

SOUTH EAST ASIA DISASTER RISK MANAGEMENT (SEA DRM) PROJECT FOR LAO PDR

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

Prepared by:

DEPARTMENT OF WATERWAYS
MINISTRY OF PUBLIC WORKS AND TRANSPORT
LANXANG AVENUE
VIENTIANE, LAO PDR

APRIL 2017

VERSION 5

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LIST OF ACRONYMS

ADB	Asian Development Bank
ARAP	Abbreviated Resettlement Action Plan
CBO	Community Based Organizations
CERD	International Convention on the Elimination of All Forms of Racial Discrimination
CSO	Civil Society Organizations
DBST	Double Bituminous Sealed Treatment
DDMC	District Disaster Management Committee
DESIA	Department of Environment and Social Impact Assessment
DFRM	Department of Forest Resources and Management
DIA	Designated Implementing Agency
DoNRE	Department of Natural Resources and Environment
DOW	Department of Waterways
DPC	Department of Planning and Cooperation
DPWT	Department of Public Works and Transport
DRFI	Disaster Risk Financing and Insurance
DRM	Disaster Risk Management
DRO	District Resettlement Office
DUPH	Department of Urban Planning and Housing
EA	Environmental Assessment
ECC	Environmental Compliance Certificate
ECoP	Environment Code of Practice
EGDP	Ethnic Groups Development Plan
EGEF	Ethnic Group Engagement Framework
EMP	Environmental Management Plan
EPL	Environmental Protection Law
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESOM	Environmental and Social Operation Manual
FPIC	Free, Prior and Informed Consultation
GoL	Government of Lao PDR
GRM	Grievance Redress Mechanism
ICCPR	International Convention on Civil and Political Rights
ICESCR	International Convention on Economic, Social and Cultural Rights
ICT	Information and Communications Technologies
IDA	International Development Association
IEE	Initial Environmental Examination
JICA	Japan International Cooperation Agency
MOF	Ministry of Finance
MoICT	Ministry of Information, Culture and Tourism
MONRE	Ministry of Natural Resources and Environment
MPI	Ministry of Planning and Investment

MPWT	Ministry of Public Works and Transport
MRC	Mekong River Commission
NPA	National Protected Areas
NSEDP	National Socio-economic Development Plan
OP	Operational Policies
OP/BP	World Bank Operational Policies
PA	Protected Areas
PAH	Project Affected Households
PAP	Project Affected People
PDR	People's Democratic Public
PFA	Protected Forest Area
PIU	Project Implementation Unit
PMU	Project Management Unit
PRO	Project Resettlement Office
Rol	Region of Influence
RoW	Right of Way
RPF	Resettlement Policy Framework
RSS	Regional Safeguards Secretariat
SC	Sub-component
SDS	Social Development Specialist
SEA DRM	South East Asia Disaster Risk Management
SIA	Social Impact Assessment
SMART	Specific, Measurable, Achievable, Relevant and Time-Bound
SMMP	Social Management and Monitoring Plan
TA	Technical Assistance
ToR	Terms of Reference
USAID	United States Agency for International Development
UXO	Unexploded Ordinance
WB	World Bank
WBG	World Bank Group

ACKNOWLEDGEMENTS

This safeguards report was prepared in support of the proposed South East Asia Disaster Risk Management (SEA DRM) Project to be funded by the World Bank Group (WBG) through an International Development Association (IDA) loan to Lao People's Democratic Republic (PDR), Cambodia, and Myanmar. The report was prepared by the Lao PDR Department of Waterways (DOW) under the direction of Mr. Hongla Sengmuang, Director General, by Mr. Khamseng Aly, Deputy Director of Division, and Mr. Phimmasone Seng Soriyanong, Technical Staff. Technical assistance and support was provided to DOW by Mr. Jim Hamilton, Ms. Derin Henderson, Mr. Vongphet Soukhavongsa, Mr. Ananh Xaiyavong, Mr. Jim Webb and Mr. Grant Bruce from Hatfield Consultants Mekong.

The authors would like to thank the World Bank Group for their support and, in particular, Dr. Henrike Brecht, Task Team Leader, Mr. Sybounheung Phananouvong, Social Safeguard Specialist and Mr. Peter Crawford, Environmental Safeguard Specialist. The authors would also like to thank the government of Lao PDR staff including the Deputy District Governor of Xay District in Oudomxay Province who made time for consultations and the village representatives in Ban Nasao and Ban Nalao who provided comments and feedback on the potential impacts of the proposed sub-projects.

1.0 PROJECT DESCRIPTION

The project development objective of the proposed South East Asia Disaster Risk Management (SEA DRM) Project to be funded by the World Bank Group (WBG) through an International Development Association (IDA) loan in three SEA countries – namely Lao People's Democratic Republic (PDR), Cambodia, and Myanmar – is to reduce the risk of flooding and enhance disaster risk financing capacity within the Lower Mekong Sub-region. The project will allow the three aforementioned riparian countries to achieve and expand outcomes in three key areas: (i) flood risk management investments; and (ii) disaster risk assessment and financing; and (iii) a contingent emergency response component.

The overall tripartite country SEA DRM Project objective is “to promote and harmonize disaster risk management at the regional level”. Each of the three SEA countries have developed a number of sub-projects which will be subject to further assessment and consideration for funding purposes.

The Lao PDR country-specific DRM Project has the following components:

Component 1: Urban Flood Risk Management

The objective of this component is to strengthen flood resilience in Oudomxay Province. This component will be implemented by the DOW of MPWT, in coordination with the DUPH. The project cost for this component is USD 12 million.

Sub-component 1.1. Structural investments (USD 11 million) will include flood protection infrastructure in Muang Xay, including investments in riverbank protection and embankments, flood gates, weirs, river-side parks, and drainage canals. Such infrastructure will protect the urban core from flash floods that occur regularly and cause major flood damages.

Sub-component 1.2. Non-structural investments (USD 1 million) Infrastructure investments will be complemented with non-structural measures, including strengthening land-zoning, and institutional capacity-building. Improved planning will take into account flood management in the river sub-basin, exploring approaches to allow room for the river in low-density areas, while protecting against flooding in high-density areas.

Component 2: Hydromet Modernization and Disaster Risk Management Systems

Implemented by the Department of Meteorology and Hydrology (DMH), this component will improve the delivery of weather, climate and hydrological services and early warning in Lao PDR with physical investments in Oudomxay and Luang Prabang Provinces. The project cost for this component is USD 10 million.

Sub-component 2.1. Strengthening Early Warning Systems and Service Delivery Systems (USD 5 million) will support the development and implementation of a Service Delivery Strategy and institutional strengthening. Early warning services will be strengthened by developing of localized and impact based warning products, timely dissemination of warning, ensuring last mile connectivity and enhanced collaboration with stakeholders. Priority services will be identified for weather sensitive sectors such as agriculture, water resources management, health, disaster risk management, energy and transport. Dissemination of climate information will be enhanced through diversifying communication channels, timely dissemination of information, and media training. A quality management system will be introduced to provide consistency and coherency in the process of service production and delivery. A business plan will be developed to strategize cost recovery from value added services for, such as, but not limited to, aviation and power sector.

Sub-component 2.2: Modernizing the observing, forecasting and communication systems (USD 5 million) will support the expansion of hydrometeorological network in coordination with efforts from development partners such Asian Development Bank (ADB) and Japan International Cooperation Agency (JICA), and capacity-building. Stations to be installed would be integrated in the existing systems and aligned with DMH Station Master Plan. Provincial offices and their facilities including ones in Luang Prabang Province will be upgraded. Forecasting procedures will be upgraded to ensure effective use of global and regional products, and verification of forecasts will be systematized, recorded and publicized on a regular basis. Data communication and IT systems will be upgraded to enhance communication between DMH and stakeholder organization, DMH provincial and district offices. Staff planning and capacity development program will be developed to identify gaps in skills to operationalize the new systems and training needs. Technical trainings will be conducted to strengthen capacity of staff at HQ, provincial and district offices. Leadership development and management training will also be provided. The project will ensure the integration of systems through system integrator service contract, and twinning arrangement with more advanced National Meteorological and Hydrological Services in the region.

Component 3: Disaster Risk Financing and Insurance

Implemented by MOF, this component will help increase the financial resilience of Lao PDR against natural disasters and the Government's capacity to meet post-disaster funding needs. The project cost for this component is USD 6 million.

Sub-component 3.1. Support for strengthening national financial resilience (USD 1 million): This sub-component will build capacity on disaster risk finance within MOF, support the preparation and implementation of a national disaster risk finance strategy, and facilitate the country engagement in the preparation and establishment of the Southeast Asia Disaster Resilience Insurance Fund (SEADRIF) as a regional disaster risk pooling mechanism, designed to provide participating countries with effective and affordable post-disaster rapid response financing, and support mobilization of funding for the insurance premium for sovereign disaster risk insurance. This sub-component will be financed through trust fund grants.

Sub-component 3.2. Payment of disaster risk insurance premium (USD 5 million): This sub-component will assist the Government to pay a 3-year premium which would Lao PDR to access to sovereign disaster risk insurance through international risk carrier such as the newly established SEADRIF or through the World Bank Treasury. The component will be structured in a way that should the SEADRIF not be operational at mid-term review of the project, the funds of this sub-component will be reallocated to Component 1 or 2.

Component 4: Project Management

The objective of this component is to support the day-to-day implementation of the project. It will finance institutional support and capacity development for project management, coordination, procurement, financial management, technical and safeguards aspects, monitoring and evaluation (M&E), and reporting. Component 4 will be jointly overseen by all implementing agencies. The project cost for this component is USD 3 million.

Component 5: Contingency Emergency Response

This "zero component" allows rapid reallocation of project proceeds for emergency recovery and reconstruction support in the event of a declared disaster. This component will allow for a reallocation of credit proceeds from other components to provide emergency recovery and reconstruction support

following an eligible crisis or emergency. An Emergency Response Operations Manual will be developed for the specific eligible disaster, detailing financial management (FM), procurement, safeguard, and any other necessary implementation arrangements.

Component 5 will be developed in cooperation with MOF and line ministries to ensure effective horizontal coordination at the national level for disaster preparedness and response. There is no cost to this component.

The project environmental and social management framework (ESMF) and supporting documents provides a discussion on the project context, regulatory framework, impacts and mitigation measures, institutional arrangements, public consultation and information disclosure, grievance redress mechanism, monitoring and evaluation and reporting requirements. The five Lao PDR country-specific DRM Project components outlined above will be dealt with as follows:

- *Component 1 – Urban Flood Risk Management:* is the principal component covered by the current ESMF and supporting documents. This includes non-structural investments planned (under sub-component 1.2) that will involve technical assistance. Some of the plans or studies financed under this component (such as land use planning or the design of green investments) could lead to changes in land use. These plans and studies will therefore assess potential environmental and social impacts and risks, and include appropriate measures to address such impacts and risks will as needed. The relevant TORs for these activities will include provisions to this effect.
- *Component 2 – Hydromet Modernization and DRM Systems:* is a secondary component covered by the current ESMF and supporting documents;
- *Component 3 – Disaster Risk Financing and Insurance:* does not include works and hence is not covered by the current ESMF;
- *Component 4 – Project Management:* does not include works and hence is not covered by the current ESMF; and
- *Component 5 – Contingent Emergency Response:* will be covered by a separate ESMF.

As indicated above, the project will support SC2.1 hydromet modernization and SC2.2 enhancement of DRM systems through the DMH and DDMCC, respectively.

2.0 ENVIRONMENTAL VULNERABILITIES AND RISKS

Oudomxay Province experienced flash floods with devastating effect on infrastructure and loss of life in the provincial capital, Muang Xay, in 1945, 1985, 2008 and 2013. The most recent flash flood event occurred as a result of torrential rains on 20th to 21st August 2013 with maximum daily rainfall of 93.6 millimeters (mm). Seven districts suffered damage to infrastructure, loss of life (17 persons), and loss of agricultural produce to the value of 1,233 million kip (150,000 USD). Flood damage in the provincial capital of Muang Xay was largely caused by inundation from the Nam Kor River which passes through the provincial capital. In 2008, as a result of a diminishing tropical cyclone and heavy rainfall (maximum daily rainfall recorded was 152.7 mm), one fatality and extensive property damage was inflicted on Hagupit and Muang Xay towns.

Oudomxay provincial government and different populations understand that recurring floods are part of the natural ebb and flow of a river hydrology. Little if any urban DRM countermeasures have been

undertaken in the past due to lack of knowledge and limited budget for flood control. Climate change-induced extreme weather events such as more frequent and intense cyclones which develop in the South China Sea may make landfall along central Viet Nam coast before tracking inland to Lao PDR. Although, diminishing in intensity and strength, these extreme weather events bring heavy rainfall to swollen rivers with the resultant effect of flash floods and, possibly, personal and property damage to inundated areas.

The Lao PDR DMH apprises district governors about flood risk information. However, if a flash flood event is predicted, the district governor has little recourse to disseminate early warnings other than contacting village representatives by telephone or word of mouth. The flash flood that occurred at midnight in 2013 wreaked havoc with damage to infrastructure and loss of life. In the absence of an early warning and public alert system, Muang Xay residents were not aware of the imminent danger nor accessed evacuation facilities in time.

A number of insights and lessons can be drawn from Oudomxay provincial capital Muang Xay in the wake of the 2013 flash flood event, including:

- District-level government had insufficient knowledge and capacity for dealing with a disaster;
- The provincial capital lacked sufficient flood control measures like embankments and dikes;
- Early warning and public alert system are rudimentary or non-existent;
- Lack of access to emergency budgets delayed restoration in the provincial capital and rural areas; and
- Budget limitations impeded attempts at disaster risk management.

3.0 REGULATORY AND INSTITUTIONAL FRAMEWORK

3.1 LAO PDR LAW

Lao PDR has several laws and regulations governing the utilization and environmental and social impact management of natural resources (i.e., land, forest, water, aquatic and wildlife, etc.). First promulgated in 1999, the Environmental Protection Law (EPL) was revised in 2012 and describes the principles, regulations and measures for managing, monitoring, restoring and protecting the environment including pollution control and impact assessment processes. In particular, Environmental and Social Impact Assessment (ESIA) and Initial Environmental Examination (IEE) regulations were established in 2013 under separate decrees though revisions are pending on the ESIA Guidelines. Additionally, a number of decrees, regulations and guidelines were established during the past decade. MONRE has lead responsibility for implementation of the EPL and its regulations and guidelines. These environmental and social safeguards provisions in the law are helpful to guide and inform the ESMF however, World Bank safeguards policies will be implemented in the absence of applicable GoL laws and regulations which do not adequately address adverse impacts.

MONRE has specific regulations in place to monitor infrastructure investments which may result in environment and social impacts. The Department of Environment and Social Impact Assessment (DESIA) within MONRE is in charge of developing ESIA related legislation and compliance review. MONRE issues an Environmental Compliance Certificate (ECC) for projects that trigger environmental and social safeguards for ESIA compliance and can also withdraw a project ECC in the case of non-compliance.

MONRE decrees that manage pollution from various point sources, non-point sources and during emergency situations includes effluent and ambient environmental standards (2009).

The GoL *Ministerial Agreement* (No. 8056/MONRE) provides a list of investment policies and activities which require an IEE or, as necessary, an ESIA. Following agreement with the WB on the proposed project Component 1 urban flood risk management infrastructure design and feasibility study, DOW will conduct sub-project screening based on the aforementioned decree to determine if the project should be guided by an IEE or ESIA. Reporting requirements for Component 2 of the project are not readily defined in the *Ministerial Agreement* (No. 8056/MONRE) and therefore would need to be reviewed with MONRE once the scale of the works is known. An IEE typically includes studying, surveying, researching and analyzing data to estimate potential positive and adverse environmental and social impacts, including impacts on health, that may arise from investment projects listed in Group 1 of the Lao PDR Ministerial Agreement No. 8056/MONRE and includes identifying measures to prevent and mitigate possible environmental and social impacts. An ESIA, required for investment projects listed in Group 2 of the Lao PDR Ministerial Agreement No. 8056/MONRE, includes the aspects listed for an IEE but may also include appropriate alternatives and environmental and social management plans (ESMMPs) to prevent or mitigate potential impacts that may occur during all phases of an investment project.

As the proposed sub-project is anticipated to have a linear length greater than 1km and is comprised of several sub-projects, Remark 1 of the *Ministerial Agreement* (No. 8056/MONRE) needs to be considered in the determination of reporting requirements. This Remark stipulates that if an investment project consists of many sub-projects [and initiatives], then the proponent will prepare one ESIA covering all sub-project activities and components. As the project comprises several components [and initiatives], it is likely that Component 1 will require an ESIA to be conducted, including comprehensive environmental and social baseline surveys and studies which will inform supporting standalone documents. These supporting standalone documents would normally include, at a minimum, an ESMMP, Abbreviated Resettlement Action Plan (ARAP), and Ethnic Minority Development Plan (EMDP) which would be congruent with the WBG safeguards measures as well as other safeguards plans and procedures. Additionally, Remark 4 of the *Ministerial Agreement* (No. 8056/MONRE) stipulates that if the investment project [likely] requires compensation and resettlement according to the *Decree on Compensation and Resettlement* (No. 84/GOL, 2016), an ESIA is required regardless of the project type or size.

Lao PDR has a number of environmental and social safeguard policies, regulations and conventions which are applicable to the project. These include:

- *Decree on Compensation and Resettlement of People Affected by Development Projects* (No. 84/GoL, 5 April 2016). This revised Compensation and Resettlement (C&R) decree describes the principles, regulations and standards to mitigate adverse social impacts and to compensate for damages that result from involuntary land acquisition or repossession of land and fixed or movable assets; including changes in land use, restriction of access to community or natural resources affecting community livelihood and income sources. The decree aims to ensure that project affected people (PAP) are compensated and assisted to improve or, at least, maintain their pre-project incomes and living standards, and are not made worse off than they would have been without the project. The decree describes the stringent compensation principles, particularly for those PAP who do not have legal land title, land use certificate or other acceptable documentation indicating their land use right. Unlike the previous Decree (No. 192, 2005) which gave the right to this group of PAP to claim compensation not only for their

lost assets but also for their lost rights and/or privileges to use of the land, the revised Decree only provides the right to claim for their lost assets such as house/structures, trees and/or crops;

Decree (84/PM) is largely consistent with the main principles of the Bank's *Involuntary Resettlement Policy* (OP/BP 4.12) which are discussed in Table 1 of the accompanying Resettlement Policy Framework (RPF) document. Any discrepancies that may be found in the provisions of the revised C&R Decree and the WB OP/BP 4.12 safeguards policy shall be governed by the WB policy;

- *Ethnic groups* are recognized in the 1991 Constitution Article 8 which states “*all ethnic groups have the right to preserve their own traditions and culture, and those of the Nation. Discrimination between ethnic groups is forbidden*”;
- A national guideline on consultation with ethnic groups was launched by the LFNC, in 2012, in line with the National Guideline on Public Involvement, 2012. It aims to ensure that all ethnic groups who benefit from or are adversely affected by a development project, without regard to the source of funding, are fully engaged in a meaningful consultation process at all stages from preparation into implementation. The guideline also aims to ensure that the potentially affected ethnic groups are fully informed of project objectives, as well as their potential positive and adverse impacts on their livelihood and their environment, and provided with opportunities to articulate their concerns. The guidelines provide principles and processes to carry out meaningful consultations with, and obtain free, prior and informed consent of, all ethnic groups affected by developments projects in a culturally sensitive manner. The guidelines consist of: a) objectives and scope of the guidelines, b) consultation processes with ethnic groups at respective stages of development projects, c) consultation approaches and methods for different ethnic groups in a cultural sensitive manner, d) expected outcomes of consultation at each stage, and e) implementation arrangement and responsibility;
- The Ministry of Home Affairs is in the process of drafting the Law of Ethnic Group, which is expected to be approved by the National Assembly in 2017. The law will govern and reinforce all the above-mentioned legislation on ethnic groups in Lao PDR. Key principles and procedures for consultation with ethnic groups in this guideline will be adopted into the safeguard instruments of the project, including the ESMF, RPF and Ethnic Group Engagement Framework (EGEF);
- Gender mainstreaming has received priority attention with gender issues integrated into national policy and plans. The Seventh Five-Year National Socio-economic Development Plan 2011-2015 (NSED) speaks to gender in terms of population policy, human capital development and elimination of all forms of violence against women and children. The NSED gender targets include governance, sector development, labor and social protection, and human resource development. A National Commission for the Advancement of Women was established in 2003 to drive national policy, promote gender equality and empower women;
- The 8th NSED aims to achieve ‘reduced effects from natural shocks’ as one of its three main priorities. A Climate Change and Disaster Management Law is currently being developed and is expected to be approved in 2017 together with a new five-year National Strategic Plan on PDR (2016-2020). Since 2010, Lao PDR developed a National Strategy on Climate Change;

- The Lao PDR Water and Water Resources Law No. 106 (1996) stipulates that sustainable development of international water and water resources must be conducted in accordance with international laws or agreements between countries. This law is currently under revision with support from the International Finance Corporation (IFC) and the revised law is expected to be presented to the National Assembly in 2017; and
- The Lao PDR Labor Law (2013) stipulates that employment should be promoted for the poor, disadvantaged, disabled, unemployed and for those members of society with social problems to ensure they receive skills development. The law also states that working conditions must be safe, that salaries or wages must be paid in full and social insurance benefits must be implemented and that forced labor of any form is not permitted. The law further states the number of hours that can be worked in a week and the provision of breaks as well as compensation for overtime.

3.2 REGIONAL AND INTERNATIONAL REGULATORY FRAMEWORK

In addition to the Lao PDR statutes and regulations discussed above, the GoL is also a signatory to the following international conventions that may have a bearing on infrastructure development projects, including:

- *ASEAN Agreement on the Conservation of Nature and Natural Resources* (1985). As a signatory to this agreement, the GoL commits to development planning, the sustainable use of species, conservation of genetic diversity, endangered species, forest resources, soil, water, air and addressing environmental degradation and pollution;
- *Convention Concerning the Protection of the World Cultural and Natural Heritage* (1972). The GoL agrees to take the appropriate legal, scientific, technical, administrative and financial measures necessary for identification, protection, conservation, presentation and rehabilitation of designated heritage sites in Lao PDR;
- *UN Convention on Biological Diversity* (1996). As a signatory to this Convention, the GoL committed to:
 - Develop a national biodiversity conservation and sustainable use strategy;
 - Develop legislation for protecting species and populations that are threatened;
 - Integrate conservation and sustainable use of biological resources into national decision-making;
 - Conduct environmental assessments (EA) of proposed development projects with a view to minimizing negative impacts; and
 - Take measures for an equitable sharing of the results of research and development in genetic resources.
- *Convention on International Trade in the Endangered Species of Fauna and Flora* (2004) provides an international guideline for management and control of trade in endangered fauna and flora; and

- *Ramsar Convention* (1982). The GoL officially joined the Convention in 2010. The Convention defines basic principles and measures on sustainable management, preservation, development, and utilization of wetland. In particular, two wetlands in Lao PDR which have international importance are the Xe Champhone Wetlands in Savannakhet Province and the Beung Kiat Ngong Wetlands in Champasak Province.

The nation is also a signatory to a number of international labour conventions that complement the Lao PDR Labor Law (2013) and these conventions include:

- *C029 – Forced Labour Convention, 1930 (No. 29)*. As a signatory, Lao PDR commits to suppress the use of forced or compulsory labour for the benefit of private individuals, companies or associations. The Conventions does, however, include distinct conditions for when forced or compulsory labour may be exacted as a tax or for carrying out public works;
- *C100 – Equal Remuneration Convention. 1951 (No. 100)*. This Convention stipulates that men and women shall receive equal remuneration for work of equal value;
- *C111 – Discrimination (Employment and Occupation) Convention, 1958 (No. 111)*. The Convention defines the conditions that result in discrimination in a place of employment or at an occupation. As a signatory, Lao PDR has committed to pursue a national policy designed to promote, by methods appropriate to national conditions and practice, equality of opportunity and treatment in respect of employment and occupation, with a view to eliminating any discrimination;
- *C137 – Minimum Age Convention, 1973 (No. 138)*. The country has committed to a national policy designed to ensure the effective abolition of child labour and to progressively raise the minimum age for admission to employment or work to a level consistent with the fullest physical and mental development of young persons. The Convention stipulates that the minimum age shall not be less than 18 years; and
- *C182 – Worst Forms of Child Labour Convention, 1999 (No. 182)*. Under this Convention, Lao PDR committed to take immediate and effective measures to secure the prohibition and elimination of the worst forms of child labour which includes, but is not limited to, all forms of slavery such as debt bondage, forced or compulsory labour, and trafficking, prostitution, and the production or trafficking of drugs.

The nation is also a signatory to a number of international instruments that protect the rights of ethnic groups. This includes the International Convention on Economic, Social and Cultural Rights (ICESCR), International Convention on Civil and Political Rights (ICCPR), and the International Convention on the Elimination of All Forms of Racial Discrimination (CERD).

3.3 APPLICABLE BANK SAFEGUARD POLICIES TRIGGERED BY THE PROJECT

With a focus on sustainability of projects, the Bank's environmental and social safeguard policies provide assurance to the borrower country that instruments are in place for ensuring environmental and social soundness of projects. As noted, the Lao PDR DRM Project will support smaller sub-projects which have not been clearly defined nor are the precise nature of the sub-projects known. In addition, since the location and design are yet to be determined at the time of project appraisal, an environmental and social management framework (ESMF) is the chosen safeguards mechanism to provide assurance to the borrower country and impacted individuals that due consideration has been given to potential sub-project impacts and risks.

The World Bank classifies sub-projects into three safeguard policy categories, depending on the type, location, sensitivity, scope and scale of the project and the nature and magnitude of potential environmental and social impacts. Appendices A2 and A3 provide screening forms for assessing the Lao PDR DRM Project Components 1 and 2 in terms of the safeguards instruments that could be applied. The three environmental assessment policy categories include:

Category A: applied to proposed sub-projects where development is likely to have significant adverse environmental and social impacts that are sensitive, diverse or unprecedented.

Category B: applied to proposed sub-projects which have the potential for adverse environmental impacts on human populations or environmentally important areas (i.e., wetlands, forests, grasslands, and other natural habitats) but are less adverse than those of Category "A" projects. These impacts are site-specific; few if any of them are irreversible; and, in most cases, mitigation measures can be designed. Category "B" sub-projects are guided by applicable World Bank safeguard instruments similar to Category "A" but with narrower scope.

Category C: applied to proposed sub-projects which have minimal or no adverse environmental and social impacts. In this case, World Bank safeguard instruments do not apply and only periodic site environmental screening would be conducted.

The proposed tripartite country SEA DRM Project will be funded through the World Bank International Development Association (IDA) and proposed sub-projects may have significant, yet unknown, environmental and social impacts. Consequently, the appropriate safeguard instrument is development of an ESMF which is an overarching safeguards policy guideline document governing the approach, processes and specific instruments or measures to be used during sub-project appraisal.

The proposed project may have the potential for adverse environmental impacts which are mostly site-specific and reversible and these impacts are less adverse than those of Category "A" projects. Impacts are expected to be limited to dust, noise, household business disturbance (in populated communities), sourcing of materials, and waste construction which can be managed by applying good construction practices. These issues are temporary, minor and site specific. The highest envisaged category is "B". The project's safeguards approach is thus designed to ensure compliance and sustainability of Category "B" (and "C") sub-projects. In the unlikely case that a sub-project of EA Category "A" would be proposed, it would be considered ineligible for project's support as this will take time to prepare, including the ESIA, the delay or hamper the urgent response objective of the project. Consequently, the Project is classified as a Category "B" investment project. The safeguard considerations relate to Components 1 and 2 while Components 3 and 4 do not trigger any safeguards. Separate safeguard instruments will be developed during project implementation for Component 5.

Accordingly, the WBG *Environmental Assessment* (OP/BP 4.01) safeguards instrument will be triggered. Proposed sub-projects may also impact the environment and communities and different populations (i.e., ethnic peoples and vulnerable groups – women and female/male youth and children, men, the elderly and disabled, landless, and poor, etc.). Therefore, four additional environmental safeguards policies could be triggered; including *Natural Habitats* (OP/BP 4.04) *Physical Cultural Resources* (OP/BP 4.11), and *Projects on International Waterways* (OP/BP 7.50) and two social safeguard policies could be triggered, including: *Indigenous Peoples* (OP/BP 4.10) and *Involuntary Resettlement* (OP/BP 4.12). The ESMF will be guided by a gender responsive social assessment to ascertain proposed sub-projects' effects on female participation, contribution, barriers and impacts. Table 1 provides more clarification on these operational policies and their implication for the proposed urban flood risk management sub-projects.

