

**SOUTH EAST ASIA DISASTER RISK  
MANAGEMENT (SEA DRM) PROJECT FOR  
MYANMAR**

**ENVIRONMENTAL AND SOCIAL MANAGEMENT  
FRAMEWORK**

*Prepared for:*

**THE WORLD BANK GROUP**  
1818 H STREET NW  
WASHINGTON, DC, USA 20433

*Prepared by:*

**YANGON CITY DEVELOPMENT COMMITTEE**  
NO. 420, KYAUK TA DA TOWNSHIP  
YANGON, MYANMAR 0951

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## LIST OF ACRONYMS

<b>ACM</b>	Asbestos Containing Material
<b>ADB</b>	Asian Development Bank
<b>AIA</b>	Advance Informed Agreement
<b>AIDS</b>	Acquired Immune Deficiency Syndrome
<b>ARAP</b>	Abbreviated Resettlement Action Plan
<b>ASEAN</b>	Association of Southeast Asian Nations
<b>CBD</b>	Central Business District
<b>CBO</b>	Community Based Organizations
<b>CEDAW</b>	Convention on the Elimination of All Forms of Discrimination Against Women
<b>CERD</b>	International Convention on the Elimination of All Forms of Racial Discrimination
<b>CSO</b>	Civil Society Organizations
<b>DIA</b>	Designated Implementing Agency
<b>DRFI</b>	Disaster Risk Financing and Insurance
<b>DRM</b>	Disaster Risk Management
<b>ECC</b>	Environmental Compliance Certificate
<b>ECD</b>	Environmental Conservation Department
<b>ECL</b>	Environmental Conservation Law
<b>ECOP</b>	Environment Code of Practice
<b>ECR</b>	Environmental Conservation Rules
<b>EDB</b>	Engineering Department (Building)
<b>EDRB</b>	Engineering Department (Roads and Bridges)
<b>EIA</b>	Environmental Impact Assessment
<b>EMA</b>	External Monitoring Agency
<b>EMMP</b>	Excavated Material Management Plan
<b>EMP</b>	Environmental Management Plan
<b>ESIA</b>	Environmental and Social Impact Assessment
<b>ESMF</b>	Environmental and Social Management Framework
<b>ESMP</b>	Environmental and Social Management Plan
<b>ESOM</b>	Environmental and Social Operation Manual
<b>FGD</b>	Focus Group Discussion
<b>GAP</b>	Gender Action Plan
<b>GII</b>	Gender Inequality Index
<b>GRC</b>	Grievance Redress Committee
<b>GRM</b>	Grievance Redress Mechanism
<b>HIV</b>	Human Immunodeficiency Virus
<b>ICCPR</b>	International Convention on Civil and Political Rights
<b>ICESCR</b>	International Convention on Economic, Social and Cultural Rights
<b>IDA</b>	International Development Association
<b>IEE</b>	Initial Environmental Examination
<b>IUCN</b>	International Union for Conservation of Nature
<b>JICA</b>	Japan International Cooperation Agency
<b>KfW</b>	Kreditanstalt für Wiederaufbau Development Bank

<b>km<sup>2</sup></b>	Square Kilometer
<b>LAR</b>	Land Acquisition and Resettlement
<b>m</b>	Metre
<b>mm</b>	Millimeter
<b>M&amp;E</b>	Monitoring and Evaluation
<b>MoHA</b>	Ministry of Home Affairs
<b>MONREC</b>	Ministry of Natural Resources and Environmental Conservation
<b>MoPF</b>	Ministry of Planning and Finance
<b>MOT</b>	Ministry of Transport and Communications
<b>NGO</b>	Non-Government Organizations
<b>NLUP</b>	National Land Use Policy
<b>NNDMC</b>	National Natural Disaster Management Committee
<b>O&amp;M</b>	Operation and Maintenance
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>OM</b>	Operation Manual
<b>OP/BP</b>	Operation Policy / Bank Policy
<b>PA</b>	Protected Area
<b>PAH</b>	Project Affected Households
<b>PAP</b>	Project Affected Persons
<b>PCR</b>	Physical Cultural Resource
<b>ROI</b>	Region of Influence
<b>ROW</b>	Right of Way
<b>RoUM</b>	Republic of the Union of Myanmar
<b>RPF</b>	Resettlement Policy Framework
<b>RSS</b>	Regional Safeguards Secretariat
<b>SCADA</b>	Supervisory Control and Data Acquisition
<b>SEA DRM</b>	South East Asia Disaster Risk Management
<b>SEADRIF</b>	Southeast Asia Disaster Resilience Insurance Facility
<b>SIA</b>	Social Impact Assessment
<b>SIGI</b>	Social Institutions and Gender Index
<b>SMMP</b>	Social Management and Monitoring Plan
<b>STI</b>	Sexually Transmitted Infection
<b>TA</b>	Technical Assistance
<b>TF</b>	Trust Fund
<b>TOR</b>	Terms of Reference
<b>TWG-G</b>	Technical Working Group on Gender
<b>UNDP</b>	United Nations Development Programme
<b>UNFPA</b>	United Nations Population Fund
<b>USAID</b>	United States Agency for International Development
<b>USD</b>	United States Dollar
<b>WA</b>	Ward Administrator
<b>WBG</b>	World Bank Group
<b>YHT</b>	Yangon Heritage Trust
<b>YPSC</b>	Yangon Project Steering Committee





