

Initial Environmental Examination

April 2017

Lao PDR: Greater Mekong Subregion Livelihood Support for Corridor Towns

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**Ministry of Public Works and Transport (MPWT),
Savannakhet Provincial Department of Public Works
and Transport (PDPWT)**

**Greater Mekong Sub-region (GMS) Livelihood
Support for Corridor Towns: Detailed Engineering
Design and Project Management
(DED & PM)**

IEE Final Report

Prepared by:



**DED & PM Consultant Team, LAO-ASIE Consultants
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24th April 2017

List of Acronyms

ADB	Asian Development Bank
AP	Affected Person
CSA	Concerned Sector Agency
DDSC	Detailed Design and Supervision Consultant
DoNRE	Department of Nature Resources and Environment
DPH	Department of Public Health
DPRA	Development Project Responsible Agency
DPWT	Department of Public Works and Transport
EA	Environmental Assessment
ECC	Environmental Compliance Certificate
ECO	Environmental Control Officer
EERT	External Emergency Response Team
EIA	Environmental Impact Assessment
EMC	Environmental Management Corporation
EMMU	Environmental Management and Monitoring Unit
EMP	Environmental Management Plan
EMS	Environmental Management System
EMU	Environmental Management Unit
EPL	Environmental Protection Law
ERT	Emergency Responsible Team
ESMU	Environmental and Social Management Unit
EWEC	East West Economic Corridor
FAO	Food and Agricultural Organization
GDP	Gross Domestic Product
GMS	Greater Mekong Subregion
GoL	Government of Lao PDR
GPP	Grievance Point Person
IA	Implementing Agency
IEE	Initial Environmental Examination
IUCN	International Union for Conservation of Nature and Natural Resources
JICA	Japan International Cooperation Agency
MAF	Ministry of Agriculture and Forestry
MEM	Ministry of Energy and Mines
MFI	Micro Finance Institute
MMC	Market Management Committee
MoH	Ministry of Health
MoIH	Ministry of Industry and Handicrafts
MoNRE	Ministry of Natural resources and Environment
MOU	Memorandum of Understanding
MPWT	Ministry of Public Work and Transport
MRC	Mekong River Commission
NBCA	National Biodiversity Conservation Area
NGO	Non-Government Organization
NORAD	Norwegian Agency for Development Cooperation
NR	National Road
NTU	Nephelometric Turbidity Units
O&M	Operation and Maintenance
PCU	Project Coordination Unit
PIT	Project Implementation Team
PMIS	Project Management and Implementation Assistance
PMU	Project Management Implementation Unit
PMO	Prime Minister's Office
PMU	Project Management Unit

DoNRE	Provincial Department Natural Resources and Environment Office
PSC	Project Steering Committee
RAP	Resettlement Action Plan
REA	Rapid Environmental Assessment
RPF	Resettlement Policy Framework
SSEZ	Savannakhet Special Economic Zone
STEA	Science Technology and Environment Agency
ToR	Terms of Reference
UDAA	Urban Development Administration Authority
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific, Cultural Organization
UNFCC	United Nations Framework Convention on Climate Change
USEPA	United State Environmental Protection Agency.
VH	Village Head
WB	World Bank
WHO	World Health Organization
WREA	Water Resources and Environment Administration

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1. Executive Summary

The Greater Mekong Subregion (GMS) Livelihood Support for Corridor Towns Project will improve the facilities and organization of the market trade center in Kaysone Phomvihane district in the Savannakhet province of Lao PDR. The project will target the self-employed urban vendors, which is a low income population with a majority of women, and support the sale of locally produced products in order to improve their livelihood. The Project is also expected to provide gender-specific benefits, including access to formal market facilities, allowing women to vend safely.

The Night Market area is currently used by a number of informal vendors to sell their products, which consists mostly of simple food and beverages. However, the area lacks many of the amenities that are needed for a well-functioning market such as running water, social safeguards, electricity, toilet facilities and overall organization. The Project aims to improve the organization of the area and provide the vendors with better facilities as well as an enhanced overall look to make the market more attractive to customers and tourists.

This IEE report presents the screening of negative potential environmental impacts of the proposed project, recommends mitigation measures in order to reduce the negative impacts and provides an environmental management plan (EMP) which will serve as the framework for environmental management from the detailed design phase through to operations.

This report concludes that the proposed Night Market development project is unlikely to cause significant adverse environmental impacts. The impacts have been deemed to be not environmentally critical and not within or adjacent to environmentally-sensitive areas. Potential impacts on the sensitive wastewater and solid waste disposal features of Night Market can be managed and mitigated by the national regulation included in the EMP for the project. No vulnerable ecosystems will be disrupted by this project as the entire implementation will be in an urban setting. The Project has been designated as Category B following ADB's project categorization and the IEE confirms this categorization.

The main negative environmental impacts are temporary and short-term impacts during the construction phase associated with the market improvement such as noise, dust, solid and liquid waste, construction traffic, and reduced community and commercial access. Construction during the wet season will be associated with additional potential impact associated with storm water runoff from the construction sites. To mitigate these impacts earthworks will not be permitted during the rainy season and should be undertaken in dry weather. The construction related impacts are of limited duration and extent and can be mitigated through standard methods and procedures of good housekeeping and good engineering practice.

The proposed project will improve the market infrastructure in Kaysone Phomvihane, resulting in improved market access for locally-produced products and job opportunities for local people. Economic activities will then be more active and significantly contribute to a qualitative improvement in the lives of street and other related vendors in the Kaysone Phomvihane district.

2. Introduction

2.1. Project Background

The Greater Mekong Subregion Livelihood Support for Corridor Towns Project aims to pilot market development as an approach to poverty reduction in the Greater Mekong Subregion (GMS) by providing improved market facilities for both formal and informal vendors, a majority of whom are women and/or have a low income, in Kaysone Phomvihane District, Savannakhet Province, Lao PDR. The project will:

(i) Improve the lack of security and hygiene; (ii) enhance the health conditions of vendors and traders on site and others peoples which are connected to the Night Market (NM); (iii) Address access to customer flow translating into increased income with a facility that is attractive to customers; and (iv) promote quality products as a result of created goods productivities are enhancing its value chains. Moreover, the Night Market development will primarily benefit market vendors currently working as informal vendors and target the self-employed urban low income population in the Province.

Through Asian Development Bank (ADB) financial support, the Lao Government of (GoL) commits to developing the project to be designed to collect information from a number of road and street and other related vendors in the District and get them organized in the project area to be known as an environmentally-acceptable and marketable place.

The Project has four components: Component A - Construction of SAVANH NIGHT MARKET; Component B - Microfinance support for market vendors; Component C - Training and awareness campaigns; and Component D - Project management. A feasibility study will be conducted within Component A. This will require conduct the IEE study.

This IEE report presents the screening of negative potential environmental impacts of the proposed project, recommends mitigation measures in order to reduce the negative impacts, and provides an environmental management plan (EMP).

2.2. Purpose of the IEE

This report summarizes the IEE process conducted in conjunction with preparation and design for the night market project. The IEE was conducted to: (i) identify and assess potential impacts arising from project implementation on the physical, ecological, socioeconomic, and physical cultural environment and resources; and (ii) recommend measures to avoid and mitigate adverse impacts. The IEE was carried out in accordance with the requirements of Safeguard Policy Statement (SPS) 2009 of the ADB as well as GoL's prescriptions with reference to the Environmental Protection Law No.29 -/NA dated 18 Dec I 2012 (as amended). The Environmental Protection Law requires public and private development projects to undergo environmental impact assessment prior to implementation/operation. Relevant reports, site visits, and consultations with relevant stakeholders provided the basis for this IEE.

2.3. Methodology

In compliance with the ADB's SPS, 2009 guidelines for conducting IEEs, the study focuses on physical, ecological, and sociocultural resources using mainly primary data. The main aims of the data collection process are to produce precise results in terms of determining both environmentally positive and negative impacts in the project area.

The secondary data collected by laws, regulations, and policy which is based on a desk study in Savannakhet Province, especially in Kaysone Phomvihane District. This involved a thorough review and analysis of literature for the acquisition of the data. A data profile and other related information was collected. Primary data collection started once secondary data collection was complete.

Stakeholder meetings were held with government institutions such as the Kaysone Phomvihane District, Provincial Department of Public Works and Transport (DPWT), Provincial Department of Natural Resources and Environment (DoNRE), Department of Planning and Investment (DoPI), and the Department of Tourism. Consultations were also conducted with the Department of Natural Resource and Environment of Kaysone Phomvihane District where the Project is located. The purpose of these meetings and consultations was to learn about general perceptions regarding the proposed project.

Field visits were conducted as part of the data collection process to learn about the actual condition of the project area. Through the visits, project scoping, activities categorization, project stakeholders, and assessment of potential impacts were identified. A rapid environmental assessment (REA) checklist was also completed.

3. Policy, Legal, And Administrative Framework

3.1. National Environmental Laws, Strategies, and Policies

Lao PDR's national framework for the governance of environmental matters includes a comprehensive set of environmental and natural resources related laws and regulations. Several government agencies are involved in environmental management. From mid-2011 there has been change through the establishment of the new Ministry for Natural Resources and the Environment (MONRE), formerly the Water Resources and Environment Administration (WREA). Detailed descriptions of the laws, policies, and regulations related to environmental protection, including the national environmental assessment procedure are presented in Annex VIII.

3.2. National Environmental Assessment Procedure and Directives

The Environmental Protection Law (No. 02-99/NA), dated 3 April 1999 and as amended No. 29/NA 18 December 2012, defines principles, regulations and measures related to environmental management, monitoring of protection, control, preservation and rehabilitation. Article 21 defines the process of Initial Environmental Examination (IEE), while Article 22 defines the process of Environmental Impact Assessment (EIA). Article 79 specifies the rights and duties of MONRE with regards to environmental management, while Article 80 specifies the rights and duties of DONRE.

Three Ministerial Instructions and Decisions by MONRE, issued 17 December 2013, based on the Environmental Protection Law (as amended), includes:

- Ministerial Instruction No. 8029/MONRE on the Process of Initial Environmental Examination of the Investment Projects and Activities.
- Ministerial Instruction No. 8030/MONRE on Environmental and Social Impact Assessment of Investment Projects and Activities.
- Ministerial Decision No. 8056/MONRE on Approval and Declaration of the List of Investment Projects and Activities that shall conduct Initial Environmental Examination or Environmental and Social Impact Assessment. The Decision specifies the environmental assessment required for certain project types according to project scope/magnitude of work or threshold.

3.3. Environmental Standards and Criteria

National standards and criteria exist for drinking water quality, surface and groundwater quality, soil quality for agriculture, air quality and noise level standards, and wastewater discharge standards. The existing standards are found in the National Environmental Standard Order No. 2734/PMO-WREA (2009).

3.4. ADB Safeguard Policy

The ADB Safeguard Policy Statement (ADB 2009) clarifies the rationale, scope and content of an EA and is supported by technical guidelines (e.g., Environmental Assessment Guidelines 2003). Projects are initially screened to determine the level of assessment that is required according to the following three environmental categories: Category A for projects that normally cause significant or major environmental impacts that are irreversible, diverse or unprecedented such as hydroelectric dams (an Environmental Impact Assessment is required); Category B projects which have potential adverse impacts that are less adverse than those of category A, which are site-specific, largely reversible, and for which mitigation measures can be designed more readily than for category A projects (an Initial Environmental Examination is required); and Category C projects that are likely to have minimal or no negative environmental impacts. An environmental assessment for Category C projects is not required but environmental implications need to be reviewed.

3.5. Lao PDR and ADB Requirements

Under the current rules and procedures on environmental and social impact assessment in Lao PDR, investment projects should be screened against the list of Investment Projects and Activities

which shall conduct the Initial Environmental Examination or Environmental and Social Impact Assessment. This list is contained in the Ministerial Decision No. 8056/MONRE.

The Project Proponent must check whether the Project is an IEE Type (Group 1), ESIA Type (Group 2) or below the thresholds.

The night market project falls in the category IV. Investment Projects and activities in the infrastructure and service sector, but considering the characteristics of the night market project, it does not fall in any of the listed types of investment projects and activities. Hence, there is no specific requirement for IEE or ESIA of the Night Market Project in the Decision.

In cases where the project/activities are not listed, the Project Proponent should consult with the Natural Resources and Environment Agencies at relevant level on the requirements for assessment. This activity normally takes place in a screening phase with an application referring the declaration of the list of investment projects and results in a decision on the requirement for assessment (refer articles 2.1 and 2.2 of the Ministerial Instruction No. 8029/MONRE on the Process of Initial Environmental Examination of the Investment Projects and Activities).

Consultation with DONRE (Provincial Department of Natural Resources and the Environment) has been conducted on the requirement for assessment. Following the ADB SPS categorization of the Night Market project as Category B and the resulting requirement for an IEE, DONRE has instructed that the IEE and a summary IEE and EMP translated in Lao are submitted to DONRE for review and approval to obtain Environmental Compliance Certificate.

4. Description of the Project

The Greater Mekong Subregion (GMS) Livelihood Support for Corridor Towns Project will improve the condition and organization of the market trade center in Kaysone Phomvihane. The project will target the self-employed urban population, who are low income population, and support the sale of locally produced products. The improvement of the market is also expected to provide gender-specific benefits, including access to formal market facilities, allowing women to vend safely.

4.1. Need for the Project

The Night Market area is currently used by a number of informal vendors to sell their products which consists mostly of simple food and beverages. However, the area lacks many of the amenities that are needed for a well-functioning market such as running water, social safeguards, electricity, toilet facilities and overall organization.

ADB's recent studies found that the poor require targeted livelihood development assistance to allow them to more effectively exploit economic opportunities associated with improved connectivity.

The Project aims to improve the organization of the area and provide the vendors with better facilities as well as an enhanced overall look to make the market more attractive to customers and tourists.

4.2. Geographic Location

The Night Market is located in Sayaphoum village, Kaysone Phomvihane district, Savannakhet Province. Sayaphoum village share a border with Tha Meuang village (about 527 meters) in the north, with Sayyamongkhoun village and Lattanalangsytai village in the south, with Lattanalangsyneu village in the east, and to the west lies the Mekong river (about 643 meters). The market covers an area of 1,872 m². The location and size of the village is shown in figure 1 below.

Figure 1: Geographic Location of the Night Market



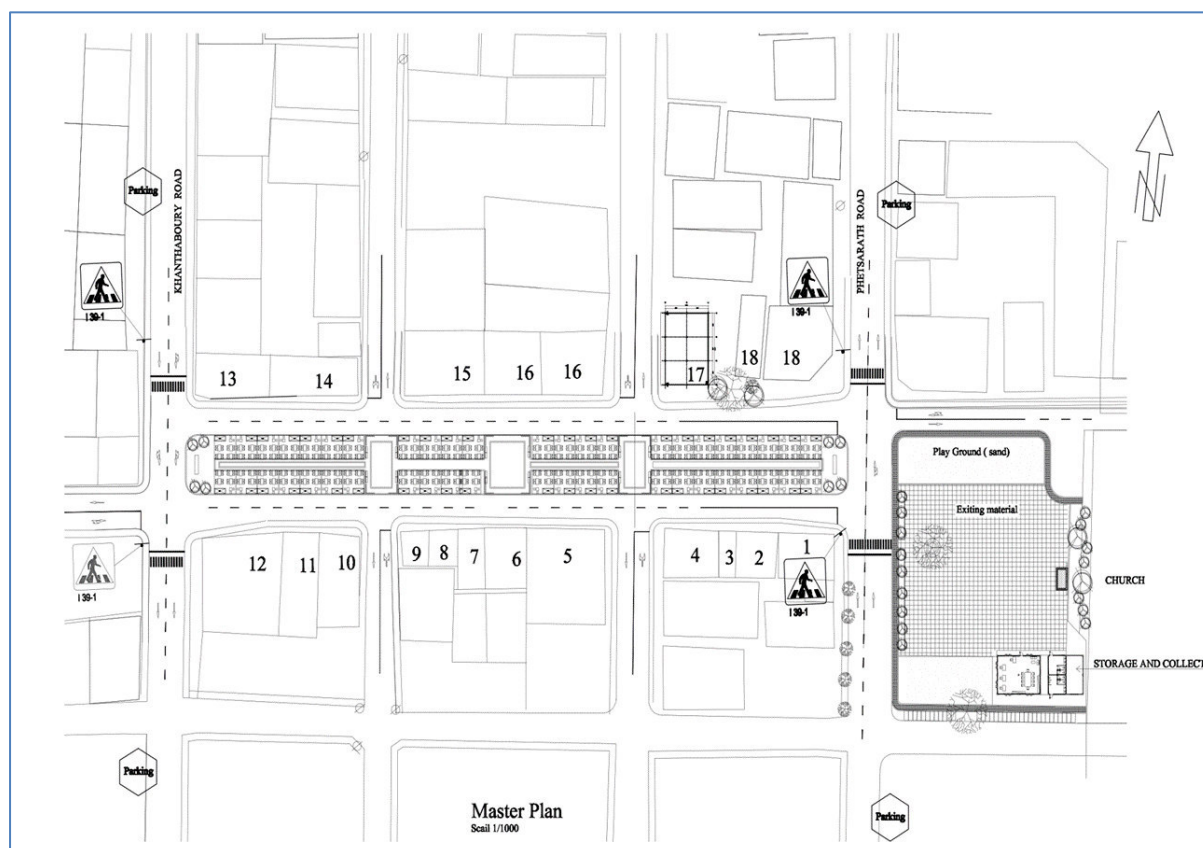
4.3. Project Components

The dimensions of the night market are 156m (length) and 12m (width) with the area totaling 1,872m². The market design will determine the number of vendor stalls and vendor spaces. The existing night market has 58 stalls, with dimension of 5x5m for each stall. Of the 58 interviewed vendors, 48 expressed that they wanted to do business at the new Night Market. The vendors

also requested for provision of necessary support infrastructures such as public toilets, drainage system, wastewater drainage and lighting system etc. as well as support services like security, parking area, water supply.

The current market has issues with vehicle parking and access and therefore vehicle access and parking were considered in the design. Two areas for parking have been identified, including along at the Mekong river bank and a second space is located at southern part of church. The parking area at the church can also be used for vehicles delivering supplies to vendors.