3.4 GAP ANALYSIS BETWEEN GOL AND WORLD BANK POLICIES

The World Bank's Policy requires the GoL to analyze and summarize national laws and regulations pertaining to land acquisition, compensation payment, and relocation of affected persons in their settlement plan. The GoL will compare and contrast such laws and regulations with the Bank's Policy principles and requirements. If a gap between the two exists such that national laws are more general than World Bank OPs, the GoL will propose a suitable gap-filling strategy in the resettlement plan in consultation with Bank's officer in charge. The Bank OP 4.01 was compared with existing Lao PDR laws and regulations and gaps were identified such that OP 4.01 is triggered (Table 2). To address the gaps, Bank policies and requirements will be followed.

With respect to natural habitat, while the Environmental Protection Law (2012) describes the principles, regulations and measures for managing, monitoring, restoring and protecting the environment including the protection of natural habitat should they occur in the project area, gaps will be complemented by applying the Bank OP 4.04 (Table 3). While the 1991 Constitution states that ethnic groups have the right to preserve their own traditions and culture, the Bank OP 4.10 will be applied on the sub-projects where gaps exist and ethnic groups are present. Lao PDR has regulations for the protection of cultural resources including the Decree on the Preservation of Cultural, Historical and Natural Heritage (1997) which provides guidance for finds during construction however the Bank OP 4.11 will complement national regulations where gaps exist (Table 4). While the Water and Water Resources Law (1996) states that development on waterways must be in compliance with international laws or agreements among countries, the Bank OP 7.50 will be applied particularly with respect to notification to complement the national regulation. Of note is that a new Water Law is being prepared by the GoL and is anticipated to be presented to the National Assembly in 2017. A gap analysis between GoL existing laws and regulation to the Bank OP 4.12 is provided in the RPF.

Table 1 Summary of operational policies and their implication for sub-projects.

OP/BP No.	Summary of Safeguard and Other Operational Policies	Triggered (Y/N) and How	Implication
4.01	Environmental Assessment: the Environmental Assessment (EA) covers impacts on the natural environment (air, water and land); human health and safety; physical cultural resources; and transboundary and global environmental concerns. Social aspects (involuntary resettlement, indigenous peoples) are covered by separate policies with their own requirements and procedures.	Y For the preparation of feasibility and design studies for repair and rehabilitation of infrastructure under Component 1, the planned works on the proposed sub-projects may have significant environmental and social direct, indirect or cumulative impacts locally and at the regional level. This OP/BP will thus be triggered.	(i) The SEA DRM qualifies as a Category “B” type for preparation of feasibility and design studies under Component 1. (ii) An Environmental and Social Management Plan (ESMP) will be done for Component 1 as part of the feasibility studies and include required management plans (EGDP, ARAP, and Environmental Management Plan [EMP]). (iii) ESMP document will be publicly available to the PAPs and CSOs (NPA and CBO).
4.04	Natural Habitat: the World Bank supports the protection, maintenance, and rehabilitation of natural habitats and their functions. The conservation of natural habitats is essential for long term sustainable development. Natural habitats comprise land and water areas where (i) the ecosystems' biological communities are formed largely by native plant and animal species, and (ii) human activity has not essentially modified the area's primary ecological functions.	Y For the preparation of feasibility and design studies under component 1, the works in the proposed sub-projects may have significant impacts on nearby critical habitats on wildlife corridors, wetlands and river basins. This OP/BP might be triggered.	For the on-going preparation of the sub-projects under Component 1 and the preparation of any other investments in Component 1 (i.e., riverbank protection, dike, drainage canal repair, flood gates, and riverside parks): (i) An ESMF will be prepared. For the preparation of feasibility and design studies under Component 1: (i) Each sub-project will conduct a full and independent ESMP which will include recommendations on suitable mitigation measures to avoid or prevent, minimize, mitigate, or compensate for such adverse impacts and improve environmental performance.
4.10	Indigenous Peoples: in Lao PDR, indigenous peoples are referred to as Ethnic Groups. These are defined to be a distinct, vulnerable, social and cultural group possessing a number of characteristics including collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories.	Y Oudomxay Province is home to multiethnic groups defined as IPs under the OP 4.10. The presence of Ethnic Groups may occur in the project area. In view of this, the OP is triggered.	An EGEF will be developed as a component of this ESMF.

Table 1 (Cont'd.)

OP/BP No.	Summary of Safeguard and Other Operational Policies	Triggered (Y/N) and How	Implication
4.11	Physical Cultural Properties: this policy addresses physical cultural resources, which are defined as movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic or other cultural significance.	Y No physical cultural sites are located in the river channels. However, there is a possibility that physical cultural resources could be found during eventual construction of infrastructure that is to be studied and designed through this project. This OP will be triggered.	A chance find process is reviewed in this ESMF document.
4.12	Involuntary Resettlement: this policy aims to address and mitigate risks of physical relocation, loss of land and other assets, sources of incomes and means of livelihood by local people due to proposed sub-projects. The policy also applies to the involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons.	Y Although not estimated to be significant, there may be minor land acquisition and complementary relocation and resettlement of PAPs and their project affected households (PAHs) due to construction activities including dyke and drainage works. An RPF has been prepared to guide the proposed sub-projects. This OP will thus be triggered.	(i) Will be developed for the Component 1 proposed sub-projects and will be appended to this ESMF. (ii) Each sub-project will prepare an ARAP to address all issues related to [potential] relocation and compensation of communities affected by the proposed sub-project. (iii) Grievance Redress Mechanism will be defined as part of the ARAP for each site, taking into consideration the local context. (iv) The ARAP document for each project will be disclosed locally, at the national level and on the MRD website and the World Bank InfoShop.
7.50	Projects on International Waterways: this policy applies to the following types of international waterways: (a) any river, canal, lake or similar body of water that forms a boundary between, or any river or body of surface water that flows through, two or more states, whether Bank members or not; and (b) any tributary or other body of surface water that is a component of any waterway described in (a) above.	Y The Lao PDR DRM proposed sub-projects are developed on tributaries of the Mekong River.	In compliance with this WB safeguards policy, the technical studies will include an analysis of any potential transboundary impacts from the projects, and the identification of potential mitigation measures. Notifications letters have been sent to Myanmar, Cambodia, Thailand, Vietnam, China and the Mekong River Commission.

Table 2 Gap analysis between Lao legal/regulatory framework and the World Bank OP4.01.

Subjects	OP 4.01	Lao Legal Framework	Gap/Project Measures
1.EA Process			
<i>1.1 An EA considers natural and social aspects in an integrated manner that considers national and international obligations, treaties and agreements</i>	<i>Assess the adequacy of the applicable legal and institutional framework, including applicable international environmental agreements, and confirm that they provide that the cooperating government does not finance project activities that would contravene such international obligations.</i>	<p>Law on Environmental Protection 2013:</p> <ul style="list-style-type: none"> Article 9 – The State promotes overseas, regional, and international cooperation regarding environmental protection and rehabilitation through sharing of lessons learnt, information, science, technology, technical assistance, participation and implementation of international treaties and agreements, which Lao PDR is the state member of. <p>Ministerial Instruction No 8030/MONRE on Environmental and Social Impact Assessment (2013), Part 1:</p> <ul style="list-style-type: none"> 1.2 – The Project Owner shall conduct the transboundary impact assessment in addition to the normal Environmental and Social Impact Assessment in case any Investment Projects and Activities is assessed to cause social and environmental impacts to the neighboring countries; provided that such transboundary impact assessment shall be conducted pursuant to the relevant regulations and technical guidelines. 	OP 4.01 Policy Procedures will be applied to ensure the sub-projects do not contravene any obligations, treaties or agreements whether or not an EA is a requirement under national regulations.
<i>1.2. Assessment of project alternatives.</i>	<i>Provide for assessment of feasible investment, technical, and siting alternatives, including the "no action" alternative, potential impacts, feasibility of mitigating these impacts, their capital and recurrent costs, their suitability under local conditions, and their institutional, training and monitoring requirements associated with them.</i>	Not included.	OP 4.01 Policy Procedures will be implemented to ensure that the assessment of the potential project impacts review possible alternatives including the option of “no action”.

Table 2 (Cont'd.)

Subjects	OP 4.01	Lao Legal Framework	Gap/Project Measures
1.3 Retention of project advisors.	<i>The borrower should normally engage an advisory panel of independent, internationally recognized environmental specialists to advise on all aspects of the project relevant to the EA.</i>	Ministerial Instruction No 8030/MONRE on Environmental and Social Impact Assessment (2013): <ul style="list-style-type: none"> Part 1, section 2.7 - Within 20 business days after receiving the complete set of ESIA documents from the Project Owner, the Ministry of Natural Resources and Environment shall appoint the technical committee to review the ESIA Report. Such technical committee may consist of the domestic and foreign experts and consultants as selected by the Ministry; provided that such technical committee shall not have any direct or indirect involvement with the Investment Projects and Activities 	OP 4.01 Policy Procedures and Ministerial Instruction No. 8030/MONRE will be implemented to provide guidance should the borrower be advised that independent, internationally recognized environmental specialists be engaged to provide advice on the project review.
2. Public Consultation and Disclosure			
2.1. The EA process must include public consultation and disclosure.	<p><i>The Bank may, if appropriate, require public consultation and disclosure.</i></p> <p><i>The borrower consults project affected groups and local nongovernmental organizations (NGOs).</i></p>	<p>Law on Environmental Protection 2013:</p> <ul style="list-style-type: none"> Article 6 – Active participation and consultation of individuals and organizations into protection of social and natural environment. <p>Ministerial Instruction No 8030/MONRE on Environmental and Social Impact Assessment (2013):</p> <ul style="list-style-type: none"> Part 1, Section 1.2 - During the conductance of the Environmental and Social Impact Assessment, the Project Owner shall ensure the strict compliance of the Public Involvement and the consultation with the local administration, the Project-Affected Persons and other Stakeholders with this Instruction, the Technical Guideline on Public Involvement and other relevant laws and regulations; 	OP 4.01 Policy Procedures will be implemented to provide guidance on public consultation and disclosure such that project affected groups and local NGOs are informed.

Table 2 (Cont'd.)

Subjects	OP 4.01	Lao Legal Framework	Gap/Project Measures
3. Monitoring & Evaluation			
<i>3.1 Internal and external independent monitoring are required</i>	<i>During project implementation, the borrower reports on (a) compliance with measures agreed with the Bank on the basis of the findings and results of the EA, including implementation of any EMP.</i>	<p>Law on Environmental Protection 2013: Article 84 – Environmental Inspecting Agency shall consist such agencies as the National Assembly, State Inspection and Anti-Corruption Authority, and State Audit.</p> <p>Ministerial Instruction No 8030/MONRE on Environmental and Social Impact Assessment (2013): Part 2, section 2.1.4 The Project-Affected Persons and the Stakeholders shall participate in the monitoring activities which will be conducted to ensure the implementation of the environmental and social management and monitoring measures and to report to the Natural Resources and Environmental authorities at the local levels in case of they found any social and environmental impacts caused.</p>	<p>OP 4.01 Policy Procedures will be implemented. The PMU will conduct internal monitoring on resettlement implementation and reporting requirements for the ESMMP implementation. The monitoring will include progress reports, status of the RP implementation, information on location and numbers of people affected, compensation amounts paid by item, and assistance provided to PAHs. The report of monitoring results will be prepared and submitted on a quarterly basis.</p>

Table 3 Gap analysis between Lao legal/regulatory framework and the World Bank OP4.04.

Subjects	OP 4.04	Lao Legal Framework	Gap/Project Measures
1. Promote Environmentally Sustainable Development			
<i>1.1 Use a precautionary approach to ensure environmentally sustainable development.</i>	<i>The Bank supports, and expects borrowers to apply, a precautionary approach to natural resource management to ensure opportunities for environmentally sustainable development.</i>	<p>Environmental Protection Law 2013:</p> <ul style="list-style-type: none"> Article 1 – The purposes of this law are to defines principles, regulations and measures related to environmental management, monitoring of protection, control, preservation and rehabilitation, with quality, of mitigating impacts and pollution created by anthropogenic loads or by nature, aiming to provide balance between social and natural environment, to sustain and to protect natural resources and public health; and contribution into the national socio-economic development and reduction of global warming. Article 4 - “Sustainable Development” means socio-economic development in parallel with environmental protection without any impacts on future generations. Article 6 – Socio-economic development aligned with sustainable protection of social and natural environment; Article 52 – Using natural resources with economical, rational, effective and sustainable manners. 	OP 4.04 Policy Procedures will be implemented to apply a precautionary approach that complements the national regulation that ensures the rational and sustainable conservation, development, management, and use of the natural resources.
<i>1.2 Avoid significant conversion or degradation of critical natural habitats.</i>	<i>The Bank does not support projects that, in the Bank’s opinion, involve the significant conversion or degradation of natural habitats.</i>	<p>Environmental Protection Law 2013:</p> <ul style="list-style-type: none"> Article 7 - Persons, households, legal entities and organizations have commitments of protecting, improving, rehabilitating, controlling, monitoring and inspecting the environment based on regulations to avoid creating impacts on the environment, causing degradation and polluting that exceeds the Pollution Control Standard and the National Environmental Quality Standard, aiming to ensure good quality of the environment and sustainable development. 	Though critical habitats are not proposed to be within the sub-project footprints, OP 4.04 Policy Procedures will be implemented to provide guidance on avoiding the conversion or degradation of critical natural habitats which could be directly or indirectly affected by the sub-projects.

Table 3 (Cont'd.)

Subjects	OP 4.04	Lao Legal Framework	Gap/Project Measures
<i>1.3 Using lands already converted from natural habitats to minimize impacts.</i>	<i>Wherever feasible, Bank-financed projects are sited on lands already converted.</i>	Not included.	OP 4.04 Policy Procedures will be implemented to ensure that the sub-projects are designed to be sited on converted lands.
<i>1.4 Provide for the use of appropriate expertise for the design and implementation of mitigation and monitoring plans.</i>	<i>If there are potential institutional capacity problems, the project includes components that develop the capacity of national and local institutions for effective environmental planning and management. The mitigation measures specified for the project may be used to enhance the practical field capacity of national and local institutions.</i>	Not included.	OP 4.04 Policy Procedures will be implemented to provide guidance should the borrower be advised that independent, internationally recognized environmental specialists be engaged to provide advice on the Project review.
2. Public Consultation and Disclosure			
<i>2.1 Consult key stakeholders and NGOs as well as disclose draft mitigation plan in a timely manner, before appraisal formally begins, in an accessible place and in a form and language understandable to key stakeholders.</i>	<i>The Bank expects the borrower to take into account the views, roles, and rights of groups, including local nongovernmental organizations and local communities, affected by Bank-financed projects involving natural habitats, and to involve such people in planning, designing, implementing, monitoring, and evaluating such projects.</i>	Environmental Protection Law 2013: <ul style="list-style-type: none"> Article 5 - 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. Article 6 – Active participation and consultation of individuals and organizations into protection of social and natural environment; 	OP 4.04 Policy Procedures and Ministerial Instruction No. 8030 will be implemented to provide guidance on public consultation and disclosure such that project affected groups and local NGOs are informed.

Table 3 (Cont'd.)

Subjects	OP 4.04	Lao Legal Framework	Gap/Project Measures
2.1 (Cont'd.)		<ul style="list-style-type: none"> Article 82 – Disseminate, train, build awareness, guide, support and encourage public to take leaderships in managing, protecting, problem solving and rehabilitating the village environment and natural resources; <p>Ministerial Instruction No 8030/MONRE on Environmental and Social Impact Assessment (2013):</p> <ul style="list-style-type: none"> Part 2, section 2.20 – The Project Owner shall publicly disclose the information relating to the Project Owner; the social and environmental impacts; the commitment and environmental and social management and monitoring measures; the ESIA Plans and its ESMMP. 	

Table 4 Gap analysis between Lao legal/regulatory framework and the World Bank OP4.11.

Subjects	OP 4.11	Lao Legal Framework	Gap/Project Measures
1. Preservation of Physical Cultural Resources			
1.2 As part of the EA, as appropriate, conduct field based surveys, using qualified specialists to consult concerned government authorities, relevant non-governmental organizations, relevant experts and local people in documenting the presence and significance of PCR.	To develop the TORs for the EA, the borrower, in consultation with the Bank, relevant experts, and relevant project-affected groups, identifies the likely physical cultural resources issues, if any, to be taken into account by the EA.	<p>Lao Constitution 2015</p> <ul style="list-style-type: none"> Charter 2, Article 23 - The State promotes cultural activities, fine arts and invention, manages and protects the cultural, historical and natural heritage and maintains antiques and historical places. <p>Environmental Protection Law 2013:</p> <ul style="list-style-type: none"> Article 57 – Persons, legal entities, and organizations operating production enterprises, services or any operations causing damages shall be responsible for solving and rehabilitating of the damaged areas, natural sites, cultural heritages, historical and archaeological sites under the monitoring by the local authorities and line sectors. <p>Decree on the Preservation of Cultural, Historical and Natural Heritage 1997:</p> <ul style="list-style-type: none"> Article 15 – Persons or entities are forbidden to damage artifacts, artistic construction sites, whether immovable, movable or natural, constituting the national heritage, whether by committing a willful offence or out of negligence. No construction, restaurant or entertainment premise may be established within archeological or natural sites of national heritage value, except when authorized by the Ministry of Information and Culture. 	OP 4.11 Policy Procedures and Decree on the Preservation of Cultural, Historical and Natural Heritage 1997 will be implemented to ensure that qualified specialists are engaged in the site assessments to identify likely PCR issues.

Table 4 (Cont'd.)

Subjects	OP 4.11	Lao Legal Framework	Gap/Project Measures
<i>1.2 For materials that may be discovered during project implementation, provide for the use of "chance find" procedures in the context of the PCR management plan or PCR component of the environmental management plan.</i>	<i>The borrower develops a physical cultural resources management plan that includes measures for avoiding or mitigating any adverse impacts on physical cultural resources, provisions for managing chance find, any necessary measures for strengthening institutional capacity, and a monitoring system to track the progress of these activities.</i>	<ul style="list-style-type: none"> Article 18 - Persons or entities discovering artifacts, archeological sites, ancient historical sites of high historical, artistic and cultural, and archeological value shall notify the relevant administrative authorities, District Information and Culture Office, or Province, Municipality and Special Zone Information and Culture Services, or the Ministry of Information and Culture Services, or the Ministry of Information and Culture within three days from such discovery. 	OP 4.11 Policy Procedures and Decree on the Preservation of Cultural, Historical and Natural Heritage 1997 will be implemented to guide the preparation of a PCR management plan should cultural resources be discovered during sub-project construction activities.
2. Public Consultation and Disclosure			
<i>2.1 Disclose draft mitigation plans as part of the EA or equivalent process, in a timely manner, before appraisal formally begins, in an accessible place and in a form and language that are understandable to key stakeholders.</i>	<p><i>As part of the public consultations required in the EA process, the consultative process for the physical cultural resources component normally includes relevant project-affected groups, concerned government authorities, and relevant nongovernmental organizations in documenting the presence and significance of physical cultural resources, assessing potential impacts, and exploring avoidance and mitigation options.</i></p> <p><i>The findings of the physical cultural resources component of the EA are disclosed as part of, and in the same manner as, the EA report.</i></p>	Not found.	OP 4.11 will be implemented to provide guidance on public consultation and disclosure such that project affected groups and local NGOs are informed.

4.0 POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

4.1 SITE-SPECIFIC POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS, RISKS, AND ISSUES

The World Bank Aide Memoire (13 May 2016) indicates that:

“..the purpose of the USD 12.0¹ million urban flood risk management component is to strengthen flood resilience in Oudomxay Province. It will finance flood protection infrastructure, including investments in riverbank protection and embankments, flood gates, weirs, riverside parks, and drainage canals. Such infrastructure will protect the urban core from flash floods that occur regularly and cause major flood damage. The infrastructure investments will be complemented with non-structural measures, including strengthening land-zoning. This will also take into account flood management in the river sub-basin, exploring approaches to allow room for the river in low-density areas, while protecting against flooding in high-density areas.”

Potential environmental and social impacts likely to arise as a result of the Lao PDR DRM Project were identified by comparing project components with the surrounding environmental and social context (Appendix A6 for baseline conditions). As mentioned, Oudomxay Province experienced flash floods with devastating effect to infrastructure and loss of life in the provincial capital, Muang Xay, in 1945, 1985, 2008 and 2013. During the most recent flash flood, 93.6 mm of rainfall occurred in one day inflicting heavy damage to infrastructure and loss of life to seventeen persons. Flood damage in the provincial capital was largely caused by inundation of excess water from the Nam Kor River and its tributaries, including the Nam Mao, Nam Sin and Nam Hin.

It is expected that urban flood risk management investments in Oudomxay provincial capital Muang Xay will have both positive and negative (adverse) impacts that could ensue as a result of sub-project implementation of the proposed riverbank protection, drainage canal reparation, dike embankment and flood gates, and riverside park(s) infrastructure. Urban flood risk management sub-projects will be beneficial for the majority of provincial capital Muang Xay residents whose properties and livelihoods will be largely uninterrupted because of proposed infrastructure investments. It is expected that construction and installation of urban flood risk management infrastructure investment will bring socio-economic, health and ecological benefits. In the latter instance, protecting the river from siltation and sedimentation as a result of runoff and riverbank erosion, and reducing the loss of lives and/or livelihoods caused by flooding will help promote an environment of safety, health and well-being for the majority of people who have suffered from the effects of flash flood events in the past.

Environmental and social effects and impacts will differ markedly depending upon the type and scope of the particular sub-project and its location. For construction of new infrastructure for the sub-project, it is likely that for most people, the potential negative impacts will be moderate and localized, although cumulative effects cannot be discounted. However, for people living in the areas targeted for the construction of two riverside parks, major impacts due to resettlement and/or the loss of riverine land may result. Table 5 provides a typology of potential site-specific environmental and social impacts that could be considered in relation to the sub-projects.

¹ Amount revised from USD 10.0 million in the Aide Memoire to USD 12.0 million in the Project Appraisal Document (PAD).

Known safeguards risks are listed below:

- *Safeguards Screening and Risks:* environmental risks will be mitigated by identifying and ensuring Lao PDR environmental and social legal frameworks, and World Bank safeguards policies, are applied at the earliest stages of project preparation and planning and adhered to throughout all phases of project implementation.
- *Impacts of Civil Works Activities:* it is expected for an urban disaster risk management project that environmental and social impacts will be moderate to major if land contribution is required for some of the proposed sub-projects are considered, in which case, mitigation and/or compensation measures need to be outlined in the ESMF safeguards plans and procedures. Some examples of effects from civil works include:

- Noise and Air Quality: (e.g., dust) impacts will occur as a result of construction activities. These impacts can be mitigated using well established mitigation measures when construction is undertaken in proximity to residential urban areas and other socially sensitive areas. Some examples of mitigation measures include: (i) watering of active construction work areas to minimize dust emissions during construction. Regular and effective maintenance of equipment will mitigate emissions. Re-vegetation of disturbed areas immediately following construction also assists in reducing dust emissions; and (ii) during construction, the use of noise barriers in sensitive areas and controlling hours of work are effective noise mitigation measures.

It is important to note that noise and air quality emissions are temporary and short-term issues that can be effectively mitigated.

- Runoff from construction areas: during rain events, can contain high concentrations of sediment and possibly other pollutants (e.g., hydrocarbons, heavy metals, etc.). Standard operating practices outlined in the Environmental Code of Practice (ECoP) should be implemented to contain and treat runoff from the construction site. The use of silt control measures (e.g., silt fences, catch basins, temporary or permanent settling ponds, vegetated swales, etc.), when properly operated, can be very effective in protecting water quality in nearby streams during construction and during the operational phase of the flood protection civil works (i.e., dikes, drainage canal and flood gates, weirs and riverside parks) and other urban flood risk management initiatives.
- Construction wastes, garbage and refuse: generated during construction including waste oil and chemicals should be contained on site and ultimately disposed of off-site in an environmentally acceptable manner. Procedures for on-site management and off-site disposal need to be addressed in the ECoP. A source of fill (borrow) materials will need to be established in the area where the civil works will be implemented. If available, an established borrow pit should be employed. If a new borrow pit is needed, safeguards procedures will need to be established in the ECoP.
- *Land Acquisition and Resettlement:* the acquisition of land will be necessary and depending upon final sub-projects' selection, land may be acquired on a temporary or permanent basis with or without compensation. If riverside parks are included in the final sub-project selection then, PAP or PAH will have to be relocated. Additionally, relocation of temporary buildings and roof structures and concrete floors extending from small shops, and permanent houses, crops and trees found within the conservation area boundary are anticipated. Potential land

acquisition may be required due to the construction of riverbank protection, drainage canal reparation, dike embankment and flood gates, and riverside park(s). These moderate land acquisition requirements will be identified at feasibility and detailed design stages during implementation when the scope and design of sub-project become clear. Major land acquisition investments will not be considered for the Lao PDR DRM Project.

- *Ethnic Groups*: ethnic groups may be directly or indirectly affected by the proposed sub-project urban flood risk management works and, therefore, an EGEF is included as part of the current ESMF.
- *Physical Cultural Properties and Sensitive Areas*: for the most part, local hospitals, schools, temples and markets are to be found outside the conservation area boundary so, the civil works would not cause major impacts to these sensitive areas. However, the detailed and site-specific Environmental and Social Management Plan (ESMP) including chance findings and good civil engineering practices (e.g., ECoP) will be applied to mitigate potential adverse impacts induced by the proposed sub-project.

Cumulative impacts are those that result from the incremental impact of the sub-project when added to other past, present and reasonably foreseeable future actions. Effects should be assessed in terms of the capacity of the water resource, ecosystem and/or affected communities to accommodate such impacts.

Table 5 Potential environmental and social impacts of the proposed sub-projects.

No.	Sub-projects Associated Activities	Potential Environmental and Social Impact Issues	Expected Significance
1	Dikes, flood gates, slope protection	Air and noise pollution	Minor
		Water pollution	Moderate
		Soil erosion	Moderate
		Alteration of hydrological regime	Minor
		Destruction of flora and fauna habitat	Moderate
		Involuntary resettlement	Moderate
		Land take	Moderate
		Spread of diseases	Minor
		Potential dike/weir failure	Moderate
		Waste management	Minor
2	Access roads	Dust and noise pollution	Moderate
		Water pollution	Moderate
		Solid waste disposal	Moderate
		Waste oil/fuel disposal	Moderate
		Public health and safety	Major
		Land take	Moderate
		Waste management	Moderate

Table 5 (Cont'd.)

No.	Sub-projects Associated Activities	Potential Environmental and Social Impact Issues	Expected Significance
3	Riverside parks	Water pollution	Moderate
		Soil erosion	Minor
		Flooding	Minor
		Alteration of hydrological regime	Major
		Involuntary resettlement (specific to riverside park one)	Major
		Land take (specific to riverside park one)	Major
4	Agriculture development	Water pollution	Moderate
		Flooding	Moderate
		Alteration of hydrological regime	Moderate
		Destruction of flora and fauna habitat	Minor
		Involuntary resettlement	Moderate
		Soil and land degradation (salinization)	Moderate
5	Specific social issues	Livelihood disruption	Moderate
		Community disruption	Moderate
		Cultural heritage site destruction	Moderate
		Increased marginalization of landless people	Moderate
		Loss of access to biodiversity resources (for food, economic activities or medicine)	Moderate
		Increased HIV/AIDS infection rate due to increased and itinerant working population	Moderate
6	Specific gender issues	Increased work burdens of women and children	Moderate
		Low access to natural resources including land and NTFPs for women	Major
		Exclusion from decision-making for planning and implementation	Moderate

It should be noted that the footprint for hydromet enhancement, including hydrometeorological stations (e.g., rain gauges, river/streamflow gauges, satellite, etc.) is expected to be minimal. If existing hydrometeorological stations are upgraded and modernized, a WBG safeguards policy classification Category “C” can likely be applied. However, if new hydrometeorological stations are being considered then, depending upon location (i.e., public or private land), a Category “B” safeguards policy may apply. Appendix A3.2 provides an example of a site-specific environmental and social screening form for determination of WBG safeguards policy classification pertaining to any proposed hydrometeorological station(s).

4.2 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental effects and impacts will differ markedly depending upon the type and scope of the particular sub-project and its location. For flood control measures such as riverbank protection, dikes, drainage canals and flood gates, weir and riverside parks related infrastructure works in a largely urban setting, potential adverse impacts will be moderate, localized and vary from temporary to permanent.

Even a “do nothing” approach may have its own adverse environmental implications. For instance, a “do nothing” (i.e., no urban flood risk management) approach could see further deterioration of the existing riverbank due to erosion and, in turn, exasperate the potential for infrastructure damage and personal well-being during moderate to extreme flood events. The runoff produced over the urban

surfaces can damage urban infrastructure and private properties if not properly drained. The more rigid and unprepared the urban area is, the greater the damage and danger to life will be. In areas of high precipitation due to weather-induced flood events, risks to urban infrastructure, private property and personal well-being could be substantial.

