environmental and social safeguard management of the Phu Ly and Lao Cai original MCDP subprojects have been rated as Moderately Satisfactory or higher. Lao Cai City has a consistently strong environmental and social team. Environmental health and safety (EHS) standards are generally high at work sites in and around Lao Cai, and worker camps and waste disposal is, for the most part, adequate (any shortfalls noted during supervision being quickly addressed). It is important that the Municipality ensure that drainage system constructed for the Parent Project be kept open and free of blockages, and that the drains on the sides of the newly constructed roads be regularly cleaned to avoid deterioration of the new works. Phu Ly City has been less consistent in terms of environmental and social compliance, and therefore the Bank safeguards team will ensure a close follow-up during supervision to ensure adequate standards are maintained and RP/EMDP provisions be fully implemented.

F. Costs of Environmental and Social Management Plan

Table 5-1: Estimated Cost for ESMP implementation for AF Project (million USD)

Additional Financing	Total Cost (millions of \$US)	Lao Cai AF (millions of \$US)	Phu Ly AF (millions of \$US)	Source of funds
(a) Mitigation during construction	Part of contracts	Part of contracts	Part of contracts	WB
(b) Supervision of safeguards during construction	Part of CSC costs in Comp. 4	Part of CSC costs in Comp. 4	Part of CSC costs in Comp. 4	WB
(c) Environmental and Social Safeguards unit (ESU) of PMU	Part of PMU costs in Comp. 4	Part of PMU costs in Comp. 4	Part of PMU costs in Comp. 4	Counterpart fund
(d) Environmental quality monitoring	0.046	0.028	0.018	WB
(e) Independent Environmental Monitoring Consultant (IEMC)	0.0276	0.014	0.0136	WB
(f) Independent social safeguard monitoring	0.0775	0.027	0.0505	WB
(g) Safeguards capacity building program	0.25	0.25		WB

CHAPTER 6: PUBLIC CONSULTATION AND INFORMATION DISCLOSURE

A. Public Consultation During Preparation of the ESIA

68. Two public consultations were carried out during the preparation of each of the subproject ESIA. In line with the Government's consultation procedures the first consultation was conducted to collect opinions from the Provincial People's Committees (PPCs), City/Commune People's Committees (CPCs), and the Fatherland Front Committees in project wards (and with ethnic minority people in Lao Cai City). All comments and concerns expressed during the consultation have been taken into account during the preparation of the project's feasibility studies. The second consultation focused on the results of the impact assessment and the proposed mitigation measures. Details are provided in the ESIA reports and summarized in Table 6.1.

69. **Lao Cai City AF Subproject.** The public consultations for ESIA in Lao Cai is presented in the Table 6-1 below

Table 6-1: Summary of Public Consultation for Lao Cai AF Subproject

Subproject Date	Purpose	Community's opinions
Lao Cai first public consultation		
4 th July 2016 to 11 st July 2016 (315 participants)	<ul style="list-style-type: none"> - To share all information proposed project activities with the community and stakeholders living in the project areas - To collect opinions; understand the concerns and sensitivities of local authorities and communities 	<ul style="list-style-type: none"> - Supportive of the projects - Desire resettlement package with job assistance and appropriate compensation. - Need to implement environmental protection measures strictly during project implementation - Need to protect cultural heritage sites in the project area
Lao Cai second public consultation		
24 th August 2016 to 31 th August 2016 (444 participants)	<ul style="list-style-type: none"> - World Bank and the consultants sought opinions of leaders, unions, and organizations, and representatives of residents living in the Project-affected areas on the contents of draft environmental and social impact assessment 	<ul style="list-style-type: none"> - Need to enforce prevention of deforestation; water storage - Need to ensure electrical provision for affected households - Manage waste strictly on site and assist job-placements for affected households whose production land will be acquired - During project implementation, the project owner and construction contractors are required to comply with the contents presented in the ESIA reports - In general the community is satisfied with ESIA and agreed to support the project.

70. **Phu Ly City AF Subproject.** The public consultations for ESIA in Phu Ly City is presented in the Table 6-2 below