Figure 2: Overview of the proposed night market layout, source: Master Plan



In view of these requests, the night market will include the following support infrastructures and services: 200 slots of parking space, 0.3 km of access/roads, pedestrian facilities, and drains. It will also include:

- New warehouse building at plot 17 with a floorplan of 150 m²
- New office building at the Church square with a floorplan of 80 m² and refurbishing of adjacent 32 m² toilet building as well as establishment of outdoor storage and collection facility behind toilet building.
- Electrical installations, including transformer, meter, and 8 load centers with connections for vendors around market. Electrical cables will be underground.
- Repair of 13 road side lights and installation of 1 new road side light around the market area
- Pedestrian crossings
- Play ground with sand surface
- Fountain on the church square
- 5 waste disposal stations at the market, 2 at the church square, and collection facility at the church square
- 3 non-commercial sitting areas with brick and stamp concrete surface (11 m x 12.37 m & 2 x 7.5 m x 12.37 m)
- 2 grass covered areas at the eastern and western end of the market area (2 x 6.14 m x 12.37 m)

- 46 x 5 m x 5 m stall areas.

4.4. Implementation Schedule

The Project will be implemented from 5 Mai 2017 to 5 December 2018. The first phase of the project will consist of producing the detailed design drawings and tender documents for the Night Market, as well as a Feasibility Report and an Initial Environmental Examination. This phase will last for an estimated 6 months. The second phase of the project, the construction of the Night Market, will take place during the following 6 months. Additional project activities, such as Project Management support for the organization of the Market Management Committee, Micro Finance Support and Training and Awareness Campaigns, will be carried out intermittently over the projects complete duration, i.e. until December 2018.

The construction of the night market is estimated at US\$ 953,000.

5. Description of the Environment

5.1. Physical Environment

5.1.1 Topography

Kaysone Phomvihane town is located in the alluvial river plain of the Mekong River. The night market is located in the old part of Kaysone Phomvihane town in the relatively flat area on the eastern bank of the Mekong River at an elevation of around 140-145 m MSL. To the east of the market the landscape rises to about 180 m MSL. The embankment road (Tha Hae Road) along the Mekong is at 115.6 m Lao corresponding to 138.9 m MSL.

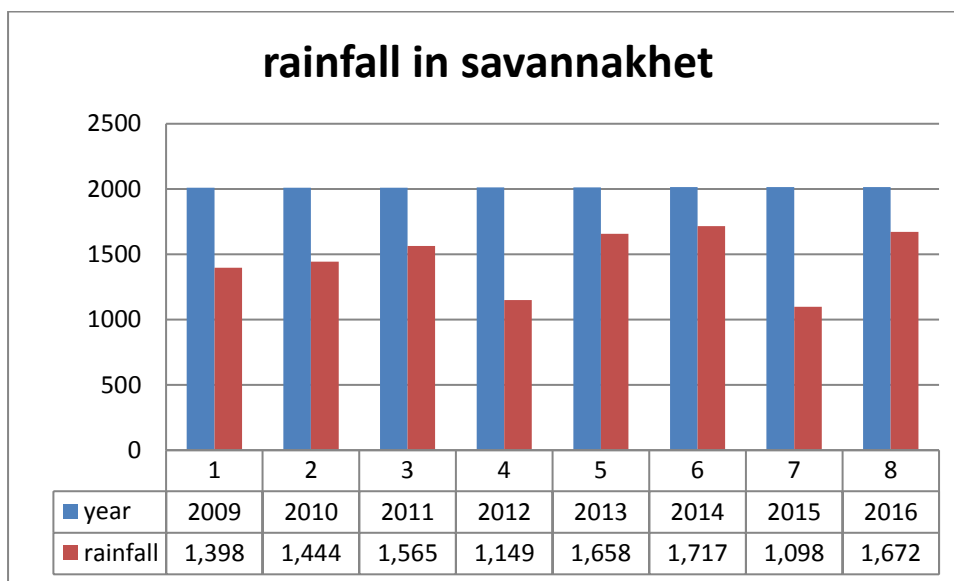
5.1.2. Geology and Soils

Soils in Central region of Lao PDR have been studied and classified in numerous studies at the National Agriculture and Forestry Research Institute, Ministry of Agriculture and Forestry (NAFRI), at the Mekong River Commission (MRC) Secretariat, and other agencies. The predominant soils are acrisols, with smaller areas of cambisols and luvisols. An acrisol is a type of soil as classified by the Food and Agriculture Organization. It is clay-rich, and is associated with humid, tropical climate. The acrisols' low fertility and toxic amounts of aluminum pose limitations to its agricultural use, favoring in many places its use for silviculture, low intensity pasture and protected areas.

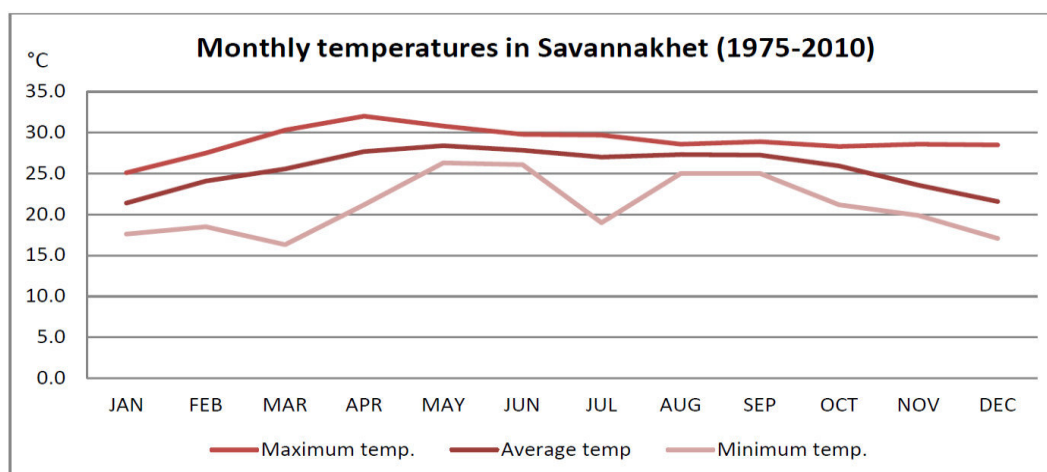
5.1.3. Climate and Climate Change

Savannakhet has the typical tropical monsoon (wet-dry) climate of the region. During the rainy season (June to October), the winds of the southwest monsoon is responsible for an average monthly rainfall of >200 mm, occasionally reaching >500 mm. The dry season (November to April) is dominated by the northeast monsoon. The average rainfall in Savannakhet is 1,600 mm per year, which is about 170 mm less than the average for the country as a whole.

According to the Mekong River Commission (MRC), temperatures for Savannakhet range from a minimum low of 13°C in January to a maximum of around 39°C in April. Climate change is an issue in the Province, demonstrated by increased rainfall intensity and frequency in certain months as well as high precipitation in the upper part of the Annamite Mountain Range.

Figure 3: Rainfall in Savannakhet, 2009-2016

Savannakhet is the hottest and driest Province of Lao PDR: the average temperature is estimated to be 26.1 degrees centigrade, which is about 2 degrees higher than the national average (Figure 3). The average number of hours of sunlight per year is estimated to be 2,280, which is about 256.8 hours longer than the national average.

Figure 4: Seasonal temperature in subproject area

Average daily temperatures in Southeast Asia increased by 0.5 to 1.5°C between 1951 and 2000, and mean temperatures across the Mekong River Basin will most likely increase further over the next 20 years. Similarly, climate change is expected to modify temperatures, rainfall and wind in the Lower Mekong Basin, affecting natural ecosystems as well as agriculture and food production, of serious concern in countries that rely strongly on natural resources. In Lao PDR agricultural and infrastructure losses due to increased storm intensity and frequency, land degradation and soil erosion from increased precipitation and a higher prevalence of infectious diseases are predicted.

A case study for climate change resilience in Kaysone Phomvihane was conducted in 2015 supported by the ADB¹. The case study drew on climate change and hydrological modelling with the Mekong River Commission and other partners to prepare the climate change profiles for Kaysone Phomvihane for the year 2050. The key projected climate change impacts are presented in the table below.

Table 1: Summary of key projected climate change impacts (2050), Kaysone Phomvihane

Climate change parameter	Baseline	With CC	% Change
Annual precipitation	1570 mm	1758 mm	+12 %
Precipitation in wet season	1370 mm	1507 mm	+10 %
Precipitation in dry season	230 mm	260 mm	+13 %
T max	32.2 °C	34.3 °C	+2.1 °C
T max in wet season	32 °C	34.2 °C	+2.2 °C
T max in dry season	32.5 °C	34.5 °C	+2 °C

The projected climate change impacts includes an increase of rainfall in the wet season by 10% and by 13% in the dry season. As well as increases in temperatures with average maximum temperatures to increase by 2 °C in the dry season and 2.2 °C in the wet season.

5.1.4. Ambient Air Quality

DONRE does not conduct ambient air quality monitoring in Kaysone Phomvihane town and does not have laboratory or equipment to conduct such monitoring. The town of 120,000 population is largely of natural setting, no heavy industries, only light to medium industries such as food processing, transport equipment and repair, footwear (but no tanning), making decorative wooden products and furniture, printing, and bottling treated water. Building activities take place but are collectively of moderate intensity. Traffic volume is light to moderate. Main sources of air pollution in Kaysone Phomvihane are considered to be traffic exhaust and traffic induced dust as well as the widespread habit of burning of waste at street level. A house-owner will typically sweep garden and paved areas at his/her plot and burn it at street level, containing mostly semi-dry plant material, but also plastic bags and other waste material.

5.1.5. Ambient Noise

No ambient noise monitoring is conducted in Savannakhet and Kaysone Phomvihane town. The night market area is located in the central part of town and is considered a commercial/service area in accordance with the Lao PDR ambient noise standard, while the surrounding residences are considered a residential area in accordance with the standard. According to the Lao PDR noise standard, the noise standard for residential areas is 55-, 55-, and 45 dB(A) in daytime, evening, and nighttime, while the standard for commercial/service areas is 70-, 70-, and 50 dB(A). The main noise emission sources in the area are vehicles/traffic, noise from the general business and market activity, and noise from bars. The Khanthaboury Road running along the western edge of the market is one-way street and one of the busier north-south thoroughfares, while the Phetsarath Road is two-way and generally has less traffic load. In the evening the market area itself is busy with visitors that arrive on mopeds or by car, parking on the roads along the market. Sensitive receptors in the project area is primarily the surrounding residences, while the night market itself is susceptible to noise impacts in the activity hours of approximately 17:00-22:00, where the market is a popular place to dine. As the existing ambient noise levels are not known, it is recommended that the Contractor establishes a baseline at key receptors against which noise levels in construction and operation can be monitored.

¹ ADB. 2015. Building Resilience in Kaysone Phomvihane, Lao PDR, Volume 7 of the Resource Kit for Building Resilience and Sustainability in Mekong Towns, Prepared by ICEM – International Centre for Environmental Management for the Asian Development Bank and Nordic Development Fund. Manila (TA 8186).

5.1.6. Surface Water

The dominant surface water body is the Mekong River to which all other rivers/streams in Kaysome Phomvihane drain. The Mekong River, one of the longest rivers in the world flows almost 1,900 km through Laos. Five kilometers of this length passes by Kaysome Phomvihane town, where its width varies between 1.25 km and 1.6 km.

The Mekong River Commission (MRC) conducts water quality monitoring at stations along the Mekong on a monthly basis. The most recent published results available at their website are from 2014 and published in 2016². Station No. 6 Savannakhet with ID H013401 is located in Kaysone Phomvihane. The report includes summary results in three water quality classes for the protection of aquatic life, human health, and for agricultural use. At Savannakhet, the water quality class for protection of aquatic life has declined from high to good in 2013 and 2014. The water quality class for protection of human health has declined from high in 2011 to moderate in 2014. The water quality class for agricultural use remains high. The detailed monitoring results are not available in the reporting from the MRC, but will be requested to establish a baseline against, which the results of the proposed monitoring of the greywater discharge from the night market can be compared.

5.1.7. Natural Hazards

Kaysone Phomvihane town is susceptible to flooding during heavy rain and due to insufficient drainage capacity of the town's drainage system. Further discussion is included under 5.3.6.

5.2. Ecological Environment

The project affected area is an urban area and characterized as a modified habitat. There are no natural or critical habitats, which may be affected by the project. Protected areas in the Savannakhet Province are presented briefly below. These include National Protection Areas, Ramsar sites, and Provincial Protection Forests. The project will not impact on any of these sites threaten the integrity of any of these sites.

There are no National Protected Areas (also designated as National Biodiversity Conservation Areas (NBCAs)) within 100 km of the project area. The location of national protected areas and important bird areas (IBAs) in Lao PDR can be seen from the below map. During March 2016 consultation was held with Mr. Thongsouk, the chief of Department of Forestry of Savannakhet. He reported that in Kaysone Phomvihane District there are no endangered species remaining in the area. Provincial Protected Areas (PPAs) are all more than a 100 km for the project area in Phin District, Nong District, Xepon District, Vilaboury District, and the Dong Natang PNA in the North East of the Savannakhet Province.

The Savannakhet Province is also home to the two only Ramsar sites in Lao PDR, including the Xe Champhone³ wetlands in Champhone District (about 45 km from Savannakhet) and the Beung Kiat Ngong Wetlands⁴ (2,360 ha) south of Phine (130 km distance), partly within Xe Pian and the Dong Hua Sao National Protected Areas.

The Xe Champhone Wetlands supports a population of the critically endangered (IUCN list) Siamese Crocodile (*Crocodylus siamensis*), the endangered Elongated Tortoise (*Indotestudo elongata*), the vulnerable Giant Asian Pond Turtle (*Indotestudo elongate*), and the vulnerable Asiatic softshell Turtle (*Amyda cartilaginea*). Also found in the area are a number of waterbirds species particularly Lesser whistling duck (*Dendrocygna javanica*), a few species of kingfisher, White-breasted waterhen (*Amaurornis phoenicurus*), darter species, and egrets. In the dry season when the water level recedes, crocodiles and fish migrate to permanently flooded deep ponds and marshes. The site is a fish spawning area and a migration path during the wet season.

²<http://www.mrcmekong.org/assets/Publications/technical/Annual-Water-Quality-Report-2014-final-lowres.pdf>

³ <https://rsis Ramsar.org/ris/1942>

⁴ <https://rsis Ramsar.org/ris/1941>

Figure 5: Protected areas and important bird areas (IBA) in Lao PDR

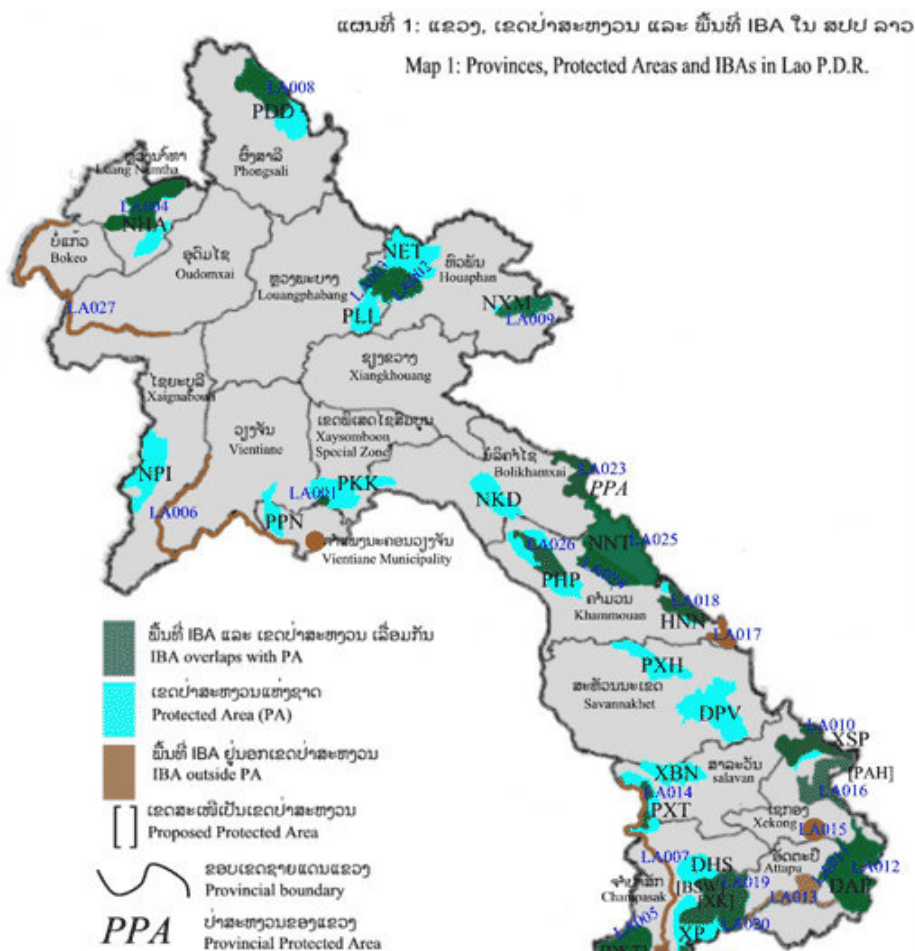
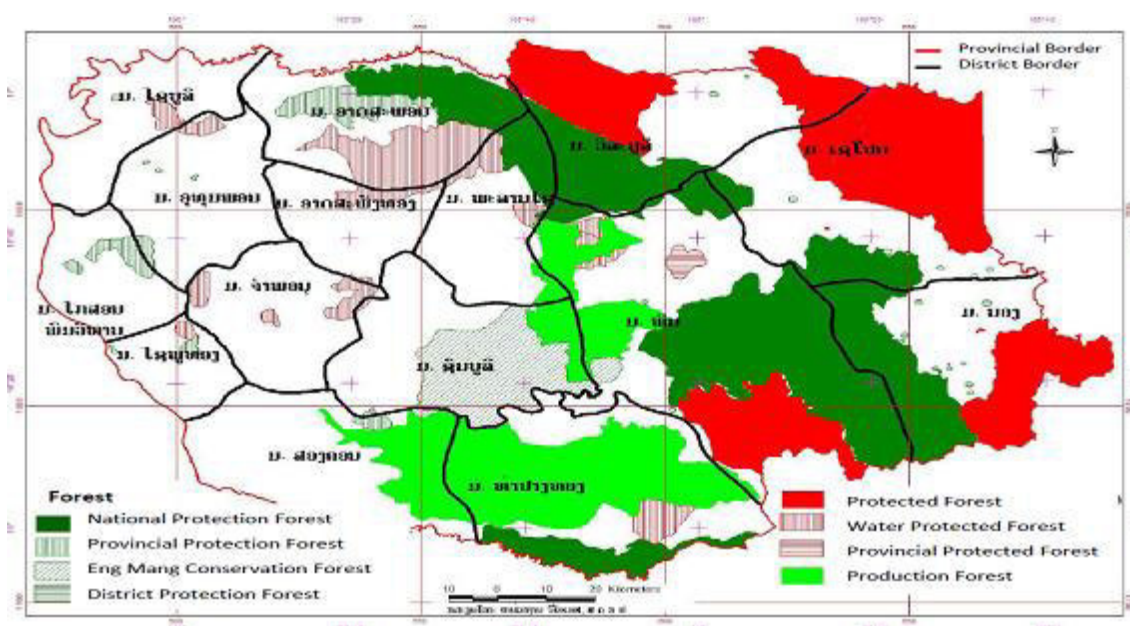