A careful and considered engineering approach must be integrated into the proposed urban flood risk management infrastructure planning process, particularly during sub-projects' design and feasibility study. Thought must be given to how and where the earthwork and gravel materials for construction (i.e., riverbank protection, dike, drainage canals and flood gates, weir and riverside parks, and related infrastructure works) will be sourced since the borrow pit practices used for construction material extraction (either from the river or land) may result in negative environmental impacts. Some safeguards protection should be considered for borrow pits post-construction, including borrow pit boundary fence depending upon its eventual use.

Environmental measures to mitigate the impacts of the proposed sub-projects related to urban flood risk management include: (i) scoping land and environmental issues; (ii) screening of potential positive and negative (adverse) impacts; (iii) clear integration of measures into project design and feasibility study; (iv) precise and detailed impacts' report; (v) formulation of social and environmental management and monitoring plan; and (vi) knowledge transfer capacity refresher workshop(s) and/or best practice study tour.

4.3 SOCIAL IMPACTS

There are likely to be a number of adverse social impacts and risks associated with the civil works for communities, different populations, and contractors' employees for the proposed sub-projects.

4.3.1 Labour Influx

Because this project involves civil works it is likely that it will require a portion of the labour force to be brought in from outside the area. The likely overall size of the labour force to be deployed during project implementation is anticipated to be less than 50 people. The number of workers from outside of the community will depend upon the location of the contractor's main office. It is anticipated that the outside workforce will be recruited nationally, as such will have a similar socio-economic and cultural background to that of the local community. The potential impact of this outside workforce will be mitigated by the fact that most of the work is taking place in an urban area, which will facilitate local recruitment of workers (including skilled workers), and provide sufficient accommodation and recreational facilities. Because of the urban location, separate worker's camps are not anticipated. Nonetheless, this framework includes recommendations relating to the conditions of employment and conduct of the labour force in relation to the local community

4.3.2 Core Labour Standards

Where different populations are inducted into the workforce by civil works contractors, sub-contractors and other providers of goods and services, consideration must be given to compliance with local and national labor laws and relevant core labor standards. With respect to labor and working conditions of women, there must be compliance with core labor standards which includes prohibition of any form of discrimination against women during hiring and providing equal work for equal pay for women and men. Other workforce considerations as a result of the proposed sub-projects development which may have impact on human resources policies (i.e., working relationship, working conditions and terms of employment, workers' organizations, non-discrimination and equal opportunity, retrenchment and grievance mechanism), protecting the workforce (i.e., child labor and forced labor), occupational health and safety, workers engaged by third parties, and supply chain are applicable in varying degrees due to differences in local context.

Furthermore, codes of conduct for the, individual workers, will be in place governing the relationship between the community and the labor force working for the civil works contractors, sub-contractors and other providers of goods and services. This is especially important in relation to risks related to Gender-Based Violence, child labor or child abuse, increased prevalence of HIV/AIDS, and/or a potential disruption to the social norms of the community.

4.3.3 Land Acquisition and Resettlement

Some PAP or PAH are likely to be required to vacate lands that they presently occupy and relocate elsewhere, either on a temporary or permanent basis. Other impacts may occur including relocation of temporary buildings and houses, and damage to crops and commercial-value trees.

Since acquisition of land and resettlement is likely to be required, a RPF related to OP/BP 4.12 has been developed to accompany this ESMF. Ethnic groups may also be directly or indirectly affected (positively or adversely) so, an EGEF in line with OP/BP 4.10 has been developed in conjunction with this ESMF.

The MPWT DOW Project Management Unit (PMU) in association with relevant ministries such as MONRE will provide general direction for the planning of the relocation and acquisition process, ensure coordination between various stakeholders concerned with the project including those directly connected with relocation and monitoring implementation. At commencement of the sub-projects, stakeholders will be consulted to establish planning principles and work arrangements aimed at identifying and mitigating adverse social impacts induced by the sub-projects.

The DPWT Oudomxay Waterways Sector project implementation unit (PIU) will be responsible for developing an ARAP that identifies the scale of impacts and number of PAP and PAH. The ARAP will be informed through baseline surveys, valuation of properties, and a determination regarding compensation, whether in the context of temporary or permanent relocation and compensation or in the context of mitigating other sub-project related social impacts. Adequate public consultation and participation are mandatory requirements of the ARAP process.

As the DIA, the MPWT DOW will have one Social Development Specialist (SDS) to work alongside the PMU team. Among other duties, the role of the SDS is assist in preparing, monitoring and reporting on implementation of both the RPF and site-specific (i.e., region of influence [ROI]) ARAP so as to ensure that appropriate actions are addressed by the provincial Department of PWT PIU in relation to potential acquisition of land, relocation and/or resettlement issues. Upon approval of the RPF and ARAP, potential social impacts for each sub-project initiative and/or activity that requires land acquisition (including land donation), relocation or resettlement will be addressed. Required support for PAH resettlement and compensation for land and assets lost shall be completed prior to the commencement of civil works or by the timeframe to be agreed and specified in the ARAP. It is important to use a participatory approach to engage stakeholders, civil society organizations (CSO) and PAP and PAH to ensure broad acceptance of the proposed sub-projects.

A screening and review process should be used for land acquisition, relocation and resettlement, and a compensation planning process, if applicable. The main purpose of utilizing a screening and review process is to identify land acquisition, relocation or resettlement, and/or compensation issues associated with proposed sub-projects in their ROI (Appendix A4). For optimum planning, screening should take place during the initial stages of the RFP process so that the SDS is well-informed to develop the region of influence ARAP. The ARAP requires site-specific, or ROI, comprehensive information to identify: (i) PAP and PAH who will be affected (positively or adversely) by the sub-projects; (ii) PAP and PAH eligible for compensation and/or assistance; and (iii) type of compensation

and assistance and/or assistance required. Following completion of the ARAP, it will be submitted to the DIA for approval following which, it will be forwarded to the World Bank.

4.3.4 Ethnic Groups

The WBG policy OP/BP 4.10 applies based on initial observations and data provided. In compliance with the OP/BP 4.10, an EGEF will be prepared. It aims to provide the national, provincial and district government implementing agencies, consultants, village authorities, private, public sector agencies, and beneficiary community members with adequate guidance to ensure that ethnic groups are adequately consulted with and participate in sub-project planning and implementation, and that any negative impacts would be avoided, minimized or mitigated. The World Bank's policy on Ethnic Groups requires a process of free, prior and informed consultation (FPIC) leading to broad community support from ethnic groups benefiting from, or affected by, World Bank-financed sub-projects. The principle of FPIC recognizes ethnic groups' inherent and prior rights to their lands, territories and resources and respects their legitimate authority and requires processes that allow and support meaningful choices by ethnic groups about their development path. The borrower needs to use consultative methods that are appropriate to the social and cultural values of the affected ethnic groups' communities and their local conditions and, in designing these methods, gives special attention to the concerns of ethnic group women, youth, and children and their access to development opportunities and benefits.

As discussed in the EGEF, the screening process can also be used to identify other vulnerable groups and individuals that could be affected by sub-projects, including by potential exclusion from involvement in sub-project activities. Such different populations and vulnerable groups could include religious minorities, refugees and displaced communities. Vulnerable individuals could include widows, single mothers, orphans, disabled persons, youth and women more generally.

If, the screening determines that ethnic groups are present in, and have collective attachment to the subproject area, an Ethnic Group Development Plan (EGDP) will be prepared and applied under the sub-project. EGDP provides procedures, process, implementation and monitoring arrangements and budget to ensure that mitigation measures to address and minimize negative impacts on ethnic groups. EGDP also ensures that they receive necessary support to engage in and benefit from the project investments in an inclusive and culturally appropriate manner. Content of EGDP is outlined in Section 5.4.2.

4.3.5 Minor Temporary Impacts

There may be minor temporary impacts associated with the proposed sub-projects' civil engineering and construction activities including dust, noise and increased vehicle traffic, and lighting during nighttime hours.

For export of waste, there could be positive economic benefits and/or adverse impacts on small business and individuals working in the waste sector. Some action may be required to avoid adverse impacts, or to restore livelihoods under the applicable resettlement instrument. There are health, safety and well-being benefits to reducing waste disposal (i.e., reduced exposure to waste and leachate, reduced demand on land for waste disposal, reduced pests and disease vectors). In addition, there may be social impacts and economic benefit with the reuse, recycling and disposal of wastes such as noise, odor, leachate and visual impacts.

4.4 GENDER CONSIDERATIONS

The Lao PDR DRM Project preparation provides a critical entry point for mainstreaming gender and related aspects. Once the proposed Project's footprint is known, it will be important to have baseline information on gender and social relations to be able to identify gender issues and to assess the local enabling environment. A gender-responsive social assessment will provide baseline information and identify potential impacts for different populations (ethnic peoples and vulnerable groups – women and female/male youth and children, the elderly and disabled, landless, and poor, etc.) in relation to their health and safety concerns. The following sub-sections provide insight into the scope and details that should be considered for establishing baseline information and the subsequent gender analysis in relation to the project.

4.4.1 National Laws and Legal Framework

In general, government policies combined with rapid economic modernization have supported the steady advancement of women's status in Lao PDR, particularly in urban areas. There is a strong legal framework for promoting gender equality in Lao PDR, with various national laws and policies, and international treaties ratified by the GoL, in place that supports equal participation of women and men in economic, social, and political life.

The 1991 Constitution of Lao PDR guarantees equal rights for women and men (Article 22 and 24). It states, "*Lao citizens of both sexes shall enjoy equal rights in political, economic, cultural, social, and family affairs*". The Constitution gives the mandate of women's advancement to the Lao Women's Union (Article 7). Women's equal rights are also stipulated in the Family, Land, and Property Laws; the Labor Law; the Electoral Law; and the Penal Law.

Rights of inheritance for both men and women, and disposition of assets in the event of divorce, desertion or are supported by the Constitution (Article 17), Family Law, Inheritance Law, Property Law, the Law on Development and Protection of Women and the Land Law.

National Strategy for Advancement of Women (2011-2015)

The National Strategy for the Advancement of Women (NSAW) was designed to promote Lao PDR as a country "where all women enjoy equality with men, and can achieve their full potential in politics, the economy, culture, social and family life while enjoying a safe condition for living". Its overall goals are to: increase understanding of gender equality; enable more women to join decision-making positions; provide opportunities for women and girls to access health care, education, training, employment, income generation, infrastructure, and social protection; promote wider participation of women from all ethnic groups in economic activities and social services; and strengthen gender machinery in-country, especially the NCAW. Budgetary provisions to fund the national strategy for the advancement of women include provisions requiring that GoL issue guidance for sectors and local authorities at all levels on integrating NSAW action plans into their targets, and with allocations coming from their own budgets. The MOF similarly is instructed to issue guidance on budget lines, allocation and expenditure for NSAW implementation (Asian Development Bank and The World Bank 2012).

The Lao Women's Union

The Lao Women's Union's (LWU) responsibility is to represent women of all ethnic groups and to "*protect women's rights and interests*". It is guided by "three quality targets", which include "*being a good citizen, being good in development, and having a good cultural family*". The LWU has representation in every village, with one member of the LWU representing women in each village

council. By reaching out to women from the national to the provincial, district, and village levels, the LWU serves as a bridge between the People's Revolutionary Party, the government, and Lao women from urban and rural areas. The LWU also promotes and monitors the implementation of women's development programs in compliance with the Party's and government's policies, the Constitution, and laws related to ensuring equal rights between women and men. The LWU's key programs include projects for women focused on income generation, credit/savings, education, nutrition, and reproductive health, most of which are supported by donor agencies. The LWU conducts activities with governmental partners and also cooperates with many international NGOs (*ibid*).

In 1997, the LWU established Gender Resource Information and Development Center (GRID). As a technical body, GRID has trained a pool of gender trainers and researchers at the central and provincial levels. It has also developed training materials and conducted research and gender analysis on various topics – which it disseminates widely, including through its five libraries and resource centers (*ibid*).

The National Commission for the Advancement of Women (NCAW)

The National Commission for the Advancement of Women (NCAW) is responsible for formulating and implementing national policy for the advancement of women, and for mainstreaming gender in all sectors. The NCAW was formally established through the Prime Minister's Decree No. 37 in 2003, and is chaired by the Deputy Prime Minister, supported by four deputies: the President of the Lao Women's Union, the Minister of the Prime Minister's Office, the Minister of Public Health and the Vice Minister of Education. NCAW's 16 members include all vice ministers of line ministries and mass organizations; the Vice President of the Supreme Court and the Office of the Prosecutor; and the Vice Governor of the Bank of Lao PDR (*ibid*).

Sub-Committees for the Advancement of Women (Sub-CAW) units have been established throughout the country, and across ministries and state organizations and at provincial and capital administrative levels, creating a broad network of gender focal points. However, although most male members have decision-making authority, many lack basic gender concepts and mainstreaming skills. Their efforts are further hampered by limited resources and competing priorities within each sector. During recent years, the NCAW Secretariat and a small number of sub-CAWS have received donor support, but critical capacity building, resources and institutional is still need to implement its mandate (*ibid*).

4.4.2 Gender Issues and Disaster Risk Reduction and Management

Women and men differ in how they perceive disaster risk, experience, respond to, and recover from disasters, resulting in differential impacts and priorities between women and men. It has been widely observed, researched and documented that for a variety of reasons, women can be more vulnerable than their male counterparts of the same social classes, races, ethnic and age groups during all phases of a disaster (UNISDR 2009). On average, women are poorer and they typically lack secure access to the resources needed for recovery and adaptation. In communities that are dependent on natural resources women are likely to bear disproportionate hardship to the effects of climate change. Disasters and climate change are increasingly impacting sectors that form the basis of livelihoods for which women are responsible, for example, agriculture, providing food, water, and energy supplies for the household. Moreover, because of gender differences in property rights, access to information and social and economic roles, the effects of disasters and climate change will affect men and women differently. Disaster situations, with the break of family, community and institutional security and protection, generally make prevailing gender-based disparities surface to a greater degree than in normal situations, putting already

vulnerable groups at higher risk. As a result, addressing gender relations in disaster risk reduction (DRR) requires more attention to the status of women, along with the challenges they face.

The success of development initiatives depends on equality between women and men, and between different social groups. From a disaster and climate change perspective, this begins with an understanding of the differences in adaptive capacity between different groups and between men and women, and the design of mitigation and adaptation strategies that ensure that vulnerable people have equal access to resources, rights and opportunities.

After a disaster strikes, such as the floods that hit Oudomxay Province in 2008 and 2013, women are often disproportionately affected as a result of the economic and social dislocation of the household. They have to deal not only with the economic devastation and disruption of livelihood systems but are left to cope with the social and emotional upheaval that comes from dealing with the death, disease and food shortages that invariably occur in the aftermath of floods. The social and emotional effects of the damage that floods impose are often not even acknowledged as the main focus of rehabilitation is on the economic aspects of the damage.

However, women are not just victims of disasters such as floods – they demonstrate extraordinary powers of resilience during disasters and bring unique experiences and valuable skills that would benefit disaster risk mitigation and preparedness. By recognizing and promoting the unique capacities of women, one can simultaneously further community resilience and advance gender equality. Experience has shown that women are central to permanently improving the lives of their families and communities, and therefore must play a pivotal role in DRR strategies and initiatives. It is also important to recognize that women and men also have distinct and valuable knowledge about how to adapt to the adverse impacts of hazards and climate change. Paying attention to gender means recognizing the different needs and capacities and contributions of women and men. Because of their different role definitions and life experiences, men and women can complement each other when contributing to risk reduction and disaster management.

4.4.3 Gender Profile Summary for Lao PDR

Results from an ADB Gender Analysis conducted in 2011 in Lao PDR demonstrated that although gender gaps have improved between girls and boys, fewer girls than boys are enrolled at all levels and gaps increase at each the higher levels of education stage. Differences between urban and rural areas are significant, with disparities highest in the north and in rural remote, off-road, and ethnic areas, where girls comprise a higher proportion of those who have never attended school. Lao PDR's maternal mortality rate is still among the highest in the world, at 405 deaths per 100,000 live births. Lack of a skilled birth attendant at delivery, access to basic emergency obstetric care and hospitals, poor nutritional status of women, and food taboos during pregnancy are key factors contributing to the high maternal mortality rate. Early marriage and pregnancy place young women at risk, and access to family planning and reproductive health services remains limited (ADB 2011).

While the Lao PDR is considered to be a low prevalence country for HIV/AIDS, the disease appears to be spreading more quickly among women in the 15–29 year age group. Only 23% of households in rural areas without roads have access to safe water (piped or from a protected well-water source), compared with 88% of urban households. Women are highly affected by poor access to quality water and sanitation facilities as they are primarily responsible for tasks related to household water and sanitation, taking care of sick children affected by water-borne diseases, and community environment improvements (ibid).

Lao women make up more than half of the country's agricultural workers (54%) and have one of the highest labor force participation rates in the region at 80%. They are traditionally responsible for family finances and food security. They are also active in the business sector, running about 52% of household businesses, and they partly or fully own about 31% of registered businesses. Despite their relatively high participation in the labor force, women tend to suffer certain disadvantages. Female workers on average earn lower wages and other kinds of remuneration than male workers; differences also exist in job security, types of work, and working conditions. Women tend to dominate small-scale enterprises in the informal section with limited growth of their businesses in the formal section due to a lack of literacy, limited access to credit and technical resources, and cumbersome formal registration procedures. Women's ability to shift from subsistence agriculture to market-oriented production is hindered by limited access to extension services, productivity enhancement technology, market information, and credit. Lower education levels often translate into women having less of the credentials required to secure well-paid jobs in emerging markets. In addition, women's higher reproductive and household work burden and consequent time poverty curtail their income-earning potential. Greater economic integration of the Lao PDR and the South East Asian region has increased women's migration between countries in search of employment, which has increased women's vulnerability to risks associated with illegal migration, trafficking, HIV/AIDS, sexual exploitation, and violence (ibid).

Prevalence of domestic violence is widespread with about 1 in 5 reporting physical abuse and 1 in 3 reporting emotional abuse. Limited support services (legal, health, and police) and legal framework and social pressures prioritize family unity over protection. Sexual violence or rape of a spouse is not considered a crime. Violence legislation is lacking, for example, the *Law on Development and Protection of Women (2004)* mentions domestic violence but stops short of suggesting it can be penalized (ibid).

4.4.4 Entry Points for Gender Mainstreaming in the Project Cycle

Ensuring that the project impact assessment includes a gender-responsive social analysis is an important element of each stage or level of World Bank operations: upstream/macro-social analysis (the national, regional or sector level), sociological appraisal conducted as an integral part of project selection and appraisal, and social assessment for a particular project conducted at different times during the project cycle (World Bank 2005).

Due to Lao PDR's geographic features, the country is exposed to multiple climatic hazards, but floods are the most frequent hazard to occur in the country. Oudomxay Province experienced flash floods with devastating effect to infrastructure and loss of life in the provincial capital, Muang Xay, in 1945, 1985, 2008 and 2013. As a result, large-scale infrastructure projects have been proposed as part of Oudomxay's provincial capital urban flood risk management plan.

The starting point for effective gender mainstreaming in flood mitigation and DRM projects is to undertake the required gender analysis once the sub-project footprint and ROI has been identified. A gender analysis typically involves examining the differential impact of the project intervention on women and men, and may include the collection of sex-disaggregated or gender-sensitive data. A gender analysis examines the different roles, rights, and opportunities of men and women and relations between them (i.e., the economic and social relationships between females and males which are constructed and reinforced by social institutions). It also identifies disparities, examines why such disparities exist, determines whether they are a potential impediment to achieving results, and looks at how they can be addressed (USAID 2011). Measures must be proposed to address these issues, along with measurable indicators to monitor the intended social benefits and development outcomes and risks of the project.

Conducting a gender analysis when designing a new project or activity will help to:

- Analyze gender roles in project design;
- Identify root causes of existing gender inequalities in that context so that they can be addressed in the project design;
- Identify different needs and priorities of men and women in both the near and long term;
- Collect sex-disaggregated baseline data;
- Avoid perpetuating traditional power imbalances; and
- Enhance the likelihood of strong and sustainable project results.

Project Preparation and Appraisal Stage

This phase is a critical entry point in gender mainstreaming. It is important to have good baseline data on gender and social relations to be able to identify gender issues and to assess the local “enabling environment” with respect to the project. Based on the social issues identified at the Project Concept Note (PCN) stage, a detailed social assessment is conducted at the project preparation and appraisal stage. The borrower is normally responsible for the social assessment, although the analysis may be conducted either directly by or in consultation with the World Bank.

Specific actions required when designing a DRM project include conducting a gender-responsive Hazard, Vulnerability and Capacity Assessment (HVCA) as part of the social assessment. The HVCA includes the following steps:

- Identifying flood prone areas;
- Examining livelihood systems in the in the flood prone areas, taking into account gender roles and responsibilities;
- Generating sex disaggregated data that maps community vulnerability and assesses existing capacities for flood and disaster responses;
- Recognizing the socio-cultural restrictions and constraints that women face;
- Identifying women who would be at high risk in a disaster context, including economically disadvantaged women, women belonging to racial and ethnic minorities, women with chronic disabilities or health problems; and
- Engaging women as full and equal partners in community-based disaster mitigation and planning.

The findings of the HVCA and social assessment provide critical inputs to the Operational Manual (OM) of the project. The social scientist that implements the social assessment should participate in the preparation of the operational manual to ensure that the findings of the social analysis are incorporated in the OM. It is also important that women are integrated at all levels of planning and decision-making in flood protection, mitigation, and disaster management, from the national to the local community levels.

The gender issues and DRM listed in Table 6 should be included in the detailed social assessment.

Table 6 Gender issues to be considered as part of the social assessment for flood protection and mitigation measures.

Category	Gender Issue
Country social and institutional context	<p>Does the country have policies or laws related to gender equality or equity (labor laws, property and business ownership, opening a bank account, obtaining passport, holding public office)?</p> <p>Do the DRM strategies and policies incorporate gender issues?</p>
Understanding the needs of the affected populations including women, men, children, and the vulnerable	<p>Do you have a baseline data on demographic and socio-economic profiles of the population such as livelihoods/occupations, income level, nutritional status, literacy/educational level, ethnicity and religion, and analyze the vulnerabilities?</p> <p>Is the baseline data disaggregated by sex and age where applicable?</p> <p>Have you identified disaster impacts and needs for immediate and medium-longer term, on: livelihood groups, gender groups, and other specific target groups?</p> <p>Is the data collected during needs assessment disaggregated by sex, age groups, and by target groups?</p> <p>Have you applied various assessment tools (such as secondary data review, household/key informant interviews, and observations)?</p> <p>Who are your target group? Did you develop selection criteria for the target group, which is clear and specific enough to target the most affected?</p> <p>Does the project provide special assistance to vulnerable groups such as pregnant and lactating women, children, people affected and infected by HIV/AIDS, people with disability, and/or extreme poor?</p>
Measurement of the impact of the project on target groups	<p>Do you have a system to monitor and evaluate the project impacts on women, men, children, and specific target groups, and do you do it separately for each group?</p> <p>Do you analyze the findings from monitoring and evaluation, document them, and share them among stakeholders?</p> <p>Do you monitor and/or evaluate changes in women's ability to influence decisions at household and community?</p> <p>Do you monitor and/or evaluate changes in target groups' access to and control of resources?</p> <p>Do you conduct an impact assessment after the completion of the project?</p>
Increased access to and control over resources by women, girls and disadvantaged people	<p>Do you provide women and girls (or other vulnerable groups your organization target) with an access to resources and promote an environment where women and girls (or other target groups) feel comfortable and confident to control them?</p>
Gender and diversity sensitive disaster response project management	<p>Is there a Gender/Diversity policy? Is the policy mainstreamed in project strategy and plan?</p> <p>Do you train staff on vulnerabilities to disasters by different populations and communities?</p> <p>Is Gender/Diversity policy mainstreamed in your disaster management guideline/tools?</p> <p>Are staff and partners held accountable for setting and achieving objectives relating to mainstreaming gender in the project cycle?</p> <p>Do you consult with an expert on the specific target populations (e.g., women, the disabled, children, HIV/AIDS) when you need technical guidance?</p> <p>Do you document findings on met and unmet needs of different populations from monitoring and evaluation, and to share them among stakeholders?</p> <p>Do you document lessons learning from the intervention, and share it among stakeholders?</p>

Table 6 (Cont'd.)

Category	Gender Issue
Resource allocation to mainstream gender	Are more than half of the resources allocated to girls and women?
	Is there a proportion of budget allocated for activities that promote gender equality (e.g., promote equal access to services and opportunities between women and men)?
Accountability and transparency	Do you communicate to the assisted people the information on obligations, responsibilities, rights and entitlements of the participants, in the language and media easily understood and accessible by all of them?
	Do you share findings of monitoring and evaluation with assisted people?

Potential Gender Constraints and Opportunities in Flood Protection Projects

Projects designed and implemented to improve flood protection often benefit women and men differently, and not always positively. Insufficient consideration of gendered needs in DRM can inadvertently exclude or further constrain access to resources for some groups and exacerbate poverty if projects are not designed to be gender and socially inclusive. While disasters pose threats to lives and livelihoods of everyone in their path, they tend to have disparate impacts on particular demographics. This is due to the fact that disaster risk is a function of ‘adaptive capacity’—the ability of communities and people to cope with the hazard at hand. Despite gender-based vulnerabilities, women are also key agents of positive change in disaster risk reduction and management efforts. Highlighting and promoting women’s active contribution to community DRM efforts will in turn help women become more active agents of community resilience against disasters. Table 7 provides a typology of gender issues, constraints and opportunities related to different vulnerabilities, many of which, were obtained from community consultations during site visit.

Table 7 Key gender issues, constraints and opportunities related to DRM.

Key Gender Issues	Constraints	Opportunities and Recommendations
Livelihood and Food Security	<ul style="list-style-type: none"> Disasters increase women’s household and care-giving work dramatically for an extended period of time as housing and social infrastructure once destroyed is slowly replaced. Disasters require women to manage displaced households and restore family livelihoods. Post-disaster aid often targets male-headed households as the primary claimants for government and other support, and ignore women’s joint claim on family assets. Women often have less secure rights to land and water and lower rates of property ownership; resulting in women not having the required collateral for credit or other financial mechanisms from formal financial 	<ul style="list-style-type: none"> Introduce new products, skills, and technologies suitable to women’s needs and resources. Promote appropriate labor-saving technologies for women and men, with special attention to reducing the drudgery of women for care-related tasks. Expand women’s access to more profitable crops and animals Improve women’s access to markets and more profitable value chain roles. Expand access to natural resources, credit, insurance and other financial mechanisms. Reform land tenure arrangements to increase security for women and men.

Table 7 (Cont'd.)

Key Gender Issues	Constraints	Opportunities (and Recommendations?)
Livelihood and Food Security (Cont'd.)	<p>institutions or meet the requirements for membership in some producer, marketing, or water user associations.</p> <ul style="list-style-type: none"> Women have lower literacy levels, which puts them in an economically vulnerable position. Women receive lower pay and have less work security than men. 	<ul style="list-style-type: none"> Introduce climate- and disaster-adapted food storage. Recognize and protect (including through formalization) informal land-use practices. Improve women's access to extension services, credits and appropriate seeds and technologies.
Health	<ul style="list-style-type: none"> Gender health inequalities are significant in developing countries: i.e., women die in labor or at childbirth for lack of transport, clean water, or energy. Women experience higher rates of morbidity due to domestic chores (water and fuel transport, indoor air pollution from cooking). Women experience higher rates of malnutrition as they tend to prioritize feeding the family before themselves. Men are exposed to different risks than women; Young boys have higher morbidity rates from poor hygiene, and migrating men are more exposed to infectious diseases such as HIV/AIDS. Men's mortality rates from motorized transport are higher. Traditional societal roles impact women's health more than men's. Socio-economic conditions limit women's access to public health. Lower educational levels limit access to health information. Women's lesser decision-making power over their body exposes them to higher health risks. Limited health and transport infrastructure make women and children more vulnerable to access to care. Because of their low economic status and malnutrition, women are more susceptible to heightened bacterial and infectious diseases that result from changing weather conditions and the deterioration in water quality from floods or droughts. Women are also at greater health risks from extreme events such as floods, droughts, heat waves, and windstorms. 	<ul style="list-style-type: none"> Conduct a gender-sensitive assessment of health issues in the project area and/or at the national and regional levels, and describe, with sex-disaggregated data, the health risks and likely outcomes of climate variability and risks. Plan a gender sensitive DRR and CCA health plan which may include: expanding health care services, increasing accessibility to formal health clinics and medical personnel to serve the poor. Enhance the disaster-preparedness of public health services, including staff training, establishing stocks of essential medicines and bottled water, and developing public information systems. Establish monitoring and information systems to monitor diseases and provide early warnings about disasters can help to improve resilience by influencing behavior.

Table 7 (Cont'd.)