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## 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 (the Bank) through an International Development Association (IDA) loan of US\$125 million in Myanmar is to (i) reduce the impacts of flooding and improve the earthquake performance of selected critical public facilities in Yangon; (ii) reduce the fiscal impacts of natural disasters; and (iii) provide immediate and effective response in the event of an Eligible Crisis or Emergency.

The overall project objective is “to promote and harmonize disaster risk management at the regional level.” The government of the Republic of the Union of Myanmar (RoUM) has identified a number of sub-projects which will be subject to further assessment and consideration for funding purposes.

The Myanmar DRM Project has the following five components:

### ***Component 1: Financing Resilience and Disaster Risk Insurance (US\$20 Counterpart Funding + US\$1 million TF Grant)***

The objective of this component is to increase the disaster resilience of Myanmar by enhancing Ministry of Planning and Finance (MoPF) capacity to integrate disaster and climate resilience into development, and enhance the Government’s capacity to meet post-disaster funding needs. This component will be implemented by the MoPF.

*Sub-component 1.1. Support for Strengthening Disaster Resilience (US\$1 million Trust Fund [TF] Grant):* This sub-component will build capacity of MoPF to systematically mainstream disaster and climate resilience into investment planning and development processes, in coordination with other relevant line Ministries and the National Natural Disaster Management Committee (NNDMC). It will also build national capacity through the establishment of resources within MoPF on the development of a national Disaster Risk Financing and Insurance (DRFI) strategy and support the country engagement in the preparation and establishment of a regional catastrophe risk pooling facility, such as Southeast Asia Disaster Resilience Insurance Facility (SEADRIF), designed to provide participating countries with effective and affordable post-disaster rapid response financing.

*Sub-component 1.2. Payment of Disaster Risk Insurance Premium (US\$20 million IDA Credit):* This sub-component will assist the RoUM in accessing sovereign disaster risk insurance by financing the disaster risk insurance premium for three years from a regional catastrophe risk pool such as the proposed SEADRIF.

### ***Component 2: Integrated Urban Flood Risk Management (US\$79 million IDA Credit)***

This component will help reduce flood risk by improving and increasing the capacity of drainage infrastructure in Yangon and supporting the introduction of an integrated approach to flood risk management.

*Sub-component 2.1. Drainage Improvements (US\$74 million):* This sub-component will focus on the six identified downtown townships (Botahtaung, Kyauktada, Pabedan, Latha, Lanmadaw, and Pazuntaung) which face the highest risk and most severe economic costs from flooding which is likely to worsen as a result of climate change. Funds permitting, improvements to other priority areas suffering regular flooding would be considered during project implementation. Considerations will also be given to finding suitable locations for outfall structures that would need to incorporate mechanized tidal gates and possibly pumps, associated equipment and standby generators. A two-phase approach will be pursued

with Phase 1 applicable to the identified area and Phase 2 covering the remainder of the downtown area once credit becomes effective.

*Sub-component 2.2. Enhancing Disaster Resilience (US\$5 million):* This will include: (a) the design and installation of a Supervisory Control and Data Acquisition (SCADA) system covering key drainage infrastructure; (b) capacity building; and (c) identifying and preparing climate resilient detailed designs for the next highest priority areas for drainage improvement and expansion taking account of any changes that have occurred since the master plan was prepared.

### **Component 3: Safer Public Facilities and Strengthened Emergency Management (US\$22 million IDA Credit)**

This component will reduce disaster risk in Yangon by: (i) retrofitting priority public facilities to ensure a targeted level of performance during a design-level earthquake, and (ii) supporting risk assessments for lifeline infrastructure.

*Sub-component 3.1. Risk Reduction for Public Facilities and Infrastructure (US\$19 million).* This sub-component would reduce seismic risk by improving the structural performance of public facilities and infrastructure in Yangon. Critical public facilities in this sub-component include those that: (i) serve a function that is essential to disaster and emergency management; (ii) are important to the city's social and community services; and (iii) are regularly used/occupied by large numbers of people where life safety is of special concern. Although national legislation exists for heritage conservation, the World Bank's safeguard policy on physical cultural resources is applicable due to minor gaps. The proposed activities for support in this sub-component include (i) retrofitting of priority public facilities; and (ii) provision of emergency power generation for water supply.