Figure 6: Forests in Savannakhet Province



The Dong Natad Provincial Protected Forest is located 15 km east of the project area. This area is covered by forest and extends to 8,300 hectares. The Nong Lom lake is located in the centre of

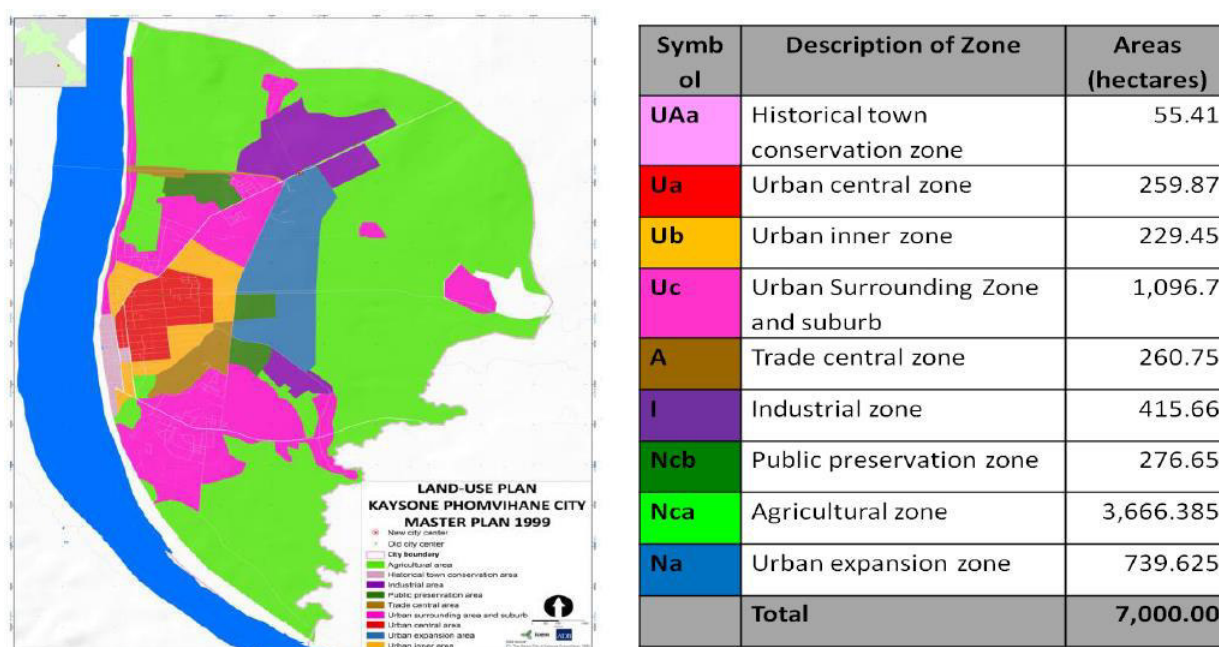
the forest with waterfowls, butterflies, and rare plant species. The area has been developed as an eco-tourism site with guided trekking and overnight stay at villages in the forest.

5.3. Economic Development

5.3.1. Land Use

The land use of Kaysone Phomvihane District is mainly residential and industrial, paddy fields, woodland and grassland. The forest is found to the east of the town around the Dong Nata provincial protected area 15 km east of town. The emergence of Kaysone Phomvihane as a town started with the movement of people from the area adjacent to the Mekong River, to the eastern and northern areas of what is now the town center. The completion of the Second Friendship Bridge, linking Kaysone Phomvihane to Mukdahan in Thailand has encouraged the spread of residential and commercial establishments along NR 9 requiring further conversion of previously unused lands and agricultural areas. With the increased trade and traffic volume, the land use pattern has changed to accommodate the use for residential and commercial purposes. At present, residential and commercial mixed uses account for 64% of urban land use. The mixed use policy is provided for in the Master Plan of the town.

Figure 7: Land use plan, Kaysone Phomvihane Master Plan, 1999



The provincial and district offices of government agencies are mainly located along the Mekong River as well as a complex located on Fa Ngum Road. There are two public parks in the town, one is within the provincial government complex and features a statue of former President Kaysone Phomvihane, a small museum, and trees. The other park is located next to an old sport stadium on the bank of the Mekong River.

5.3.2 Socio-Cultural environment

The center of Kaysone Phomvihane is the old town area where the project is located. The old town area includes several buildings from the colonial period as well as a Chinese Buddhist temple and Vietnamese temple. The town center is characterized by thriving trading and commercial activities including production of goods in Savannakhet and trading of goods imported from Thailand and Viet Nam.



Xayyaphoum Buddhist Temple



Catholic Church



Vietnamese Buddhist Temple



Chinese Buddhist Temple

Around the old city center is the core business district including banks, shops, hotels and restaurants located along the major city thoroughfare. Along the Mekong River, facing Moukdahan, there are also a number of hotels, small restaurants and eateries, and makeshift recreational facilities that were erected during the traditional boat racing festivals.

Figure 8: Photographs of current conditions in the Project Area



Night Market Stall 1



Night Market Stall 2



General view of the market 1



Local consultation



Waste collection



Wastewater drainage



General view of the market 2



The night market opening
just before sunset



Children studying in church

It should be noted that a new city center has been designated along the EWEC, which is envisioned to be the future center of economic activities for the district, given the presence of the SSEZ. This location is considered ideal for the expanding commercial and business establishments such as supermarkets and shopping malls, restaurants and hotels. It would also serve as a new tourist destination in the Province.

5.3.3 . Water Supply System

The state-owned water supply enterprise - Nam Papa (Water supply) - operates and manages the water supply system in the town. In 2010, the Nam Papa supplied water to about 75,000 people out of a district population of approximately 120,000. The area served by the town supply includes the six village development clusters under the jurisdiction of the UDAA. The existing water supply system was established in 1974 and completed in 1977. The facility includes a surface water treatment plant with a capacity of 15,000 m³/day and a main transmission and distribution pipeline network of 54 km. The water treatment and supply facilities have deteriorated due to limited financial capacity and resources for O&M.

In 2003, a grant from Japan provided technical and financial assistance to Nam Papa for the rehabilitation of the water intake and water treatment plant facilities. As a result, the system managed to retain its original daily capacity. In its efforts to meet the water supply requirements of the increasing number of households in the town center and adjacent areas, in 2010 Nam Papa agreed a Memorandum of Understanding (MOU) with a Malaysian private sector group for expansion of the water supply system to provide an additional capacity of 7,000 m³/day.

In the project area there is no water supply connections for the market stalls that bring their own water for use at the stalls. The toilet building at the church square is connected to the city supply.

5.3.4. Wastewater and Sanitation

There is no central wastewater collection and treatment system in Kaysone Phomvihane. The sanitation system involves individual treatment in each household, buildings and business establishments using pour-flush or dry latrines discharging to septic tanks and soak pits (which overflow to the drainage system). In 2005, approximately 71% of households in Kaysone Phomvihane had access to sanitary toilet facilities; by 2010 this had increased to 97%. Greywater is mostly discharged directly to the storm water drainage system without any treatment. There are no grease/sediment traps installed for pre-treatment of grease and oil from either households or small commercial enterprises. Small industries usually discharge wastewater directly to the drainage system following simple treatment via storage tank.

Between 2007 and 2008, approximately 14,000 m³/day of wastewater was generated and discharged directly to the drainage system and Mekong River. Simple on-site treatment systems are reducing the pollution load, but with the expanding urban areas and increasing number of households, the quantity of sewage and the pollution loads flowing to the Mekong River is expected to increase.

Septic tanks in Kaysone Phomvihane are emptied and septage is spread on surrounding agricultural fields. This collection is done by private operators and there is no sanitary control or monitoring. A septage treatment facility for Kaysone Phomvihane town is a part of the ongoing ADB funded GMS East-West Economic Corridor Towns Development Project.

In the project area, there are no water supply connections for the stalls and hence only limited wastewater. The stall holders usually bring limited amounts of water for cleaning, etc. resulting in greywater, which is discharged to the drainage system. Use of the surrounding toilet facilities at the toilet building at the church and at the Souksavanh beer bar generates sanitary wastewater presumably discharged to onsite septic tanks.

5.3.5. Solid Waste Management

The UDAA is responsible for solid waste management including the operation and maintenance of the landfill. The service area of UDAA's solid waste management system covers more than

10,000 households mostly in the town center. UDAA reports that the average volume of solid waste created per urban households is about 3.5 kg per day.

The solid waste management system in Kaysone Phomvihane involves the collection of garbage from residential areas, hauling it to the designated dumpsite which is about 12 km away from the town center. The landfill was established in 1996 and covers an area of approximately 16 ha. Households pay 11,000 kip per month for garbage collection.

Hotels, restaurants and other business establishments are responsible for taking their solid waste to the dumpsite. Solid waste is carried to the landfill by garbage trucks where it is dumped in the operated cell.

A large number of households are not customers of the solid waste management service operation as described above and a large number of businesses are not ensuring disposal at the landfill site. There is widespread illicit waste dumping and burning in Kaysone Phomvihane. Waste dumping is often done in open drainage channels and streams further resulting in reduced drainage capacity and causing pollution of water bodies.

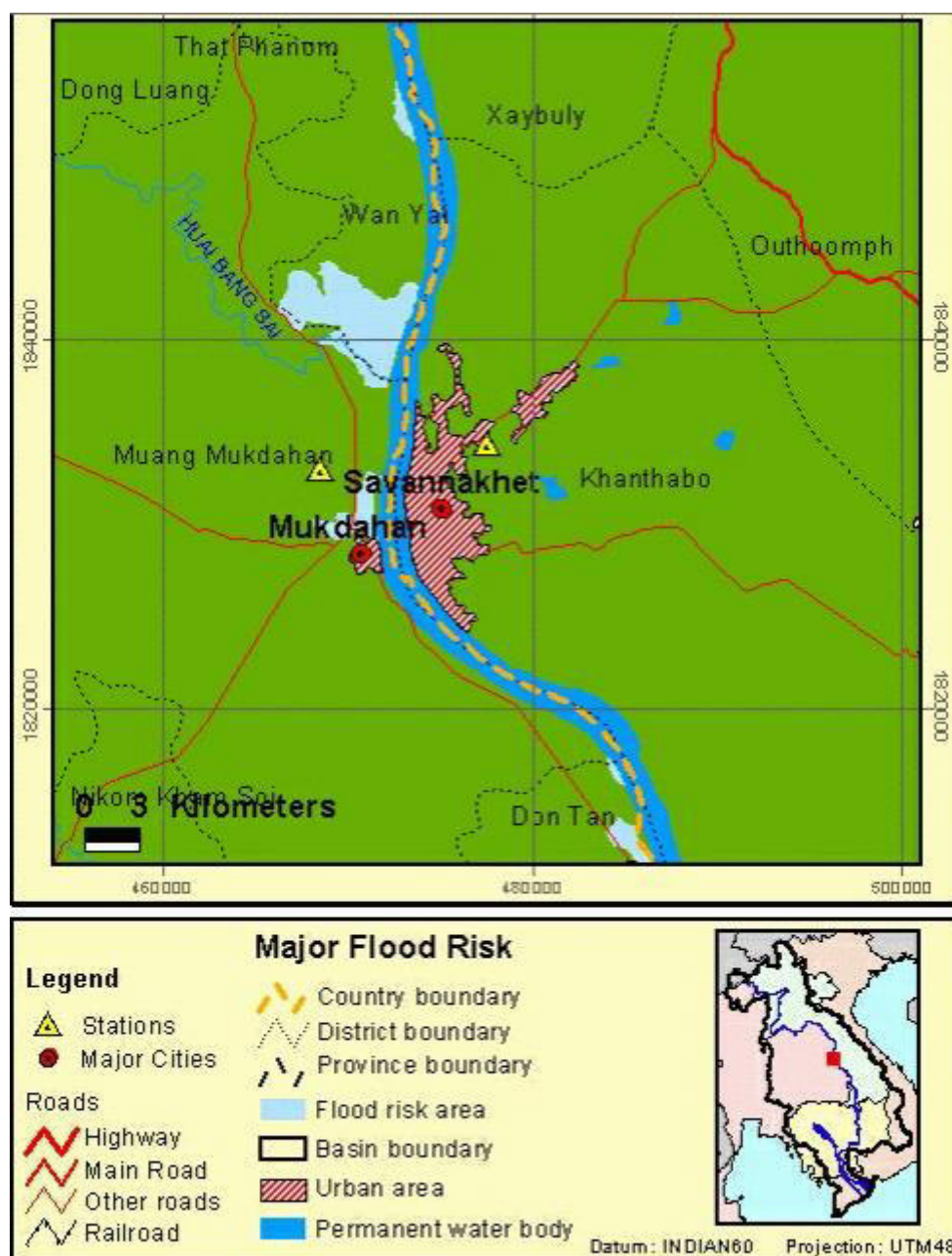
A solid waste management project, including managed landfill at the existing landfill site, collection equipment, materials recovery facility, and seepage treatment facility for Kaysone Phomvihane town is a part of the ongoing ADB funded GMS East-West Economic Corridor Towns Development Project.

5.3.6. Flooding and Flood Control

Kaysone Phomvihane town is susceptible to flooding from heavy rainfall. Its central area is relatively flat and the drainage capacity of the drainage system in the town is limited. The existing drainage system in the town center area consists of roadside drains and open channels where flood water flows through natural streams and creeks before finally discharging to the Mekong River.

There are reports of Kaysone Phomvihane town also being susceptible to flooding from the Mekong River and overtopping of the embankment road. These claims cannot be verified in the information sources and data reviewed, including data from the Mekong River Commission (MRC) and the recent Feasibility Study for Mekong Embankment Subproject, PMSCD for the PDPWT, Nov. 2016.

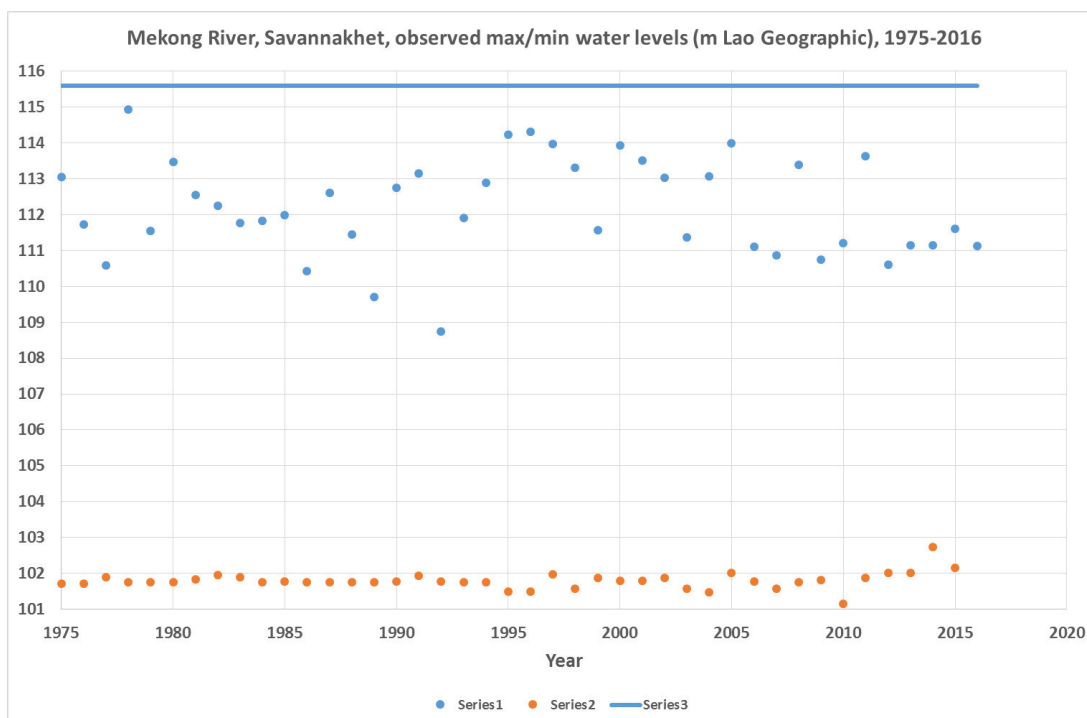
The Mekong River Commission (MRC) presents on its website maps of areas that are prone to flooding from the Mekong based on maximum historical flood extent of the combination of the 1995, 1996 and the year 2000 floods. The maps for the surrounding area of Savannakhet is presented below. All flood prone areas identified near Savannakhet are on the Thai side of the river.