Key Gender Issues	Constraints	Opportunities (and Recommendations?)
Health (Cont'd.)	<ul style="list-style-type: none"> Disasters on average kill more women than men, or kill women at a younger age than men. 	
HIV/AIDS, sexually transmitted infections (STIs), and other communicable diseases	<ul style="list-style-type: none"> Large DRR infrastructure construction draws an influx of workers from other localities that are predominantly male, migrant, have a regular supply of money from their work, and are more likely and able to access commercial sex. This can trigger higher levels of HIV transmission and/or STIs for young women from surrounding areas in search of income opportunities as sex workers. Women and girls from vulnerable groups (the poor, ethnic minorities) living in remote cross-border locations are at a significantly higher risk of HIV infection. Women can also be at risk of infection by their husbands who may work as mobile drivers or construction workers and return home infected, and may take on the additional care burden for their sick husbands. 	<ul style="list-style-type: none"> Provide tailored training and awareness for contractors. Integrate HIV/AIDS and STI prevention in contractor occupational health and safety programs. Distribute free condoms to ensure sufficient availability on-site. Conduct social marketing of condom use to high-risk groups. Implement public awareness and education campaigns, targeted at and tailored for construction workplaces, entertainment establishments, transport corridors, and at-risk local communities (e.g., women cooks in construction sites and ethnic minority women). Provide counseling and treatment services for transport workers, sex workers, wives, and other female partners of transport workers. Collaborate with local AIDS authorities (where they exist) to maximize coordination. Build partnerships with local health providers for community awareness and referrals. Build capacity of the executing and implementing agencies and transport sector institutions on mainstreaming HIV prevention in transport projects, including development of guidelines.
Gender-based violence	<ul style="list-style-type: none"> Gender-based violence (GBV) and Child abuse is a risk during the construction phase, due to the potential influx of workers. Gender-based Violence (GBV) can be a major issue following disasters; there is evidence that violence against women, both from their intimate partners and other men, tends to increase. In camps for refugees and displaced people, women and girls can be particularly vulnerable to violence. The design of emergency shelters can either exacerbate or prevent violence against women. 	<ul style="list-style-type: none"> Specify in bidding documents obligation to sensitize workforce to GBV and include sanctions and requirements to report to authorities in individual code of codes. Collect data on gender-based violence and establish a data storage system. Support victims of violence by providing refuges, and setting up a confidential follow-up system of medical and psychological support. Engage men in working to eradicate violence against women by providing positive examples of non-violent behavior, challenging male offenders, and reducing alcohol consumption.

Table 7 (Cont'd.)

Key Gender Issues	Constraints	Opportunities (and Recommendations?)
Gender-based violence (Cont'd.)		<ul style="list-style-type: none"> ▪ Raise awareness among both women and men about a woman's right to live free of violence, at home and in the public domain. ▪ Ensure that evacuation shelters and emergency housing are equally accessible to both women and men, and that women have adequate privacy and security. ▪ Advocate for courts to prosecute and punish perpetrators of violence against women. ▪ Strengthen coordination between communities, health and social services, police, security forces and the legal justice system, including systems of traditional or customary law.
Planning processes and decision-making	<ul style="list-style-type: none"> ▪ Women are often marginalized or excluded from the decisions made throughout the disaster management cycle and the relevant policies. 	<ul style="list-style-type: none"> ▪ Adapt participation/membership criteria and reduce participation barriers for women's active participation and leadership in decision-making bodies at all levels. ▪ Offer capacity development training to build a pipeline of professional women in senior and management positions in the sector. ▪ Adjust priorities for policy agenda to represent men's and women's interests. ▪ Engage women in disaster risk management and recovery decision-making.

Gender Action Plan

The project-specific gender action plan (GAP) is a tool used to ensure that “gender mainstreaming” is tangible and explicitly visible in project design and implementation. The project GAP is not a separate component but instead should mirror the project outputs and be included as an integral part of the project design.

The overall objective of the plan is to provide mechanisms that ensure both men and women are consulted and participate in the planning and design and implementation of project interventions. The mechanisms will be at both project management and community levels. These actions include equal opportunities to access capacity development programs, to enhance gender equity and women's empowerment in urban institutions, to increase female representation in project implementation structures and consultation groups, and to allocate employment for women generated through sub-projects. The GAP should include clear targets, quotas, gender design features and quantifiable performance indicators to ensure women's participation and benefits. Once proposed urban flood risk management sub-projects are known, then key aspects of the GAP are incorporated into the OM and other project plans and regulations to promote buy-in from executing agencies and other project partners (NERUDP 2012).

The GAP should include details on:

- Preparatory work undertaken to address gender issues in the project;
- Quotas, targets, design features included in the project to address gender inclusion and facilitate women's involvement and/or ensure tangible benefits to women;
- Mechanisms to ensure implementation of the gender design elements; and
- Gender monitoring and evaluation indicators.

Key gender provisions of the GAP should be included in the OM and the monitoring and evaluation (M&E) framework, to describe the gender deliverables and results that are expected from the project. Gender performance targets and indicators should be incorporated in different phases of the project cycle as appropriate. Sex-disaggregated baseline information is essential to demonstrate changes over the life of a project and provide a reference point for assessing gender equality results. Capacity building on the importance of gender mainstreaming may also need to be included in the GAP.

Gender-responsive Indicators

The project objectives, output and outcome indicators that are developed related to gender mainstreaming should follow 'SMART' principles (specific, measurable, achievable, realistic and time-bound). A few examples of SMART indicators for measuring progress and outcomes on gender inclusiveness that can be adapted to the specific sub-projects include (adapted from the International Federation of Red Cross and Red Crescent Societies, 2010):

- Number and percentage of men and women, by social group, consulted about project plans and frequency of these consultations;
- Evidence of inclusion, protection and/or improvement of women's tenure rights in new or reformed laws or regulation;
- Percentage of total budget spent on gender-focused and women-targeting empowerment activities;
- Number of government and partner staff who complete a gender analysis and sensitization training course;
- An increase in the number or percentage of disaster management activities and operations which have: identified the different priority needs and capacities of female and male beneficiaries, designed and delivered initiatives to respond to these different needs, and assessed the results over a given period of time;
- An increase in the number or percentage of female and male beneficiaries of flood protection and mitigation, and other DRM projects, over a given period of time;
- High levels of satisfaction with the assistance provided among female and male beneficiaries;
- An increase in number or percentage of women (and men when relevant) in decision-making positions where there is a gender imbalance over a given period of time; and
- Achieving equal treatment of women (or men when relevant) in terms of pay, conditions-of-service, etc.

Progress:

All stages of the disaster management cycle should make note of:

- The number or percentage of male and female beneficiaries who have participated in project decision-making structures and processes;
- The number or percentage of monitoring reports that include gender-disaggregated data, analysis of its implications for programming and identification of follow-up action;
- The number of complaints by women and men reported and resolved through established feedback and complaints mechanisms;
- An increase in access to, and control over, program and operational resources by socially marginalized women and men over a given period of time; and
- An increase in levels of awareness, skills and confidence among socially marginalized women and men to articulate and enforce their rights over a given period of time.

Disaster risk reduction (DRR) and preparedness should monitor and document:

- An increase in the number or percentage of HVCAs and participatory needs assessments that include systematic information gathering and analysis of gender issues over a given period of time;
- An increase in the number or percentage of women (or men when relevant) on disaster preparedness committees over a given period of time;
- An increase in the number or percentage of women and men participating in disaster preparedness training and planning over a given period of time;
- The needs or priorities of women that have been incorporated into disaster preparedness and DRM plans;
- The number or percentage of women and men who have received and understood early warning and disaster preparedness messages over a given period of time; and
- A decrease in the number or percentage of deaths, injuries and property losses among both women and men from disaster impacts over a given period of time.

Disaster response (these indicators can also be used for disaster preparedness):

- The number or percentage of women and men who feel evacuation centers are safe and accessible;
- Number of measures identified and put into place for ensuring that beneficiary registration and relief distributions do not exclude female heads of household, female members of households or any other groups, such as those with limited mobility; and
- The incorporation of women's privacy and protection needs into design of emergency and transitional shelters and settlements.

Disaster recovery should include:

- The number or percentage of male and female beneficiaries receiving livelihoods assistance, e.g., participating in cash for work, receiving seeds, tools or grants;
- Women's needs and preferences incorporated into the design of housing and human settlements; and
- Women's and men's workloads and time schedules taken into account in the timing of activities.

Gender Capacity Development

To enhance gender mainstreaming of projects related to flood protection and DRM, it is important to build the gender capacity of the executing and implementing agencies to recognize the importance of conducting a gender analysis, and to use the findings to design gender-responsive approaches to DRM. Capacity-building support is also needed to enable effective implementation of the GAP. The executing agency may need to contract gender specialist consultants to provide technical support for GAP implementation, monitoring, and reporting (ADB 2013).

Recommended Gender Design Features for Capacity Development Support:

- Appointment of a gender specialist within the project management unit (PMU) or TA consultant team with clear terms of reference.
- Sex-disaggregated database for monitoring and evaluation.
- Building of understanding and ownership of responsibility for gender issues and gender analysis by PMU and consultants, including in all project monitoring and reporting, particularly where a project GAP is in place.
- Provision of gender awareness and GAP implementation training for all project staff.
- Requirement for project baseline and reporting data to be sex-disaggregated.
- Targets for women established for newly hired executing or implementing agency staff.
- Targets for greater representation of women at professional, technical, and decision-making levels in the executing or implementing agency.
- Development of gender awareness and GAP implementation training materials.
- Sex-disaggregated tracking of participation in all capacity development activities of the executing agency.
- Target setting for female staff participation in training, as appropriate.

4.5 ASSESSMENT OF ALTERNATIVES

The GoL through the MPWT DOW have proposed several infrastructure sub-projects including riverbank protection works, dike, drainage canal and flood gates weirs and riverside park(s) in Oudomxay's provincial capital of Muang Xay. Although final design and costing has not been completed, it is possible that the budget will be insufficient to complete all of the proposed Project, in which case, it would be prudent to consider alternatives and establish priorities.

Alternative options and measures to the project and/or activities that the MPWT DOW could consider for Oudomxay provincial capital and vicinity include:

1. **Zero option** the do nothing alternative;
2. **Remove two proposed riverside parks** from the current list of proposed sub-projects;
3. **Include more Oudomxay provincial town drainage** options for Muang Xay to prevent or mitigate the effects of flash flood and heavy rainfall;
4. **Include community-based DRM approaches** to address local resilience priorities through participatory and community-led planning approaches; and
5. **Include green solutions for storing water** by means of vegetation, soil and porous surfaces and wetlands.

Ultimately, the Project economist conducting the feasibility study will consider different alternatives in the cost-benefit analysis including a sensitivity analysis to determine return on investment for the GoL and the World Bank Group and to prioritize investments under this project.

5.0 ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

The Project “will finance key flood risk management investments that contribute to natural disaster risk and poverty reduction and strengthen the capacity for longer-term disaster risk management in Lao PDR ...” (WB SEA DRM Project ESMF TOR). Discussions with the World Bank and MPWT DOW DIA counterpart staff confirmed proposed sub-projects in Oudomxay’s provincial capital of Muang Xay. All proposed sub-project initiatives will undergo further review and consideration, particularly in relation to potential environmental and social impacts and mitigation measures. As such, the ESMF is guided by World Bank *Environmental Assessment* safeguard instruments (OP/BP 4.01) and, specifically, OPs 4.10 and 4.12.

The purpose of the ESMF is to manage potential adverse impacts by establishing a guidance document which will inform the GoL MPWT DOW designated implementing authority and related ministries/departments to administer mutually agreed sets of environmental and social safeguards procedures and measures. The ESMF will facilitate necessary environmental and social management (including risk management of environmental and social impacts) procedures and measures of proposed sub-project(s) which may be financed by the project, and whose infrastructure design and location is unknown and may change during project implementation. The ESMF comprises the guidance document required for the environmental and social management plan (ESMP) and other planning measures (i.e., EGDP, ARAP, EMP) to be applied at project appraisal and formulation when detailed feasibility studies and technical design details become available.

As mentioned in Section 3.1, it is likely that the Lao PDR DRM Project will require an ESIA to be conducted as per the List of Project Type and Size to (construction of embankment with the length of more than 1 km), Remark 1 (i.e., many sub-projects) and Remark 4 (i.e., compensation and resettlement) stipulated in *Ministerial Agreement* (No. 8056/MONRE). The ESIA will utilize the ESMF as a guidance and decision-support tool to ensure integration of issues and concerns which apply to the DOW, other stakeholders and different populations.

As an overarching guideline document, the ESMF should provide assurances that:

- Sub-projects and technical assistance (TA) consider potential environmental and social issues, especially for different populations who would be directly impacted (positively or adversely) by the sub-project;
- Sub-projects and TA consider socio-cultural sensitivities and environmental values prevailing in areas where the proposed sub-project(s) would be implemented;
- During project formulation and design, adverse environmental and social impacts may arise during construction and operational phases and appropriate mitigation/enhancement measures need to be designed with a monitoring plan developed to track implementation of site-specific safeguards instruments;
- Environmental and social management safeguard instruments such as ESMP, EGDP, ARAP, EMP and the ECoP are suitably prepared and followed; and
- ESMF provides assurance that safeguard instruments are compliant with Bank environmental assessment (EA) operational policies and procedures and national laws and regulations.

5.1 DESCRIPTION OF PROPOSED SUB-PROJECTS

The proposed sub-project initiatives will strengthen urban flood risk management infrastructure in Oudomxay provincial capital, Muang Xay and would include riverbank protection, dikes, drainage canal and flood gates, weir and riverside parks. The investments would protect the urban core from regularly occurring flash floods which cause major flood damage to infrastructure, private property and personal well-being. The infrastructure investments would be complemented with non-structural measures, including strengthening land zoning regulations and application. The proposed flood control measures would explore water flow approaches in low-density areas of the river while protecting high-density areas from flooding.

The feasibility study and detailed design of the proposed sub-projects will be completed by a TA team during the project preparatory phase with DOW.

Guidelines for land acquisition will focus on procedures for voluntary and involuntary contribution of land to the project and the determination of compensation, if applicable. The Environmental and Social Management Plan (ESMP) will include scoping and screening of environmental and social impacts (Appendix A3). The ESMP will provide a brief statement justifying the environmental study. The environmental and social study lists the nature and severity of potential impacts, the development of other safeguards measures (ARAP, EGDP, EMP, and ECoP, among others) which includes a monitoring plan and provisions for integrating required actions into the contractor's contract.

These guidelines will comply with WBG global policies that are attached to the project agreement between the World Bank and the DOW. Safeguards that ensure the interests of ethnic groups are incorporated in the planning process for the Investment Plan.

Monitoring of the implementation of the safeguards guidelines will be supported by WB financing. The guidelines will clearly discuss the screening and approval of the Project design.

5.2 SCREENING AND APPROVAL

Environmental and social screening is designed to identify and document potential impacts arising from proposed sub-projects. The environmental and social screening informs decision-makers about the need to implement measures or actions (if any) which avoid, minimize, mitigate or compensate for adverse impacts. Sub-projects are classified according to the screening procedure. The procedure classifies projects into one of three WBG environmental and social safeguards assessment categories (A, B, and C) depending on the type, location, sensitivity and scale of the project and the nature and magnitude of its potential environmental and social impact. An ESMF is required for sub-projects which are not well formulated and where the environmental and social impacts are largely unknown.

Once the location and type of investment is identified then, a site-specific ESMP can be prepared and other safeguards measures (i.e., ARAP, EGDP, EMP, and ECoP). The Lao PDR DRM Project has been classified as a Category “B” project. The DOW DIA Project Management Unit (PMU) is responsible for proposed sub-project identification and screening (Appendices A2 and A3 for example screening forms) and ensuring that adequate environmental and social safeguards performance measures are implemented. The PMU will prepare proposed sub-project(s) descriptions (see Section 4.0), conduct environmental and social screening of proposed sub-project(s), and assess requirements for necessary environmental and social management measures and plans (i.e., ESMP, EGDP, ARAP and ECoP)². As described in Section 3, any sub-project classified as Category “A” will be ineligible for funding as these sub-projects would result in ESIAAs which require time and additional consultations to prepare and are beyond this Project objective as an urgent disaster risk management response

The DOW DIA PMU should conduct environmental and social due diligence (screening) for each proposed sub-projects, including: (i) sub-project description; (ii) identification of sub-project footprint and region of influence (ROI); (iii) establish an environmental and social baseline as the benchmark for identifying and comparing potential impacts from the proposed sub-projects; (iv) assessment of environmental and social impacts and risks of a proposed sub-project during both construction and operation phases; (v) engaging stakeholders and different populations during public consultations, as necessary, and disclosure; and (vi) application of ECoP and/or identification of avoidance, minimizing, mitigation measures or compensation, and preparation of environmental and social management plans (i.e., ESMP, EGDP, and ARAP) as necessary, including implementation arrangements, monitoring requirements, budgeting and grievance redress mechanism(s).

5.3 SCOPING ENVIRONMENTAL AND SOCIAL ISSUES

Under the Lao PDR DRM Project, sub-projects may include riverbank protection, dike, drainage canal and flood gate, weir and riverside parks. In addition, financing would be provided for hydrometeorology stations to advance early warning systems.

The urban flood risk management works would entail support for infrastructure improvements for flood control measures such as river embankments and drainage canals in Muang Xay. Consequently, the Provincial Department of PWT Oudomxay Waterway Sector PIU will be responsible for analyzing the level and extent of environmental and social issues relevant to the proposed sub-projects. The analysis will determine whether:

² The Bank TOR state that “an independent consultant is to be retained to assist in the preparation of safeguards instruments (ESMP, EGDP, ARAP and ECoP, etc.) targeted at specific sub-projects during Project implementation.

- The proposed sub-project has the potential to cause any social or environmental impact, whether directly or indirectly;
- Any World Bank safeguards policies would be triggered by the nature of the proposed sub-project and its associated activities; and
- Could there be any activities under a proposed sub-project that could cause significant impacts, beyond what is acceptable under the World Bank Category “B” safeguards policy classification.

The screening process will identify the nature of potential impacts, either positive or negative (adverse), that the potential sub-project could generate within its ROI. This will inform the selection of safeguards instruments that would be required to assess the potential impacts in further detail. The choice of safeguards instruments or measures primarily depends on the degree of significance of anticipated environmental and social impacts and the associated environmental and social risks. Table 8 provides a typology for scoping environmental and social issues which have varying levels of significance.

Scoping confirms the key environmental and social issues, risks and potential impacts identified during the screening process. The scoping stage can highlight potential issues at an early phase of sub-project development to allow planners and decision-makers to design changes which will mitigate potential environmental and social impacts and, possibly, the project location(s) to be modified.

The significance rating of potential impacts scoped will determine the level of the environmental and social safeguards instruments needed in order to undertake further assessment and to propose adequate mitigation measures to comply with its Category “B” safeguards policy classification. Environmental and social safeguards instruments may include ESMP, ARAP, EGDP and ECoP.

5.4 APPLICATION OF SAFEGUARDS AND INSTRUMENTS

The proposed urban flood risk management sub-project will require a set of safeguards measures to be prepared and applied at project appraisal and implementation. Some safeguards measures will range from abbreviated, checklist type of ESMPs for rudimentary repair works while others will require more comprehensive IEE, ESMPs, EGDPs, and ARAPs within clearly delineated sub-project footprints (i.e., dike and drainage canal boundaries, riverside parks). All sub-projects involving some form or another of urban flood risk management construction and infrastructure civil engineering works will require environmental and social management safeguards instruments and measures.

Table 8 Potential environmental and social impacts of proposed sub-projects.

Ref.	Impact/Issue	Comment/Description of Impact	Extent	Duration	Magnitude/ Intensity	Probability	Significance
Bio-Physical and Chemical							
BPC/1	Changes in surface water quality	In case of effluent (waste water) from substation spills into streams and water body untreated					
BPC/2	Changes in groundwater quality	Due to the soil type, there is low permeability for pollution of ground water.					
BPC/3	Changes to drainage patterns	Operation of the sub-project do not significantly affect existing drainage system					
BPC/4	Changes to air quality	Due to the wind speed and wind direction, the air quality in the project area and its surroundings may change.					
BPC/5	Changes to ambient noise levels	Noise from construction equipment/vehicles and generators may affect noise levels					
BPC/6	Changes to aquatic biota	In case of leakage of petroleum, oil, lubricants (POL), and chemicals, changes in aquatic biota may happen.					
BPC/7	Changes to terrestrial	No terrestrial biota is expected after construction phase.					
BPC/8	Changes to disease vector populations	Some health risk to people at project area due to inhaling the air from plant					
BPC/9	Changes to land cover	No definite impact after construction of infrastructure in the project area.					
BPC/10	Changes to areas of natural habitat	No further impact in project area.					

Table 8 (Cont'd.)

Ref.	Impact/Issue	Comment/Description of Impact	Extent	Duration	Magnitude/Intensity	Probability	Significance
Socio-economic and Cultural							
SEC/1	Changes involving loss of private and/or communal assets	No potential impact during the operations phase.					
SEC/2	Changes involving loss of private and/or communal land	Possibility of private and/or communal land loss due to the project					
SEC/3	Changes involving loss of livelihoods	Possibility of loss of livelihoods during construction and operation phase (e.g., fishing, farming in certain areas)					
SEC/4	Changes involving loss of physical cultural heritage	No impact in the operations phase.					
SEC/5	Changes involving physical and/or economic displacement of people	No potential social impact.					
SEC/6	Changes to local traffic patterns	For the future development of country, there may be changes in local traffic patterns.					
SEC/7	Changes to fisheries	Water, air, and noise pollution may interfere with fish migration.					
SEC/8	Changes in local wage labour incomes/livelihood opportunities	Possibility of increased income and livelihood opportunities due to the project.					
SEC/9	Changes in local trade/commercial incomes/opportunities	Possibility of increased income and livelihood opportunities due to the project.					
SEC/10	Changes in visual amenity	The natural landscape is affected by the presence of infrastructure.					
SEC/11	Changes to public infrastructure/community resources						

5.4.1 Environmental and Social Management Plan

The proposed Lao PDR DRM sub-projects will require an ESMP. The ESMP would become part of the civil engineering contract (see Appendix A4: Generic Environmental Management Plan [EMP]), establish the environmental and social standard and compliance mechanisms, and serve as the contractual basis for supervision and enforcement of good environmental and social practice during subsequent sub-project civil engineering flood control measures. For Lao PDR, as the urban flood risk management infrastructure is being rehabilitated or constructed within the dike construction zone or drainage canal alignment and ROW, a checklist type of ESMP could provide the appropriate due diligence instrument as illustrated in Table 9 below.

Once the footprints for Project have been identified, the ESMP will be prepared to identify potential impacts during pre-construction, construction, and operations. The environmental analysis, design and preparation of an ESMF for sub-project initiative and/or activity must be conducted in close connection with the feasibility and engineering design of the individual sub-project initiative or activity. As the proposed sub-projects will involve urban flood risk management infrastructure, the analysis should concentrate on environmental and social issues associated with direct impacts (i.e., within the sub-project affected dike construction zone, drainage canal alignment and ROW, and riverside parks) and the management of construction impacts.

Each sub-project includes, but is not limited to, analysis of available information concerning the general population distribution, concentrations of ethnic groups, concentrations of low-income communities, areas of significant ROW encroachment, sensitive and/or critical natural habitats, major rivers and waterways, recorded cultural heritage sites, and any other potentially sensitive areas, based on recent census, official data and information garnered from CSOs as well as detailed site visits. The environmental and social site-specific scoping sheets can be prepared once a detailed survey of the final sub-project's footprint(s) has been completed.

The environmental and social site-specific scoping sheets will include: (i) identification of all physical, environmental and social issues within the footprint; (ii) identification of mitigation measures identified by meters or kilometers, as appropriate, along the footprint alignment; (iii) safeguards instrument in which the mitigation measures will be included (i.e., design, resettlement plan, construction specifications, bidding documents, community relations plans, etc.); (iv) agency responsible for implementation; (v) timing for implementation of the mitigation measure (before construction, during construction, during planning, etc.); and (vi) sources of funding for implementing the mitigation measure. The scoping sheet will include maps at appropriate scales and schematic summary tables with specific issues to be addressed (e.g., slope stability, natural hazards, erosion, drainage or stream crossings, hot spots, access road safety and borrow pits). Finally, for each environmental and social concern identified and evaluated the scoping sheet, mitigation measures must be identified and safeguards procedures discussed in the ECoP (discussed below) and community relations plan.

The proposed sub-project initiatives and activities in Oudomxay's provincial capital of Muang Xay and proximity may disrupt communities in the vicinity of the footprint as there will be an influx of workers, increased traffic of heavy machinery, potential damages to private property, and conflicts with the local population. The ESMP should identify community participation mechanisms (i.e., a committee with participation from village Nai Bans and/or other community members) to address social issues raised during the construction period.

5.4.2 Ethnic Group Development Plan

If ethnic groups are impacted by the proposed Project, an ethnic groups safeguards planning instrument should be developed based on the WB OP 4.10. This safeguard policy requires that special measures be established to protect the interests of ethnic groups³ and ethnic peoples who can be distinguished by:

- Self-identification as members of a distinct ethnic cultural group and recognition of this identity by others;
- Collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories;
- Customary cultural, economic, social or political institutions that are separate from those of the dominant society and culture; and
- Ethnic language, often different from the official language of the country or region.

There is a potential that a proposed sub-project will have moderate to significant impacts on ethnic groups if they are subject to involuntary resettlement. Ethnic peoples' livelihoods and well-being are also under pressure in some areas because of in-migration by others, forestry concession programs, and discouragement of shifting swidden cultivation practices.

If ethnic groups are identified in any of the proposed sub-project areas, World Bank OP 4.10 general principles will apply to ensure that:

- Ethnic minority groups are afforded meaningful opportunities to participate in planning that affects them;
- Opportunities to provide such groups with culturally appropriate benefits are considered; and
- Any sub-project impacts that adversely affect them are avoided or otherwise minimized and mitigated.

The purpose of the EGDP is to ensure culturally appropriate consultation with ethnic groups and participation in sub-project development. If based on free, prior and informed consultations where affected ethnic groups conclude that the proposed sub-project will be beneficial to them then, measures and assistance will be developed in consultation with tribal elders, community based organizations (CBO) and independent civil society organizations/non-profit associations (CSO/NPA). The free, prior and informed consultations and planned activities will be documented in the EGDP. Assistance should include institutional strengthening and capacity building of tribal elders and CBOs working on specific activities (e.g., resettlement, if any) within the sub-project.

³ Social groups with a social and cultural identity distinct from the dominant society that makes them vulnerable to being disadvantaged in the development process.

Table 9 Site-specific screening process for sub-projects.

Screening Check List	Yes/No	Actions to be Undertaken
Involves land acquisition, relocation, indirect loss of access and assets, and has adverse impacts on different populations	Yes	Planning/Project engineers (DOW) through PMU will apply technical guidelines and policy frameworks. If the impacts are significant (i.e., impacting more than 10 percent of the project affected households [PAH] total assets), DOW will seek Ministry of Planning and Investment (MPI) clearance before selection of the sub-project(s). Extensive consultations with project affected people (PAP) are expected during planning and implementation development of the ARAP.
Scale of civil works is larger than those identified for maintenance or involves new construction	Yes	Planning/Project engineers (DOW) through PMU will apply appropriate guidelines. If the impacts are significant, DOW will seek MOF clearance before selection of the sub-project(s).
The sub-project site is located near villages, residential, markets or other sensitive areas (i.e., schools and hospitals) and dust and road safety issues will significantly affect human health and well-being	Yes	Planning/Project engineers (DOW) through PMU will include appropriate mitigation measures during planning and design stages. DOW will establish criteria and technology that are appropriate for dust suppression in sensitive areas. An action plan to address access road safety during construction, including cost and consultation with local agencies and communities, will be prepared. Periodic monitoring of air quality, dust, noise levels, and obtaining feedback from local authorities/communities may be necessary. Identified issues and actions will be included in the ESMP and recorded in the progress report and/or semi-annual report(s).
The project site is located in or less than 50 meters away from protected areas, areas of cultural heritage, or involves the use of large amounts of toxic chemicals or herbicides.	Yes	Planning/Project engineers (DOW) through PMU will ensure that the mitigation measures or actions are adequate to address the issues. Use of borrow pits and quarry sites in sensitive areas must be prohibited. Specific requirements provided in the ESMP may be applied to minimize potential impacts.
Large amount of material will be needed and stored properly	Yes	Planning/Project engineers (DOW) through PMU will consult MPWT and District authorities with respect to locations and practices of material excavation.
Fully comply with the assumptions specified above and a contractor will be hired to carry out the civil engineering and roadworks.	Yes	Planning/Project engineers (DOW) through PMU will apply the proposed ESMP of the project and prepare a specification plan for the sub-project, including those measures and actions required to mitigate the impacts on access road safety during construction, community consultation, and the public disclosure plan. A technical guideline on the environmental measures is provided along with training to the PMU and project staff.
Ethnic groups are present or have collective attachment to the affected areas.	Yes	Planning/Project engineers (DOW) through PMU will consult EGEF, prepare a dedicated social assessment, conduct a process of free-prior-informed-consultation, and develop appropriate measures in the Ethnic Group Development Plan.