Table 6-2: Summary of Public Consultation Programs in Phu Ly city AF Subproject

Subproject Date	Purpose	Community's opinions
Phu Ly first public consultation		
9 th Aug 2016 to 13 rd Aug 2016 (368 participants)	<ul style="list-style-type: none"> - To share all information proposed project activities with the community and stakeholders living in the project areas - To collect opinions; understand the concerns and sensitivities of local authorities and communities 	<ul style="list-style-type: none"> - Supportive of the projects - Desire resettlement package with job assistance and appropriate compensation. - Need to implement environmental protection measures strictly during project implementation - Need to protect cultural heritage sites in the project area
Phu Ly second public consultation		
11 st Oct 2016 to 15 th Oct 2016 (415 participants)	<ul style="list-style-type: none"> - World Bank and the consultants sought opinions of leaders, unions, and organizations, and representatives of residents living in the Project-affected areas on the contents of draft environmental and social impact assessment 	<ul style="list-style-type: none"> - Elevation of road surface should not be changed much. - Need to clarify the connection of drainage line from households to the drainage system. - Electric control panel should be placed between two households, not at one side. - Electric meter should be located appropriately. - Sidewalk should be leveled to facilitate the activities of the residents. - Cable, internet, etc should be underground. - Totally support the subproject. - Reinstate road surface if it causes damage during construction. - The subproject should be implemented soon to serve local residents.

B. Community Consultation in the EMDP Preparation Process (for Lao Cai)

71. All the EM communities were notified in advance about the Subproject. Public consultations were conducted by the consultants in close cooperation with the PMU staff in a public and democratic manner in July, August and December, 2016 through a series of meetings with the EM communities living in the affected area of the Subproject. Consultations were carried out to assess impacts on the EMs' livelihood and identify activities and solutions to reduce adverse impacts and relevant compensation measures to meet their demand in a culturally appropriate manner. The results of consultations have been integrated in the EMDP. The consultations will be organized during the whole process of the project implementation. The benefited EMs in the project area expressed their full support to the implementation of the project.

C. Information Disclosure

72. Final drafts of the ESIA reports, the EMDP, and RPs were sent to the World Bank for disclosure in the InfoShop in Washington DC, of the World Bank in Hanoi in 29 November 2016. The Vietnamese versions of the reports have been disclosed in the respective cities, including city wards that contain project investments at the same date.

CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS

73. Overall, the Lao Cai City, and Phu Ly City subprojects are feasible and consistent with the socio-economic development plans of their respective provinces, and of Vietnam. The project meets the needs for socio-economic development in the cities, supporting sustainable development of the country and the cities through basic infrastructure upgrading, service improvement, water supply and environmental sanitation improvement, and provision of essential new road links. Detailed ESIA prepared for each city subproject have identified and assessed all potential environmental and social impacts of the project.

74. The positive impacts of the project include improving living conditions of the city residents, improving water supply quality and environmental quality for local people through the upgrading of water supply systems and drainage systems and construction of new wastewater treatment plants in Lao Cai and Phu Ly. Water quality in existing water bodies in the cities will be significantly improved as a result of the project. New roads will be constructed and existing roads rehabilitated, to allow the cities' road networks to become effective and efficient foundations for the cities' development for the medium and long term.

75. During project implementation, some negative impacts will affect the local environment and local populations in the project areas. Land acquisition and resettlement of project affected households will be required. For the Lao Cai subproject there will also be impacts on ethnic minority groups. Detailed Resettlement Plans and an Ethnic Minorities Development Plan (the latter for Lao Cai) were prepared as part of project preparation. In addition, there will be some other negative social impacts, including reduced sources of income due to loss of agricultural land, land use for animal breeding; and temporary loss of income (estimated to be minor) from doing business along transportation routes and roads to be resurfaced and disturbance to daily socio-economic activities in project area and limited access to several social and religious structures during construction phase; risks of traffic safety, degradation of existing roads and noise and dust related health issues are also concerned. These social impacts and corresponding mitigation measures are described in details in the ESIA report.

76. During the construction phase, there will be environmental negative impacts, including vehicle and equipment exhaust emissions, smoke, dust and noise from construction equipment; road and sewage system construction, rain water and sewage sewer installation, wastewater from construction workers and construction activities, construction solid waste, dredged sludge and some contaminated waste, among others. These have been identified in the ESIA studies. These impacts can be mitigated by ensuring that the project contractors comply with the provisions of their contracts, including those which relate to environmental impacts. The PMUs and their CSCs will be responsible for ensuring that this compliance occurs. In accordance with their contracts, contractors will be required to prepare site-specific detailed design documents, including environmental provisions. The site-specific ESMPs will be approved by the CSCs prior to the work commencing. Periodic monitoring reports will be prepared by independent consultants and the results will be submitted to the World Bank and the Government.

77. To facilitate effective mitigation of impacts during operation, the project will also provide support to ensure that local regulations and operation manuals related to operation of the project facilities will be put in place.

78. Environmental monitoring will be carried out to ensure that the project activities will not create adverse impacts. The monitoring results will be periodically reported to the World Bank and the Government.

79. The ESIA, RPs, and the EMDP have been disclosed to local people and authorities in the project areas. The project is supported by, and received valuable comments from, local people and authorities.

ANNEX 1. Project Maps