*Sub-component 3.2. Improving Emergency Management in Yangon (US\$3 million).* Multi-hazard risk assessment of lifeline/critical infrastructure (such as water supply and transport) (US\$2.0 million). This sub-component includes a risk assessment of selected infrastructure systems in Yangon to support the development of a prioritized plan for future investments, and provide opportunities for government and development partners to support a comprehensive, long-term risk reduction program encompassing upgrading, retrofitting, addition, or replacement of infrastructure elements to maintain network functionality and capacity in the event of a disaster.

This component would also include institutional capacity building for improvement of building information databases (US\$ 0.5 million) to support the development of a digital database of building information which can be used to assess building vulnerabilities and prioritize buildings (both public and private) for future risk reduction interventions (US\$ 0.5 million).

### **Component 4: Project Management (US\$3 million IDA Credit)**

The objective of this component is to support day-to-day management and 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 5: Contingent Emergency Response Component (US\$0)**

This component will allow for rapid reallocation of project proceeds in the event of a natural or man-made disaster or crisis when the Government declares an emergency or provides a statement of fact justifying the request for the activation of emergency funding. An Emergency Response Operations

Manual detailing financial management, procurement, safeguards and any other necessary implementation arrangements developed in cooperation with MoPF, NNDMC and line ministries will apply to this component.

A list of sub-projects that are ineligible for funding under the Myanmar DRM Project is provided in Appendix A1.

## **2.0 ENVIRONMENTAL AND SOCIAL SETTING, VULNERABILITIES AND RISKS**

### **2.1 ENVIRONMENTAL SETTING**

Myanmar is subjected to a range of natural hazards, including floods in low lying areas, cyclones, landslides in mountainous areas, and tsunamis along the coast. The country also rests on a major earthquake belt and is subject to small earthquakes on a regular basis. Predictions indicate that water-related disasters will be exacerbated by climate change and environmental degradation resulting in more frequent and intense floods and droughts. Climate change assessment indicates that increase in temperature, rainfall, and runoff are likely to occur resulting in more frequent extreme rainfall events and dry periods during the monsoon season. These changes are anticipated to lead to augmented economic losses, particularly in the agricultural sector, which can see an increase in the price of basic food items; particularly rice.

Over the past 25 years, Myanmar has suffered 24 disaster events affecting more than 4 million people and causing US\$4.7 billion in damages<sup>1</sup>. A preliminary financial risk assessment, estimated expected annual economic losses of over US\$184 million due to natural disasters, equivalent to 0.9 percent of GDP<sup>2</sup>. Specific examples of natural disasters include Cyclone Nargis which made landfall in early May 2008 resulting in over 130,000 fatalities or missing people and 2.4 million other people lost their homes and livelihoods in the country. In July and August 2015, Cyclone Komen caused widespread floods and landslides affecting 12 out of 14 states in Myanmar and displaced 1,676,086 people and caused 132 fatalities<sup>3</sup>. The floods and landslides destroyed public and private infrastructure, had extensive impacts on the agriculture sector and cut national economic growth by 0.8 percentage points. The worst-hit areas were in the central and western part of the country and disproportionately affecting populations that were already poor and vulnerable. In July and August 2016, extreme, long-term rainfall caused flooding in 11 states or regions across the country which affected 477,360 people and caused in 8 fatalities.

Yangon is situated in a delta flood plain with an average elevation of 30 meters (m) above sea level and has a tropical monsoon climate with three distinct seasons, dry, rainy and cool. Mean annual rainfall is 2,749 millimeters (mm) and mean monthly rainfall varies between 591 mm in August to 3 mm in January and February.<sup>4</sup> Yangon is bounded by Hlaing River to the west, Yangon River to the south and Bago River to the east, with Pazungdaung Creek running through the eastern areas of the city. Due to the connectivity and proximity to the Andaman Sea, the rivers around Yangon are tidal. Low-lying areas of Yangon are prone to occasional flooding when heavy rains coincide with high tides; hence the need for

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<sup>1</sup> Preliminary World Bank analysis based on data from EM-DAT database.

<sup>2</sup> World Bank / Global Facility for Disaster Reduction and Recovery.2012. *ASEAN. Advancing Disaster Risk Financing and Insurance in ASEAN Member States: Framework and Options for Implementation.*

<sup>3</sup> Government of Myanmar (2015). "Situation Report 1. 10 August 2015." National Natural Disaster Management Committee. <http://reliefweb.int/sites/reliefweb.int/files/resources/NNDMC%20sitrep%2010Aug2015.pdf>.