If ethnic groups are adversely affected by a sub-project, either by land acquisition or because of other induced negative impacts, the EGDP would have to address the impacts with various measures, activities and actions to mitigate adverse impacts. Acquisition of land and other assets would be governed by the RPF.

Implementation of the EGDP would be carried out by the community, assisted by appropriate staff from DPWT Oudomxay Waterway Sector PIU, District authorities and Commune Council, facilitated by a civil society organization (NPA or CBO), where available and appropriate.

5.4.3 Resettlement Action Plan

If less than fifty households are affected by the sub-project, the appropriate safeguards measure is an ARAP described more fully in the RPF. However, if more than 50 households are affected as a result of a proposed sub-project development, Project authorities are required to prepare an ARAP for submission to the World Bank. The ARAP would include: (i) brief description of the sub-project, location and its impacts; (ii) principles and objectives governing resettlement preparation and implementation; (iii) legal framework; (iv) baseline information of PAP and PAH; (v) category of PAP and PAH by degree and type of impacts; (vi) entitlement to compensation, allowances and rehabilitation assistance by category of impacts in a compensation matrix; (vii) information on relocation site together with socio-economic conditions on the PAP and PAH, and host communities; (viii) institutional arrangement for planning and implementation; (ix) participatory procedures during planning and implementation; (x) grievance redress procedures; (xi) estimated cost of resettlement and yearly budget; (xii) time-bound action plan for implementation; and (xiii) internal and external monitoring and reporting procedures, including TOR for external monitoring and evaluation.

Impacts are considered “minor” if PAP and PAH are not physically displaced and less than 10 percent of their productive assets are lost.

5.4.4 Chance Find Procedures

The proposed sub-projects flood protection measures are not expected to yield archaeological, paleontological or cultural findings of any significance. However, there remains a possibility for (as yet undiscovered) sites of local cultural significance (i.e., sacred sites, cemeteries) and archaeological sites to exist within sub-project areas.

The purpose of the Chance Finds Procedure is to assist in the detection, reporting of, and prevention of disturbance and damage to objects and sites of physical cultural resources, specifically those physical cultural resources unknown prior to the commencement of construction activities. As there remains a possibility for (as yet undiscovered) sites of local cultural significance (i.e., sacred sites, cemeteries) and archaeological sites to exist within the sub-project areas, the DOW will ensure that the bidding and contract documentation will include a clause on chance find procedures and includes the following measures:

- i. stop construction activities in the area of the chance find;
- ii. delineate the discovered site or area; secure the site to prevent any damage or loss of removable objects;
- iii. notify the supervisory Engineer who, in turn, will notify the responsible local authorities;
- iv. responsible local authorities would conduct a preliminary evaluation of the findings to be performed by archaeologists who will assess the significance and importance of the findings according to various criteria, including aesthetic, historic, scientific or research, social and economic values;
- v. decisions on how to handle the finding shall be taken by the responsible authorities which could result in changes in layout, conservation, preservation, restoration and salvage;

- vi. implementation for the management of the finding communicated in writing; and
- vii. construction work could resume only after permission is given from the responsible local authority concerning safeguard of the heritage.

The Chance Finds Procedure is required to be developed by the construction contractor in conjunction with the Ministry of Information, Culture and Tourism (MOICT) and must be consistent with regulatory requirements of Lao PDR. The DOW will monitor the process of design, implementation, and post project implementation with respect to chance finds.

The construction contractor will be responsible for ensuring that the construction workforce is watchful in the detection and reporting of, and the prevention of disturbance and damage to, objects and sites of physical cultural resources. This should include stopping work and securing the areas adjacent to the physical cultural resources to prevent damage and notifying the DIA of the find.

All physical cultural resources items found in the construction areas shall be placed under DOW DIA care and authority in coordination with the MoICT. Ownership of any physical cultural resources discovered will be determined by the Ministry of Information, Culture and Tourism. Compared to other areas of Lao PDR, or other districts within Oudomxay Province, there is a low risk of encountering unexploded ordinance (UXO) in Xay district, particularly in the proposed sub-project sites. However, any sites where major construction activities are planned should be checked for UXOs. A survey and risk assessment for UXO in the construction area will need to be carried out as part of the project preparation. If the report identifies that there is a risk of encountering UXOs, the construction contractor should prepare an UXO Survey and Clearance Plan and implement this plan for relevant sub-project construction sites. The plan should include: (i) detailed procedures for identifying, securing and disposing of UXOs; and (ii) clear instruction to all staff on how to behave if an UXO is found.

5.4.5 Environmental Codes of Practice

The purpose of the ECoP for the flood control measures being proposed in Oudomxay provincial capital, Muang Xay, is to provide a guideline for preventing or mitigating environmental risk due to various activities associated with construction of the proposed infrastructure (i.e., riverside protection, dike, drainage canal and flood gates, weir and riverside parks). The objectives of the ECoP are to: (i) establish specific environmental and social criteria for flood control measures such as the proposed infrastructure works; (ii) provide technical assistance; (iii) ensure general understanding of environmental and social impacts and define environmental and social criteria to prevent or minimize such impacts⁴; (iv) ensure that engineers and technicians can find solutions for any problems arising during construction or maintenance activities; and (v) facilitate the preparation of environmental and social assessment for sub-projects.

ECoP users will comprise: project planners, designers, managers, civil engineers and technicians from DOW, environmental assessment Consultants, private consulting firms and contractors, academic and research institutions, government ministries and institutions, and stakeholders.

6.0 INSTITUTIONAL ARRANGEMENTS FOR PROJECT IMPLEMENTATION

The MPI will oversee the whole investment and provide a coordination role among project agencies. Three main implementing ministries – including MPWT, MONRE and MOF – will assign a team of staff

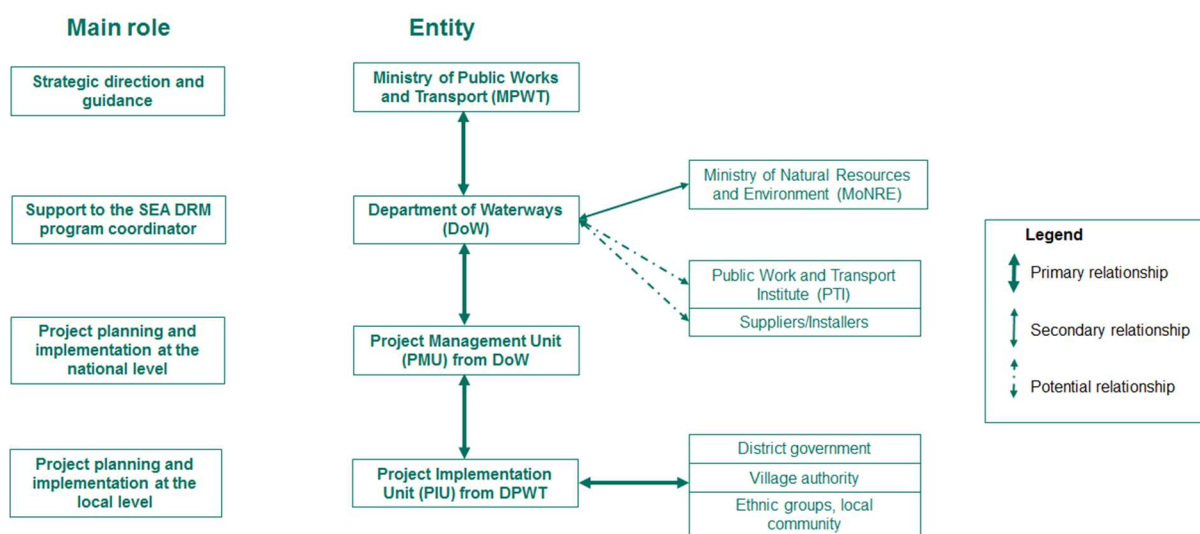
⁴ As the sub-project is expected to be implemented in urban or agricultural areas and not in a protected area or forest area, potential impacts can be addressed through the ECoP or, possibly, the EMP.

responsible for management, procurement, financial management, and safeguards of project activities. The Project will be implemented following the Government systems. MPWT will be the designated implementing agency (DIA) for Lao PDR DRM Project Component 1 with DOW responsible for planning and implementation of waterway-related activities. For Component 2, MONRE will be the DIA with the Department of Meteorology and Hydrology (DMH) responsible for planning and implementation of Sub-component (SC) 2.1 – weather forecasting and early warning systems, and the Department of Disaster Management and Climate Change (DDMCC) responsible for SC 2.2 – DRM systems.

The MPWT is the designated implementing agency (DIA) for Component 1 of the Lao PDR DRM Project. The DOW will establish a Project Management Unit (PMU) to be responsible for environmental and social safeguards performance of the urban flood risk management sub-project initiatives implemented with the support of the Department of Planning and Cooperation (DPC). The central PMU should be staffed for this purpose with environmental and social safeguards officers. Depending upon training and professional experience in environmental and social safeguards implementation and monitoring, it is likely that these staff will require additional training and support. They should be supported by a TA consultant team that will assist in the implementation of the ESMF requirements while building staff capacity to address environmental and social safeguards issues. These institutional arrangements are illustrated in the flow chart in Figure 1 below.

As sub-project initiatives are identified, the DOW PMU will clarify tasks and responsibilities regarding implementation of specific sub-projects. The DOW PMU will review screening reports prepared by Provincial DPWT Oudomxay Waterways Sector. The Provincial DPWT Oudomxay Waterway Sector will establish an Environmental and Social Unit (ESU) within the Project Implementation Unit (PIU) which will be responsible for preparing the draft terms of reference for an ESMP and develop requirements to prepare an ARAP, and EGDP in close consultation with DOW. The ESMP and accompanying ARAP and EGDP are normally prepared by the local PIU with support from consultants as necessary. The ESMP and planning documents (i.e., ARAP and EGDP) will be shared with stakeholders and different populations during consultations. Issues and observations noted in the consultations will be incorporated. Documentation will be released for public disclosure and submitted to the World Bank for review.

Figure 1 Institutional arrangements for ESMF implementation of Component 1.



As stated elsewhere in this ESMF document, the DOW PMU is responsible for tracking results and compliance of environmental and social safeguards implementation during project appraisal. These monitoring reports are submitted to the World Bank. Detailed procedures are provided in Section 9.0 of the current document. Additionally, MPWT, MPI and MONRE will be informed and engaged throughout the implementation process of the ESMF as part of the general reporting function of the project implementation. Table 10 illustrates different levels of national and sub-national government, district and village authorities, civil society and different populations which would be involved in the project.

MONRE is the principal agency responsible for enforcing regulations and actions related to water resources and the environment. As such, MONRE has the duty to safeguard and enhance the environment and is a key agency in review and approval of the ESMP and ARAP studies as well as in monitoring and auditing of safeguards mitigation measures. MONRE is responsible for issuance of the environmental conformance certificate which is essential for further implementation of investment projects.

As mentioned above, MONRE will also have an implementing role in the project through support to Component 2. These institutional arrangements are illustrated in the flow chart in Figure 2 below. The MOF and Department of Meteorology and Hydrology (DMH) will establish a PMU for implementation of SC 2.1 which will strengthen the capacity of DMH to predict flash floods and distribute last-mile early warning communication. The sub-component would focus on activities in the Nam Ou River Basin that spreads across the three northern provinces, including Oudomxay, Luang Prabang and Phonsali. The DMH PMU will clarify tasks and responsibilities regarding sub-component implementation and coordination with the Mekong River Commission (MRC) for updating activities in the Mekong River Basin. The DMH PMU will review screening activities prepared by the Provincial Department of Natural Resources and Environment (DoNRE) in Oudomxay, Luang Prabang and Phonsali and, in cooperation, with local authority and communities. A PIU will be established in each of the three provinces by the respective Provincial DoNRE with responsibility for SC 2.1 implementation and monitoring.

The MOF and Department of Disaster Management and Climate Change (DDMCC) will establish a separate PMU for SC 2.2 DRM systems. DDMCC will be responsible for strengthening the regulatory environment around DRM systems, tracking of historical disaster loss and damage data, and monitoring DRM indicators at national and international level. The DDMCC PMU will clarify tasks and responsibilities regarding sub-component implementation and coordination with MRC for technical assistance and cooperation in maintenance of technical information for the Mekong River Basin. The DMH PMU will review screening activities prepared by DDMCC for both national and sub-national levels.

Figure 2 Institutional Arrangements for ESMF Implementation of Component 2.

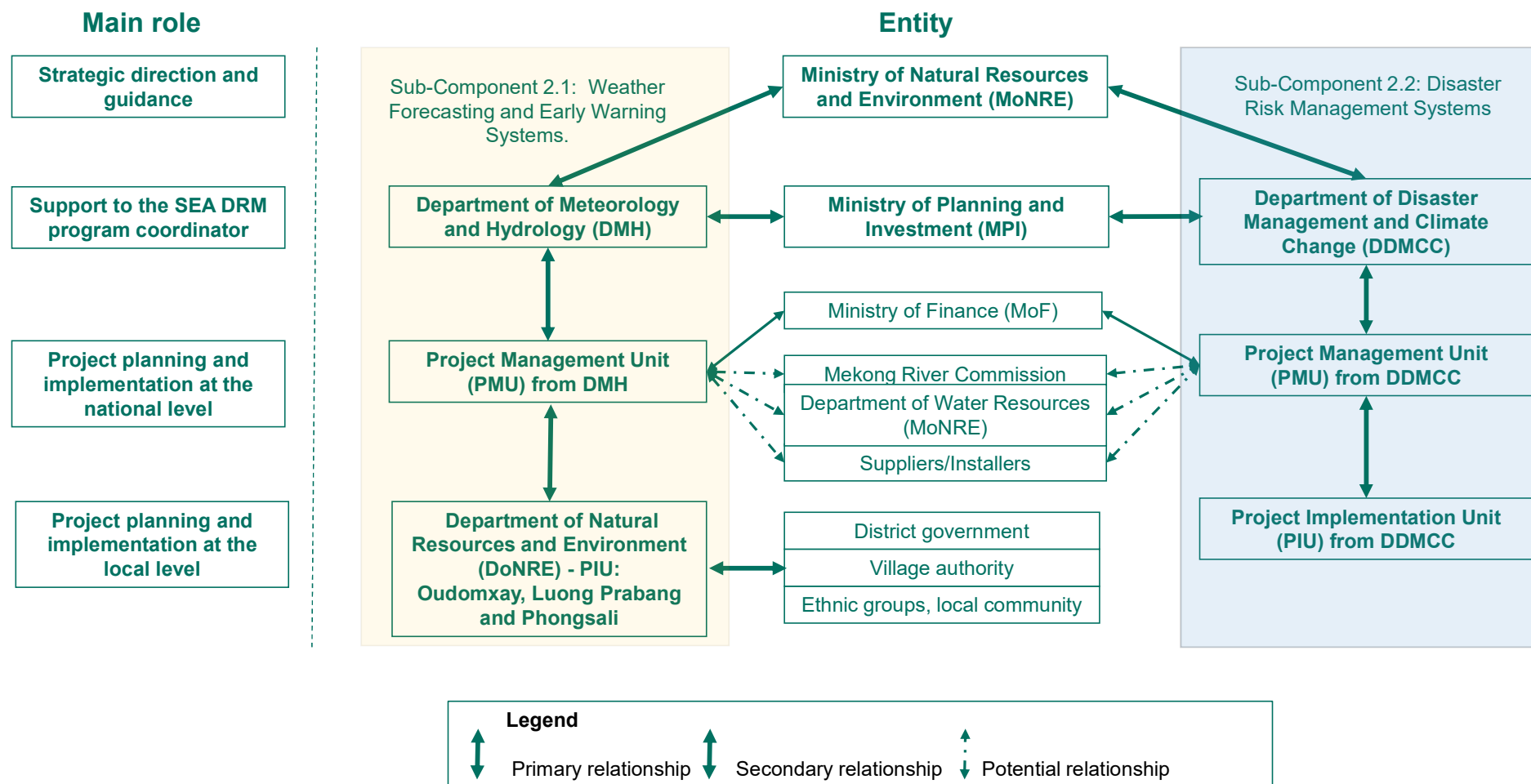


Table 10 Ministry of Public Works and Transport Institutional Arrangement.

Institution/Government Agencies	Role/Influence /Mandate	Level
Ministry of Natural Resources and Environment (MONRE)	<ul style="list-style-type: none"> Principal agency responsible for enforcing regulations and actions related to water resource and environment; it has the duty to safeguard and enhance the environment. Key agency in the preparation of the ESMP and ARAP studies and in monitoring and auditing of mitigation measures. Responsible of issuance of approval certificate for the ESMP and ARAP documents which are essential for further implementation of investment projects. 	National
Department of Environment and Social Impact Assessment (DESIA) of the Ministry of Natural Resources and Environment (MONRE)	<ul style="list-style-type: none"> DESIA is the principle agency responsible for enforcing regulations and actions related to water resources and the environment. It has the duty to safeguard and enhance the environment. DESIA is the key government agency in the preparation of the ESIA, ESMP and ARAP studies and in monitoring and auditing of mitigation measures. DESIA is also responsible for the issuance of approval certificate for the ESMP and ARAP documents which are essential for further implementation of the investment project(s). 	National
Ministry of Public Works and Transport (MPWT)	<ul style="list-style-type: none"> Approve and signoff on the project (Lead Agency for feasibility studies related to public works and transportation development projects and leads the project approval process). 	National
Department of Waterways (DOW) of the MPWT	<ul style="list-style-type: none"> Establish the Lao PDR DRM PMU. Prepares strategy on the Lao PDR DRM Project. Develops the environmental and social management plan (ESMP) and coordinates with Provincial DPWT Oudomxay PIU on development and implementation of the ARAP document. Responsible for project planning and implementation at the national level, including procurement. As DIA, DOW is the main authority for issuance of work permits essential for further implementation of the sub-project initiatives. Liaising with international, national, Oudomxay Province and local authorities. Monitoring and evaluation. 	National

Table 10 (Cont'd.)

Institution/Government Agencies	Role/Influence /Mandate	Level
Departments of Public Works and Transport (DPWT) at Provincial level	<ul style="list-style-type: none"> ▪ Establish PIU. ▪ Implements regional policies. ▪ Implement sectoral laws (national or local level laws). ▪ Approval of all development activities. ▪ Project planning and implementation at the local level. 	Local
Department of Urban Planning and Housing (DoUPH) of MPWT	<ul style="list-style-type: none"> ▪ Responsible for urban development planning and develops policies, regulations and plans for water supply and drainage, solid waste and sewerage in urban areas. 	Local
Office of Public Works and Transport (OPWT) at district level	<ul style="list-style-type: none"> ▪ Implement local orders on public works and transport activities. ▪ Implement national/regional policies and laws. ▪ Approval of project at the district level. ▪ Mobilize local communities. ▪ Submit requests for development activities to Provincial DPWT. 	Local
Village level – Nai Ban:	<ul style="list-style-type: none"> ▪ Mobilize local communities. ▪ Liaison activities and report information between OPWT at district – village level. ▪ Deliberate on the PAP and PAH grievance redress mechanisms. 	Local
Local stakeholders:	<ul style="list-style-type: none"> ▪ Community-based organizations (CBOs), municipal, district and village-level. ▪ Committees, unions, and other local groups: Lao women union, first aids, young volunteer, old person group, police village. 	Local
Ethnic group communities:	<ul style="list-style-type: none"> ▪ If projects are planned in areas inhabited by ethnic groups a process of free, prior and informed consultations will be undertaken in the project area of influence. 	Local
Civil Society Organizations:	<ul style="list-style-type: none"> ▪ National, regional and local civil society and non-profit association organizations, including environmental and ethnic group organizations. 	National/local

7.0 CONSULTATION AND INFORMATION DISCLOSURE

The project supports a participatory and consultative approach involving meaningful engagement with different populations (ethnic peoples and vulnerable groups – women and female/male youth and children, men, the elderly and disabled, landless, and poor, etc.), CSOs (NPAs, CBOs) and other relevant stakeholders. The approach was intended to enhance ownership and general understanding of different populations through free, prior and informed consultation and public access to information for the ESMF and safeguard management instruments (i.e., ESMP, EGDP, and ARAP), roles and responsibilities, and perceptions as a basis for improving coordination and achievement of the project objectives. The participatory and consultative approach should ensure effective communication and coordination with all stakeholders and different populations at national and local levels.

The Lao PDR DRM Project was first discussed with key Government decision-makers, the World Bank and Consultant on 9th May 2016 during the kick-off meeting in Vientiane, Lao PDR. Subsequently, during the 1st Public Consultation Meeting held on 20th June 2016, Government decision-makers, CSO representatives, the World Bank and the Consultant discussed the objectives of the ESMF, ToR for the ESMF, field visit schedule and expected outcomes from the community consultations, timeline and deliverables and a table of contents for the ESMF document.

Consultations to inform the draft ESMF, EGEF and RPF were held in Oudomxay's provincial capital, Muang Xay, and vicinity during the week of 21 – 24 June 2016 (Appendices A7, A8, and A9). Stakeholders and different populations (ethnic peoples and vulnerable groups – women and female/male youth and children, the elderly and disabled, landless, and poor, etc.) were provided information on project objectives, sub-project initiatives' descriptions, potential impacts (both positive and adverse effects). A second public consultation meeting was held on 22nd September 2016 to discuss the draft final safeguard instruments (Appendix A13). These draft documents will be translated into the Lao language. Both English language and Lao language versions will be posted on the MPWT official government website and, otherwise, distributed to national and local governments, key stakeholders and civil society organizations, and different populations two weeks prior to the second public consultation meeting. Initial results suggest that most of the stakeholders and different populations support the proposed sub-project initiatives. As sub-project initiatives are formulated, additional consultations will be held with local authorities, stakeholders and different populations who will be impacted directly or indirectly by the proposed sub-project initiatives. Written records of the consultations are appended in Appendices A10 and A11.

Once the final safeguard instruments are accepted by the World Bank, the documents will be disclosed (in both English and Lao languages) on the MPWT website. The documents will be sent to the Bank for review by the Regional Safeguards Secretariat (RSS) and, once finalized, submitted to the Bank InfoShop and, re-disclosed in Lao PDR.

8.0 GRIEVANCE REDRESS MECHANISM

Article 25 of decree 84/PM (on compensation and resettlement of people affected by development project, 2016) requires the project to establish an effective mechanism for grievance resolution. The decree requires that the sub-project proponent (i.e., Provincial DWPT Oudomxay Waterway Sector PIU) is responsible for coordinating and working with Oudomxay Provincial DoNRE to set up a grievance redress mechanism (GRM) and to take actions to solve/resolve issues. Grievances related to any aspect of a proposed sub-project will be dealt with through negotiations with the aim to reach a consensus. All complaints will be received in writing, or if given verbally then written at the same time

and place, from PAP and PAH, and duly recorded by each level of the grievance redress committee. Grievance procedures should include reasonable performance standards (e.g., time required to respond to complaints, and should be provided without charge to displaced persons).

Grievances related to environmental and social issues from ethnic groups that result from Project activities will be resolved by a Grievance Redress Committee through the Project grievance redress mechanism. However, the complainant also retains the right to bypass this procedure and can address a grievance directly to the Provincial DPWT Oudomxay Waterways Sector PIU office or the national assembly, as provided for by law in Lao PDR. At each grievance level, details, discussions, and outcomes will be recorded in a grievance logbook. The status of grievances submitted and grievance redress will be reported to DPWT Oudomxay Waterways Sector PIU management through the monthly report. In order to effectively and quickly resolve grievances people may follow the process described below:

- **Stage 1:** If PAP and PAH are not satisfied with the resettlement plan or its implementation, PAP and PAH can issue a verbal or written complaint to the village committee or the district resettlement office (DRO). If it is a verbal complaint, the village should deal with this complaint and document the grievance immediately at the time. The village committee or DRO should resolve the complaint or grievance within two weeks;
- **Stage 2:** If the PAP and PAH are not satisfied with the result of Step 1, PAP and PAH can file an appeal with the project resettlement office (PRO) after PAP and PAH receives the decision made in Step 1. The PRO should make a decision within two weeks;
- **Stage 3:** If the PAP and PAH are not satisfied with the result of step 2, PAP and PAH can file an appeal with the provincial resettlement committee for administrative arbitration after receiving the decision made by the PRO. The administrative arbitration organization (AAO) should make the arbitrated decision within 10 days; and
- **Stage 4:** If the PAP and PAH are still unsatisfied with the arbitrated decision made by the AAO, after receiving the arbitrated decision, PAP and PAH can file a lawsuit in a civil court according to the relevant laws and regulations of Lao PDR.

PAP and PAH can make a complaint or appeal on any and all aspects of project design and implementation, including issues related to resettlement. A complaint box should be made available in a convenient location of the village. PAP and PAH will be clearly informed of the complaint and grievance redress mechanism and appeal channels described herewith through village meetings and other channels. Different information communication technology (ICT) tools should be used to communicate the information, and as mobile cell phones are almost ubiquitous, mobile cell phones could be used to communicate the information.

In sub-projects where ethnic groups are affected, all complaints shall be discussed and negotiations carried out in the community where the affected peoples live. Where necessary, the sub-project proponents will provide assistance so that the rights of ethnic groups are protected.

9.0 MONITORING AND REPORTING

Monitoring is a key component of the ESMF environmental and social safeguards performance during project implementation. Monthly, quarterly- and semi-annual monitoring reports will be undertaken as per specific activities in order to:

- Improve environmental and social management practices;
- Ensure the efficiency and quality of the environmental and social assessment processes;
- Establish evidence- and results-based environmental and social assessment for the project; and
- Provide an opportunity to report the results of safeguards, impacts and proposed mitigation measures' implementation.

In regard to implementation of the proposed sub-projects, the DOW PMU will conduct monitoring activities during the feasibility studies and ESMPs to determine the extent to which mitigation measures are successfully implemented. Monitoring will focus on three key areas, including:

(i) Compliance Monitoring: To verify that the required mitigation measures are considered and implemented. During the sub-project preparation phase, compliance monitoring activities will focus on ensuring effective ESMF implementation and respect of procedures. The DOW PMU Environmental and Social Specialist staff will ensure that sub-project studies are properly and expeditiously conducted in compliance with GoL law and the World Bank regulations.

The feasibility studies will also include an assessment of the conditions for implementation of the ARAP and EGDP related activities;

- Grievances, especially those that have not yet been resolved at the local level and which may require resolution at the higher levels as initially determined in the ESMF;
- Document completion of project resettlement and compensation if these are applicable, including for all permanent and temporary losses;
- Evaluation of the quality of compensation or other relevant mitigation measures that would be applied in accordance with the requirements of the potential future investment projects that have been initially identified, including impacts on livelihoods; and
- Mitigation measures when there are significant changes in the indicators that may require strategic interventions, for example, if different populations (ethnic peoples and vulnerable groups – women and female/male youth and children, the elderly and disabled, landless, and poor, etc.) are not receiving sufficient support from the potential sub-project.

During the implementation phase, compliance monitoring would include inspections during construction of the sub-project initiatives to verify the extent to which conditions based on which licenses are issued and adhered. The effective project construction, operational and decommissioning phase will be the full responsibility of MPWT and compliance monitoring ensured by MONRE.

(ii) Impacts Monitoring: Once the project is under implementation, monitoring of sub-project initiatives' impact mitigation measures should be the duty of the DIA. It is expected that the environmental and social safeguards documents will be given to the contractors and the DIA will monitor to ensure that works are preceding in accordance with the agreed (between GoL and the World Bank) mitigation measures.

Monitoring and evaluation of the social impacts will measure the following:

- Impacts on affected individuals, households and communities to be maintained at their pre-project standard of living, or better;
- Gender differentiated impacts to be avoided, minimized or addressed;
- Improvement of communities affected by the project to at least pre-project level; and
- Management of disputes or conflicts.

In order to measure these impacts, the pre-feasibility studies will identify:

- Specific indicators to be monitored with gender disaggregated data;
- Define how indicators will be measured on a regular basis; and
- Identify key monitoring milestones (e.g., at mid-point of the ARAP implementation process, if applicable).

(iii) Cumulative Impacts Monitoring: Impacts of the sub-projects on the environmental and social resources in Oudomxay Province will also be monitored in consideration of other developments which might be established.

10.0 ESMF IMPLEMENTATION

10.1 CAPACITY BUILDING AND TRAINING PLAN

Environmental and social sustainability of the proposed sub-projects to be implemented is largely dependent upon the capacity of the implementing agencies to coordinate the planning and supervision of service providers.

The DOW appreciates the importance of environmental protection and avoiding, minimizing, mitigating or compensating for adverse environmental and social impacts. To ensure effective implementation of safeguards at planning, pre-construction, construction and operations phases, it is important to have capable and properly trained staff in place. Accordingly, an institutional strengthening and capacity development training program should include on-the-job knowledge transfer and skills training, workshops, field visits and external training opportunities, including conferences.