Figure 9: Flood risk areas near Savannakhet

Source: <http://ffw.mrcmekong.org/stations/sav.htm#here>

The embankment road (Tha Hae Road) has been surveyed at 115.6 m Lao corresponding to 138.9 m MSL. The zero gauge is at 125 m MSL corresponding to 101.9 m Lao. In the dry season (January to May) the water level normally varies in the range of 1-2 m zero gauge. In the wet season the water level rises and is normally in the range of 6-10 m zero gauge. The Mekong River Commission alarm level is 12 m zero gauge, while flood level is 13 m zero gauge. The alarm level was last reached in 2005, while in 2011 the water level reached 11.88 m zero gauge. Since 2011 the water level has not exceeded 10 m zero gauge. Maximum water levels are typically reached in August or September and from October the water levels typically gradually fall until end December.

The figure below shows the annual peak water levels and annual minimum water levels observed in the period 1975-2016 (transformed into m Lao). The surveyed level of the embankment road (the Tha Hae Road) at 115.6 m Lao is also inserted in the figure.

Figure 10: Observed max/min water levels of the Mekong River at Savannakhet, 1975-2016

Source: Feasibility Study for Mekong Embankment Subproject, PMSCD for the PDPWT, Nov. 2016

The drainage network and flood mitigation system is an old system that was improved during 2000 - 2003 under the ADB-assisted Secondary Towns Development Project. At that time, the primary, secondary and tertiary drainage channels in the town area were rehabilitated, and flood gates were installed at two outfalls to the Mekong River. But the gates are not operational due to mechanical defects. At present, there are three large discharge points from the town.

The common cause for flooding in Savannakhet town including the night market area is due to insufficient capacity of drainage pipes and network. Following a rainstorm the streets may be flooded with 30 cm, receding after a couple of hours. If there are several consecutive days with heavy rainfall, rainwater may flood streets for a few days, with about 30 cm flood water. The prime cause for these flood events are not the Mekong River stage, but to the occurrence of heavy rainfalls in combination with drainage networks not designed and/or maintained for instantaneous runoff of these tropical rainstorms.

In the years with exceptional high water in the Mekong there can be significant intrusion of Mekong river water into the drainage channels. This reduces the hydraulic head for drainage of stormwater. If there is concurrence with a heavy rainfall, this naturally increases the flooding by stormwater as the drainage capacity is even further reduced.

In summary, the market is like most other parts of central Savannakhet susceptible to flooding during heavy rains. Such rains occur annually. The flooding is caused by insufficient capacity of drainage pipes and network and poor maintenance of the drainage system. In most years the Mekong river water do not reach levels where it is a hindrance for drainage of stormwater. In years with very high water levels in the Mekong, the Mekong water intrudes into the drainage channels and reduces the drainage capacity further. In such periods, if there is a heavy rainfall the risk of flooding is greater.

The flooding is made worse by the increasing hardening of urban surfaces; reductions in green space and poorly designed and maintained drainage infrastructure, roads and culverts which limit natural drainage patterns. Several times each year in low lying areas of the town caused by intensive rainfall exacerbated by poor drainage. In particular poor drainage in the Senna Rd area and around Dao Heung market leads to flooding of 30-50 cm depth when it rains heavily. Similarly,

Huay Kilamang drainage canal overtops as water backs up through constricted and blocked culverts. During discussion with peoples living adjacent to night market they reported that there had been no significant flood event since 2008-2009.

5.3.7. Drainage Infrastructure

The UDAA is the agency responsible for operation and management of the drainage system in Kaysone Phomvihane. The drainage system consists of roadside drains and open channels before discharging to the Mekong River. The drainage system receives a significant part of the wastewater from Kaysone Phomvihane, which has no central wastewater collection system, but only simple on-site treatment systems. Greywater is generally discharged to the drainage system without any treatment.

The project area drains to drainage pipe and U-ditch channels, which eventually drains to the Mekong River via interim streams such as the Houay Longkong. As mentioned above the greywater from the market is typically discharged to the drainage system.

5.3.8. UXO Clearance

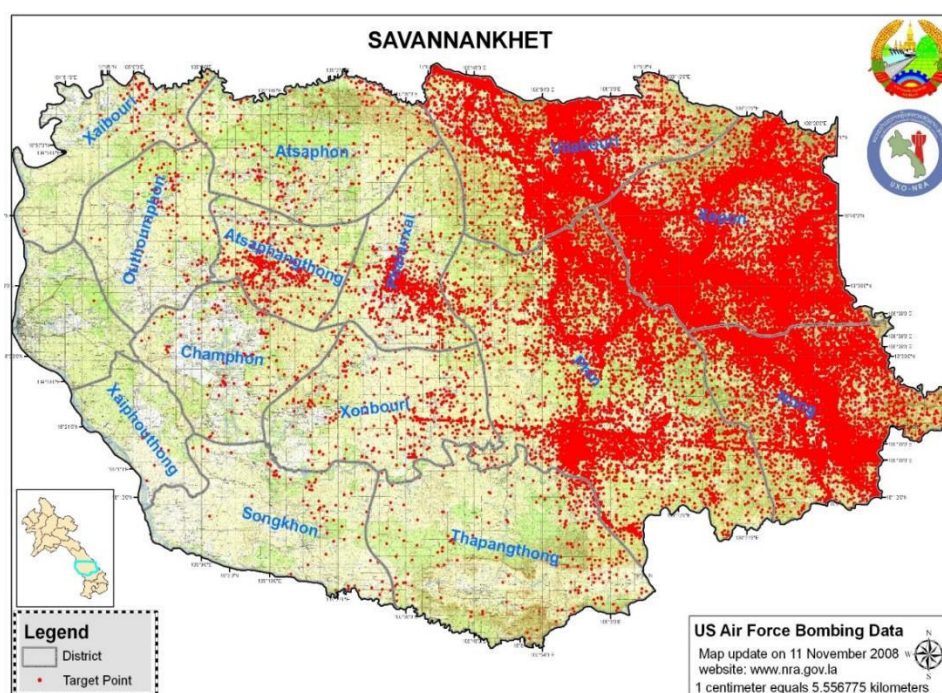
UXO clearance survey for Kaysone Phomvihane was undertaken on 3rd June 2015 by Soupha Engineering Consultant (SEC). The survey concluded that there is no need for UXO clearances in this District.

Data on bombs dropped by US forces between 1965 and 1973 is available from the National Regulatory Authority for UXO/Mine Action and has been reviewed.

While Savannakhet Province was intensively bombed in the eastern part of the province, the available maps do not indicate bombing activity close to the Mekong River. There are no records showing bombing activity in the project area of the Night market.

Based on the abovementioned survey and the records, it is assessed that there are no risk of encountering UXOs in connection with the construction work at the night market.

Figure 11: Records of US Air Force bombings in Savannakhet Province



6. Environmental Impacts and Mitigation Measures

The Night Market Project will improve the utilities at the night market significantly with benefits for the stall holders as well as the users of the market. The improved drainage of the night market area will reduce risk of flooding at the market. Due to the discharge of greywater to the drainage

system the flood water is partially diluted greywater. The improved waste collection will reduce littering and thereby improve sanitary conditions at the market. The improved electrical connections will improve occupational health and safety for stall holders and the general public as the current stalls are relying on electrical lines drawn for buildings, etc. around the market. The improvement of toilet facilities and access to water supply will improve sanitary conditions at the market. The Night Market Project will also improve access and parking facilities. The current lack of proper parking facilities crowds the access roads and the roads surrounding the market with motorbikes and cars in the evenings being a source of noise and air pollution as well as a traffic safety issue.

The improvement of market construction and drainage structures are undertaken in an urban area. No vulnerable ecosystems will be disrupted by this project as the entire implementation will be in an urban setting.

The main negative environmental impacts are temporary and short-term impacts during the construction phase associated with the market improvement such as noise, dust, solid & liquid waste, construction traffic, and reduced community and commercial access. Construction during the wet season will be associated with additional potential impact associated with storm water runoff from the construction sites. To mitigate these impacts earthworks will not be permitted during the rainy season and should be undertaken in dry weather. The Contractor will establish an agreement with the Electricite Du Lao (EDL) of Savannakhet Branch to execute the removal or relocation of electricity works. The construction related impacts are of limited duration and extent and can be mitigated through standard methods and procedures of good housekeeping and good engineering practice.

A summary of issues and impacts associated with the construction phase are presented in the table below. The potential impacts of the infrastructure developments are primarily construction-related and therefore short-term and can be mitigated.

Table 2: Summary of Potential Environmental Impact

Issues and Impacts	Measures
I. Pre-Construction Phase	
Potential displacement of shops/stalls, loss of assets & income: there are 58 stalls currently at the night market, while the new market will have 46 individual stall spaces.	Conduct consultation and obtain agreement with existing stallholders
II. Construction Phase - civil works related impacts	
Dust/suspended particles/air pollution	Dust management measures
Noise and vibration	Noise management measures
Generation of spoils, solid waste	Waste management measures
Traffic impact	Traffic planning
Reduced access, and disrupted business and community activity	Construction and traffic planning, community engagement
Accidental damage to properties/structures	Good construction practice, access to grievance mechanism
Community health and safety hazard	Construction and traffic planning
Workers' health & safety hazard	Occupational Health and Safety Plan
III. Operation Phase	
Increased traffic leading to increased noise and air pollution.	Designated parking areas, enforcement of traffic regulation
Improved access and traffic safety	Enhanced through pedestrian crossings, pavements, walkways as well as designated parking areas

Improved utilities and services to the stalls at the night market	Utilities connection to each stall, establishment of MMC
Improved waste collection at the night market	MMC to ensure agreement with waste collection vendor and encourage waste disposal at collection point, separation, and management measures
Improved drainage at the night market	MMC to negotiate regular cleaning of drains by UDAA and discourage waste disposal in drains

6.1. Environmental impacts during preparation phase

The preparation phase includes establishing the construction work programme to minimize disturbances to stall holders and the community in consultation with stall holders. A pre-construction consultation will be held to consult on the work programme and disseminate the grievance mechanism. Requirements to the Contractor's work programme include:

- No displaced stalls to areas outside the night market area during construction;
- No temporary closure of stalls;
- No disruption of businesses at the night market.

To achieve this a phased programme will be prepared where the space in front of the church and 17 buildings will be utilized to provide stalls with space while their current space is being worked on. The size of the construction area at any time, will not exceed the current available space at the night market area.

There are currently 58 stalls at the night market, while the new market will have 46 individual stall spaces. Of the 58 stall holders, 48 have expressed desire to continue at the night market. Consultations with stallholders will be held to obtain agreement with all existing stallholders to ensure that none are displaced from the night market area. For the smaller stalls, sharing arrangements of the future stall space will be considered to ensure that there is space for all existing stallholders at the new night market.

6.2. Environmental impacts during construction phase

During construction phase, the contractor will mobilize worker, machinery and equipment for site preparation and construction. Environmental impacts associated with these activities are presented below. The impacts and issues identified are addressed in the EMP presented in Annex IV.

- Disruption of community utilities: Agreement with EDL to execute the removal or relocation of electricity works. Utilities consulted on construction programme to identify disruption and plan disruption days and back up. Affected communities informed of planned outages. Scheduling of outages to low use times. Work should be planned to avoid night time work and work in the evening when the market is operating should be avoided as much as possible to minimize disturbance to the businesses and food stalls.
- Noise and vibration from machines and equipment for site clearance and during construction. Work should be planned to avoid night time work and work in the evening when the market is operating should be avoided as much as possible to minimize disturbance to the businesses and food stalls. These impacts are limited in duration and not significant if planned and managed properly.
- Air pollution, including dust from construction and emissions from vehicles affecting workers and nearby households. Dust management and suppression measures should be implemented. Materials and waste storage should generally not be stored at site and be covered.
- Sanitary wastewater from workers – the Contractor is required to ensure access to adequate sanitary facilities during the construction phase, including toilet facilities and collection and disposal of wastewater in line with GoL regulations.
- Stormwater runoffs from the construction site potentially affecting the recipients (Huoay Longkong and the Mekong). Earthworks will not be permitted during the rainy season and should be undertaken in dry weather.

- Construction waste from the removal of concrete in the construction site and construction waste including wood and cement during construction. Solid waste should be used as backfilling or disposed of in accordance with GoL regulations and at designated sites as approved by the Project Manager.
- Domestic waste from workers. The project is recommended to use local workers (living near Ban Sayyaphoum) to reduce waste from workers. Solid waste should be disposed of in accordance with GoL regulations and at designated sites as approved by the Project Manager.
- Hazardous waste (fuel, lubricants, etc.) from operation of machineries. Hazardous waste should be disposed of in accordance with GoL regulations and at designated sites as approved by the Project Manager.
- Occupational health and safety: The Contractor will be required to establish health and safety management plan, including appointment of qualified OHS responsible at work site, conduct of OHS risk assessment at work site with identification of site safety procedures to mitigate risks, induction training for workers, daily toolbox meetings with safety briefings, procedures, reporting, accident and incident reporting, investigation, and corrective action. Safety procedures to pay specific attention to risks areas such as excavations and vehicles/equipment moving, adequate fencing and cordoning off of work site, adequate signage at construction sites. Work site and vehicles to be equipped with First Aid Medical kits and fires extinguishers. Procedures in case of critical accidents and emergencies to be prepared and rehearsed with workers.
- Community health and safety: The project will be implemented in a central part of town and while the market is operating. There is a need to plan the construction programme carefully to minimize disturbance to stalls and ensure safety of the community through adequate fencing and cordoning off and signage.

6.3. Environmental impacts during operation phase

Increased market activities will increase the environmental impacts associated with these activities, including solid waste, wastewater, sanitary wastewater, air emissions (from traffic, food preparation, and waste burning), and noise (from market activities and traffic) as presented below. The impacts and issues identified are addressed in the EMP presented in Annex IV.

- Solid waste should be disposed of appropriately and timely. Solid waste from operation of the market such as leftovers, wrappings, glass bottles, nylons bag, etc. could damage the market environment if not collected and disposed of appropriately. The improved waste collection facilities are expected to improve the current waste management. Burning of all waste, including solid waste, garden waste and other waste from sweeping of pavements should be prohibited.
- Increased market activities will lead to an increase in wastewater disposed to the drainage system discharging to the Mekong River. As this wastewater will largely substitute wastewater produced elsewhere in town it is not overall expected to increase the pollution load on the river. A more concentrated wastewater production at specific sites such as the night market with an organization and turn over will in the long run make it easier to implement treatment on a polluter pays basis.
- Disposal of solid waste and wastewater from market operation in drainage channels cause blockages, reducing drainage capacity, and increase risk of flooding during heavy rainfalls. Improved waste collection facilities will mitigate this impact. Any disposal of waste to the drainage system at the night market to be prohibited.
- Reconstruction of toilet facilities at the church square will improve sanitation for stall holders and thus reduce risk of spread of diseases and pollution.
- Increased market activities will increase traffic of vehicles emitting CO, NO_x, SO_x, and noise affecting human health. Improved parking facilities around the market will spread the traffic over a larger area and reduce traffic congestion at the market area and thereby also spread the emissions over a larger area to reduce concentration.
- Increased market activities and traffic to the market will increase noise levels and impact on residents nearby the market. Noise monitoring in operation can be instigated if residents complain over noise levels. Such monitoring should consider the main

sources of noise emissions at the market, which in the current situation are the bars with karaoke and live music and not the actual stalls at the market.

7. Information Disclosure, Consultation, and Participation

7.1. Consultation

Stakeholder consultations were conducted for the Project. The consultations were based on the principles of meaningful engagement, transparency, participation, and inclusiveness to ensure that all relevant stakeholders were given equal opportunities to participate in project design. The consultations also provided means and opportunities for stakeholders to continue to be engaged during Project implementation.

The overall objective of the consultations was to obtain views and ideas regarding development status, constraints, and possible opportunities to resolve such constraints through project-related interventions, and to duly reflect them in plan preparations. This was done to improve design, construction, and operations and maintenance, and take initiatives accordingly, to derive maximum benefits (the list of participants interviewed during the consultative process and other documentation is provided in Annex-2).

7.2. Identification of Stakeholders

Stakeholders were identified in a participatory and flexible manner. To date, stakeholder communication has focused on institutional stakeholders and street vendors near the project area. The stakeholders of project design and implementation include:

Institutional stakeholders, including the Municipality, relevant provincial departments, and local authorities responsible for project management and implementation;
Street vendors in the eastern part of the project area who may be directly and/or adversely affected.

7.3. Summary of Public Consultation and Project Response

The results of the public consultations conducted as part of the IEE showed overwhelmingly positive support for the Project. Table: 7. Summarizes comments from different project stakeholders and indicates that negative stakeholder views were limited to street vendor's concerns of occupation during construction and operations.

Table 3: Summary of stakeholder views for the Project

Stakeholder	Views of project components
Governor of Kaysone Phomvihane District	Full support for the Project; No major concerns; Urban environment will be improved; The Project will improve the face of the urban town and provide more economic activities; Compliant regarding environmental, land, compensation and resettlement in timely and satisfactory
Architecture Department of Kaysone Phomvihane District	Fully support for the Project; No major concerns; The Project will bring capacity of stakeholder and local government improves access to market and low price. The project will pay an important part in the socio-economic and tourism development The project will benefit more positive gender impacts The project will improve beneficially of goods
Department of Natural Resources and Environment of Kaysone Phomvihane District (DoNRE)	Full support for the Project; No major environmental concerns; The Project will bring benefit to local people who will earn more from their produced products

	The project will improve living conditions in Sayyaphoum village and surrounding areas Solid waste management and drainage should proper provide and washing facilities
DPWT of Kaysone Phomvihane District	Full support for the Project; No major concerns; Kaysone District environment component will improve as there is currently no proper solid waste management and wastewater is discharged directly into the Mekong river bank from Houay Long Kong (small streaming as a drained canal system) The Project will help the poor peoples (who are low income)
Village chief of Sayyaphoum	Ban Sayyaphoum and village nearby of Kaysone District vendors will move into the new project location provided a sufficient number of them agree to do business by local peoples in this region Temporary impacts on occupation may occur during construction; The project will lead to property reduction, food security, income generation opportunity Will improve quality of life and increased tourism

7.4. Information Disclosure

Safeguard documents will be disclosed at the Municipality office: (i) project component descriptions and activities; (ii) expected period of construction; (iii) positive impacts and benefits of components; (iv) potential impacts and mitigation measures, particularly during construction and operations; (v) environmental monitoring; (vi) existence and general overview of a GRM; and (vii) status of compliance with GRM and ADB safeguards requirements.