<sup>4</sup> Data from Kaba-aye Meteorological Station.

investment in upgrading the existing urban drainage structure. Yangon rests on alluvial soils and lies in relatively close proximity to the Sagaing fault. Consequently, Yangon faces the potential risk of significant earthquake disasters.

There is a wide diversity of ecosystems represented in Myanmar which includes mixed wet evergreen, dry evergreen, deciduous, and montane forests. Patches of shrublands and woodlands on karst limestone outcrops are found throughout the country and, in some coastal areas, scattered heath forests. In addition to these scattered ecosystems, a wide variety of distinctive, localized vegetation formations occur, including lowland floodplain swamps, mangroves, and seasonally inundated grasslands. Myanmar is also host to 15 biodiversity corridors which play a key role in maintaining landscape connectivity between biodiversity areas. However, as an urban environment, ecosystems within Yangon have been severely modified and degraded. Few areas remain that can be considered natural habitats, particularly in the Central Business District (CBD) where human population density is relatively high and the large majority of land is either residential or commercial use.

## 2.2 SOCIAL SETTING

The Yangon Region is the economic capital of Myanmar. According to the 2014 Census, the region is comprised of four districts and 45 townships with a total population of 7,360,703 – of which 52.23% are female – while the population of the six priority townships is 224,856 which is approximately 3.1 % of Yangon Region’s total population. The population density of Yangon Region was 716 persons per km<sup>2</sup> which is approximately nine times higher than the Union level population density of 76 persons per km<sup>2</sup>. The CBD is densely populated with an average of 32,600 residents/km<sup>2</sup>, though significant variation exists with Pebedan Township being the most densely populated with 53,000 residents/km<sup>2</sup> compared to Botahtaung Township with 15,800 residents/km<sup>2</sup> (Table 1). The vast majority of CBD residents enjoy the modern amenities of urban life, living in condominiums or apartments with improved sanitation (91.1% of the population), electricity (69.3% of the population) and improved water supply (77.3% of the population).<sup>5</sup>

Although census figures for ethnicity and religion at the township level are not publicly available, information provided by CBD residents during focus group discussions as well as from anecdotal observations indicate a wide mix of various ethnic and religious groups. For example, a large proportion of the population of Latha Township is ethnically Chinese while the population of Botahtaung Township is largely Bamar and South Asian. A diverse array of ethnic minority groups reside in the CBD and religious street festivals are common, particularly Buddhists sermons. Ethnic groups do not exist in isolation; rather, they are economically, politically and socially integrated with the rest of the country’s population.

Livelihoods in an urban environment are often not associated with natural resources or fixed to a given geographic area. Hence, many residents within the CBD work outside this area and many residents from elsewhere in Yangon commute into the CBD for work. This holds significant implications when identifying PAPs who can reside outside the project area but can still experience project-related impacts on their livelihoods. Many street vendors operate in the CBD, some of which are residents and some of which commute from other areas of Yangon. Relatedly, the Yangon City Development Committee

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<sup>5</sup> Based on analysis of household ownership and asset data from the 2014 Myanmar Housing and Population Census. Ministry of Immigration and Population.

(YCDC) has recently established a night market along Strand Road and is relocating street vendors to this location to improve traffic flow in the CBD.

**Table 1 Population and land statistics in the six CBD townships.**

Township	Population	Area (km <sup>2</sup> )	Population Density (Residents/km <sup>2</sup> )
Pazundaung	48,455	1.07	45,300
Botahtaung	40,995	2.6	15,800
Kyauktada	29,853	0.7	42,600
Pabedan	33,336	0.62	53,800
Lanmadaw	47,160	1.31	36,000
Latha	25,057	0.6	41,800
Average			32,600

Yangon's diverse cultural heritage has resulted in a large number of heritage and listed buildings. Many of the listed buildings were built as administrative buildings under British colonization while others are religious sites such as churches, mosques and Buddhist and Hindu temples. Eighty-nine listed buildings out of which three are cultural heritage, exist within the CBD, thirty-nine of listed buildings are located in Kyauktada Township alone.

## 2.3 VULNERABILITIES AND RISKS

With rapid urbanization, the pressure on existing infrastructure and services is increasing in an unplanned manner<sup>6</sup>. The changes in land use associated with urban development affect flooding in many ways. Removing vegetation and soil, grading the land surface, and constructing drainage networks increase runoff to watercourses from rainfall. As a result, the peak discharge, volume, and frequency of floods increase. Roads and buildings constructed in flood-prone areas are exposed to increased flood hazards, including inundation and erosion, as development continues.