Although MPWT will be the main implementing ministry, both MONRE and MOF will also be involved. The PMU is responsible for management, procurement, contracting and financial management of sub-project activities. The PMU will monitor progress against the agreed performance indicators and produce period progress reports. It will provide oversight of daily project implementation for project stakeholders. In the case of MPWT DOW, the PMU would work closely with the Department of Provincial DPWT Oudomxay Waterway Sector Project Implementation Unit (PIU). The PMU will advise the PIU on all requirements during project preparation and implementation, and coordination with the World Bank. The Oudomxay provincial Department of Public Works and Transport (DPWT) Waterways Sector PIU will be responsible for day to day contract management and supervision on sites and the reporting function to the PMUs. It will also liaise with the concerned local agencies and authorities to ensure coordination and identify issues arising from sites and propose solutions to the DOW PMU and/or higher level management. Table 11 illustrates roles and responsibilities at various stages in the project cycle.

Table 11 Key responsibilities for ESMF implementation.

Sub-project Cycle	DOW -PMU	DPWT (as sub-project owner)-PIU
Screening	<p>Advise applicants and other stakeholders about environmental and social safeguard procedures.</p> <p>Review the concept note/idea and screen for potential safeguard issues, and advise applicants regarding the nature and content of the safeguard documents and measures to be prepared.</p>	<p>Assess potential safeguard issues early in the preparation process, including screening for the presence of indigenous peoples.</p> <p>Describe potential safeguard issues in the safeguard screening form to be attached to the sub-project proposal.</p>
Preparation	<p>Advise applicants on safeguard issues, as needed. Recruit environmental and social safeguard consultants to support the preparation, implementation and monitoring of safeguard documents (such as ESMP, EGDP, ARAP).</p>	<p>Undertake safeguard preparation actions as required, such as consultations with local communities and/or collection of data.</p> <p>Design safeguard measures and prepare documents, such as an ESMP/EMP, EGDP, etc. as agreed with DOW. If applicable, disclose draft safeguard documents with the sub-project proposal to affected communities prior to final review of proposal by the DOW.</p>
Review and approval	<p>Review sub-project proposals for safeguard impacts and social risks.</p> <p>Assess the adequacy and feasibility of safeguard assessment and consultation process. If needed, request further steps.</p> <p>Assess the adequacy and feasibility of safeguard measures and documents. If needed, request appropriate changes to these and reassess prior to final approval.</p> <p>If the Ethnic Group (equivalent to WB OP 4.10) are affected, ascertain that they have provided their free, prior and informed consent to sub-project activities affecting them.</p> <p>If applicable, publicly disclose safeguard related information on the website after sub-project approval.</p>	<p>Submit sub-project proposal with safeguard measures and documents as agreed. If requested by the DOW takes additional steps to meet ESMF and safeguard policy provisions. Re-submit proposal with revised safeguard measures and documents, as needed. All national and local legislation and regulations will be complied with.</p>
Implementation	<p>Supervise and review safeguard documents and issues during sub-project implementation. If needed, request changes to safeguard measures.</p> <p>Review and approve Plan of Actions that are required to be prepared during implementation of sub-projects.</p>	<p>Disclose final safeguard documents, if any, to affected communities.</p> <p>Monitor and document the implementation of safeguard measures.</p> <p>When the ethnic groups (equivalent to WB OP/BP4.10) are affected, include them in participatory implementation exercises.</p>
Evaluation	<p>Ensure inclusion and review of environmental and social safeguard issues and outcomes in mid-term and final sub-project evaluation and reporting, including concerning any lessons learned on the sustainability of each sub-project.</p>	<p>Evaluate the implementation and outcomes of safeguard measures.</p> <p>When the ethnic groups (equivalent to WB OP/BP4.11) are affected, include them in participatory evaluation exercises.</p>

Urban flood risk management is a growing concern and a priority for the country. Development that integrates a disaster risk management (DRM) approach is necessary due to the effects of climate change and extreme weather events. Building capacity of DOW in coordination with other key government ministries and departments, such as MONRE (Department of Environmental and Social Impact Assessment [DESIA], Department of Forest Resource Management [DFRM], Department of Disaster Management and Climate Change [DDMCC]) and the Ministry of Planning and Investment (MPI), are critical to sound institutional strengthening and will help ensure that investment and safeguards implementation could be coordinated effectively and efficiently.

Specific actions for technical assistance activities and emergency urban flood risk management works

To mitigate the potential negative impacts and/or enhancement of potential positive impacts of TAs to be implemented under Component 1 of the project, the following actions will be carried out:

- DOW/PMUs will take the lead in safeguard training and ensuring that clear environmental and social safeguards requirements for urban flood risk management will be integrated into the policy and planning process to be conducted;
- DOW/PMUs will take the lead to build capacity of MPWT and key agencies to establish coordination and cooperation mechanisms with key agencies of MONRE that are responsible for ESIA/IEE, and disaster management and climate change; and
- DOW/PMUs will contract an international consultant to prepare the ESMP, ARAP, EGDP, ECoP, and ESOM, etc.).

For emergency urban flood risk management works: DOW/PMUs will prepare a section on safeguard requirements to be included in the emergency operation manual. It will be necessary to undertake a capacity building program to ensure proper oversight and support for environmental and social safeguards implementation and supervision of the ESMF, RPF and EGEF including preparation of ESMP, EGDP, ARAP, and ECoP, among other measures. Due attention must be given to ensure that the DOW/DPWT Oudomxay Province can conduct supervision and monitoring and reporting on a monthly basis. Participation from local authority, civil society and local publics and community will be encouraged to assist in monitoring performance of the contractor especially in areas that are sensitive and likely to be affected by the sub-project activities and workers.

10.2 BUDGET TO IMPLEMENT ESMF

ESMF implementation costs will be limited to monitoring environmental and social safeguards compliance activities aimed at ensuring that the sub-project initiatives align with this document's recommended procedures, and to support a capacity building program for key stakeholders. The total indicative cost is estimated at USD 231,000 (Table 12). The source of financing for the implementation of the ESMF and preparing the safeguard plans will be from Component 4, Project Management.

Table 12 ESMF implementation costs.

A Supervision, monitoring, training on ESMF		USD
1	DOW/PMU to provide training and quarterly monitoring including preparation of annual safeguards monitoring report for DPWT Oudomxay Waterways Sector PIU for 3 years	36,000
2	DOW/PMU to conduct supervision and preparation of 6-month safeguards monitoring reports for DPWT Oudomxay Waterways Sector PIU for 3 years	24,000
3	Conduct supervision of contractor performance every month and submit monthly for 3 years	24,000
4	Consultation with ethnic groups for the preparation of the ESMP and EGDP	8,000
Subtotal A		92,000
B Development of safeguards measures, plans, procedures and other tools		
1	Case studies and research activities including workshops to develop specific guidelines on the following key areas: (i) land zoning; and (ii) strengthen regulatory environment around DRM	20,000
2	Recruitment of independent consultant for preparation of safeguards instruments, including EMP, ECoP, ARAP, EGDP, and ESOM, etc.	60,000
Subtotal B		80,000
C Institutional strengthening and capacity development		
1	Recruitment of gender specialist to provide training and guidance on project cycle gender mainstreaming, guide development of gender action plan (GAP), and planning participatory M&E approaches during project planning, construction and implementation, and post-project O&M	20,000
2	Capacity building workshop on gender awareness, importance of gender mainstreaming and GAP implementation training for DOW, DIA and all project staff	8,000
3	Conduct a gender analysis to identify gender issues and use the results to ensure measures are proposed to address these issues, along with measurable indicators to monitor intended social benefits and development outcomes and risks of the project	10,000
Subtotal C		38,000
Contingency (10%)		21,000
TOTAL A, B and C		231,000

APPENDICES

Appendix A1

Activities Not Eligible for Project Financing

Appendix A1 Activities not Eligible for Sub-project Financing

To avoid adverse impacts on the environment and people, the following activities are explicitly excluded from project financing:

- Physical relocation and/or demolition of residential structures of households that affect more than 200 PAP or 50 PAH;
- Creation of adverse impacts on local people including ethnic groups that are not acceptable to them, even with the mitigation measures developed with their participation;
- Damage or loss to cultural property, including sites having archaeological (prehistoric), paleontological, historical, religious, cultural and unique natural values;
- Use of sub-project as an incentive and/or tool to support and/or implement involuntary resettlement of local people and village consolidation;
- Purchase of guns, chain saws, asbestos, dynamite, destructive hunting and fishing gear, and other investments detrimental to the environment;
- Purchase of pesticides, insecticides, herbicides and other dangerous chemicals exceeding the amount required to efficiently treat the infected area. If use of pesticide is necessary, the PMO will refer to the Pesticide Management Plan in the ESMF, if applicable;
- Forestry operations, including logging, harvesting or processing of timber and non-timber forest products (NTFP). However, support to sustainable harvesting and processing of NTFPs is allowed if accompanied with a management plan for the sustainable use of the resources;
- Unsustainable exploitation of natural resources;
- Conversion or degradation of natural habitat;
- Production or trade in any product or activity deemed illegal under Lao PDR laws or regulations or international conventions and agreements, or subject to international bans;
- Labor and working conditions involving harmful, exploitative, involuntary or compulsory forms of labor, forced labor, child labor or significant occupational health and safety issues; and
- Trade in any products with businesses engaged in exploitative environmental and social behavior.

Appendix A2

General Environmental Assessment Policy Instrument: Screening Form

This form is to be used by the Implementing Agency to screen potential environmental and social safeguards issues of a sub-project, determine the Category classification, which World Bank policies are triggered and the instrument to be prepared for the sub-project.

Sub-project Name	
Sub-project Location	
Sub-project Proponent	
Sub-project Type/Sector	
Estimated Investment	
Start/Completion Date	

Questions	Answer			If Yes WB Policy triggered	If Yes Document requirement
	N/A	Yes	No		
Are the sub-project impacts likely to have significant adverse environmental impacts that are sensitive ⁵ , diverse or unprecedented and extend beyond the road alignment and ROW? ⁶ Please provide brief description:				OP 4.01 Environmental Assessment Category A	Ineligible for funding in the Lao PDR DRM Project
Are the sub-project impacts likely to have significant adverse social impacts that are sensitive, diverse or unprecedented ⁷ ? Please provide brief description:				OP 4.01 Environmental Assessment Category A	Ineligible for funding in the Lao PDR DRM Project

⁵ Sensitive (i.e., a potential impact is considered sensitive if it may be irreversible - e.g., lead to loss of a major natural habitat, or raise issues covered by OP 4.04, Natural Habitats; OP 4.36, Forests; OP 4.10, Indigenous Peoples; OP 4.11, Physical Cultural Resources; or OP 4.12, Involuntary Resettlement; or in the case of OP 4.09, when a project includes the manufacture, use, or disposal of environmentally significant quantities of pest control products);

⁶ Examples of projects where the impacts are likely to have significant adverse environmental impacts that are sensitive, diverse or unprecedented are large scale infrastructure such as construction of new roads, railways, power plants, major urban development, water treatment, waste water treatment plants and solid waste collection and disposal etc.

⁷ Generally, sub-projects with significant resettlement-related impacts should be categorized as A. Application of judgment is necessary in assessing the potential significance of resettlement-related impacts, which vary in scope and scale from sub-project to sub-project. Sub-projects that would require physical relocation of residents or businesses, as well as sub-projects that would cause any individuals to lose more than 10 percent of their productive land area, often are categorized as A. Scale may also be a factor, even when the significance of impacts is relatively minor. Sub-projects affecting whole communities or relatively large numbers of persons (for example, more than 1,000 in total) may warrant categorization as A, especially for projects in which implementation capacity is likely to be weak. Sub-projects that would require relocation of Indigenous Peoples, that would restrict their access to traditional lands or resources, or that would seek to impose changes to Indigenous Peoples' traditional institutions, are always likely to be categorized as A.

Questions	Answer			If Yes WB Policy triggered	If Yes Document requirement
	N/A	Yes	No		
Do the impacts affect an area broader than the sites - beyond the existing ROW - or facilities subject to physical works and are the significant adverse environmental impacts irreversible? Please provide brief description:				OP 4.01 Environmental Assessment Category A	Ineligible for funding in the Lao PDR DRM Project
Is the proposed sub-project likely to have minimal or no adverse environmental or social impacts? ⁸ Please provide brief justification:				OP 4.01 Environmental Assessment Category C	No action needed beyond screening
Is the sub-project neither a Category A nor Category C as defined above? ⁹ Please provide brief justification:				OP 4.01 Environmental Assessment Category B	IEE or ESMP
Will the sub-project likely have adverse impacts to the human or natural environment that are modest, confined to a small region and are temporary or short-lived which are easy and inexpensive to control?				OP 4.01 Environmental Assessment Category B	IEE or ESMP
Does the sub-project document specify that there will be no use of any hazardous materials?				OP 4.01 Environmental Assessment Category B	IEE or ESMP
Will the sub-project include the export of waste to another territory or country?				OP 4.01 Environmental Assessment Category B	ESMP with details on potential impacts at the waste receiving location
Will the sub-project include the export of waste to another territory/country which will not comply with international conventions on trans-boundary movement of hazardous materials and waste?				OP 4.01 Environmental Assessment Category A	Ineligible for funding in the Lao PDR DRM Project

⁸ Examples of projects likely to have minimal or no adverse environmental impacts are supply of goods and services, technical assistance, simple repair of damaged structures etc.,

⁹ Projects that do not fall either within OP 4.01 as a Category A or Category C can be considered as Category B. Examples of category B sub-projects include small scale *in-situ* reconstruction of infrastructure projects such as road rehabilitation and rural water supply and sanitation, small schools, rural health clinics, etc.

Questions	Answer			If Yes WB Policy triggered	If Yes Document requirement
	N/A	Yes	No		
Will the sub-project involve the conversion or degradation of non-critical natural habitats? Please provide brief justification:				<i>OP 4.04 Natural Habitats</i>	IEE or ESMP
Will the sub-project involve the significant conversion or degradation of critical natural habitats ¹⁰ ?				<i>OP 4.04 Natural Habitats</i> Category A	Ineligible for funding in the Lao PDR DRM Project
Are there any ethnic group communities present in the sub-project area and are likely to be affected by the proposed sub-project negatively or positively? Please provide brief justification:				<i>OP 4.10 Indigenous People</i> Category B	Ethnic Group Development Plan
Will the sub-project adversely impact physical cultural resources? ¹¹ Please provide brief justification:				<i>OP 4.11 Physical Cultural Resources</i> Category A	Ineligible for funding in the Lao PDR DRM Project
Does the sub-project involve involuntary land acquisition, loss of assets or access to assets, or loss of income sources or means of livelihood? Please provide brief justification:				<i>OP 4.12 Involuntary Resettlement</i>	Abbreviated Resettlement Action Plan
Will the sub-project have the potential to have impacts on the health and quality of forests or the rights and welfare of people and their level of dependence upon or interaction with forests; or aims to bring about changes in the management, protection or utilization of natural forests or plantations? Please provide brief description to justify Category:				<i>OP4.36 Forestry</i> Category A	Ineligible for funding in the Lao PDR DRM Project
Will the project have the potential to have significant impacts or significant conversion or degradation of critical natural forests or other natural habitats?				<i>OP4.36 Forestry</i> Category A	Ineligible for funding in the Lao PDR DRM Project

¹⁰ Sub-projects that significantly convert or degrade critical natural habitats such as legally protected, officially proposed for protection, identified by authoritative sources for their high conservation value, or recognized as protected by traditional local communities, are ineligible for Bank financing.

¹¹ Examples of physical cultural resources are archaeological, paleontological or historical sites, including historic urban areas, religious monuments, structures and/or cemeteries particularly sites recognized by the government.

Appendix A3

Site-Specific Environmental and Social Screening Form

Appendix A3.1 Environmental and Social Safeguard Screening Forms

These forms will be filled by PIU/DPWT during the identification of the sub-project as part of the annual work plan. The form will be properly signed and attached to the sub-project proposal which is to be reviewed by MPWT and/or DOW/PMU.

FORM A: Project Concept Safeguards Checklist

Province:	District:	Location – sketch map attached (Mark ✓)	
		<input type="checkbox"/> YES	<input type="checkbox"/> NO
Road Name:	Road No:	Link No. (details)	
TYPE of works/activities (Mark ✓)	<input type="checkbox"/> Provincial road maintenance	<input type="checkbox"/> District road maintenance	
<input type="checkbox"/> Located within NPA	<input type="checkbox"/> Located near NPA	<input type="checkbox"/> Located near important cultural sites	
Brief description of works/activities: [i.e., length of road, need/purpose of works, proposed works (list/explain activities), number of villages (approx. population) to benefit]			
Checklist (ensure sex and gender disaggregated and age appropriate data are obtained)	Yes	No	Explanation/Comments
1. Will the works require any land acquisition?			
2. Will the works require taking land from people who are using it for agriculture (even if they do not own/have title to the land)?			
3. Will the works require any households to move structures (include, houses, small shops, rice bins etc.) back from the road?			
4. Are there members of an ethnic group living in the area? If yes, how many different groups (list)?			
5. Are the works, located in or near a cultural/heritage area?			
6. Are the works, located in or near an area known to have special significance to the people of the area?			
7. Are the works, located near or in a protected area (or a buffer zone of a protected area)?			
8. Are the works likely to generate dust or create a dust problem? If yes, for how many months (during which season)?			
9. Will the works require NEW borrow pits or quarries to be opened up?			
10. Will the works be located near a river, stream or waterway?			
11. Will the works result in increases in, or changes to the type of, traffic using the road?			
12. Will any of the works require the use of toxic chemicals, herbicides, and/or explosives?			

13. Other information: map, additional issues or impacts etc. should be specified on the attached sheet:
List attachments

Distribution of ESMF Initial Screening Form:

Distributed to	Yes	No	Date
MPWT			
DOW/PDRD			
MONRE			
Others (list below)			

ESMF Initial Screening Form compiled by:

Name:	Position:
Signature:	Date:

ESMF Initial Screening Form verified by:

Name:	Position:
Signature:	Date:

Attachments

(For map, sketches, other information, issues, potential impacts, etc. as mentioned in item 13 above)

As required

FORM B: Environmental Assessment Category Screening Form for Urban

Flood Risk Management Infrastructure

Province:	District:	Location – sketch map attached (Mark ✓)	
		<input type="checkbox"/> YES	<input type="checkbox"/> NO
Sub-project Initiative or Activity Name:	Initiative or Activity No:	Link No. (details)	
TYPE of works/activities (Mark ✓)	<input type="checkbox"/> Upgrading/reconstruction	<input type="checkbox"/> Rehabilitation	
<input type="checkbox"/> Improvement	<input type="checkbox"/> Maintenance		
Brief description of works/activities and project area: [i.e., length of dike embankment (weir), need/purpose of works, proposed works (list/explain activities), number of villages (approx. population) to benefit, describe site sensitivity based on criteria in Form A]			
Screening Questions	Yes	No	Explanation/Comments
▪ Is the project area within or adjacent to any of the following areas?			
▪ Cultural/heritage area			
▪ Protected area			
▪ Buffer zone of a protected area			
▪ Wetland			
▪ River, stream or waterway			
▪ Estuary			
▪ Protected Area (PA)			
▪ Protection Forest Area (PFA)			
▪ Will secondary forest be affected?			
▪ Are there rare or endangered species of flora or fauna in the project area?			
▪ Will the project increase access to protected areas or areas important for biodiversity conservation?			
▪ Will the project require cuts, fills, quarries or extraction of material (stone, gravel, aggregate, sand)?			
▪ Will the project alter surface water hydrology of waterways or streams?			
▪ Will the project increase soil erosion?			

▪ Will the project require rock crushing or use of explosives (blasting)?			
▪ Will the project generate dust or noise?			
▪ Will the project require the establishment of a camp for construction workers?			
▪ Will the project require the creation of temporary access or haul roads?			
▪ Will the project require the creation of material stockpiles?			
INFORMATION ON ENVIRONMENTAL IMPACT			
Information			Explanation
What is the predominant type of vegetation to be affected by the project?			
What is the estimate of the total area of this type of vegetation to be affected?			
Are there any other proposals or projects which could increase the significance of any of the impacts (cumulative impacts)?			
Will the project require the acquisition or temporary use of people's land? If yes, also complete Form D			
Will the project require the relocation of structures? If yes, also complete Form D			
Is the project located in area where ethnic minority groups are known to live or use? If yes, also complete Form C			
PROJECT CATEGORIZATION FOR ENVIRONMENTAL IMPACTS			
Based on the definition of impacts in the Environmental and Social Operation Manual, what is the category?			
[] CATEGORY B – non-significant environmental impact, an IEE is required			
[] CATEGORY C – minimal or no environmental impact, no EA required, generic ESMP and technical specifications will apply			
Indicators of Site Sensitivity see in Form B below			
Distributed to	Yes	No	Date
MPWT			
DOW/PDWT			
MONRE			
Others (list below)			

EA Screening Form compiled by:	
Name:	Duty:
Signature:	Date:
EA Screening Form verified by:	
Name:	Duty:
Signature:	Date:

FORM C: Ethnic Group (EG) Screening Form for Urban Flood Risk Management Infrastructure

Province:	District:	Location – sketch map attached (Mark ✓)	
		<input type="checkbox"/> YES	<input type="checkbox"/> NO
Sub-project Name:	Sub-project No:	Link No. (details)	
TYPE of works/activities (Mark ✓)	<input type="checkbox"/> Initiative or Activity	<input type="checkbox"/> Initiative or Activity	
Brief description of works/activities and project area: [i.e., length of dike embankment (weir), need/purpose of works, proposed works (list/explain activities), number of villages (approx. population) affected, describe communities to be affected]			
ETHNIC MINORITY ISSUES SCREENING (ensure sex and gender disaggregated and age appropriate data are obtained)			
Screening Questions	Yes	No	Explanation/Comments
1. Are there ethnic minority groups present in the sub-project area (i.e., urban flood risk management infrastructure and its right of ways)?			
2. If yes, how many different groups?			
3. Do they live in mixed communities with non-ethnic minority people?			
4. Do they maintain distinctive customs or economic activities?			
5. If yes, do any of these customs or economic activities may make them vulnerable to hardship?			
6. Will the project restrict their economic or social activity?			
7. Will the project affect or change their socio-economic and cultural integrity?			
8. Will the project disrupt their community life?			
9. Will the project positively affect their health, education, social activity, livelihoods or security?			
10. Will the project negatively affect their health, education, social activity, livelihoods or security?			
11. Will the project alter or undermine the recognition of their knowledge?			
12. Will the project preclude customary behaviour or undermine customary institutions?			
13. If impacts on ethnic minority groups are expected:			
14. Are there sufficient skilled staff in the DIA for preparing an assessment and identifying suitable mitigation measures (preparing an Ethnic Group Development plan [EGDP])?			
15. Are training and capacity-building interventions required prior to EGDP preparation and implementation?			

16. In case of no disruption to ethnic minority community life as a whole, will there be loss of housing, land, crops, trees or access to resources owned, controlled or used by ethnic minority households?			
Anticipated Impacts on Ethnic Peoples			
Project activity	Anticipated positive effect	Anticipated negative effect	
PROJECT CATEGORIZATION FOR EG (including ETHNIC GROUP) IMPACTS			
Based on the definition of impacts in ESOM what is the category?			
[] CATEGORY B – Impacts related to land acquisition only, specific action to be included in the ARAP is required			
[] CATEGORY C – No impact, no EGDP or Specific Action is required, generic social impact mitigation specifications will apply			
Distributed to	Yes	No	Date
MPWT			
DOW/PDRD			
MONRE			
Others (list below)			
IP Screening Form compiled by:			
Name:		Duty:	
Signature:		Date:	
IP Screening Form verified by:			
Name:		Duty:	
Signature:		Date:	

FORM D: Land Acquisition & Resettlement (LAR) Screening Form for Urban Flood Risk Management Infrastructure sub-project initiatives and/or activities

Province:	District:	Location – sketch map attached (Mark ✓)	
		<input type="checkbox"/> YES	<input type="checkbox"/> NO
Sub-project Name:	Sub-project No:	Link No. (details)	
TYPE of works/activities (Mark ✓)	<input type="checkbox"/> Initiative	<input type="checkbox"/> Activity	
Brief description of works/activities and project area: [i.e., dike embankment (weir), need/purpose of works, proposed works (list/explain activities), number of villages (approx. population) affected, describe communities to be affected]			
LAND ACQUISITION AND RESETTLEMENT (LAR) SCREENING			
Screening Questions		Yes	No
▪ Is land acquisition likely to be necessary?			
▪ Is the site for land acquisition known?			
▪ Is the ownership status and current usage of the land known?			
▪ Will easements be utilized within an existing right-of-way or river conservation zone?			
▪ Are there any non-titled people who live or earn their livelihood at the site or within the right-of-way or river conservation zone?			
▪ Will there be loss of housing?			
▪ Will there be loss of agricultural plots?			
▪ Will there be losses of crops, trees, and fixed assets?			
▪ Will there be loss of businesses or enterprises?			
▪ Will there be loss of incomes and livelihoods?			
▪ Will people lose access to facilities, services, or natural resources?			
▪ Will any social or economic activities be affected by land use-related changes?			
▪ If involuntary resettlement impacts are expected:			
▪ Will coordination between government agencies be required to deal with land acquisition?			
▪ Are there sufficient skilled staff in the Executing Agency for resettlement planning and implementation?			
▪ Are training and capacity-building interventions required prior to resettlement planning and implementation?			

INFORMATION ON AFFECTED PEOPLE			
Any estimate of the likely number of male- and female-headed households that will be affected by the project? <input type="checkbox"/> Yes <input type="checkbox"/> No			
If yes, approximately how many households? Male- and Female-Headed Households?			
Are any of the households vulnerable i.e., households that (i) are headed by divorced or widowed females with dependents and low income; (ii) include disabled or invalid persons; (iii) include persons falling under the generally accepted indicator for poverty as defined by the Ministry of Labour and Social Welfare, or the landless; and/or, (iv) are elderly with no means of support? <input type="checkbox"/> Yes <input type="checkbox"/> No			
If yes, approximately how many households are (i), (ii), (iii) or (iv)? Calculate the total number of households for each type of vulnerability separately.			
If yes, briefly describe their situation:			
Are any of the households from ethnic minority groups? <input type="checkbox"/> Yes <input type="checkbox"/> No			
If yes, briefly describe their situation:			
PROJECT CATEGORIZATION FOR RESETTLEMENT IMPACTS			
Based on the definition of impacts in the Environmental and Social Operations Manual, what is the category?			
<input type="checkbox"/> CATEGORY B – marginal or non-significant resettlement impact, an ARAP is required <input type="checkbox"/> CATEGORY C – minimal or no resettlement impact, no resettlement is required, generic social impact mitigation specifications will apply			
Distributed to	Yes	No	Date
MRD			
MPWT/PDRD			
GDR			
MOE			
Others (list below)			
LAR Screening Form compiled by:			
Name:		Duty:	
Signature:		Date:	
LAR Screening Form verified by:			
Name:		Duty:	
Signature:		Date:	

Appendix A3.2 Environmental and Social Safeguard Screening Form Example specific to Hydrometeorological Stations

Project Location:

Project Managers:

Part A: Brief description of the work

.....

Part B: Identification of social and environmental impacts

Environmental and social concerns	Yes	No	Observation
Resources of the sector			
Does the project need the significant volumes of construction materials in local natural resources (sand, gravel, laterite, water, construction timber, etc.)?			
Does it require clearing			
Biodiversity			
Will the project be detrimental on rare species, vulnerable and/or economically, ecologically, and culturally important?			
Are there any areas of environmental sensitivity that might be negatively affected by the project? forest, wetlands (lakes, rivers, seasonal flood plains)			
Protected areas			
The project area (or its components) does it include protected areas (national parks, national reserves, protected forests, world heritage site, etc.)			
If the project is outside, but close to protected areas, could it adversely affect the ecology within the protected area? (E.g. interference with bird flights with mammalian migrations)			
Geology and Soils			
Are there unstable areas from a geological point of view or soil (erosion, landslide, collapse)?			
Are there areas at salinization risk?			
Aesthetic landscape			
Does the project have an adverse effect on the landscape values?			
Historical, archaeological or cultural			
Could the project change one or more historical, archeological, or cultural sites, or does it require excavation?			
Loss of assets and other things			
Does the project trigger the temporary or permanent loss of habitat, crops, agricultural lands, pastures, fruit trees, bamboo or forest plantations, and household infrastructure?			
Pollution			
Will the project result in a high level of noise?			
Will the project generate solid and liquid waste?			

If "yes" does the infrastructure has a plan for the collection and disposal			
Are there facilities and infrastructure for it management?			
Is the project going to affect the quality of surface water, groundwater and drinking water sources?			
Will the project have an effect in the atmosphere (dust, various gases)			
Life style			
Can the project cause alterations in the lifestyle of the local people?			
Will the project result in a widening of social inequalities?			
Will the project result in incompatible applications or social conflicts between different users?			
Health security			
Will the project lead to the risks of accidents for workers and populations?			
Is the project going to cause health risks to workers and the population?			
Will the project result in a population increase of disease vectors?			
Local revenues			
Will the project help in the creation of jobs?			
Does the project promote the increase of agricultural production and others?			
Gender preoccupation			
Does the project encourage the integration of women and other vulnerable groups?			
Does the project support women's concerns and does it promote their involvement in decision making?			