The IEE, a translated summary and the EMP translated in Lao will be submitted to DoNRE of Savannakhet Province for review and approved.

7.5. Ongoing Consultation

Ongoing information dissemination to, consultation with and participation of affected people and involved agencies will reduce the potential for conflicts and minimize the risk of project delays. Further information and consultations will be carried out before construction starts and during the construction period.

Prior to the start of the construction, consultation will be carried out in the project area. The objective will be to provide the local population, vendors, etc. with accurate information on activities to be undertaken, on the schedule of these activities and on the potential nuisances for them during construction. This information stage, which concerns the project site, will be carried out jointly with the team in charge of compensation.

During the construction stage, consultation will be carried out with the local population and vendors to explain where construction activities are expected to start within 1 month. This will be carried out at the project site through discussion on possible nuisances (noise, dust, traffic/access constraint, temporary suspension of public utility, etc.) and on safety measures they will have to respect (regarding engines under activity, risks of fall in excavations, risks specific to children etc.) and on the detailed schedule of activities.

At the end of the construction activities, inspection of site to ensure cleaning and rehabilitation has been done by the Contractor, will include interview of residents to possibly identify non-compliance in the rehabilitation of the site.

8. Grievance Redress Mechanism

A project level Grievance Redress Mechanism (GRM) is developed which applies to environmental grievances raised during construction and operation. It is recommended that the same GRM is used to manage grievances in relation to resettlement and the social development. The PMU appoints a Grievance Point Person (GPP) with overall responsibility for the management of the Grievance Redress Mechanism and reporting to ADB. The GPP is supported by the Project Management Consultant.

At a pre-construction consultation held at the night market the GRM will be explained to the affected public. A sign will be erected at the construction site providing information on the construction programme and progress and access to the Grievance Mechanism as well as contact details. The contact details will include phone number and website as well as address and email. The possibility to lodge complaint through ADB's accountability mechanism⁵ will also be explained at the pre-construction consultation and information given on the signpost.

The PMU will provide sufficient support system, i.e. communication facilities, recording, and reporting system and funds, among others, shall have been set up before construction to sustain the effective implementation of the mechanism.

The purpose of the grievance redress mechanism (or, the mechanism) is meant for persons seeking satisfactory resolution to their complaints on the environmental performance of the Subproject. The mechanism will ensure that: i) the basic rights and interests of every person affected by poor environmental performance of a Subproject are protected; and ii) their concerns arising from the poor environmental performance of a Subproject during the conduct of pre-construction, construction and operation activities are effectively and timely addressed.

8.1. First, Second, and Third Level Grievance Redress

The GRM during the construction period will have three levels as described below. The first level GRM shall handle the first instance of a complaint. If not resolved, then the complainant shall go to the next levels.

First Level GRM

A fast resolution to most grievances during construction can easily be handled by the contractors' representatives at the construction site and whenever necessary together with the PMU's representative at the site. All complaints received by the contractor will be documented and to be relayed to PMU's representative within 24 hours of receiving for documentation. At this first level, contractor's representative shall determine if the complaint is within the jurisdiction of the project's GRM. If not, the complainant shall be informed promptly and referred to the appropriate institutions. Grievances should be resolved by the contractor's representative within 2 days maximum. If the complaint is not resolved by the contractor's representative at this level, the complainant may elevate his grievances to the second level GRM which is the temporary Village Environmental Complaints Committee (VECC). The affected person will also have the option to directly file the complaint with the VECC.

Second Level GRM

In every village, where a construction activity shall be implemented, an ad-hoc VECC shall be created and shall be chaired by the PMUs' representative at the field. Members shall include the following: (i) contractor's highest official at the site such as the Contractor's Construction Manager or Construction Superintendent, (ii) village chief or his representative, and (iii) a women organization's representative. In compliance with the covenant for GRM in the financing agreement between ADB and Lao PDR, the village chief or his representative shall be the village

⁵ ADB's accountability mechanism provides a forum where people adversely affected by ADB-assisted projects can voice and seek solutions to their problems and report alleged noncompliance of ADB's operational policies and procedures. It consists of two separate but complementary functions: problem solving and compliance review function. Complaints must be in writing and addressed to the Complaints Receiving Officer. More information can be found at: (<http://www.adb.org/site/accountability-mechanism/main>).

GRM focal person in each village development committee. PMUs' representative at the field will be PMU's focal person for GRM. Creation of the VECC and its operation, including the procedures for filing of complaints, shall be included in appropriate sections of the civil works contracts with the contractors. The village chief shall designate a person to act as the VECC secretary.

Fast resolution of complaints during construction is important since activities are sometimes continuous and several changes may occur within a week. For the quick filing of complaints, the VECC shall prepare a form to be used for the filing of complaints. The use of form will also facilitate the filing of complaints by persons who cannot write through the assistance of another person.

The second level GRM's steps to be followed in filing complaints and the procedures for handling are the following: (i) complainant shall provide the background information and file the complaint verbally or in writing to the VECC. The VECC secretary shall assist the complainant in filling-up the complaint form and shall refer the complaint to PMU's representative; (ii) PMU's representative at the field shall immediately decide if the complaint is within the jurisdiction of the VECC and shall promptly inform the complainant of the decision; (iii) within 2 working days, PMU's representative at the field, contractor's representative, and complainant shall discuss if the complaint can be resolved without calling for a VECC meeting; (iv) if the complaint cannot be resolved by PMU's and contractor's Representatives, a VECC meeting shall be called with the complainant to resolve the complaint within 5 working days.

Third Level GRM

If the complaint cannot be resolved at the VECC, the complainant may take further action through an appropriate legal channel such as the local court.

Grievance/Complaints that will not be taken into consideration

The following Grievance/Complaints will not be included for considerations:

- 1) The Grievance/Complaint is not related to project's activities.
- 2) The Grievance/Complaint is related to policy matters like, the mobilization of project fund from various Donors including the counterpart fund and
- 3) The Grievance/ Complaints are related to individual personal information or conflict.
- 4) If the complainant is unidentified.

8.2. Grievance Process and Flowchart

Access to the Mechanism

Any person who has complaint regarding the environmental performance of the project during pre-construction, construction and operation phases shall have access to the mechanism free of charge. The Project Management Unit (PMU) through its Grievance Point Person (GPP) shall ensure that:

- The Mechanism, including names and contact details of responsible persons in the affected villages, PMU, MMC, UDAA and DPWT, is publicly disclosed, and posted in the offices of the affected villages and in strategic places of the Project's area of influence;
- The Mechanism is accessible to all segments of affected villages.

The Grievance Redress Mechanism

Grievances raised on environmental impacts are critical to the health and wellness of APs. Hence, prompt responses/actions are critical to avoid prolonging the misery of affected persons (APs). Prior to the public disclosure of the mechanism, the PMU shall have engaged/designated a Grievance Point Person (GPP) to handle environmental grievances lodged prior to construction, during construction and during operation. The GPP will be under the supervision of the Environmental Engineer of the PMU. Sufficient support system, i.e., communication facilities, recording, and reporting system and funds, among others, shall have been set up to sustain the

effective implementation of the mechanism. During operation, the GPP will liaise with the Kaysone Phomvihane UDAA (operator) for the management of the mechanism until loan closure.

Informally, an AP can approach or call the village heads, Contractor, UDAA or DPWT to raise his/her complaints/concerns. Complaints may be acted on immediately by the responsible party. However, it shall be made a policy that all informally lodged and acted on complaints shall have to be registered with the PMU as soon as possible for record purposes. If informally lodged complaint is not acted on promptly, or if AP is not satisfied with the resolution undertaken, he/she can then avail of the formal mechanism, as follows:

Step 1 Lodging complaint

It is possible that APs lodge complaints to any of the following: i) village officers; ii) Contractor, during construction; iii) concerned sector agency, DPWT or UDAA; iv) PMU, through its GPP, or v) third parties, e.g., NGO, religious groups.

Step 2 Grievance Documentation/Registration

The GPP and the concerned sector agency (CSA) will be responsible for documenting and registering complaints received during construction and operation, respectively. Other potential complaint recipients shall make sure that the received complaints are directed to, documented by, and registered with, the GPP/CSA as soon as possible. The GPP/CSA shall make sure that documented/registered complaints are acknowledged, duly referenced.

Step 3 Screening of complaint

The AP shall immediately be informed if the grievance is within, or outside, the purview of the mechanism. If it is outside the scope, AP shall be directed to the proper institution and/or proper mechanism for the complaint.

Step 4 Reviews, Investigation and Discussion

If it is covered by the mechanism, the AP shall be informed/reminded of the expected action timelines as set forth in the established mechanism. If both of the AP and Contractor/CSA are available, the complaint shall be immediately reviewed, investigated and discussed. If not, the review, investigation and discussion should immediately take place on the next day. The discussion will center on the measures to implement based on the review and investigation.

Step 5 Action/Resolution

If complaint is minor, the Contractor/CSA shall immediately act on the complaint. Minor complaint will be those impacts/issues that would not require thorough review and investigation and will be easy to resolve. If impact/issue will need thorough review and investigation, more work to be done, and/or supplies/parts to be procured, to resolve, the Contractor/CSA shall immediately provide the most suitable interim measure to reduce the magnitude of the impact; and to start work on the final measure not later than 5 days from the day discussion meeting is held.

Step 6 Acceptance of Resolution

If, according to the AP, the impact has been resolved satisfactorily, GPP/CSA shall obtain a written confirmation of satisfaction from the AP, which will form part of the grievance documentation.

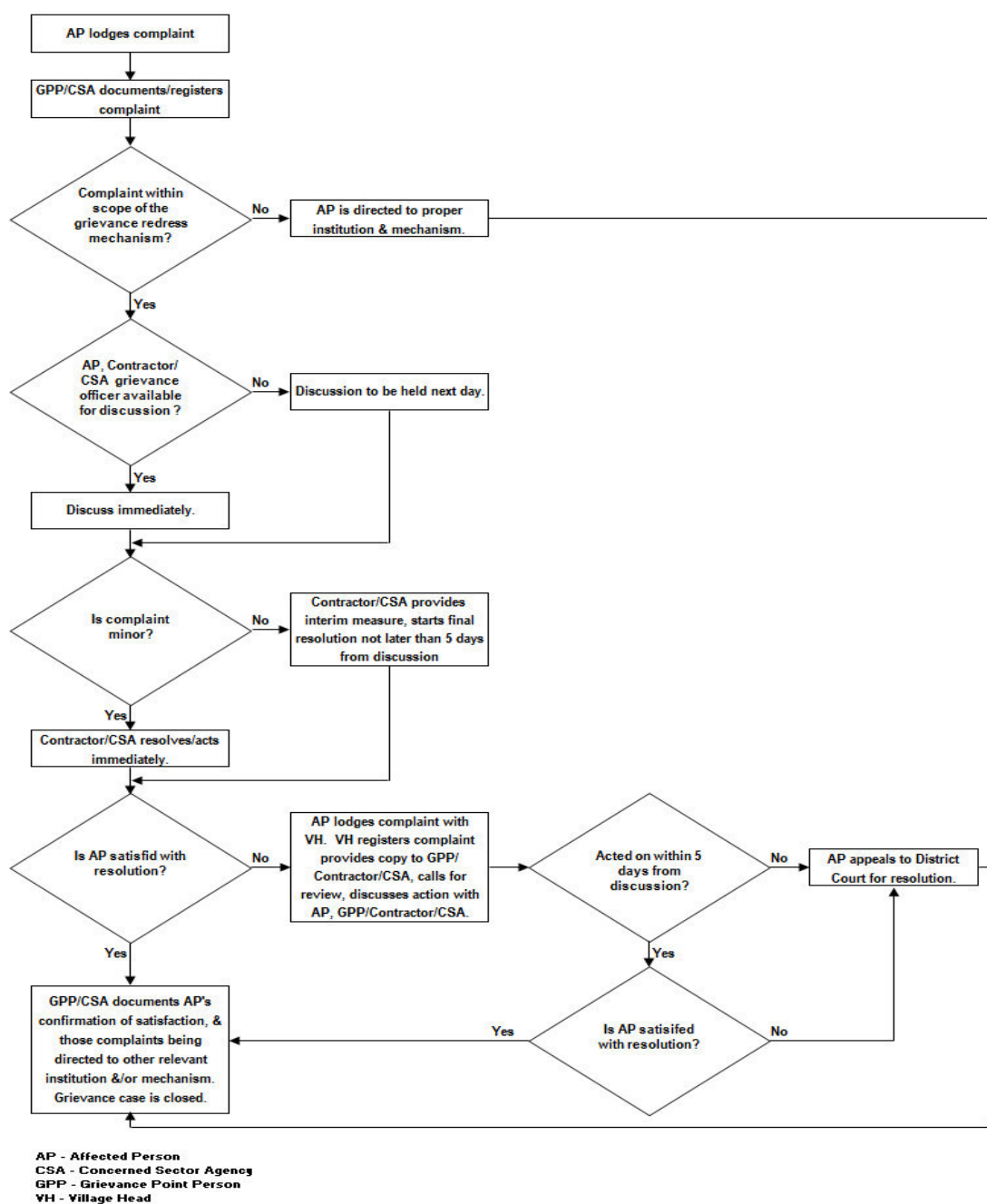
Step 7 Monitoring and Evaluation

For at least a week after closure of grievance (that is, when action implemented has been satisfactorily confirmed in writing by the complainant), the GPP/CSA shall monitor the

effectiveness of the resolution. Monitoring and evaluation shall be properly documented and included in the Project Environmental Monitoring Report of the PMIU.

Step 8 Lodging of Appeal by Dissatisfied APs

In the event the issue/impact persists, AP can lodge an appeal to his/her village head (VH). The VH shall immediately: (i) record the appeal; (ii) contact the GPP, Contractor/CSA and provide them with copy of the appeal; and (iii) call for a meeting to review the history of the grievance and discuss the appeal and quick resolution of the issue. If the agreed on action/measure has not started within 5 days from the time of formal lodging of the appeal, or if the issue still persists despite the second action, AP can seek assistance from VH to raise the grievance to the District Court. It is highly unlikely that grievance redress process will reach the level wherein APs need to go through the “appeal” stage.

Figure 12: Procedure on Grievance Absorption and Solution

9. Environmental Management and Monitoring Plans

9.1. Environmental Mitigation Plan

The project EMP has been developed. It will serve as the framework for environmental management commencing from the detailed design phase through to operations. During

construction, the implementation of the EMP by the works contractor(s) will ensure that adequate protection measures are in place to avoid or mitigate construction related impacts. The requisite EMP has been prepared and is attached in Annex IV.

The general EMP is included as part of the special provisions of the specification and performance requirements (one of the sections in the documents for procurement contracts for civil works). The works contractor will incorporate the EMP into his/her planning and site control, and will be required to prepare an EMP for the works and report periodically.

The recommended mitigation measures consist of activities and plans that need to be undertaken, observed, obtained, prepared to prevent, and mitigate adverse impacts. Specific measures are presented in the environmental mitigation plan. The plan attempts to be comprehensive; it points out that most measures are the usual good engineering practices and facilitates monitoring/random inspections by the PMU.

9.2. Monitoring Plan

An Environmental Monitoring Plan has been prepared for the Night Market Project and a draft format for the Environmental Monitoring Report is provided in Annex V. The monitoring report will assess the project's compliance with the EMP to assess environmental performance of the project.

The monitoring plan focuses on all the construction and operation phases of the project and also includes environmental indicators, the sampling locations & frequency, method of data collection, and responsible parties. Estimated costs of specific environmental monitoring are tabled separately in the Annex VI. Environmental standards are listed in Annex IX. The purpose of the monitoring plan is to determine the effectiveness of the impact mitigations, and to document any unexpected positive or negative environmental impacts of the subproject.

Regular reporting on the implementation of mitigation measures, and on monitoring activities during construction phase of the subproject is required. Reporting should document progress and the results of mitigation. The Reporting will be conducted at different levels and is the overall responsibility of the PMU. The Contractor will report on monthly basis on implementation of the mitigation plan and on the monitoring plan. Environmental monitoring reports will be prepared quarterly by the PMU, including at the start of construction, during construction, and at completion, and be supported by the Consultant and send to the DONRE and ADB. A semi-annual Safeguards Monitoring Report will be submitted to ADB.

Table 4: Monitoring Plan

Aspect/Parameter to be monitored	Means of Monitoring	Frequency	Reporting	Responsibility	
				Compliance Monitoring	Implement
Construction					
Environmental mitigation implemented according to the CEMP/EMP	Field observations Consulting affected residents Review of grievances	Regular and random Random Regular	Monthly	Consultant	Contractor
Ambient noise levels, baseline and periodically during construction (against GoL standards for day, evening, and nighttime).	Following recognized methodology, method specified in Agreement 2734/PMO, WREA, 2009	Prior to construction (but not later than 3 months after NTP) Twice in construction	Before construction Twice in construction	Consultant	Contractor

Aspect/Parameter to be monitored	Means of Monitoring	Frequency	Reporting	Responsibility	
				Compliance Monitoring	Implement
Water quality analysis Baseline study of water quality BOD, COD, TSS, pH, DO, Oil, Coliforms	Following recognized methodology, method specified in Agreement 2734/PMO, WREA, 2009	Prior to construction (but not later than 3 months after NTP) Twice in construction	Before construction Twice in construction	Consultant	Contractor
Monthly Environmental Monitoring Report submitted following prescribed outline	Review of Contractor's Report	Regular	Monthly	Consultant	Contractor
Lodged grievances acted upon and grievance mechanism observed	Review of grievances Consultation with village authorities	Regular Regular	Monthly	Consultant	Contractor
a) Incidence of worker or public accident or injury; b) incidence investigation; c) corrective measures identified; and d) corrective measures implemented.	Review of incidents and sick leave Review of investigation and corrective measures	Regular Regular	Monthly	Consultant	Contractor
a) Environmental incidences/accidents; b) incidence investigation; c) corrective measures identified; and d) corrective measures implemented.	Review of incidents register Review of investigation and corrective measures	Regular Regular	Monthly	Consultant	Contractor
Quarterly Environmental Monitoring Report submitted following prescribed outline	Review of Report	Quarterly	Quarterly	DONRE / ADB	PMU
Semi-Annual Safeguards Monitoring Report submitted following prescribed outline	Review of Report	Semi-Annual	Semi-Annual	ADB	PMU
Operation					
Noise monitoring	Following recognized methodology, method specified in Agreement 2734/PMO, WREA, 2009	Once in operation	For each event	PMU	

9.3 . Implementation Arrangements and Schedule

Environmental management will be implemented using the detailed design phase through to construction and operations phases. The duration of the detailed design phase is six months, which is the same as the duration of the construction phase.