During the community consultations between 16 and 18 December 2016, community members expressed concerns to the Consultant regarding economic impacts to street vendors and shops during flooding, access management at construction sites, maintenance of utilities, and street safety during flooding when visibility of street level hazards is restricted. Improvements to urban drainage can mitigate some of these concerns by increasing the discharge of water through the drains and outfalls thereby reducing the impacts from flooding. While improvements to the discharge capacity can reduce impacts from flooding, mitigation of the impact of discharges on water quality can be considered in sub-project design by incorporating ecologically designed recharge ponds along open drains to improve water quality discharged from stormwater drainage.

<sup>6</sup> Between 2000 and 2010, population in urban areas in the country increased from 4.7 million to 6.2 million. World Bank. 2015. *East Asia's Changing Urban Landscape: Measuring a Decade of Spatial Growth*.

## 3.0 REGULATORY AND INSTITUTIONAL FRAMEWORK

### 3.1 MYANMAR REGULATORY FRAMEWORKS

#### 3.1.1 Constitution of Myanmar (2008)

According to Article 37(a) of the Constitution of the Government of the Union of Myanmar, “*The Union is the ultimate owner of all lands and all natural resources above and below the ground, above and beneath the water and in the atmosphere in the Union.*” As the owner of all lands and natural resources, the Constitution further stipulates in Article 45 that: “*The Union shall protect and conserve the natural environment.*” Article 390 (b) further stipulates that it is the duty of every citizen to assist in the preservation and safeguarding of cultural heritage and environmental conservation.

Chapter 8 of the Constitution contains 55 articles stipulating the fundamental rights and duties of citizens. Article 354, in particular, stipulates the right to freedom of expression, to assemble peacefully, and practice religion freely; though with the caveat that these rights are only guaranteed so long as they are “not contrary to the laws enacted for Union Security”. Article 348 states that the rights contained in the Constitution are guaranteed to all Myanmar citizens regardless of race, birth, religion, official position, status, culture, sex or wealth. In doing so, Article 348 implies rights for minority groups.

#### 3.1.2 Environmental Laws

Until quite recently, Myanmar’s legal system provided little guidance to investment projects on environmental conservation. Most conservation measures were spread across various laws, which lacked coherence and did not provide systematic or adequate protection for the diverse ecosystems found within the country. Clear requirements and procedures for Environmental Impact Assessments (EIA) to government or private sector projects were also lacking. In 2012, Myanmar passed the Environmental Conservation Law (ECL) which was followed by two interrelated legal documents for environmental conservation, the Environmental Conservation Rules (ECR) (2014) and the Environmental Impact Assessment Procedures (2015). Together, these three documents provide an integrated framework for environmental conservation and clear requirements for EIA procedures.

##### 3.1.2.1 Environmental Conservation Law (2012)

The ECL sets the institutional foundation upon which ECR and the EIA Procedures are based. According to Section 3 (a) (b) and (c), the main objectives of the law are:

*“(a) to enable implementation of the Myanmar National Environmental Policy.*

*“(b) to lay down the basic principles and give guidance for systematic integration of the matters of environmental conservation in the sustainable development process.*

*“(c) to enable to emerge a healthy and clean environment and to enable to conserve natural and cultural heritage for the benefit of present and future generations”.*

To this end, the ECL stipulates the creation of a Union-level Environmental Conservation Committee and outlines the powers and responsibilities of this committee and the Ministry of Natural Resources and Environmental Conservation (MONREC).<sup>7</sup> Inter alia, the Committee is tasked with strategically

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<sup>7</sup> The law refers to the Ministry of Environmental Conservation and Forestry (MOCAF). In 2015 the ministry was restructured as the Ministry of Natural Resources and Environmental Conservation (MONREC)

developing national environmental policies for the country and MONREC is tasked with carrying out these policies. Most notably, Section 7 (m) of the ECL tasks MONREC to “... carry out a system of environmental impact assessment and social impact assessment ...”.

### 3.1.2.2 Environmental Conservation Rules (2013) and EIA Procedures (2015)

MONREC's powers and responsibility for environmental conservation are further elaborated upon in the ECR. Articles 52 and 53 of the ECR identify the Environmental Conservation Department (ECD) as the body which establishes and manages the EIA and initial environmental examinations (IEE). The EIA Procedures (2015) elaborate on the details of the environmental assessment system and how government organizations and private companies may obtain an Environmental Compliance Certification (ECC). The EIA Procedures (2015) also establish an EIA and IEE screening process, and Annex One of the Procedures contains guidelines about which projects require an EIA or IEE. Section 13 (a) and (b) of the EIA Procedures (2015) stipulate that the project implementing agency<sup>8</sup> must disclose relevant information about the project to the public at all phases of the EIA and IEE and to conduct consultation meetings. Public disclosure and consultation meetings are further elaborated upon in subsequent sections of the EIA Procedures document. Section 102 (b) of the Procedures stipulates that the project implementing agency bears full legal and financial responsibility for project affected persons until they reach ‘... socio-economic stability at a level not lower than that in effect prior to the commencement of the project ...’.