Public consultation

Were the consultation and public participation popular?

Yes____ No____

If "Yes", briefly describe the measures taken for this purpose.

Part C: Mitigation

In view of the Annex, for all the answers "Yes" briefly describe the steps taken for this purpose.

Part D: Project classification and environmental work

Project Category: A ☐ (not fundable) B ☐ C ☐

- Category C: environmental work will not be necessary;
- Category B: the application of simple mitigation measures will suffice (ESMP);
- Category A: not fundable.

Environmental Work Necessary:

No environmental work ☐

Simple mitigation measures (ESMP) ☐

Appendix A4

Generic Environmental Management Plan

Table A4.1 Generic Environmental Management Plan (EMP).

Activity	Potential Impacts	Mitigation Measures
Surfacing of Double Bituminous Surface Treatment (DBST) pavements on the dike	<ul style="list-style-type: none"> ▪ Possible pollution of water ways or ground water by petroleum products or solvents. ▪ Works can have temporary effects on irrigation or washing/drinking water supplies. ▪ Dust noise and vibrations. ▪ Effect on traffic and pedestrian safety. 	<ul style="list-style-type: none"> ▪ Inform and/or remind PAHs and communities well in advance of the project, potential impacts, mitigation measures and time frame with a leaflet on the project provided. ▪ Strict control to avoid spills and contract or to have adequate clean up procedures. ▪ Contractor to take into account local water uses. ▪ Specification to include for watering for dust suppression in the contract. ▪ Control of contractor's equipment noise and vibrations, especially close to settlements. ▪ Construction activities will be avoided at night, close to residential areas. ▪ Contractor to employ safe traffic control measures and limit possible disruption to non-construction traffic.
Transport of materials	<ul style="list-style-type: none"> ▪ Air and noise pollution for any nearby settlements and damage to existing roads. ▪ Dust generated from civil work and transport of construction materials. 	<ul style="list-style-type: none"> ▪ Control contractor's vehicle speeds, noise and weight of loads and control dust and flying debris by covering loads or wetting material if necessary. ▪ Use locally available construction material wherever possible to minimize transport distances. ▪ Contractor to regularly water the roads to prevent from dust, especially in community or urban area.
Materials stock piling on shoulders	<ul style="list-style-type: none"> ▪ Possible pollution of water ways by solids. ▪ Possible impacts on road users' safety because construction waste was disposed on the carriage way. 	<ul style="list-style-type: none"> ▪ Choose appropriate location for materials stockpiling well away from any waterways, irrigation or washing/drinking water supplies. ▪ Avoid encroachment on carriageway. ▪ Preserve trees during material stockpiling.
Borrow areas	<ul style="list-style-type: none"> ▪ Quarries and borrow pits can have impacts on soils, water and the natural environment. 	<ul style="list-style-type: none"> ▪ Locate borrow areas away from any residential or other environmentally sensitive areas such as hospitals, intensive livestock production areas or wildlife breeding areas. ▪ Also avoid farmlands or forests as much as possible. Restrict work to daylight hours and limit the size and frequency of any blasting. ▪ Borrow areas will be restored and re-vegetated.

Table A4.1 (Cont'd.)

Activity	Potential Impacts	Mitigation Measures
Work site installation (if needed)	<ul style="list-style-type: none"> ▪ Degradation of plant cover ▪ Soil and water pollution (trash dumping, oil spills) 	<ul style="list-style-type: none"> ▪ Choose location of work site installations in order to reduce impacts on the environment of these sites and the people living in the immediate vicinity. ▪ Fuel and oil, and bitumen storage areas will be located well away from any watercourses. ▪ These storage areas will be provided with interceptor traps so that accidental spills do not contaminate the environment. ▪ All waste oil will be stored and disposed of acceptable oil industry standards. ▪ Wherever possible, refueling will be carried out at a fuel storage area and not permitted within or adjacent to watercourses. ▪ On completion of the work, contractor shall restore the sites to their original state.
Road safety and traffic management	<ul style="list-style-type: none"> ▪ Road accidents due to in adequate control of vehicle speeds and signs/signals 	<ul style="list-style-type: none"> ▪ Prepare/finalize an action plan for each sub project in close consultation with local agencies. ▪ Contractor should install road traffic signs during construction (for example, diversion), construct proper and safe diversions, and employ sufficient flagmen to direct the traffic.

Appendix A5

Guidelines for a Dike/Weir Safety Assessment Plan

▪ **Purpose and Scope of Work:**

The purpose of the dam safety assessment is to prepare a reconnaissance-level assessment of quality management of a dam or, in the case of the project, dam-like structures, namely, a dike, floodgate or weir. The work will involve initial and wrap-up meetings with personnel responsible for the dike/weir; a field examination; and a Dam Safety Report of findings and recommendations. If deemed necessary, the report will provide terms of reference for more thorough follow-up activities to identify (to feasibility level with cost estimates) the investments and other measures needed to ensure the safety of the dike/weir.

▪ **Qualifications of the Dam Specialist:**

The work will be carried out by a Dam Specialist (DS) of suitable independence from the project proponent of the dike/weir, and who has not been associated with the design, construction, and operation of the dike/weir. The DS will have appropriate qualifications and substantial experience with the design, construction, operation and maintenance of dikes/weirs, especially in developing countries.

▪ **Investigations of Operating Conditions:**

The project proponent for the dike/weir will provide the DS with the following information:

- a) Construction year;
- b) Dike/weir size: height (meters or, m), crest length (m);
- c) Reservoir size (m³);
- d) Dike/weir type;
- e) Estimated population downstream that would be threatened by dike/weir failure; and
- f) Estimated replacement cost.

The DS will discuss with the project proponent past and current operation and maintenance (O&M) practice with particular reference to:

- a) Existing records;
- b) Maintenance logbooks;
- c) Monitoring;
- d) Emergency preparedness;
- e) O&M resources (i.e., human and financial); and
- f) Status of sedimentation and measures to prolong the life of dike/weir.

▪ **Investigations of Structural Conditions:**

Depending on the type of dike/weir, a suitable checklist for the inspection activities will be used. Inspection details are left to the DS who will carry out the task, however the inspection report should contain the following information:

- a) Construction year;
- b) Dike/weir size: height (m), crest length (m);
- c) Reservoir size (m³);
- d) Dike/weir type;
- e) Geotechnical aspects of foundations;
- f) Design flood return period (years);
- g) Availability of as-built drawings;
- h) Spillway reliability assessment;
- i) Bottom outlet reliability assessment;
- j) Seepage;
- k) Deformations, settlements;
- l) Conditions of slopes/concrete structures;
- m) Active storage (m³);
- n) Estimated population downstream that would be threatened by dike/weir failure; and
- o) Estimated replacement cost.

▪ ***Investigations of Regulatory Framework:***

The DS will:

- Discuss with relevant authorities (i.e., regulator, line ministries, provincial and district officials, etc.) the existing regulatory framework for dike/weir safety;
- Compare the existing regulatory framework, in a matrix format, with comments as necessary, to the “essential elements” identified in the World Bank publication “Regulatory Framework for Dam Safety – A Comparative Study”¹²;
- Identify opportunities and constraints to the achievement of the “essential elements”; and
- If judged feasible, develop terms of reference for an action plan aimed at achieving the “essential elements” in the national context (i.e., policies, institutional reforms, incentives, enforcements, etc.).

¹² D. Bradlow, et al. (2002), “Regulatory Frameworks for Dam Safety – A Comparative Study”, The World Bank Law, Justice, and Development Series. ISBN 0-8213-5191-5. <http://documents.worldbank.org/curated/en/785201468763768736/Regulatory-frameworks-for-dam-safety-a-comparative-study;jsessionid=X9a++3gYaxoCLcYBWB5T+KGa>

▪ **Dam Safety Report:**

The DS will produce a Dam Safety Report that includes:

- Description of the dike/weir, ownership, and regulatory framework;
- Dike/weir safety assessment according to international standards (ICOLD);
- Structural measures required to bring safety to acceptable standards, including a preliminary cost estimate differentiating interventions in three categories: a) emergency (human life at immediate risk); b) urgent (likely to pose a risk to human life, major assets at risk); and, c) significant (any needed rehabilitation beyond meaningful maintenance);
- Non-structural measures (O&M and monitoring, training, dike/weir safety plans) to be implemented to make dike/weir safety sustainable after rehabilitation; reference should be made to OP/BP 4.37 *Safety of Dams*, and appendices to the publication “Regulatory Frameworks for Dam Safety – A Comparative Study”;
- Preliminary assessment of reservoir sedimentation status, and recommendations aimed at prolonging the life;
- Resources needed for reliable O&M (human resources and recurrent costs);
- Overall assessment of challenges and opportunities for the management of the dike/weir; and
- Terms of reference for the preparation of feasibility studies for any required rehabilitation measures (structural and non-structural).

Appendix A6

Baseline Conditions

Lao PDR is regularly impacted by flooding which causes widespread damage to infrastructure and impacts livelihoods and well-being. In the north of the country, the topography is mountainous with numerous rivers. Oudomxay Province which is located in the northwest of the country is characteristic of this mountainous topography. The province is prone to flash floods with the most devastating effects exhibited in the Oudomxay provincial capital Muang Xay in 1945, 1985, 2008 and 2013. Investment is needed to protect the provincial capital from future flood events and reduce the damage to public infrastructure, and personal assets, livelihoods and well-being. Accordingly, the Government of Lao PDR is considering an investment in Muang Xay and proximity to strengthen urban flood risk management.

Environment – As mentioned, Oudomxay Province is located in the northwest of Lao PDR. The province covers an area of 15,370 square kilometers (km²). The province borders China to the north, Phongsali Province to the northeast, Luang Prabang Province to the east and southeast, Xaignabouli Province to the south and southwest, Bokeo Province to the west, and Luang Namtha Province to the northwest. Oudomxay Province consists of seven districts, including Muang Xay (the provincial capital), Muang Namor, Muang La, Muang Beng, Muang Hoon, Muang Pabeng and Muang Nga. Oudomxay Province has a mountainous topography with elevations ranging from 300 meters (m) to 1,800 m above sea level. Approximately sixty rivers flow through the province and some form tributaries to the Mekong River which flows through the southern part of Oudomxay Province. Other main rivers that flow through the province include Nam Phak, Nam Sae, Nam Beng, Nam Kor and Nam Nga. The latter two rivers flow through the provincial capital Muang Xay or in the vicinity.

In 2000, Oudomxay Province established three different types of protected areas; including provincial, district, and watershed with a total protected area of 315,000 hectares (ha). The watershed protected area has not been fully delineated.

Climate and Extreme Weather – Oudomxay Province has a moderate monsoon climate however, because of high elevations, temperature variation is greater than other parts of the country. Temperatures in February and March average between 18°Celsius (°C) and 19°C, while temperatures from April to May exceed 30°C. Cyclones developing in the South China Sea can make landfall in Viet Nam and then inland over northern parts of Lao PDR. Although diminishing in strength as the cyclone tracks inland, it still brings strong winds and heavy rainfall according to MONRE Department of Meteorology and Hydrology which maintains climatic records.

Social – Oudomxay Province has a population of approximately 315,000 people and more than 20 different clans belonging to 12 different ethnic groups live in the Province. The largest ethnic group is the Khamu who are a part of the Lao Theung ethnic people's category. According to the provincial administration, the Khamu (including Khamu Lue, Khamu Khong, Khamu Ou and Khamu Bit) comprise 60 to 80 percent of the population while Lao Loum and Hmong (including Hmong Khao, Hmong Dam and Hmong Lai) make up between 25 and 15 percent, respectively. Other ethnic groups in the province include the Akha, Phouthai (Thai Dam and Thai Khao), Phou Noy (Phou Xang, Phou Kongsat and Phou Nhot), Lao Houy, Phouan, Ly, Yang, Ikho and Ho. Each of the 12 ethnic groups has their own language, cultural heritage and practices.

Rural communities in Lao PDR are highly dependent on natural resources such as agriculture and the forest (i.e., timber and non-timber forest products [NTFP]) for their livelihoods and subsistence. However, population growth, government policies and a shift from a centrally planned command economy to that of

a neo-liberal market-driven economy is transforming rural communities and their traditional livelihoods, including downward pressures on the availability of, and access to, land and natural resources. Forests are being converted into agricultural mono crop plantations while utilization of forest resources and timber production are increasing. Development challenges abound in a rapidly changing rural context, especially in relation to ethnic groups which exhibit widespread linguistic and cultural diversity and their relationship to the land and its resources.

As discussed in Appendix A2, a number of issues and concerns were relayed during the community consultations in relation to the environment, natural resources conservation and degradation of land (particularly, agricultural land) as a result of the proposed sub-project initiatives implementation.

Appendix A7

Key Stakeholders

Appendix A7 Key Stakeholders

The GoL supports the SEA DRM Project and actions to improve participation, public consultation, and information disclosure. Effective implementation relies on strategies, legislation and procedures that are in place in Lao PDR and will be supplemented [as necessary] with World Bank safeguards policies. These safeguards policies include guidelines for participation, consultation, and information disclosure concerning aspects of the Lao PDR DRM Project as described in the ESMF, including procedures narrated in the RPF and EGEF.

The project will pursue a process of meaningful consultation and engagement that includes national and local government, and relevant stakeholders and communities. The project supports consultative decision making by ensuring public access to information on environmental and social aspects of the project. In addition to ensuring that free, prior and informed consultation (FPIC) activities are undertaken in relation to potential environmental and social impacts, the consultation process will also inform and explain the proposed sub-project initiatives to affected communities, gather information from impacted populations, and conduct gender sensitive awareness-raising.

Table A7.1 lists national and local government bodies, key stakeholders, various publics and different populations who may be involved directly or indirectly in the project and their respective roles and responsibilities.

Table A7.1 Stakeholders and Various Publics.

Sl. No.	Entity	Key Stakeholder
1	Government and regulatory agencies	Ministry of Public Works and Transport (MPWT), Ministry of Finance (MOF), Ministry of Planning and Investment (MPI), Ministry of Natural Resources and Environment (MONRE), Department of Public Works and Transport (DPWT) Oudomxay Waterway Sector, Department of Meteorology and Hydrology (DMH), and Oudomxay District administration.
2	International Organizations	United Nations International Fund for Agriculture Development (IFAD).
3	Private sector companies	Private sector companies with the technical expertise and capacity, engineering capability to implement the sub-project initiatives. These may include both national and international companies.
4	Civil society organizations	International, national and regional non-profit associations (Plan International, World Vision, Oxfam Laos, Village Focus International), including environmental and indigenous people's organizations.
5	Local stakeholders	Local civil society organizations including community-based organizations (CBOs), municipal and district-level committees, villages (Nalao Village and Nasao Village), village chief (Nai Ban) and village-level committees, and other local groups.
6	Academic and research institutions	Environmental research groups (e.g., International Water Management Institute [IWMI]), universities (e.g., National University of Laos) and technical institutes (e.g., IWMI).
7	Beneficiaries and affected communities and households	Project beneficiaries will be consulted at community level during the preparation of sub-project initiatives. In addition, potential PAP and PAH will be consulted on potential impacts and mitigation measures of the sub-project initiatives. Particular attention will be given to different populations (i.e., ethnic peoples and vulnerable groups – women and female/male youth and children, the elderly and disabled, landless, and poor) to enhance their benefits and prevent (avoid) or mitigate adverse impacts.
8	Ethnic peoples	If proposed sub-project initiatives are planned in areas where ethnic group's communities are located then, a process of free, prior and informed consultation will be undertaken with communities in the region of influence (see EGEF).

Appendix A8

Participatory Social Assessment Guidelines

Community consultations will be based on free, prior and informed consultations to gauge support for the proposed sub-project initiatives. Objectives of community consultations are to: (i) provide background information to various stakeholders and different populations; (ii) receive feedback from CSOs including non-profit associations, CBOs, local leadership and other publics on perceived issues and concerns; and, (iii) discuss methods and resources to maximize the proposed sub-project initiatives' environmental and social performance. These participatory and consultative meetings will provide DOW with an opportunity to discuss grievance redress mechanisms and monitoring for those different populations and communities which may be impacted adversely from implementation of the proposed sub-project initiatives.

Ensuring that the project impact assessment includes a participatory and gender-responsive social analysis is an important element of each stage or level of the project lifecycle. The starting point for effective gender mainstreaming in infrastructure sub-projects is to undertake the required gender analysis. A gender analysis typically involves examining potential impacts of the project intervention on women and men, and may include the collection of sex-disaggregated or gender-sensitive information. A gender analysis examines the different roles, rights and entitlements, and opportunities of men and women and relations between them (i.e., the economic and social relationships between females and males which are constructed and reinforced by social institutions). It also identifies disparities, examines why such disparities exist, determines whether they are a potential impediment to achieving results, and looks at how they can be addressed (USAID 2011). Measures must be proposed to address these issues, along with SMART (specific, measurable, achievable, relevant and time-bound) indicators to monitor the intended [and unintended] social benefits and development outcomes and risks of the project.

Conducting a gender analysis when designing a new project or activity will help to:

- Analyze gender roles in project design;
- Identify root causes of existing gender inequalities in that context so that they can be addressed in the project design;
- Identify different needs and priorities of men and women in both the near and long term;
- Collect sex-disaggregated baseline data;
- Avoid perpetuating traditional power imbalances; and
- Enhance the likelihood of strong and sustainable project results.

As indicated, MPWT DoW has proposed sub-project initiatives for urban flood protection management in Oudomxay's provincial capital, Muang Xay, and proximity. The proposed investments would entail riverbank protection, dikes, drainage canals and flood gates, weirs and riverside parks. The Lao PDR DRM Project team comprised of both national and sub-national level government and the Consultant visited Oudomxay's provincial capital, Muang Xay, and proximity between 21 and 24 June 2016. As the public and community consultations occurred mainly in an urban and proximity setting, specific ethnic groups were not distinguished as a distinct subset of the larger population.

The list of consulted stakeholders is shown in Appendix A10. Focus group discussions (FGD) were held in two villages, Nalao Village and Nasao Village, on 16 June 2016. In order to ensure that community discussions complied with WBG requirements for FPIC, government staff were asked to not participate in the FGDs. The FGDs were held in the village community centers and, for the most part, it was not possible to visit individual households. The Consultant team split into two groups with the female team leading the

FGD for discussions with women-only groups, and the male team leading the FGD with men-only groups. Respondents were generally supportive of the proposed sub-project initiatives for urban flood risk management but, also realized that some PAH would be impacted adversely, either on a temporary or permanent basis, during implementation.

Appendix A9

Stakeholder Consultation Objectives

Importance of Stakeholder Consultations

Public consultations occur at all stages of sub-project preparation and planning of feasibility studies and detailed design. To ensure that World Bank consultation and disclosure policies are followed, PAP and communities in the region of influence will be engaged through free, prior and informed consultation to gauge support for the proposed sub-project initiatives. In this manner, stakeholders, various publics and different populations will be consulted during several stages of sub-project preparation, including:

- **Project Identification:** preliminary consultations were conducted during sub-project identification whereby national and local government authorities were consulted to ensure that the Lao PDR DRM Project aligned with national policies and legal frameworks, sectoral and local plans and strategies. Relevant stakeholders were consulted during development of the ESMF. Documented records of engagement and community consultations in Oudomxay's provincial capital of Muang Xay and proximity are illustrated in Appendix A2: Stakeholder Consultations.
- **Project Preparation:** consultations will be conducted during preparation of the feasibility and design studies to: (i) obtain detailed background information; (ii) conduct environmental and social surveys; and (iii) informing and collecting opinions of key stakeholders, various publics and different populations on potential environmental and social impacts.
- **Project Implementation:** for projects under World Bank Category "B" that might be nationally controversial, a Communication Plan including a grievance redress mechanism will be developed for the proposed sub-project initiatives and implemented prior to implementation. Participation of local leaders in disseminating information and resolving any disputes will be important.
- **Monitoring and Reporting:** national and local level government, stakeholders, various publics and different populations should participate throughout the proposed sub-project development, implementation and operational period. Participation mechanisms should be assessed during the feasibility and design phase.

Site-specific Contextual Gender Information

Field visits were conducted from 21-24 June 2016 at the sub-project site. Community consultations took place with a variety of subnational and local government officials, civil society organizations including non-profit associations and different populations (see Appendix A10 and A11 for list of stakeholders and other publics consulted and stakeholder comments, respectively).

During the community consultations that took place as part of the field work to develop the ESMF, specific gender-related questions were included as part of the public consultations. Results from the women FGDs showed that generally, the people interviewed believe that women and men will have equal benefits from the proposed urban flood risk management sub-project initiatives. The women believed the construction of the infrastructure would result in an increase in job opportunities for both women and men in the area, either directly in construction or as indirect spin-off opportunities such as food provision. The women appear to have more decision-making power in their villages, although men still dominate in the public sphere outside of the family structure.

When questioned about the potential for an increase in sexually-transmitted diseases, harassment, sexual exploitation or human-trafficking, a representative from the Lao Women's Union suggested that any company contracted to undertake the sub-project work should have policies in place to ensure their workers did not contribute to any adverse health impacts on women and female youth or children.

Suggestions for best practices for mainstreaming gender into DRM projects were provided by the community consultations and with civil society organizations in Oudomxay Province, and supplemented with recommendations from DRM projects in the region. Examples of these best practices include the following:

- Consult with a socially and economically representative cross-section of affected women and men during participatory needs assessments and consider their different cultural roles and needs in the design and planning process;
- During community consultations, men often manage the discussions, therefore holding discussions with separate female and male groups will help women feel more comfortable;
- Develop a gender checklist to guide the team in mainstreaming gender in all project activities;
- Continue collecting sex-disaggregated data and analyze and report on it on a quarterly basis;
- Ensure the Monitoring and Evaluation (M&E) system captures the qualitative progress of gender equality promotion and reflect this progress in reports;
- Review all project activity guidelines to ensure gender perspectives are considered in the documents, in collaboration with the project team with technical support from the Senior Gender Officer;
- Conduct regular site visits and provide technical assistance to the project team on how to integrate gender into DRM activities;
- Gender Sensitization Training for the borrower agency, their staff and their local partners needs to be included in DRM projects to ensure greater recognition and understanding of the importance of addressing gender issues in disaster management;
- Strengthening women's access to and ownership over resources improves decision making power;
- Involve grassroots level networks of women to work in collaboration with authorities for positive change;
- Setting up and including a community-based organization representative of the people helps to generate confidence that concerns and grievances will be heard and addressed;
- A multi-stakeholder and learning platform, including MONRE and MAF, can be a useful forum to discuss issues;
- Every meeting and consultations should include women representation for local people and at least one person from each ethnic group;
- Sensitive issues, particularly among women, can be addressed by using the "close friend" approach, and the close friend can represent the person during discussions and negotiations;
- During planning and implement meetings and consultations, men will often exclude women, saying that the topic of discussion is of no concern to women. To ensure women's participation, make sure that they are formally invited and stress how it is important to include women and children as well;
- Opportunities created in post disasters or post conflict situations can be used to challenge existing inequitable norms to move towards inclusivity;
- Where traditional or customary law is favorable to women, these should be used, as women are more comfortable engaging with it; and
- Women's own knowledge can be effectively utilized in DRM and Resilience Building strategies.

Appendix A10
List of Consulted Stakeholders

Table A10.1 List of consulted stakeholders.

Date	Time	Stakeholders	Location	Methodology
21 June 2016	1:30 – 3:30	Concerned subnational government representatives from Provincial DPWT Oudomxay: <ul style="list-style-type: none"> Head of Department of Public Works and Transport (Oudomxay Province) Head of Waterways management sector (Oudomxay Province) Department of Waterways (from Vientiane) World Bank Representative from DoNRE (Oudomxay Province) Representative from Housing and Urban Planning sector Representative from Department of Public Works and Transport (Oudomxay Province) 	Xay District	Arranged meeting with introduction of the Lao PDR DRM Project and Q and A
22 June	8:30 – 12:00	Site visits		
	14:00 – 16:00	Oudomxay Department of Public Works and Transport and District Governor: <ul style="list-style-type: none"> Deputy district governor of Xay district Concerned personnel from Xay district office Representative from Lao Women's Union of Xay district office Representative from DoNRE (Oudomxay Province) Head of Waterways management sector (Oudomxay Province) Department of Waterways (from Vientiane) World Bank 	Muang Xay	Arranged meeting with Q and A
23 June 2016	8:30 – 12:00	Village # 1: Nasao: <ul style="list-style-type: none"> Nai Ban (President of the Committee) Deputy Nai Ban Chief of the Village Unity Union Chief and representatives of the Village Women's Union Chief of the Village Security Unit Chief of the Village Youth Union Most respected elderly people Representative from village Head of Waterways management sector (Oudomxay Province) Department of Waterways (from Vientiane) World Bank 	Nasao Village, Xay District	Arranged meeting to introduce Project and then split into male and female assemblages for focus group discussions (FGD)

Table A10.1 (Cont'd.)

Date	Time	Stakeholders	Location	Methodology
23 June 2016 Cont'd.	13:30 – 16:00	Village # 2: Nalao: <ul style="list-style-type: none"> ▪ Nai Ban (President of the Committee) ▪ Deputy Nai Ban ▪ Chief of the Village Unity Union ▪ Chief and representatives of Women's Union ▪ Chief of the Village Security Unit ▪ Chief of the Village Youth Union ▪ Most respected elderly people ▪ Representative from village ▪ Head of Waterways management sector (Oudomxay Province) ▪ Department of Waterways (from Vientiane) ▪ World Bank 	Nalao Village, Xay District	Arranged meeting to introduce Project and then split into male and female assemblages for focus group discussions (FGD)
24 June 2016	8:30 – 10:30	Meeting with Plan International (Mr. Thippavanh Malaithong, WASH Manager.)	Muang Xay	Arranged meeting with Q and A
	10:30 – 11:30	Meeting with IFAD (Mr. Keo Phetsomphou, Manager)	Muang Xay	Arranged meeting with Q and A
	13:30 – 16:00	PAP living within proximity of the proposed dike embankment (weir)	Muang Xay	Arranged meeting with Q and A

Appendix A11

Stakeholder Consultations

Table A11.1 Notes from consultation meetings with provincial officials and villages in Xay District.

Questions	Responses		
	Provincial Officials June 22 2016	Nalao Village June 23 2016	Nasao Village June 23 2016
How have you been impacted by floods and other hazards in your village?	There were many flood incidences, both minor and major, occurred in the past four flash flood events. The most severe flood occurred in 1985 which created a lot of damage to public facilities, homes and structures. Many people also died as a result. Unfortunately, the provincial authority doesn't have data or statistics on this floods.	As I am aware and experienced, there were four severe floods occur (1945, 1985, 2008, 20013) in Xay district in general and in Nalao village in particular. The most severe one occurred in 1985, which created a lot of damage to homes and structures in the village. Many people also died as a result. The villages had greatly suffered during the floods and aftermath. No sufficient support had been provided by the government.	As he is aware and experience, there were four severe floods occur (1945, 1985, 2008, 20013) in Xay district in general and in Nalao village in particular. The most severe one occurred in 1985, which created a lot of damage to homes and structures in the village. Many people also died as a result. Many households not only in this village but also in other villages had severely suffered during the floods and aftermath.
Have hazard and flood mitigation solutions been proposed and/or implemented before?	No mitigation measures and flood mitigation solutions project had been proposed or implemented because we know any mitigations measures would require a lot of budget, which the provincial government doesn't have.	No mitigation measures and flood mitigation solutions project had been proposed or implemented.	No mitigation measures and flood mitigation solutions project had been proposed or implemented.
What do you think about the proposed sub-projects? Do you think there is a need or demand for these to be built?	I am very pleased to see you coming here to collect the data and conduct general assessment.	We are very happy to hear that there will be this flood mitigation project. We think it is a great project. There have been many flood incidences occurring and some of them were very devastating. No mitigation solutions have been heard or proposed until recently when provincial authority invited me (Nai Ban) to participate in the meeting to inform me about the project. We are also hearing about this project today in more detail. So we are very pleased and very supportive.	I am very happy to hear that there will be this flood mitigation project. I think it is a useful project. There have been many flood incidences occurring and some of them were very devastating. No mitigation solutions have been heard or propose.

Table A11.1 (Cont'd.)