9.4 . Institutional Arrangements & Responsibilities

The management framework overseeing the implementation of the environmental management plan (EMP) is defined by the: 1) Ministry of Public Works and Transports (MPWT) who is the executing agency (EA) of the project; 2) the Provincial Department of Public Works and Transport (PDPWT) Savannakhet Province who is the implementing agency (IA) of the project; 3) a project management unit (PMU) formed by the IA to oversee implementation of the project.

The PMU will oversee project implementation and assign qualified staff to manage the project, including environmental management and monitoring, grievance redress mechanism, resettlement/displacement issues, and social development issues in the construction phase. The PMU will be supported by the Project Management Consultant.

The Contractor will be required to appoint a primary contact point and focal point for all environmental and social matters and is routinely on-site for the duration of the construction works. The Contractor's focal point should be an appropriately briefed technical officer (often the CC site engineer). The Contractor's focal point carries out regular inspections of the construction activities in relation to environmental and community issues, and provides day-to-day advice to contractor personnel about these issues. The Contractor's focal point should have the authority to instruct any area of the Contractor's operations to implement the requirements of the Environmental Management Plan and any instructions from the Project Manager.

9.5 . Occupational Health and Safety

The Contractor will be required to establish health and safety management plan, including appointment of qualified OHS responsible at work site, conduct of OHS risk assessment at work site with identification of site safety procedures to mitigate risks, induction training for workers, daily toolbox meetings with safety briefings, procedures, reporting, accident and incident reporting, investigation, and corrective action. Safety procedures should pay specific attention to risks areas such as excavations and vehicles/equipment moving, adequate fencing and cordoning off of work site, adequate signage at construction sites. Work site and vehicles are to be equipped with First Aid Medical kits and fire extinguishers. Procedures in case of critical accidents and emergencies to be prepared and rehearsed with workers.

9.6 .Emergency Preparedness and Response

It is important to develop procedures and practices for the handling of hazardous materials that allow for quick and efficient responses to accidents that may result in injury or environmental damage. The sponsor should prepare an Emergency Preparedness and Response Plan. This plan is a set of scenario-based procedures to assist staff and emergency response teams during real life emergency and training exercises. The Plan should cover:

- Fire safety and procedures in case of fire, including assessment of fire prevention and suppression capabilities at the night market.
- Planning Coordination: This should include procedures for:
 - Informing the public and emergency response agencies
 - Documenting first aid and emergency medical treatment
 - Taking emergency response actions
 - Reviewing and updating the emergency response plan to reflect changes and ensuring that the employees are informed of such changes
- Emergency Equipment: The plan should include procedures for using, inspecting, testing, and maintaining emergency response equipment.
- Training: Employees should be trained in any relevant procedures.

10. Conclusion and Recommendations

The proposed Night Market development project is unlikely to cause significant adverse impacts. They have been deemed to be not environmentally critical and not within, or adjacent to environmentally-sensitive areas. The Project has been designated as Category B following ADB's project categorization and the IEE confirms this categorization.

The few adverse direct impacts during construction are expected to be local and will be temporary and short-term; they will most likely occur during the peak construction period. These impacts can be mitigated to acceptable levels without difficulty using proper engineering designs and incorporating recommended mitigation measures. Impacts will threaten or weaken surrounding resources and will not be harmful to environmental health. An updated EMP should be prepared by the Contractor, incorporating the measures proposed in the mitigation and monitoring plans of the IEE and approved by the EA/IA and endorsed by ADB before construction. Implementation of the EMP and monitoring and ongoing consultations during construction will ensure adequate mitigation of potential impacts.

The proposed project will improve the market infrastructure in Kaysone Phomvihane, resulting in improved market access for locally-produced products and job opportunities for local people. Economic activities will then be more active and significantly contribute to a qualitative improvement in the lives of street and other related vendors in the Kaysone Phomvihane District.

Potential impacts on the sensitive wastewater and solid waste disposal features of Night Market can be managed and mitigated by the national regulation into the EMP for the project. The stakeholder consultations and vendors and village level interviews underscored the need for effective management of noise, dust, traffic disruptions, and safety during the construction phase of the project. Follow-up meetings with the consulted stakeholders to address any construction-related issues are required.

11. ANNEXES:

ANNEX I. List of Participants and Photographs from Public Consultations at PMU meeting Room



ສາທາລະນະລັດ ປະຊາທິປະໄຕ ປະຊາຊົນລາວ
ສັນຕິພາບ ເອກກະລາດ ປະຊາທິປະໄຕ ເອກກະພາບ ວັດທະນະຖາວອນ
*** ໒໐໑໕ ***

ລາຍຊື່ຜູ້ເຂົ້າຮ່ວມປະຊຸມ

ກອງປະຊຸມ: ລາຍງານຄວາມຄືບໜ້າ ແລະ ປະກອບຄໍາເຫັນໃສ່ບົດລາຍງານສໍາລັບໂຄງການປັບປຸງຊີວິດການເປັນຢູ່
ໃນຂົງເຂດອານຸພາກພື້ນແມ່ນໍ້າຂອງ (JFPR)

ສະຖານທີ່ : ຫ້ອງປະຊຸມໂຄງການ

ຄັງວັນທີ: 08 ມັງກອນ 2016

ເວລາ: 08 : 00 ໂມງ

ລ/ດ	ຊື່ ແລະ ນາມສະກຸນ	ໜ້າທີ່ຮັບຜິດຊອບ	ເບີໂທ	ລາຍເຊັນ
1	ທ່ານ ນາງ ຄໍາສີ ບຸລົມ	ຮອງເຈົ້າເມືອງ ໄກສອນ ພົມວິຫານ	93550099	Shun
2	ທ່ານ ນາງ ພາວັນ ບົວຫຼວງລາດ	ຮອງຫົວໜ້າພະແນກ ຍທຂ ແຂວງ		
3	ທ່ານ ຈັນເພັງໃສ ດາລາຊະວົງ	ຮອງຫົວໜ້າ ພະແນກຊັບພະຍາກອນທຳມະຊາດ ແລະ ສິ່ງແວດລ້ອມ	5529588	From
4	ທ່ານ ນາງ ພຸດທະລິມ ໄຊຊະນະວົງເພັດ	ຫົວໜ້າໂຄງການ	22461168	From
5	ທ່ານ ພົມມາ ວົງພະຈິດ	ຮອງຫົວໜ້າໂຄງການ	5515366	From
6	ທ່ານ ນາລົງ ສຸລິຍະວົງສາ	ຮອງຫົວໜ້າໂຄງການ	2231863	From
7	ທ່ານ ແກ້ວມະນີພອນ ເທບພະວົງ	ຮອງຫົວໜ້າຂະແໜງເຄຫາ-ຜັງເມືອງ ແລະ ສິ່ງແວດລ້ອມ, ພະແນກ ຍທຂ	55641151	From
8	ທ່ານ ພູເງິນ ພົມມະຫາ	ຮອງຫົວໜ້າຫ້ອງການປະສານງານໂຄງການ		
9	ທ່ານ ພົມພຸດ ວົງພະຈິດ	ຫົວໜ້າ ຫ້ອງວ່າການປົກຄອງເມືອງ ໄກສອນ ພົມວິຫານ	55641151	From
10	ທ່ານ ສັນຈອນ ດີສະເໝີ	ຫົວໜ້າໜ່ວຍງານຈັດຕັ້ງປະຕິບັດໂຄງການ ເມືອງ ໄກສອນ ພົມວິຫານ	55642263	From
11	ທ່ານ ບຸນທົງ ພົງສະຫວັດ	ຮອງປະທານ ອພທ	55747190	From
12	ທ່ານ ພົມພອນ ພົມວິຫານ	ຫ້ອງການຊັບພະຍາກອນທຳມະຊາດ ແລະ ສິ່ງແວດລ້ອມ ເມືອງ ໄກສອນພົມວິຫານ	55741950	From
13	ທ່ານ ພົມມະສິດ ພົມວິຫານ	ການເງິນເມືອງ ໄກສອນ ພົມວິຫານ	58831584	From
14	ທ່ານ ພົມພອນ ພົມວິຫານ	ຫ້ອງການ ອຸດສາຫະກຳ ແລະ ການຄ້າເມືອງ ໄກສອນ ພົມວິຫານ	55229983	From
15	ທ່ານ ພົມມະສິດ ພົມວິຫານ	ຫ້ອງການຖະແຫຼງຂ່າວ ວັດທະນາທຳ ແລະ ທ່ອງທ່ຽວເມືອງ ໄກສອນ ພົມວິຫານ	55641146	From
16	ທ່ານ ນາງ ບຸດສະດີ ຄຳມະນີວົງ	ຫົວໜ້າ ສະຫະກອນສິນເຊື້ອ ເງິນຝາກປະຫຍັດ ແລະ ຮ່ວມໃຈພັດທະນາ	220619	From

17	ທ່ານ ນາງ ສິນທິລາ ພັດທະນາ ສິນທິລາ ພັດທະນາ	ສະໜັບສະໜູນ ເມືອງໄກສອນ ພົມວິຫານ ວິຊາການ	553044417	ສົມ
18	ມ. ແກ້ວປະຈຸວິຈິດ ແກ້ວປະຈຸວິຈິດ	ນາຍບ້ານ ໄຊຍະພູມ	99529229	ວຽກ
19	Mr. Richard Mabbitt	Team leader of GMS	98064850	Mr. Richard Mabbitt
20	ທ່ານ ບຸນຍາເດດ ສີແພງໄຊ	ວິຊາການໂຄງການ	22316665	Br
21	ທ່ານ ວຽງຄຳ ແສງສຸລິຈັນ	ວິຊາການໂຄງການ	55645678	ສົມ
22	ທ່ານ ນາງ ສຸລິນຕາ ໄຊຊະນະວົງເພັດ	ວິຊາການໂຄງການ	22297775	Salin
23	ທ່ານ ໄຊຍິນຍາ ລາຊະພິນ	ວິຊາການໂຄງການ	22647886	ສົມ
24	ທ່ານ ວາລຸດ ຊາມິນຕີ	ວິຊາການໂຄງການ	0805352305	Wala
25	ທ່ານ ດຣ. ໂພສີ ຈັນມິ່ງ	ຫົວໜ້າທີມເສດຖະກິດການເງິນ	98064850	Dr. Pomsy
26	ທ່ານ ຈັນທິບ ລາດສະຫວັນ	ຄະນະຄຸ້ມຄອງຈັດຕັ້ງໂຄງການ	55522539	Chantab
27	ທ່ານ ວິນທອງ ມະນີພອນ	ຊ່ວຍຊານ ສິ່ງແວດລ້ອມ	55225211	Winthong
28	ທ່ານ ພອນລະຫັດ ສິກສາພອນ	ຊ່ວຍຊານ ວິສະວະກຳອອກແບບ	55227178	Ponlath
29	ທ່ານ ທອງຂາວ ກຸຫຼາບສະຫວັນ	ຊ່ວຍຊານ ວິສະວະກຳກໍ່ສ້າງ	95706775	Tongxao
30	Mr. Karl Anderson	Backstopping support of Report		Karl Anderson
31	ທ່ານ ນາງ ທິບພາວັນ ເພັດແຫຼມສິນ	ວິຊາການ ທີ່ປຶກສາ	99895322	Thibhavan

ຜູ້ບັນທຶກກອງປະຊຸມ



ANNEX II. Public Consultation

Public consultation meetings were held for the Night Market subproject in Kaysone Phovihane from 18 to 29 January 2016, and a second meeting was held on 8 June 2016. The public consultations were held at the GMS conference room in Kaysone Phomvihane and was chaired by Mrs. Phouthalom Xaysanavongphet, Project Manager, Mr. Phomma Vongphachith, Deputy Project Manager, and Mrs. Khamtsy Boulom, Vice Governor of Kaysone Phomvihane District. The attendees of the public consultation were composed of representatives from the district and provincial DPWT, district governor, concerned local government agencies of Savannakhet Province, community organizations and village leaders. The participants were given a project information handout translated into the Lao language. Details of the public consultation, including project Information handout, comments and recommendations from participants, attendance sheet and photo-documentation are attached as Annex 2.

The participants were informed of the compliance of the project to the environmental and safeguards policy of the ADB as well as to the IEE procedures and requirements for the approval of the Project IEE Report, and the subsequent issuance of the ECC by the DoNRE. Other topics mentioned and clarified during the presentation included: (i) Management of noise and vibration; (ii) Management of dust and air pollution; (iii) Management of storm water and wastewater; (iv) Management of solid waste and hazardous waste; (v) Management of health safety and sanitation, protection from fire and explosion; (vi) Protection of natural resources.

The main activities of the public consultation were:

- Disseminating information with project information handouts provided presenting the project's objectives, locations, designs and cost estimates, tentative implementation schedules, the potential environmental impacts caused by each project and proposed mitigation measures, and the EMP and Environmental Monitoring Program.
- Discussing the opinions, perceptions, and suggestions of the project- affected villagers; clarifying loss of their land for sub-project implementation; identifying issues related to project environmental impacts on the community; inclusion of the participant's opinions into design alternatives; identifying levels and scope of community participation in project implementation; and Understanding of the overall goals and benefits of the project.

The participants were encouraged to give their comments, issues, clarifications and suggestions about the proposed environmental management during the construction phase. A summary of the input given by the participants are provided below.

The Deputy Director to the project Manager of GMS, Mr. Phomma Vongphachith, stated that the project will improve local economic conditions by facilitating transport of produced products from the district to the Capital City and increasing opportunities for income generation for the villagers. He encouraged all villages living adjacent to the entire market at night time for support and assistance to the project, and to help resolve issues arising from potential negative impacts during project implementation. He also encouraged the conduct of educational awareness to all villages to ensure understanding of the project.

Mr. Richard Mabbitt, the Team leader for GMS expressed appreciation of donor support and assistance, and acknowledged that the project will bring more opportunities to the local people in terms of customer service and microfinance improvement.

Mrs. Phouthalom Xaysanavongphet, The PMU of GMS, expressed that one of the main objectives of the project is to build the capacity of local government, especially in Kaysone

Town, to support the Night Market project and acknowledged its importance in improving the income for women through infrastructure and microfinance services and in contributing to economic growth in the region. The project will bring more opportunities for trade between local communities and neighboring countries.

Mrs. Phonethip Inthalath, the Director for Natural Resources and Environment of Kaysone Phomvihane, commented that the Night Market operation will bring benefits to local people who will earn more from their produced products and will improve living conditions in Sayaphoum villages and the surrounding areas. In addition, she mentioned that the project should consider coordination and collaboration with relevant authorities including provincial and district levels, Department of Nature Resources and Environment (DoNRE), to organize meetings at village level to disseminate information about the project including the potential benefit and environmental/social impacts that may be generated by the Project. Furthermore, proper solid waste management and drainage system should be provided, including wastewater treatment and washing facilities.

In addition, Mrs. Khamsy Boulom, the Vice Governor of Kaysone Phomvihane, mentioned that a well-defined grievance redress and resolution mechanism should be established to address all affected stakeholder's grievances and complaints regarding environment, land acquisition, compensation and resettlement in a timely and satisfactory manner. All stakeholders will be made fully aware of their rights, and the detailed procedures for filing grievances and an appeal process will be published through an effective public information campaign.

Representative of the Architecture Office of DPWT expressed appreciation of the project and Lao Government and ADB support in upgrading the Night Market as the project will build the capacity of stakeholders and local government in Kaysone Phomvihane, improve access to market and lower the costs of bringing local products, especially coffee and other vegetable products, to the central Night Market. And also he reported that the new market will play an important part in the socio-economic and tourism development strategy of the whole region and plays a special role in connecting Central region of Laos with other countries in the sub region for economic development and tourism growth in particular. The project would bring about many positive gender impacts as the majority of beneficiaries would be female traders.

Representatives of the villages acknowledged that the project will spur economic development in the region. They expressed hopes that the Night Market improvement will lead to poverty reduction, food security, income generation opportunities, market and other benefits such as electricity, water supply, improvements in quality of life. They also recognized potential income that can be generated from increased tourism. They encouraged information, education and communication to all village members to ensure awareness and understanding of the project objectives and activities, and speedy resolution of issues on loss of land or other properties associated with the project.

The suggestions and recommendations raised by the participants during the public consultation were considered and added to the proposed mitigations and monitoring plan of the Night Market, this include improvement of drainage systems to prevent water ponding and flooding, sanitation facilities and solid wastes management.

In line with ADB's Public Communications Policy relevant information (whether positive or negative) about social and environmental safeguard issues will be made available in a timely manner, in an accessible place, and in a form and language(s) understandable to affected people and to other stakeholders, including the general public, so they can provide meaningful inputs into project design and implementation. ADB will post the safeguard documents on its website.

ANNEX III. REA Checklist**Instructions:**

(i) The project team completes this checklist to support the environmental classification of a project. It is to be attached to the environmental categorization form and submitted to the Environment and Safeguards Division (RSES) for endorsement by the Director, RSES and for approval by the Chief Compliance Officer.

(ii) This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB's (a) checklists on involuntary resettlement and Indigenous Peoples; (b) poverty reduction handbook; (c) staff guide to consultation and participation; and (d) gender checklists.

(iii) Answer the questions assuming the —without mitigation case. The purpose is to identify potential impacts. Use the —remarks section to discuss any anticipated mitigation measures.