### 3.1.3 Land Laws

One comprehensive land law does not exist in Myanmar but rather there are several laws for different categories of land. According to Section 19 of the National Land Use Policy (NLUP), land in Myanmar is classified into 10 types under existing law. Land being considered for this DRM project is categorized under one type, namely ‘urban and rural residential land and public lands’. The legal framework for land management in Myanmar consists of over 70 different laws<sup>9</sup> many of which are the vestiges for previous governments and are not necessarily harmonized under one system. Summaries of the most relevant laws for this project are given below<sup>10</sup>.

#### 3.1.3.1 Land Acquisition Act (1894)

The Land Acquisition Act (1894) is a colonial-era law that allows government and private companies that have obtained approval of the President to compulsorily acquire land for public purposes. According to Section 4 (1) of the Act:

*“Whenever it appears to the President of the Union that land in any locality is need or is likely to be needed for any public purposes, a notification to that effect, shall be published in the Gazette, and the Collector shall cause public notice of the substance of such notification to be given at convenient places in the said locality.”*

Under the Act, compensation for the land is determined by a civil court. A calculation method for land valuation is provided in Section 23, in which the Court ‘takes into consideration’ the market value of the land, the value of crops and trees on the land and any damages affecting moveable or immovable

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<sup>8</sup> The PIA is referred to in the law as the ‘project proponent’.

<sup>9</sup> Land Acquisition Law and in Practice in Myanmar. (2015). Displacement Solutions

<sup>10</sup> For example, the Farmland Law (2012), Farmland Rules (2012), and Vacant, Fallow and Virgin Lands Management Law (2012) are commonly cited laws in the discourse of land acquisition in Myanmar. However, these laws only apply to farmland and are, therefore, not relevant to this analysis.



property of displaced person(s). However, as these issues only need be taken into consideration the Court, in practice, can set compensation rates that are not based on this calculation method.

Other sections of the law outline notice periods, procedures for objections, the process of taking possession and an appeals process. Although the law does require public notification of land acquisition and stipulates an appeals process, it grants substantial power to government and private companies to acquire land without guaranteeing adequate compensation. It also provides few options for legal recourse and does not adequately support land rights.

### **3.1.3.2 National Land Use Policy (2014)**

The recently drafted National Land Use Policy (NLUP) calls for progressive measures to strengthen land rights, minimize arbitrary land acquisition, and ensure proper safeguards and compensation when land acquisition is necessary. It should be noted, however, that the NLUP is a strategic policy document, not a law. It is aspirational in nature, outlining rights and mechanisms that do not yet exist in law. Rather the NLUP stipulates what should be included in the upcoming National Land Law and related land legislation. In doing so, it sets forth a strategic vision for a more harmonized legal framework for land management. Consequently, the NLUP does not directly affect the DRM project for the time being, but it provides insights into how land reform may change over the course of the project and what considerations may be relevant during the later phases of implementation.

Section 37 of the NLUP states the need for impartial environmental and social impact assessments and specifically states that “*a stakeholder who is not desirous to transfer shall not be transferred against his will*”. The same section also instructs the development of systematic consultation process with persons to be relocated, an impartial dispute settlement mechanism and the provision that equivalent or improved housing or infrastructure for the displaced person(s) is established before resettlement. Furthermore, Section 44 of the NLUP stipulates that compensation can be made in cash or substituted land. Section 68 of the NLUP recognizes traditional systems of land ownership by ethnic minorities, and Section 72 calls for the classification and protection of ancestral lands, which are currently classified under other land categories. Part VIII of the NLUP also outlines the conditions for equal rights between men and women for land tenure and land use management.

### **3.1.3.3 Yangon City Development Law (2013)**

The Yangon City Development Law (2013) outlines the political and administrative structure to govern the city and stipulates the mandate of YCDC and the scope of its powers. Among other mandates, the law establishes the election process and installation of the committee itself as well as the administrative structure of YCDC, its powers to tax and collect revenue and its responsibilities. Chapter 6 of the law covers the construction of buildings, drainage and roads. In Chapter 6, Section 19 gives YCDC the right to construct new drainage or modify old drainage infrastructure. This section also gives YCDC the right to release waste water into the river system encompassing the city.

Of particular relevance to this project is Section 7 of the law, which vests substantial power in the YCDC to administer land within city limits. In particular, Section 7 (e) allows for the demolition and re-settlement of squatter huts, squatter buildings and squatter wards. Despite the lack of harmonization between this and other land laws, this law will be applicable for the implementation of the DRM project as it is located within YCDC city limits. In recent history, however, this law has not adequately supported land rights nor does it mention any type of compensation for resettlement of squatters or informal settlements.