Questions	Responses		
	Provincial Officials June 22 2016	Nalao Village June 23 2016	Nasao Village June 23 2016
Cont'd.	This flood mitigation project was initiated based on constant request made by local residents to the provincial government to address the floods in town.	I understand that some households might be impacted by the project. They might lose their houses, agriculture land or garden. But I hope they understand the general benefits that they project will bring and hopefully the government can somehow make compensation for them.	As a Nai Ban, I was invited to participate in a meeting to inform me about the project. So we are very pleased and very supportive. We very much appreciate the government's effort in trying to address this flood issue for us. I know that some households will be impacted by the project. They might lose their houses, agriculture land or garden. But I hope they understand the general benefits that they project will bring and hopefully the government can make compensation properly and accordingly.
	If this project doesn't proceed, development in the district will be difficult.	I have one piece of land, about one hectare, located along the river bank of Nam Mao River. I lose small part of my land year by year as a result of land erosion. I am glad to hear that river bank protection will be constructed though my land. This will help not only to protect my land but also to project the river bank and all the land along the river bank in general.	I have no objection about the project. I am particularly happy to hear about construction of the park. Of course it will make our town more beautiful and can attract a lot of people to come to our town.
	The provincial government will provide the support and cooperation as needed.	Yes, it is a good project. We are all happy to hear. My only concern is the compensation. We want to get involved in managing the budget as much as possible. In the past, the impacted people only see the financial compensation on paper but in reality they did not receive compensation according to written figures. We want this project to be implemented in transparent manner.	I have a piece of land where the dike will be constructed. I have no problem if some of my land will be acquired for the project. I hope the government will provide some kind of compensation for me. I do believe that other people will also have no problem if they have to give some part of their land for the project. It is common benefit and they have to understand.
	If we don't do this project now, it will even more difficult to do later because people will build more houses and structures.		

Table A11.1 (Cont'd.)

Questions	Responses		
	Provincial Officials June 22 2016	Nalao Village June 23 2016	Nasao Village June 23 2016
Cont'd.	<p>Small number of people will be impacted, while the large number will benefit from the project.</p> <p>We already informed local people that some of them will be impacted.</p>		
What benefits and adverse effects do you foresee from sub-projects and what concerns do you have, particularly on land acquisition, compensation and resettlement?	<p>There are some houses located in the proposed project area. Some of the houses are located in the provincial land so the provincial authority has the right to legally acquire if needed. We have made notification to them that they can live in the provincial land now but once the project starts they will have to move out. People who have a legal title will be compensated.</p>	<p>It is clear to me that for those who have land certificate, they will certainly receive compensation for the loss of their land. I am concerned about those who don't have land certificate, I mean, those who live on the provincial land, have their house built in the provincial land, for instance. The provincial and village authorities have not issued land certificates for them and hence they don't have land certificates. However, these household might strongly resist moving out unless proper compensation is received. I am curious to know how the provincial authority will handle this.</p>	<p>There are many houses located in the proposed park area. It is a provincial land so the provincial authority has the right to legally acquire if needed. I hope those households living in the park area understand. For compensation, I don't know it is up to the provincial government to decide.</p>
		<p>Our village still has conservation land along the main road (50 m from the main road with the approximate total length of 3,000, or about 15 hectare). We also have large wetland area. Poor justified family or household within the village can apply to use or locate somewhere within this conservation land or wetland based on consideration and decision of village authority.</p>	<p>If those households located in the park area have to be resettled, I don't know where we will move them to. Our village doesn't have vacant or conservation land in the town. We only have vacant land located in the mountains and it is very far away from the town. I don't think they want to move there.</p>

Table A11.1 (Cont'd.)

Questions	Responses		
	Provincial Officials June 22 2016	Nalao Village June 23 2016	Nasao Village June 23 2016
Cont'd.		<p>For this proposed flood mitigation project, the village authority still can allocate the area of land for resettlement/relocation purpose if requested or approved by district and provincial authorities. Our village will be happy to serve as the host village. But again, all this will much depend on the decision of the provincial government. Whatever they say, decide or instruct, we have to follow.</p> <p>For those who already have land with land certificate but have to give their land for the project, and if they have to be resettled somewhere within our village land, the village authority can also certify and approve for them to apply for getting land certificate with concerned district authority.</p>	I feel pity for those who have to move out from the proposed park construction area. But they know that it is not their land and they should understand the common benefit. I don't know how the government will address this issue.
What do you think about gender equality? Will women and men benefit equally from these sub-projects? If not, who will benefit more, and why? Will women and men have different benefits and adverse impacts?	No specific thoughts have been given towards any gender considerations. In the past, there was a small project that discussed sexual abuse, however, there is no budget to address those issues.	We don't differentiate between men and women, we are sure that the project will equally benefit both men and women.	We don't differentiate between men and women, we are sure that the project will equally benefit both men and women.
		Usually the head of the household/family will have the access to project information. The Head of the village will communicate directly with the head of the household to inform about the project.	Usually the head of the household/family will have the access to project information. The Head of the village will communicate directly with the head of the household to inform about the project.
		For me, I still think that men should be the one who makes the decision in the family. It is our tradition and it would be strange if a woman makes decision.	I think both wife and husband have equal right in making decision. It depends on the issue as well.

Table A11.1 (Cont'd.)

Questions		Responses	
		Provincial Officials June 22 2016	Nalao Village June 23 2016
Cont'd.			For me, I think we have equal right in making decision. When I have to make final decision on certain important issue, I always consult with my wife and then we agree among ourselves and then make final decision. If my wife doesn't agree, I cannot make final decision. So I would say the decision in the family is made equally between husband and wife based on mutual understanding and agreement. I hope this is also the case for other families in our village.
How many ethnic groups in your village?	There are multiple ethnic groups as this is the capital city with a majority of Khmu.	We have seven ethnic groups living in the village:	We have seven ethnic groups living in the village:
		1. Leu (60%)	1. Lao Loum (40%)
		2. Lao Loum (20%)	2. Khmou (45%)
		3. Hor (8%)	3. Other (5%)
		4. Khmou (5%)	
		5. Tai Dam (3%)	
		6. Phou Noy (2%)	
		7. Nmong (2%)	

Table A11.1 (Cont'd.)

Questions	Responses		
	Provincial Officials June 22 2016	Nalao Village June 23 2016	Nasao Village June 23 2016
Could you tell us about the importance of Nam Kor and Nam Mao rivers, especially for those who live downstream of the proposed sub-projects in terms of water consumption, fisheries and agriculture?	Nam Kor and Nam Mao have not been used much by local communities living downstream, particularly for drinking. Most of them use water from taps. They mainly use the river for agriculture or gardening purposes. Fisheries have also not been so active. However, we will work closely with the construction contractor, especially during the construction phase to ensure the impact on water quality is minimized.		
Since the construction of the proposed sub-projects, especially of dikes and riverbank protection will require a lot of construction material like rock, gravel, soil, etc., do you have an idea, where this material can be obtained from?	We have many vacant places where the project can use as quarry or borrow pit to get the material like rock and soil for construction purpose. These places are far away from town and they are not within the protected areas or close to the villages or communities. We will work closely with construction contractor to ensure that no major impacts are created, especially during extraction and transportation of these materials.		

Table A11.1 (Cont'd.)

Questions	Responses		
	Provincial Officials June 22 2016	Nalao Village June 23 2016	Nasao Village June 23 2016
Since most of the proposed sub-projects are located in town, we are concerned about the access to each site. We are not sure if the construction contractor can access to each site through existing road or new access will be needed or constructed. Could you share your opinion on this?	We believe that we have access to all sub-project sites and we don't need to build new access road. We will work with construction contractor to ensure that the generation of dust and noise is minimized.		
Does the Xay district have any landfill? What do you think about waste management in Xai district?	We have a landfill in town so the construction contractor can use this landfill to dump their waste. We work with construction contractor to make sure that they have regulations and measures in place to manage the wastes they produce.	We have a landfill in the district but not all people use it. Some people just dump their waste everywhere.	We have a landfill in the district but not all people use it. Some people just dump their waste everywhere.
			The Chinese motorbike manufacturing company always dumps their waste in the vacant village land. We've urged the concerned authority to address waste management issues more seriously. We are concerned that if a project really happens, the construction company will do the same.
Have you been involved in the social and environmental monitoring and reporting of any projects in the community? Do you think involvement in monitoring of the project is important? If yes, why?		Our experience with the previous projects is that, as a Nai Ban, I was invited to join district and provincial officials in doing inspections only during the project approval stage, where the permission or approval from our village authority is needed to locate the project site in the village area. I mean I only joined in inspecting project location to see if nothing is wrong with the site that the project developer selects to locate the project. After that or when project started up, the village authority has not been invited to involve in design or monitoring of the project.	As a Nai Ban, I was invited to join district and provincial officials in doing inspections only during the project approval stage, where the permission or approval from our village authority is needed to locate the project site in the village area. I only joined in inspecting project location to see if nothing is wrong with the site that the project developer selects to locate the project. After that or when project started up, the village authority has not been invited to involve in design or monitoring of the project.

Table A11.1 (Cont'd.)

Questions	Responses		
	Provincial Officials June 22 2016	Nalao Village June 23 2016	Nasao Village June 23 2016
Cont'd.		<p>It would be great to have representative from the village to get involved with monitoring the project. Our experience with the previous road construction projects in our village is that we were not given the chance to get involved, although all households have to provide financial contributions and some households had donated some part of their land. The agreement was made at a higher level. As a result, the road got damaged just after few years of completion. We believe this project had not been implemented in transparent manner.</p> <p>We want to get involve in budget monitoring, especially the budget to be used for compensation. We want the government officials to be sincere and honest with us. For the past projects, we felt that we had been cheated or treated unfairly in terms of providing financial compensation. The authority agreed to give financial compensation for impacted households only on paper, but in reality households did not receive real money or received lesser amounts than specified in the agreement. At the end of the day, village authorities have to take responsibility to handle the issue correctly. We think if we could get involved in using or managing the budget, this kind of issue would not occur.</p>	<p>It would be good idea to have representative from the village involved in monitoring the project. I don't have much idea of how we can get involved. We don't have experience in involving in the project. It is would be something new for us.</p>

Table A11.1 (Cont'd.)

Questions	Responses		
	Provincial Officials June 22 2016	Nalao Village June 23 2016	Nasao Village June 23 2016
If these sub-projects get approved for construction, how you would like to see the communication channel between your community and the project? Do you need to have a Dissemination Meeting before the project starts?		Our current common practice for communication on and dissemination of project information is that the village authorities (either Nai Ban or Deputy Nai Ban) will be invited through a letter to attend consultations and a dissemination meeting. At that meeting, the concerned district officials will discuss and provide key information on the project. When the Nai Ban and Deputy Nai Ban get information, they will inform or communicate project information to the villagers by verbally inviting (knocking door by door) representatives from each household to attend the meeting which is usually held at the village office.	Our current common practice for communication on and dissemination of project information is that the village authorities (either Nai Ban or Deputy Nai Ban) will be invited through a letter to attend consultations and a dissemination meeting. At that meeting, the concerned district officials will discuss and provide key information on the project. When the Nai Ban and Deputy Nai Ban get information, they will inform or communicate project information to the villagers by verbally inviting (knocking door by door) representatives from each household to attend the meeting usually held at village office.
		Since almost every household or person has a cellphone, the communication sometimes is done through a phone call.	Since almost every household or person has a cellphone, the communication sometimes is done through a phone call.
		It would be good if poster can be made available and put in the place such as in the village office, in the temple, or in the market.	If you all have cell phone, you or your children can get access to the project information on the website.

Table A11.1 (Cont'd.)

Questions	Responses		
	Provincial Officials June 22 2016	Nalao Village June 23 2016	Nasao Village June 23 2016
What do you think about water quality in the Nam Mao and Nam Kor rivers?		<p>There had been an issue regarding water quality of Nam Mao. The Chinese battery manufacturing company used to discharge untreated waste water from its factory into Nam Mao river. There was a fear and complaint among local communities that such discharge will create the adverse impacts on fishes and other aquatic species and on human health. The village had sent a letter of complaint to district authority and after few months the factory ceased operations. I am not sure about the reason. Maybe the district authority instructed them to cease operations or it was not profitable business and they decided to stop operation.</p> <p>Not too many people use the both Nam Mao and Nam Kor rivers anymore compared to the past. Almost all people use tap water. They only use water from the river for small gardening.</p>	The water quality is poor compare to 10 or 20 years ago. The water color was very clear in the past but it is not the case anymore now. Many factories have been built along the river and I am not sure if officials manage the discharge from those factories.
Do you have any other environmental concerns or suggestion?		We have concerns about dust generation, about waste management. We hope that the project will have rules and regulations in place to address environmental issues. Suggestions were also made to include more tree planting along the riverbank, and a drainage canal and sewage system.	We have concerns about dust generation, about waste management. We hope that the construction contractor has rules and regulations to address environmental issues.

Table A11.1 (Cont'd.)

Questions	Responses		
	Provincial Officials June 22 2016	Nalao Village June 23 2016	Nasao Village June 23 2016
Do you know if there are any grievance mechanism procedures in place? If yes, what is the process?		The village has the Grievance Mediation Committee consisting of seven members from various village organizations as follow:	The village has the Grievance Mediation Committee consisting of seven members from various village organizations as follow:
		1. Nai Ban (President of the Committee)	1. Nai Ban (President of the Committee)
		2. Deputy Nai Ban	2. Deputy Nai Ban
		3. Chief of the Village Unity Union	3. Chief of the Village Unity Union
		4. Chief of the Village Women Union	4. Chief of the Village Women Union
		5. Chief of the Village Security Unit	5. Chief of the Village Security Unit
		6. Chief of the Village Youth Union	6. Chief of the Village Youth Union
		7. Most respected elderly people	7. Most respected elderly people
		The village does not have grievance box in which people can drop their complaints. Villagers who want to make complaint or have a dispute, must to come to the village office and raise the issue. For small issues, the Nai Ban and Deputy Nai Ban can mediate and resolve the issue directly with the complainer or disputer. For more serious or complicated issues, the Nai Ban will request all members of Mediation Committee to get involved. The appointment and meeting will be organized to mediate the issue. If a one-time meeting is not enough to resolve the issue, another meeting will be set up. If the issue fails to be resolved at village level, the village authority will submit the issued to be addressed at the district level.	The village does not have grievance box in which people can drop their complaints. Villagers who want to make complaint or have disputes, must to come to the village office and raise the issue. For the small issue, the Nai Ban and Deputy Nai Ban can mediate and resolve the issue directly with complainer or disputer. For more serious or complicated issue, the Nai Ban will request all members of Mediation Committee to get involved. The appointment and meeting will be organized to mediate the issue. If a one-time meeting is not enough to resolve the issue, another meeting will be set up. If the issue fails to be resolved at village level, the village authority will submit the issued to be addressed at the district level.

Appendix A12

Community and 1st Consultation Meeting Sign-up Sheets

Figure A12.1 Provincial officials, Xay District sign-up sheet.

ສາທາລະນະລັດ ປະຊາທິປະໄຕ ປະຊາຊົນລາວ
ສັນຕິພາບ ເອກະລາດ ປະຊາທິປະໄຕ ເອກະພາບ ວັດທະນາຖາວອນ


ແຂວງ ອຸດົມໄຊ
ພະແນກ ໂຍທາທິການ ແລະ ຂົນສົ່ງ

**ບັນຊີລາຍຊື່ ຜູ້ເຂົ້າຮ່ວມກອງປະຊຸມຮ່ວມກັບຄະນະຊ່ຽວຊານ
ບໍລິສັດ Hatfield ທີ່ປຶກສາ ຂອງອົງການ ທະນາຄານໂລກ ກ່ຽວກັບໂຄງການ
ຄຸ້ມຄອງໄພນ້ຳຖ້ວມເທດສະບານແຂວງອຸດົມໄຊ.**

ສະຖານທີ່ : ທ່ອງປະຊຸມ ພະແນກ ໂຍທາທິການ ແລະ ຂົນສົ່ງ ແຂວງອຸດົມໄຊ
ເວລາ : 14.00.00...20.00.....
ວັນທີ : 21 ມິຖຸນາ 2016

ລ/ດ	ຊື່ ແລະ ນາມສະກຸນ	ຕຳແໜ່ງ	ມາຈາກພາກສ່ວນ	ເບີໂທລະສັບ	ລາຍເຊັນ
1	Mr. Anach XAYAVONG	Social Development	Hatfield	55616172	
2	Ms. Dora HANDEWONG	ESMF	Hatfield	020 9950 4271	
3	Jon HAMILTON	ESMF/IL	HATFIELD	n.a.	
4	Syboundheung P	Social Dev Spec	WB	22212599	
5	Mr. Vongphet S	Environmental specialist	Hatfield	22939444	
6	Mr. Songthachanh			56831522	
7	Mr. Okad Mahachit	Office		2-838038	
8	Mr. Mongvankh	Office	Department of	22838678	
9	ທ. ອາວຸ ພວ ສີໄຊ	ຫົວໜ້າ ຮັບການ	ພູມສັນ	22841189	
10	ທ. ອິດທິ ໂກງຊິນ	ຮັບການ	ຫົວໜ້າ ຮັບການ	23961002	
11	ທ. ທະນະ ສິນສິນ	ຫົວໜ້າ ຮັບການ	ພູມສັນ	55780009	
12	ທ. ສິນສິນ ສິນສິນ	ຮັບການ	ຫົວໜ້າ ຮັບການ	55680643	
13	ທ. ພິມວົງ ສິນສິນ	ຮັບການ	ຫົວໜ້າ ຮັບການ	95930124	
14	ທ. ສິນສິນ ສິນສິນ	ຮັບການ	ຫົວໜ້າ ຮັບການ	22215688	
15	ທ. ສິນສິນ ສິນສິນ	ຮັບການ	ຫົວໜ້າ ຮັບການ	22838888	
16	ທ. ສິນສິນ ສິນສິນ	ຮັບການ	ຫົວໜ້າ ຮັບການ	22957666	

Figure A12.2 IFAD sign-up sheet.


 ສາທາລະນະລັດ ປະຊາທິປະໄຕ ປະຊາຊົນລາວ
 ສັນຕິພາບ ເອກະລາດ ປະຊາທິປະໄຕ ເອກະພາບ ວັດທະນະຖາວອນ

ຕາຕະລາງລົງທະບຽນ:.....

ລ/ດ	ຊື່ ແລະ ນາມສະກຸນ	ພາກສ່ວນ	ຕຳແໜ່ງ	ເບີໂທ	ລາຍເຊັນ
1	ນ. ຊື່: ນາມສະກຸນ	ແມ່ນ	ວິຊາ	02376775	SMU
2	ທ. ສິນຈິນ	ສູນ	---	22375556	Canh
3	ທ. ສິນຈິນ	ແມ່ນ SSSJ	ວິຊາ (178E)	00933585	SMU
4	ທ. ສິນຈິນ	---	ວິຊາ	00931118	SMU
5	ທ. ສິນຈິນ	ວິຊາ	ວິຊາ	55930724	SMU
6	ທ. ສິນຈິນ	ວິຊາ	ວິຊາ	55407310	SMU
7	ທ. ສິນຈິນ	ວິຊາ	ວິຊາ	22215688	SMU
8	Tim HAMILTON	HATFIELD	TL/ESMR	58980203	SMU
9	Anah XAYAVONG	HATFIELD	ວິຊາ	55616172	SMU
10	Derin Henderson	Hatfield	ESMF Specialist	99804271	Derin Henderson
11					

Figure A12.3 Nalao Village, Xay District sign-up sheet.

<p>ລາຍຊື່ ຜູ້ໄດ້ ຮ່ວມປະຕິບັດການລົງທຶນ</p>		
		<p>NO. ບ້ານ ນາລາວ</p> <p>DATE 23/6/2016</p>
ຊື່	ຕຳແໜ່ງ	ເບີໂທ
ນ. ແອງມະນີ	ສີ່ ສາມ ບ້ານ	56 69 66 79
ນ. ຈັນ	ປະຊາຊົນ	23 96 77 73
ນ. ລ້າ	"	56 89 22 29
ນ. ລ້າ	"	22 35 66 79
ນ. ຄຳ	"	(ວິໄນ)
ນ. ພິວໄລ	"	54 43 97 56
ນ. ຈັນທາ	"	030 59 92 44 3
ນ. ເກຣອນ	ປະທານແມ່ຍິງບ້ານ	020 23 35 44 44
ນ. ຈັນອກ	ສາທາລະນະສຸກບ້ານ	55 02 50 96
ນ. ທອງມະຫາໄຊ	ຮອງ ນາຍບ້ານ	55 78 29 40

Figure A12.4 Nasao Village, Xay District sign-up sheet.

ລາຍຊື່ຜູ້ເຂົ້າຮ່ວມປະຊຸມປຶກສາຫາລື ບ້ານ
23/6/16

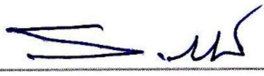

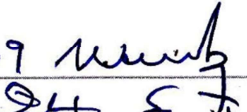
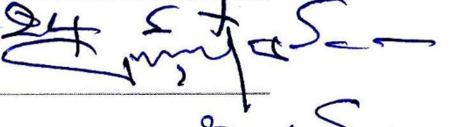
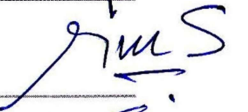


ປ/ນ	ຊື່ ແລະ ນາມສະກຸນ	ທີ່ຢູ່ ບ່ອນພະລັງເກາະ	ເບີໂທ	ລະຫັດ
1.	ນ. ທະນະພຸງ ອາຍຸໄຊຍາ	ບ. ນາ. ສາວ (56ປີ)	56063560	ຟຣ
2.	ນ. ສະຫວັນ	ອ. ນາ. ສາວ (57ປີ)	55183716	ຮ
3.	ທ. ທາງພັດ	ບ. ນາ. ສາວ (44ປີ)	55444039	ທາງ
4.	ທ. ສິນ	ບ. ນາ. ສາວ (46ປີ)	55182182	ສິນ
5.	ທ. ທາງອະພິພິສະນະວົງ	ທ. ສະຫວັນ 72 ປີ	55991315	ທາງ
6.	ທ. ສິນ ແລະ ສະຫວັນ	ສະຫວັນ 63	587252	ສິນ
7.	ທິດ ອິນ	ນາ. ສາວ		ທິດ

ລາຍຊື່ຜູ້ເຂົ້າຮ່ວມປຶກສາຫາລື ບ້ານ
NO. ບ້ານ ນາ. ສາວ
DATE 23/6/2016

ຊື່	ຕຳແໜ່ງ	ເບີໂທ
ນ. ໄຊ ສະມອນ	ແນວ ສະມ	56 49 72 17
ນ. ສິນ ພັດ	ສາຍ ນາ. ສາວ	58 06 66 41
ນ. ສິນ ອຳ	ຮອງ ແມ່ ສິນ	59 90 34 78
ນ. ສິນ ໄລ	ປະຊາຊົນ	56 51 46 47
ນ. ຈັນ ສາ		59 49 04 44
ນ. ສິນ ອຳ		56 78 00 47
ນ. ສະມອນ		58 72 33 37
ນ. ພິມິນ	ອະນຸພາບ	54 93 33 76
ນ. ສິນ ໄຊ	ປະຊາຊົນ	59 80 38 48
ນ. ສະມອນ		(ບໍ່ ຮູ້)

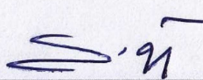

Appendix A13

2nd Public Consultation Meeting Sign-up Sheets

No.	ຊື່ຜູ້ເຂົ້າຮ່ວມ Name of participation	ຕຳແໜ່ງທີ່ຮັບຜິດຊອບ Position	ພາກສ່ວນ Organization	ເບີໂທ Telephone	ລາຍເຊັນ Signature
1.	ທ່ານ ຮຸ່ງໄກ ແສງພອນີ	ຮອງຫົວໜ້າ	ກົມໂຍດທາດິການທຽມ 416430		
2.	ທ່ານ ບຸນ ສິວ ພອນສະຫວີ	ຫ/ພພະຫມາ	— —	22220434	
3.	Henrike Brecht		WORLD BANK		
4.	ນ. ວຽງຈັນພົນສະໄຊ	ຮອງຫົວໜ້າ	ກະຊວງພະນາມາ 71500009		
5.	ນ. ພອນສະຫວີ	ຫ/ພພະຫມາ	SAEDA ອຸປະ	959309	
6.	ນ. ສິວ ພອນສະຫວີ	ຫ/ພພະຫມາ	ພາກ 2 ອຸປະ	22838888	
7.	ນ. ສິວ ພອນສະຫວີ	technical staff	Monre	22243339	
8.	ນ. ສິວ ພອນສະຫວີ	PO	SAEDA	23245099	


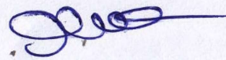
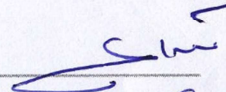
ກອງປະຊຸມປຶກສາຫາລື ຮອບທີ 2 ໂຄງການ ຄຸ້ມຄອງຄວາມສ່ຽງຈາກໄພພິບັດ ໃນພາກອາຊີຕະເວັນອອກສ່ຽງໃຕ້ ຂອງ ສປປ ລາວ ຄັ້ງ ວັນທີ 22/9/2016.

The 2nd Public Consultation Meeting in Vientiane, Lao PDR on September 22, 2016

No.	ຊື່ຜູ້ເຂົ້າຮ່ວມ Name of participation	ຕຳແໜ່ງ Position	ພາກສ່ວນ Organization	ເບີໂທ Telephone	ລາຍເຊັນ Signature
1)	Somsanoun	Dep. Director	ESD	55401310	
2)	Vongphet	Staff	Consultant	22939449	

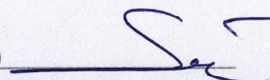

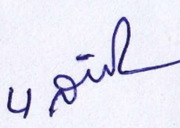

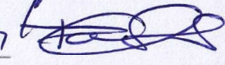
ກອງປະຊຸມປຶກສາຫາລື ຮອບທີ 2 ໂຄງການ ຄຸ້ມຄອງຄວາມສ່ຽງຈາກໄພພິບັດ ໃນພາກອາຊີຕະເວັນອອກສ່ຽງໃຕ້ ຂອງ ສປປ ລາວ ຄັ້ງ ວັນທີ 22/9/2016.

The 2nd Public Consultation Meeting in Vientiane, Lao PDR on September 22, 2016

No.	ຊື່ຜູ້ເຂົ້າຮ່ວມ Name of participation	ຕຳແໜ່ງ Position	ພາກສ່ວນ Organization	ເບີໂທ Telephone	ລາຍເຊັນ Signature
	ທ. ສົມວັນ ທອງລຸນ	ອຳເພີ ລັດ ທີ່	ສະພາສະຫະພາບ	95997569	Alphonse
	ສ. ຈະປັດ ສອນວິໄລ	ຜູ້ປະກອບຄຳເຫັນ	VFI	55583383	
	ທ. ສອນວິໄລ ສອນວິໄລ	ວິຊາການ	Iwara	92425558	Al
	ທ. ອາເມັດ ອາເມັດ	ວິຊາການ	Hatfield	85616172	
	Dawn Henderson	CONSULTANT	"	9980 4271	D. Henderson
	Kham Seng Aly	Dept Director	Dow	22215688	
	Mr. Phimmason Sengsoumyavong	Dow technical	Dow	22228820	Phim S.
	Jim WEBB	Deputy Director	HATFIELD	2322 9998	Jim Webb

ກອງປະຊຸມປຶກສາຫາລື ຮອບທີ 2 ໂຄງການ ຄຸ້ມຄອງຄວາມສ່ຽງຈາກໄພພິບັດ ໃນພາກອາຊີຕະເວັນອອກສ່ຽງໃຕ້ ຂອງ ສປປ ລາວ ຄັ້ງ ວັນທີ 22/9/2016.

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	Somsanith Mounphoxay	Program Officer	The Asia Foundation	02059094979	
	Syounheung Phandavong	Social Dev Sp	WB	020 224 2519	
	ທ່ານ ສົມ ສິນ ເພັດສະຫວັນ	ອຳເພີພັກພະນັກລາວ	ສຳນັກງານວິທະຍາສາດ-ທັກສະນະສາດ ສປປ ລາວ	0305376914	
	Mr Hammy CHANSANON	Deputy Head of Admin	LAO RED CROSS	55658948	
	MR PETER CRAWFORD	ENV SPECIALIST	WORLD BANK	020 22887557	

ກອງປະຊຸມປຶກສາຫາລື ຮອບທີ 2 ໂຄງການ ຄຸ້ມຄອງຄວາມສ່ຽງຈາກໄພພິບັດ ໃນພາກອາຊີຕະເວັນອອກສ່ຽງໃຕ້ ຂອງ ສປປ ລາວ ຄັ້ງ ວັນທີ 22/9/2016.

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1	ທ້າ. ພົມວິໄລ ສຸມພອນ	ຮ່ວມ	ກົມວັດທະນະທຳ	22482145	PH
2	ທ້າ. ກິດຕິ ອຳສາວົງ	ວິຊາການ	ກົມວັດທະນະທຳ/ຄະນະການວັດທະນະທຳ	5534554	Uta
3	ທ້າ. ສາວທິ ລິດທະນະ	ຮ່ວມ	ກົມວັດທະນະທຳ/ຄະນະການວັດທະນະທຳ	22239598	
4	ທ້າ. ຈັນຕະພອນ ວິໄລພິມ	ຮ່ວມ	ECCDA	56465123	
5	ທ້າ. ພົມວິໄລ ສຸມພອນ	CEDAW project coordinator	GDA	55613699	
6	ທ້າ. ພົມວິໄລ ສຸມພອນ	ຮ່ວມ	ກົມວັດທະນະທຳ	22215361	