Country/Project Title:

Laos PDR, GMS Livelihood Support for Corridor Towns, Kaysone Night

Sector Division:

Urban Infrastructure Development

Screening Questions	Yes	No	Remarks
A. PROJECT SITING IS THE PROJECT AREA			
▪ DENSELY POPULATED?		√	The proposed project area is just close to densely populated areas
▪ HEAVY WITH DEVELOPMENT ACTIVITIES?			
▪ ADJACENT TO OR WITHIN ANY ENVIRONMENTALLY SENSITIVE AREAS?			
▪ CULTURAL HERITAGE SITE		√	
▪ PROTECTED AREA		√	
▪ WETLAND		√	
▪ MANGROVE		√	
▪ ESTUARINE		√	
▪ BUFFER ZONE OF PROTECTED AREA		√	
▪ SPECIAL AREA FOR PROTECTING BIODIVERSITY		√	
▪ BAY		√	
B. POTENTIAL ENVIRONMENTAL IMPACTS WILL THE PROJECT CAUSE...			
▪ Impacts on the sustainability of associated sanitation and solid waste disposal systems and their interactions with other urban services.	√		Inadequate management of solid waste and aggregate during construction will result in these clogging nearest existing urban drains.

			Mitigating measures have been included in the IEE/EMP
<ul style="list-style-type: none"> Deterioration of surrounding environmental conditions due to rapid urban population growth, commercial and industrial activity, and increased waste generation to the point that both manmade and natural systems are overloaded and capacities to manage these systems are overwhelmed? 		√	Kaysone Phomvihane District will continue to grow at its current or projected rate even without the development project.
<ul style="list-style-type: none"> Degradation of land and ecosystem(e.g. loss of wetland and wild land, coastal zones, watersheds and forests) ? 		√	
<ul style="list-style-type: none"> Dislocation or involuntary resettlement of people? 		√	
<ul style="list-style-type: none"> Disproportionate impacts on the poor, women and children, indigenous peoples or other vulnerable group? 		√	
<ul style="list-style-type: none"> Degradation of cultural property and loss of cultural heritage and tourism revenues? 		√	
<ul style="list-style-type: none"> Occupation of low-lying land, floodplains and steep hillsides by squatters and low-income groups and their exposure to increased health hazards and risks due polluting industries? 		√	
<ul style="list-style-type: none"> Water resource problems (e.g. depletion/degradation of available water supply, deterioration for surface and ground water quality, and pollution of receiving waters? 			About 100 meters at the Western part of the project is the Mekong river. However, minor deterioration of Mekong water resource may probably occur due to inadequate management of solid waste and aggregates during construction. Mitigating measures have been included in the IEE/EMP.
<ul style="list-style-type: none"> air pollution due to urban emissions? 		√	No air pollution is expected from the development project.
<ul style="list-style-type: none"> Risks and vulnerabilities related to occupational health and safety due to physical, chemical and biological hazards during project construction and operation? 		√	The project will not provide any risks and vulnerabilities related to occupational health and safety due to physical, chemical and biological hazards during project construction and operation. Mitigating measures have been included in the IEE/EMP.
<ul style="list-style-type: none"> Road blocking and temporary flooding due to land excavation during rainy season? 	√		Road blocking during the project construction is expected. However, this is just temporary and short period of time. Mitigating

			measures have been included in the IEE/EMP.
▪ noise and dust from construction activities?	√		Dust/suspended particles and noise will be generated from construction activities. They will be more salient during the construction period. These impacts will be temporary but, if not mitigated, will have potentials to result in long-term consequences in the health of the nearby households and the construction workers. Mitigating measures have been included in the IEE/EMP.
▪ Traffic disturbances due to construction material transport and wastes?	√		Traffic disturbances due to construction, material transport and wastes is expected but it is just temporary and short period of time. Mitigating measures have been included in the IEE/EMP.
▪ Temporary silt runoff due to construction?		√	
▪ Hazards to public health due to ambient, household and occupational pollution, thermal inversion, and smog formation?		√	
▪ Water depletion and/or degradation?	√		Minor deterioration of Mekong water resource may probably occur due to inadequate management of solid waste and aggregates during construction. Mitigating measures have been included in the IEE/EMP.
▪ Overpaying of ground water, leading to land subsidence, lowered ground water table, and salinization?		√	No ground water is used for the project construction.
▪ Contamination of surface and ground waters due to improper waste disposal?	√		Minor contamination of Mekong water surface may probably occur due to inadequate management of solid waste and aggregates during construction. Mitigating measures have been included in the IEE/EMP.
▪ Pollution of receiving waters resulting in amenity losses, fisheries and marine resource depletion, and health problems?		√	
▪ Large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?		√	There might have minor population influx not during the project construction but operation period. However, this might not put a burden on social infrastructure and services.

<ul style="list-style-type: none"> ▪ Social conflicts if workers from other regions or countries are hired? 		√	Priority in labour employment will be provided to local residents while outsiders will be considered in case of lack in labour
<ul style="list-style-type: none"> ▪ Risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during operation and construction? 		√	No transport, storage, and use and/or disposal of hazardous materials such as explosives, and other chemicals during construction and operation is expected
<ul style="list-style-type: none"> ▪ Community safety risks due to both accidental and natural hazards, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning? 		√	Working conditions at construction site will be secured. Only workers and project staff will be allowed to enter the construction and operation sites. Mitigating measures have been included in the IEE/EMP

ANNEX IV. Environmental Mitigation Plan

Project phase	Project activities	Potential Environmental Impacts	Proposed mitigation Measure	Location	Estimated cost	Institutional Responsibilities	
						Implement	Supervise
Pre-construction	Detail designs	1. Ineffectiveness of service of completed works due to inadequate consideration during design of (any one or combination of) the following: - Climate change; - Vulnerability to other natural hazards; - Relevant feedback from stakeholders.	1. Design to incorporate relevant issues, concerns, and experience of local stakeholders pertaining to the Project area's coping with climate change events, as raised during consultations.	Not applicable	Design cost	Design consultant	PMU/ADB
		Damage to existing structures	The design should maximize benefits or avoid/minimize impacts on assets.	Not applicable	Design cost	Design consultant	PMU/ADB
	Obtaining approval	Overall environmental concerns/impacts of the Project.	IEE submitted to EA/IA for approval and endorsement to ADB. IEE submitted to DoNRE for Approval.	Not applicable	Project cost	PMU	-
	Consultation/ Disclosure, & community engagement	Community grievances	Pre-construction consultation with affected people, including dissemination of project level Grievance Redress Mechanism (GRM).	Construction site	USD 10,000	PMU	ADB
	UXO survey, & removal	Injured worker or public	Obtain the appropriate GoL certification on UXO (certificate of UXO	Construction site	Project cost	PMU	GoL

Project phase	Project activities	Potential Environmental Impacts	Proposed mitigation Measure	Location	Estimated cost	Institutional Responsibilities	
						Implement	Supervise
			clearance or no UXO clearance needed)				
		Engagement of environmentally-irresponsible contractors for civil works.	EMP included as part of bidding documents. EMP to be appended to the contract for basis for compliance. Contract to require contractor's submission of monthly EM Report.	Not applicable	Project cost	PMU	ADB
Construction	Initiate Contractor's EMP	Prevent and minimize impacts	Contractor to submit Contractor's Environmental Management Plan (CEMP) for approval, addressing at a minimum the bid document EMP.	Construction site	Construction running cost	Contractor	PMU /DoNRE
	Baseline monitoring	Establish baseline to monitor against	Establish noise baseline as recommended in monitoring plan Establish water quality baseline as recommend in monitoring plan	Construction site	Construction running cost	Contractor	PMU /DoNRE
	Consultation/ Disclosure, & community engagement	Community grievances	Ongoing consultations and management of Grievance Redress Mechanism (GRM).	Construction site	Project management cost	PMU/GPP	ADB
	site clearing, hauling of construction materials	Physical/chemical environment Dust/suspended particles generation from	Strictly implement dust control measures such as periodical water spray.	In construction site	Construction running cost	Contractor	PMU /DoNRE

Project phase	Project activities	Potential Environmental Impacts	Proposed mitigation Measure	Location	Estimated cost	Institutional Responsibilities	
						Implement	Supervise
		<ul style="list-style-type: none"> - Earthworks - Stockpile of fine aggregates, sand, cement - Transport of aggregates, cement for disposal, and wastes - Movements of construction vehicles/equipment 	<p>The contractor shall maintain construction equipment in adequate working condition.</p> <p>The driver of construction vehicles must comply with speed limits to minimize road dust.</p> <p>Prepare and strictly implement a traffic management plan around construction site.</p>				
		Noise/ vibration	<p>Schedule construction activities to minimize disturbances:</p> <p>Avoid construction in the evening when the market is open (17:00-22:00)</p> <p>Prohibit construction in the night (10:00 pm–6:00 am) to avoid disturbance to residences.</p> <p>Select quiet equipment and working methods as much as possible.</p> <p>Provide prior notification to the local community on schedule of construction activities.</p> <p>Implement noise monitoring as</p>	In construction site	Construction mobilization cost	Contractor	PMU/ DoNRE

Project phase	Project activities	Potential Environmental Impacts	Proposed mitigation Measure	Location	Estimated cost	Institutional Responsibilities	
						Implement	Supervise
			recommended in monitoring plan.				
		Water pollution and management of storm water and wastewater	<p>Strictly control waste oil and other waste. Wastewater from workers must be collected and treated before being discharged into the environment. The wastewater septic tank facility in the workers' camp shall be properly maintained.</p> <p>Waste water produced must be collected, separating oil and solid matters before being discharged into the environment</p> <p>Regular cleaning up the site, limiting contaminants dissolved in rainwater.</p> <p>Implement water quality monitoring as recommended in monitoring plan.</p>	In construction site	Construction mobilization cost	Contractor	PMU/DoNRE

Project phase	Project activities	Potential Environmental Impacts	Proposed mitigation Measure	Location	Estimated cost	Institutional Responsibilities	
						Implement	Supervise
		Soil pollution	Diesel and waste oil shall be handled and stored carefully to prevent leakages or spills. Waste oil shall be collected and stored in drums, and disposed of at a site approved by the local authority, and raised off the ground, and covered to keep rain out and surrounded by a bund to contain spills and simplify clean up operations.	In construction site	Construction mobilization cost	Contractor	PMU/DoNRE
		Wastes	Prepare and strictly implement a proper waste management plan. The waste management plan should be approved by the local authority in advance of construction works. The contractor shall provide such as portable toilets and garbage bins to ensure that domestic wastes generated by construction personnel are well managed. Office building for the contractor shall be provided with toilets and	In construction site	Construction mobilization cost	Contractor	PMU/DoNRE

Project phase	Project activities	Potential Environmental Impacts	Proposed mitigation Measure	Location	Estimated cost	Institutional Responsibilities	
						Implement	Supervise
			septic tanks to handle domestic sewage temporary sanitation facilities				
	Traffic management	Traffic nuisance	<p>Plan construction-related activities to reduce impacts on businesses to the extent possible. For example construction machinery and site works related equipment to avoid blocking access to the Market as well as shops in the evening.</p> <p>Schedule construction vehicle activity during light traffic periods.</p> <p>Create adequate traffic detours, and sufficient signage & warning lights.</p> <p>Enforce speed limits, and create dedicated construction vehicle roads or lanes.</p> <p>Inform community of location of construction traffic areas, and provide them with directions.</p> <p>Establish pedestrian crossings away from construction areas.</p>	In construction site	Construction mobilization cost	Contractor	PMU/ DoNRE

Project phase	Project activities	Potential Environmental Impacts	Proposed mitigation Measure	Location	Estimated cost	Institutional Responsibilities	
						Implement	Supervise
	Utility disruption management	Loss or disruption of utilities such as water supply and electricity	<p>Establish agreement with Electricite' Du Lao (EDL), Savannakhet Branch to execute the removal or relocation of electricity works.</p> <p>Develop carefully a plan of days and locations where outages in utilities and services will occur, or are expected.</p> <p>Contact local utilities and services with schedule, and identify possible contingency back-up plans for outages.</p> <p>Contact affected community to inform them of planned outages.</p> <p>Try to schedule all outages during low use time.</p>	In construction site	Construction mobilization cost	Contractor	PMU/DoNRE
		Management of health safety and sanitation, protection from fire and explosion	<p>The contractor shall establish Health and Safety Management Plan and comply with it during implementation to provide safe working conditions.</p> <p>Site selection for construction camps for workers</p>	In construction site	Construction mobilization cost	Contractor	PMU/DoNRE

Project phase	Project activities	Potential Environmental Impacts	Proposed mitigation Measure	Location	Estimated cost	Institutional Responsibilities	
						Implement	Supervise
			<p>Installation of water supply pipelines, sewerage systems, solid waste management, and storm water drainage</p> <p>Selection of toilet facilities for camps</p> <p>Training program for workers on emergency response</p> <p>Equipped with the necessary tools to response to emergency incidents</p> <p>Establishing procedures to response to emergency</p> <p>Health screening at recruitment and periodical medical check for workers</p> <p>Take measures to manage waste and periodic cleaning of the construction site</p> <p>Regularly raise awareness on sanitation</p>				
Operation	Daily operation	Solid waste	Prepare and strictly implement a proper waste management plan.	The market site	-	Vendors /MMC	UDAA

Project phase	Project activities	Potential Environmental Impacts	Proposed mitigation Measure	Location	Estimated cost	Institutional Responsibilities	
						Implement	Supervise
			The waste management plan should be approved by the local authority in advance of market operation.				
		Noise	Market operations will generate noise. Noise level monitoring should be conducted to meet national standards. 13.2 In case the noise level is higher than the standard limit, find ways in consultation with relevant stakeholders to minimize such issues.	The market site	-	Vendors /MMC	UDAA /DoNRE

ANNEX V: Draft format for Environmental Monitoring Report**1. Introduction and Project Overview**

Project Number and Title:		
Safeguards Category	Environment	
	Indigenous Peoples	
	Involuntary Resettlement	
Reporting period:		
Last report date:		
Key sub-project activities since last report:	This section can include, among others, the following: <ul style="list-style-type: none"> • Activities of Proponent • Progress of Work (% physical completion) • Changes of Surrounding Environment • Status of Permits / Consents 	
Report prepared by:		

2. Environmental Performance Monitoring**a. Summary of Compliance with EMAP Requirements (Environmental Performance)**

EMAP Requirements	Compliance Status (Yes, No, Partial)	Comment or Reasons for Non-Compliance	Issues for Further Action
Use environmental impact as main heading and EMAP as listing (see example below)	Use EMoP list as basis for rating/evaluating compliance (see example below)		
Rise of employment opportunities: <ul style="list-style-type: none"> • Job openings of the project should give priority to local communities. • Recruitment of local laborers should be stipulated in the contract for construction 	<ul style="list-style-type: none"> • Field inspections and interviews with communities - DONE • Note each complaint case in the field – 3 COMPLAINTS RECEIVED • Set up grievance centre and report as part of monitoring action plan – NOT DONE 		

b. Issues for Further Action

Issue	Required Action	Responsibility and Timing	Resolution
Old Issues from Previous Reports			

List of EMoP measures or activities not completed (last column of previous table)			
New Issues from This Report			

c. Other activities

- Other issues not covered by EMAP/EMoP
- Environmental monitoring as required by GOI (e.g., air quality, water sampling)

3. Involuntary Resettlement Performance Monitoring

a. Summary of Compliance with RP Requirements

RP Requirements	Compliance status Yes/No/Partial	Comment or Reasons for Compliance, Partial Compliance/Non- Compliance	Issues for Further Action ⁶
Establishment of personnel in PMU/PIU			
Public consultation and socialization process		Provide information on: <ul style="list-style-type: none"> • Public consultation, participation activities carried out • Inclusive dates of these activities To be elaborated on in Item 5	
Land area to be acquired is identified and finalised			
Land acquisition completed			
Establishment of Resettlement Site(s)		Please state: <ul style="list-style-type: none"> • Number of AHs to be relocated as per agreed RP • Number of AHs already relocated • Number of houses built • Status of installation of community 	

⁶ To be elaborated further in table 3.b (Issues for Further Action)

		facilities to be provided as per agreed RP	
Compensation payments for affected assets is completed		Please state: <ul style="list-style-type: none"> • Total Number of Eligible AHs and APs (as per agreed RP) • Number of AHs and APs compensated as of this monitoring period • Total Budget allocation as per agreed RP • Total budget disbursed to AHs as of this monitoring period 	
Transport assistance for relocating affected households		As above	
Additional assistance to vulnerable affected household		Please state: <ul style="list-style-type: none"> • Total Number of vulnerable AHs and APs (as per agreed RP) • Agreed forms of assistance as per RP • Number of AHs and APs assisted as of this monitoring period 	
Income Restoration Program		Please state progress per income restoration feature/activity and actual period of implementation	
Temporary impacts have been addressed (affected properties restored to at least pre-project conditions)		Please state: <ul style="list-style-type: none"> • Total Number of AHs affected by temporary impacts as per agreed RP • Actual Number of AHs and total area affected by temporary impacts (if this differs from the projected number, such as in cases of unforeseen project impacts) • Status of restoring affected property 	
Capacity building activities			

b. Issues for Further Action

Issue	Required Action	Responsibility Timing	and Resolution
Old Issues from Previous Reports			
List of RP activities not completed (last column of previous table)			
New Issues from This Report			

4. Occupational, Health and Safety (OHS) Performance Monitoring

a. OHS for worker

Issue	Required Action	Responsibility Timing	and Resolution
Old Issues from Previous Reports			
New Issues from This Report			

b. Public Safety

Issue	Required Action	Responsibility Timing	and Resolution
Old Issues from Previous Reports			
New Issues from This Report			

5. Information Disclosure and Socialization including Capability Building

- Field Visits (sites visited, dates, persons met)
- Public Consultations and meetings (Date; time; location; agenda; number of participants disaggregated by sex and ethnic group, not including project staff; Issues raised by participants and how these were addressed by the project team)
- Training (Nature of training, number of participants disaggregated by gender and ethnicity, date, location, etc.)
- Press/Media Releases
- Material development/production (e.g., brochure, leaflet, posters)

6. Grievance Redress Mechanism

Summary:

- Number of new grievances, if any, since last monitoring period: _____
- Number of grievances resolved: _____
- Number of outstanding grievances: _____

Type of Grievance	Details (Date, address, person, contact details, etc.)	Required Responsibility Timing	Action, and Resolution
Old Issues from Previous Reports			
New Issues from This Report			

7. Conclusion

ANNEX VI: Preliminary Cost Estimation of EMP

Activities	Indicative Cost (USD)			
	Estimated unit cost	Number	Total	Funding source
Environmental monitoring				
A. Pre-construction phase				
- Baseline monitoring of Noise Lmax.Lmin,Leg – day, evening, night	520	3	1,560	
Baseline study of water quality BOD, COD, TSS, pH, DO, Oil, Coliforms	1,480		1,480	
Subtotal Total A:			3,040	
B. Construction phase				
Ambient Noise Levels L max, L min, Leg – day, evening, night	520	6	3,120	
Water quality monitoring BOD, COD, TSS, pH, DO, Oil, Coliforms	1,480	2	2,960	
Subtotal Total B:			6,080	
C. Operation phase				
- Noise monitoring Lmax.Lmin,Leg – day, evening, night	520	3	1,560	
Subtotal Total C:			1,560	
Grand Total A+B+C(USD)			10,680	

ANNEX VII: Climate Risk Screening

The key objectives of the climate risk screening plan are to:

- Reduce flooding that affects local livelihoods and to strengthen capacity of the local community in adapting to climate change.
- Reduce duration and frequency of flooding.
- Reduce water pollution.
- Solve the issue of poor waste management.
- Increase knowledge and participation of the locals in responding to climate change impacts.
- Greatly enhance the beauty and amenity of the area as a recreational and touristic asset with links to the Mekong River.