### 3.1.4 Cultural Heritage Protection

The Protection and Preservation of Cultural Heritage Regions Law (1998) outlines the powers of the Ministry of Cultural and establishes a process for identifying, demarcating, establishing and protecting a cultural heritage region. It makes no mentions chance find procedures. Inter alia, the law states that the Ministry of Cultural has the right to acquire land within a cultural heritage zone (Section 5) and the Ministry can dismantle any building which is not an ancient monument or obstructs the view of an ancient monument within a cultural heritage region (Section 6). The law also stipulates in Section 13 that the approval of the Ministry is required for anyone desirous of constructing or extending a building, road, bridge irrigation canal or embankment in a cultural heritage region.

In 1996, the YCDC issued the Yangon City Heritage Building List for Conservation. The list includes 189 buildings which were constructed before 1930. In addition, a 94-hectare Yangon Heritage Zone is under consideration by YCDC within the CBD.

In addition to the Cultural Heritage Regions Law, the ECL section 19 states that MONREC shall cooperate with relevant government departments in order to ensure the perpetual existence of natural and cultural heritage sites under existing laws. This is further supported by section 91 of the EIA Procedures (2015), which states that an ECC issued by MONREC may prescribe conditions for the protection of cultural heritage sites and procedures for chance finds.

The Yangon Region Government is drafting Yangon's first Urban Heritage Conservation Law with assistance from the Yangon Heritage Trust (YHT). Though it has not been passed by Parliament yet, it acknowledges the city's urban heritage regardless of age but as a part of the evolving and diverse values for the communities. Before actual implementation of the sub-projects, it should be checked if the law has been passed and its applicability to the sub-project locations.

## 3.2 REGIONAL AND INTERNATIONAL REGULATORY FRAMEWORKS

In addition to the statutes and regulations discussed above, the RoUM 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 RoUM 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 RoUM 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 Myanmar.
- *UN Convention on Biological Diversity* (1996). As a signatory to this Convention, the RoUM is 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 RoUM officially joined the Convention in 2005. The Convention defines basic principles and measures on sustainable management, preservation, development, and utilization of wetland.
  - *Cartagena Protocol on Biosafety to the Convention on Biological Diversity (2008)*. The RoUM signed this protocol in 2001 and it came into effect in 2008. This protocol was ratified by Myanmar in 2008<sup>11</sup>. The Protocol seeks to protect biological diversity from the potential risks posed by living modified organisms resulting and establishes an advance informed agreement (AIA) procedure for ensuring that countries are provided with the necessary information to make informed decisions before agreeing to the import of such organisms into their territory.
  - *Kyoto Protocol to the United Nations Framework Convention on Climate Change: Accession* by Myanmar in 2003 and came into force in 2005<sup>12</sup>.
  - Myanmar is also a signatory to the *International Convention on Economic, Social and Cultural Rights (ICESCR)*<sup>13</sup>. This could foreseeably protect the rights of minority ethnic groups.
  - Since 1997, Myanmar has also been a signatory of the *Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)*.<sup>14</sup> The Convention defines what constitutes discrimination against women and mandates actions on a national level to put an end to discrimination.

### 3.3 APPLICABLE WORLD BANK SAFEGUARD POLICIES

With a focus on sustainability of projects, the World 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 the Myanmar DRM Project will support sub-projects for which the location and design are yet to be determined at the time of project appraisal, an ESMF is the safeguards mechanism or instrument to provide assurance to the borrower country and impacted individuals that due consideration has been given to potential sub-project impacts and risks.

Significant negative environmental impacts are not anticipated and, if any, impacts will be temporary and reversible provided that the proposed physical improvements will be completed within the existing

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<sup>11</sup> <https://bch.cbd.int/protocol/parties/>

<sup>12</sup> <http://unfccc.int/resource/docs/convkp/kpeng.pdf>

<sup>13</sup> Ratification/Accession in 2015 <http://indicators.ohchr.org/>

<sup>14</sup> (ibid)

infrastructure alignments and structure. However, the final list of civil works – drainage improvements and building retrofitting - detailed designs and exact locations of the sub-project investments are not yet determined. Therefore, the Project is categorized as Category B per World Bank Safeguard Policies; that is a project which “*may have potentially limited adverse social or environmental impacts that are few in number, generally site specific, largely reversible, and readily addressed through mitigation measures.*” Therefore, the environmental and social screening process must include confirmation that the proposed sub-projects align with the Category B assessment. In the unlikely case that a sub-project of EA category A would be proposed, it would be considered ineligible for project financing as it would result in the preparation of an ESIA which requires time, additional consultations and goes beyond this project objective as an urgent disaster risk management response.