Summarizes some key adaptation strategies proposed to increase the resilience of the Savannakhet market and system components.

Strategy	Description of the strategy	Climate change threats addressed by the strategy
1	Improve natural drainage and water Management system by installing appropriate drainage capacity and using bio-engineering and green infrastructure in the canal and around the market and its vicinity. This will include increasing permeable surfaces in and around the market on a walkway network and in the parking area, flood retention measures in the vacant lot using water capture and treatment devices such as constructed wetlands, bio-swales, a market water treatment facility to treat water before releasing to the Mekong River, a market Rainwater collection system and bioengineering of the Mekong River exit canal and establishment of constructed wetlands.	<ul style="list-style-type: none"> ▪ To facilitate drainage of storm water to the Mekong ▪ River avoiding flooding of the market and local Residential areas. ▪ To reduce run-off and increase infiltration and water treatment through natural filtration and nutrient uptake processes. ▪ To create public spaces for recreation, enjoyment, Amenity and health. ▪ To reduce erosion and vulnerability of settlements at the Mekong exit canal. ▪ To reduce the influence of Mekong River flooding
2	Build and improve management of the market waste collection area to meets proper standards to avoid its contribution to water Pollution, odour and drainage blockage.	<ul style="list-style-type: none"> ▪ Reduced blockage of drainage and reduced incidence of flooding. ▪ Reduce associated community health problems ▪ Explore potential for waste recycling and energy production
3	Strengthen the capacity of human resources in both government and the community.	<ul style="list-style-type: none"> ▪ Raise the awareness of the local community in adaptation to climate change and how to participate in monitoring, maintenance and management of the adaptation measures. This capacity building also includes increasing knowledge and skills of the local officers / staff to respond to climate change and drafting regulations for site management.

-  Houses/Dormitories and Restaurants around the market
-  Access roads
-  Khanthabouly road/single way up to Thahea Village
-  Phetsalath road/single way down to Banthamouang
-  Market yard (Large 12 m)
-  The length is 156 m and there are 58 stalls market (existing stalls 5m x 5m)

No.	Ranking/Name from 1-18 Housing/Asset (around NM yard)	Picture
1	Paper work shop	
2	Phitsamay OA, Computer's shop	
3	I Mobile phone Shops	
4	Dormitory by one floor	
5	Restaurants Lao. Thai and Chinese foods	
6	Sokxay Restaurants	
7	House with 2 Floors	

8	House with 2 Floors	
9	House with 1 Floor	
10	Restaurants Souksavanh with 2 Floors (Beer bar)	
11	Restaurants Sane Savanh with 2 Floors	
12	Cultural shop with 2 floors	
13	Apartment with 2 floors	
14	French restaurants with 2 floors	
15	Dormitory with 2 floors	

16	Dormitory with 1 floor	
17	Construction Lands (abandoned land plot)	
18	House with 1 floor	

ANNEX VIII: Environmental Protection Laws

Law or Decree	Article	Relating To	Content
Constitution of the Lao PDR People's Democratic Republic (1991, amended 2003)	17	Environment in general	"All organizations and citizens must protect the environment and natural resources: land, underground, forests, fauna, water sources and atmosphere."
Environmental Protection Law (2013) Revised version)	5	Environmental Protection Policy(s) (new)	The State promotes protection and rehabilitation of social and natural environment through dissemination of regulations and Environmental information, building of awareness and knowledge, training and conducting campaigns for individuals and organizations; both domestic and international, to recognize importance of social and natural environment in daily livelihoods and in strictly implement the Environmental protection regulations, methods and measures.
	10	Impact on Social Environment (new)	An impact on social environment is an adverse impact on human life and health, properties and livelihoods, including shelters of people, and on cultural and historical heritages.
	11	Impact on Natural Environment (new)	An impact on natural environment is an adverse impact on natural ecological fundamentals, natural resources, biodiversity, arable land, water sources, climate change and natural heritages.
	13	Environmental Protection Practices (new)	Environmental protection consists of these key following practices: (i) Environmental prevention(ii) Pollution control(iii) Toxic chemical control and waste disposal (iv) Environmental certification and permission (v) Promotion and public participation
	14	Environmental Prevention (revised)	Environmental prevention is an action of safeguarding and preventing against any natural or manmade events, which may possibly happen, are happening or already happened, leading to damages or depletions of social and natural environment
	19	Strategic Environmental Assessment (new)	A strategic environmental assessment (SEA) is a process of anticipating an impact that may affect social and natural environment, while developing policies, strategic plans, and programs, including considerations towards impacts of climate change. This impact assessment shall determine methods and measures to avoid or mitigate impacts on social and natural environment in order to accomplish sustainable development goals. While developing the policies, strategic plans, and programs, particularly of energy and mining, agriculture and forestry, industry and commerce, public works and transportation, post-telecommunication and communication, information-culture and tourism sector, a strategic environmental assessment shall be conducted, except a plan, which applies to uses of small-scale areas and subject to the Integrated Spatial Plans.

	21	Initial Environmental Examination (new)	Initial Environment Examination (IEE) is a data examination, exploration and analysis to anticipate possible minor environmental impacts, while identifying appropriate methods and measures to prevent, avoid or mitigate environmental impacts from investment projects or activities including considerations of climate change.
	22	Environmental Impact Assessment (revised)	Environment Impact Assessment (EIA) shall be a process of addressing an issue in order to anticipate impacts that may affect the environment, society and nature, derived from investment projects or activities, along with considerations related to climate change in Lao PDR, and development of reports. Apart from reporting, there shall be development of Environmental Social Management and Monitoring Plans. Both the report and the plan shall be approved by MONRE prior to functioning investment projects and activities. The process of assessing impacts from the investment project and the activity on the environment, society and nature, shall comply with the specific regulations.
	29	Pollution control (revised)	Pollution is a chemical substance, radiation, dust, smoke, including noise, light, odor, vibration and heat mixing in the air, soil, and water with concentration exceeding the National Environmental Quality Standards or National Pollution Control Standards, as the results of manmade or nature, affecting human life and health, animals, plants, other living creatures and ecosystem
	32	National Pollution Control Standards (new)	The National Pollution Control Standards are identification of pollutant concentrations emitted by persons, legal entities and organizations with permission, from any sources into the air, soil or water. The Government shall identify the National Pollution Control Standards based on the proposal from MONRE upon coordinating with line sectors.
	36	Toxic Chemical Control	The natural resources and environmental sector is directly responsible in coordinating with other line sectors for inspection and endorsement of toxic chemical lists, which are under periodical Management by the sector.
	38	Waste Disposal (new)	Disposal of general wastes, particularly rubbish, shall be separation for different purposes such as recycle, reuse, reprocess as new products and elimination with methods and techniques within identified areas based on regulations.
	55	Responsibilities in Environmental Rehabilitation (new)	Persons, legal entities or organization implementing investment projects or activities, which create environmental and social impacts, shall correct, improve, rehabilitate and remunerate damages within the affected areas.

		Environmental Protection Fund (revised)	The State promotes establishment of the Environmental Protection Fund used in environmental researches, prevention, correction, and rehabilitation. Implementation and performance of the EPF shall be stipulated by the specific regulations.
Water and Water Resources Law 24/Dec-2007	4	Rights to use water resources	Defines rights, obligations, and procedures to gain approval for use of water resources
	18	Permission for use	Stipulates that medium and large scale uses require feasibility studies, EIAs, and mitigation plans, before permission is granted for use of the resource
	22	Principles in water resource development management	Stipulates that water resource development must be consistent with national and sector plans, must ensure preservation of the natural beauty of the resources, and must protect against harmful effects of water
Lao Forestry Law (amended 24-Dec-2007)	5	Policy on forest and forest land	The GOL has the policy to preserve, regenerate, and develop forests and forest land to help preserve the environment, water resources, biodiversity, and people's livelihoods.
	9 to 13	Forest types	Classify the various types of forests according to use, including forests for village use
	26	Preservation of water resources in forest zones	Stipulates the preservation of water resources in forest zones for those areas where waterways originate and flow, including strict management and regulations to control logging, shifting cultivation, and destructive forest uses
	70	Conversion of forestland	Stipulates that forestland can be converted to other land type if it brings a high level of benefits to the nation and to livelihoods of the people, and is included in the national development plan
	71	Types of converted forestland	Stipulates that for uses such as dam construction, the timber and forest resources to be harvested in those areas are property of the State
Wildlife and Aquatic Law (24 Dec-2007)	31	Use for Household purposes	Allows use by village households of wildlife and aquatic species in the common and general category list in particular seasons or permitted areas, using tools or equipment that do not adversely affect habitats or compromise the species population.
	32	Customary Use	Allows use of wildlife or aquatic species in the common and general category list by village households for "necessary cultural beliefs."
	52	Prohibitions	Prohibits taking of wildlife, including parts of the animals, from their habitats; tormenting wildlife and aquatics; illegal catching, hunting, trading and possession; catching aquatic and hunting in conservation zones, in breeding season, or when pregnant; devastation of habitats and feeding zones.
Land Law (2003)	6	Protection of Land and Environment	Declares that all individuals and organizations are obliged to protect the land from degradation,
	14	Changes in Land Category	Land use can be changed if it does not cause social or environmental harm and if prior approval is obtained from the authorities.

Decree on Land Lease or Concession (2009)	39	Obligation of Person or Legal Entity Who Leases or Obtains Concession	The person or legal entity that leases land or obtains a concession is obligated, among other things, "not to cause any damage to the quality of land and negative impact to the natural environment and the society."
Road Law (1999)	15	Public Road Construction	The public road contractor shall perform the work in accordance with design documents, and shall ensure quality, safety and environmental protection.
	19	Compensation for Land Acquired for Public Road Activities	If, in the construction of various kinds of public roads, it is necessary to use land that is legally owned by a private person or by an organization, the owner of the expropriated land used for public road construction shall receive reasonable compensation
Prime Ministerial Decree No. 112/PM on Environmental Impact Assessment (2010)		Stipulates the need for Environmental Impact Assessment	Stipulates rights of those affected by projects, and need for participation. Outlines the process of conducting the EIA, preparing environmental management and monitoring plans, social management and monitoring plans, issuing environmental compliance certificates, monitoring compliance with the various plans, establishing the institutional framework including grievance procedures.
Ministerial Instruction on the Process of Initial Environmental Examination of the Investment Projects and Activities. No. 8029/MONRE, 17 December 2013		The process of Initial Environmental Examination of investment projects and activities.	Instruction for implementing and extending the provisions prescribed under Article 21 of the Law on Environmental Protection (Amended) No. 29/NA, Dated 18 December 2012.
Ministerial Instruction on the Process of Environmental and Social Impact Assessment of the Investment Projects and Activities. No. 8030/MONRE, 17 December 2013		The Process of Environmental and Social Impact Assessment of the Investment Projects and Activities.	Instruction for implementing and extending the provisions prescribed under Article 22 of the Law on Environmental Protection (Amended) No. 29/NA, Dated 18 December 2012.
Ministerial Agreement on the Endorsement and Promulgation of List of Investment Projects and Activities Requiring for Conducting the Initial	1	Screening decision on conduct of IEE or ESIA	To endorse and promulgate a list of Investment Projects and Activities which shall conduct the Initial Environmental Examination or Environmental and Social Impact Assessment (Amended).

Environmental Examination or Environmental and Social Impact Assessment. No. 8056/MONRE, 17 December 2013			
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ANNEX IX: Environmental Standards**Table 5. Surface water quality standards in Lao PDR**

No	Substances	Symbol	Unit	Standard Value	Method of Measurement
1	Color, Odor and Taste	-	-	Natural level	-
2	Temperature	t	°C	Natural level	Thermometer
3	Potential of Hydrogen	pH	-	5-9	Electronic pH Meter
4	Dissolved Oxygen	DO	mg/l	6	Azide Modification
5	COD	COD	ml/l	5	Potassium permanganate
6	BOD5	BOD5	mg/l	1,5	Azide Modification at 20 degrees C, 5 days
7	Total Coliform Bacteria	Coliform Bacteria	MPN/100 ml	5000	Multiple Tube Fermentation
8	Fecal Coliform Bacteria	Fecal Coliform	MPN/ 100 ml	1000	
9	Nitrate-Nitrogen	NO ₃ -N	mg/l	<5.0	Cadmium Reduction
10	Ammonia-Nitrogen	NH ₃ -N	mg/l	0.2	Distillation Nesslerization
11	Phenols	C ₆ H ₅ -OH	mg/l	0.005	Distillation, 4-Amin anti-pyrene
12	Copper	Cu	mg/l	0.1	Atomic Absorption Direct Aspiration
13	Nickel	Ni	mg/l	0.1	
14	Manganese	Mn	mg/l	1.0	
15	Zinc	Zn	mg/l	1.0	
16	Cadmium	Cd	mg/l	0.005	
17	Chromium, Hexavalent	Cr 6+	mg/l	0.05	
18	Lead	Pb	mg/l	0.05	
19	Mercury	Hg	mg/l	0.002	Atomic Absorption Cold Vapor
20	Arsenic	As	mg/l	0.01	Atomic Absorption Direct Aspiration
21	Cyanide	CN ⁻	mg/l	0.005	Pyridine-Barbituric
22	Alpha -Radioactive	α	Becquere l/l	0.1	Counting machine
23	Beta -Radioactive	β	Becquere l/l	1.0	
24	Total Organochlorine	-	mg/l	0.05	Gas Chromatography
25	DDT	C ₁₄ H ₉ Cl ₅	mg/l	1.0	
26	Alpha -BHC	αBHC	mg/l	0.02	
27	Dieldrin	C ₁₂ H ₈ Cl ₆ O	mg/l	0.1	
28	Aldrin	-	mg/l	0.1	

29	Heptachlor and- Heptachlor Epoxide	-	mg/l	0.2
30	Endrin	-	mg/l	None

Source: The Agreement on National Environment Standards in Laos, issued No. 2734/PM-WREA, December 7, 2009. Prime Minister Office and WREA in Lao PDR

Table 6. Wastewater discharge standard in Lao PDR

No.	Parameter	Unit	Permissible Values				
			A	B	C	D	E
1	BOD ₅	mg/l	30	40	50	60	200
2	Suspended Solid	mg/l	30	40	50	50	60
3	Settleable Solid	mg/l	0,5	0,5	0,5	0,5	-
4	Total Dissolved Solid(TDS)	mg/l	3,000	2,500	2,000	1,500	-
5	COD	mg/l	120	130	150	350	400
6	Sulfide	mg/l	1,0	1,0	3,0	4,0	-
7	Total Kjeldahl Nitrogen(TKN)	mg/l	35	35	40	40	-
8	Fat Oil and Grease	mg/l	20	20	20	20	100
9	Temperature	°C	40	40	40	40	40
10	pH	-	6-9.5	6-9.5	6-9.5	6-9.5	6-9.5

Source: The Agreement on National Environment Standards in Laos, issued No. 2734/PM-WREA, December 7, 2009. Prime Minister Office and WREA in Lao PDR

Table 7. Ambient Air Quality Standard

Parameters	Symbol	Average Time Unit: mg/m3					Method of Measurement
		Hours			1 month	1 year	
		1 hr	8 hr	24 hr			
Carbon monoxide	CO	30	10.26	-	-	-	Non dispersive infrared detection
Nitrogen dioxide	NO2	0.32	-	-	-	-	Chemilumine scene method
Sulphur dioxide	SO2	0.78	-	0.30	-	0.10	UV Fluorescence (1hr, 24hr, 1yr) or Pararosaniline (1hr,4hr)
Total Suspended Particulate	TSP	-	-	0.33	-	0.10	Gravimetric
Particulate Matter less than 10 microns	PM-10	-	-	0.12	-	0.05	Gravimetric or Beta Ray or Taper Element Oscillating Microbalance or Dichotomous
Ozone	O3	0.20	-	-	-	-	Chemiluminescence or UV Absorption Phoptometry
Lead	Pb	-	-	-	1.5	-	Atomic Absorption Spectrometer

Source: The Agreement on National Environment Standards in Laos, issued No. 2734/PM-WREA, December 7, 2009. Prime Minister Office and WREA in Lao PDR

Table 8. Ambient Noise Standard, Lao PDR

No.	Type of locations	Standard in dB(A)		
		6:00-18:00	18:00-22:00	22:00-6:00
1	Relaxation area : Hospital, library buildings, nurse schools, preliminary schools	50	45	40
2	Hotels, residential,	55	55	45
3	commercial and services center	70	70	50
4	Small industrial	70	70	50

Source: The Agreement on National Environment Standards in Laos, issued No. 2734/PM-MoNRE, December 7, 2009. Prime Minister Office and WREA in Lao PDR