The sub-projects will likely trigger the following World Bank environmental safeguard policies: *Environmental Assessment (OP/BP4.01)*, *Natural Habitats (OP/BP 4.04)*, and *Physical Cultural Resources (OP/BP 4.11)* as well as one social safeguard policy: *Involuntary Resettlement (OP/BP 4.12)* (Table 2). In the event that the Project design changes, other safeguard policies may be applicable depending upon the exact nature and scope of the proposed sub-projects changes. During the first public consultation meetings and focus group discussions, the applicability of the social safeguard policy *Indigenous Peoples (OP 4.10)* was assessed and deemed not applicable to the sub-projects (Appendix A2).

**Table 2 Summary of World Bank Operational Policies and their implication for sub-projects.**

OP/BP No.	Operational Policy Summary	Triggered (Y/N) and Rationale	Implication
4.01	<p><b>Environmental Assessment:</b> 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.</p> <p>Social aspects (involuntary resettlement, indigenous peoples) and safety of dams are covered by separate policies with their own requirements and procedures.</p>	<p><b>Y</b></p> <p>For the preparation of feasibility and design studies for improvement and rehabilitation of infrastructure under Components 2 and 3, the planned works on the proposed sub-projects may have direct or indirect environmental and social impacts or cumulative impacts with other past, present or foreseeable projects and activities. This OP/BP is triggered.</p>	<p>(i) The SEA DRM qualifies as a Category B type for preparation of feasibility and design studies under Components 2 and 3.</p> <p>(ii) An ESMP will be prepared for Components 2 and 3 as part of the feasibility studies and include required management plans (i.e. ARAP).</p> <p>(iii) ESMP document will be made publicly available to project-affected persons (PAPs) and civil society organizations (CSOs).</p>
4.04	<p><b>Natural Habitat:</b> 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.</p>	<p><b>Y</b></p> <p>For the preparation of feasibility and design studies under Components 2 and 3, the works in the proposed sub-projects may have impacts on habitats, wetlands and or watercourses where species categorized as Threatened on the IUCN Red List occur. This OP/BP is triggered as a precautionary measure.</p>	<p>For the on-going preparation of the sub-projects under Components 2 and 3 and the preparation of any other investments (i.e., drainage infrastructure improvements, flood gates, and building improvements):</p> <p>(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.</p>
4.11	<p><b>Physical Cultural Properties:</b> 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.</p>	<p><b>Y</b></p> <p>No physical cultural sites are located in the drains however the Air Compressor Station building on Mahabandoola Road is a listed heritage structure. Additionally, physical cultural resources could be found during eventual works included in this project. This OP/BP is triggered.</p>	<p>A chance find process is included in this ESMF.</p>

**Table 2 (Cont'd.)**

OP/BP No.	Summary of Safeguard and Other Operational Policies	Triggered (Y/N) and How	Implication
4.12	<p><b>Involuntary Resettlement:</b> 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.</p>	<p style="text-align: center;"><b>Y</b></p> <p>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 works including drainage improvements, installation of tidal gates and storm pumps and retrofitting of buildings. An RPF has been prepared to guide the proposed sub-projects. This OP/BP is triggered.</p>	<ul style="list-style-type: none"> <li>(i) A Resettlement Policy Framework (RPF) for the proposed sub-projects under Components 2 and 3 will be appended to this ESMF.</li> <li>(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-projects.</li> <li>(iii) A Grievance Redress Mechanism (GRM) applicable to the local context for each sub-project site will be included as part of the ARAP.</li> <li>(iv) The ARAP instrument for each sub-project will be disclosed on the YCDC and the World Bank InfoShop websites.</li> </ul>

## 3.4 GAP ANALYSIS BETWEEN ROUM AND WORLD BANK POLICIES

The following sub-sections provide gap analyses on RoUM laws and regulations relative to the World Bank OPs 4.01, 4.04, and 4.11 that have been triggered by the project. A gap analysis between RoUM existing laws and regulation to the World Bank OP 4.12 (Involuntary Resettlement) is provided in the RPF.

### 3.4.1 Operational Policy 4.01 Environmental Assessment

The World Bank's environmental and social safeguard Policies requires the RoUM to analyze and summarize national laws and regulations pertaining to land acquisition, compensation payment, and relocation of affected persons in their settlement plan. The RoUM 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 RoUM will propose a suitable gap-filling strategy in the resettlement plan in consultation with World Bank's officer in charge. The World Bank OP 4.01 was compared with existing laws and regulations for the RoUM and the following gaps were identified such that OP 4.01 is triggered and are summarized in Table 3:

- **EIA review procedures.** The RoUM regulations are silent on the assessment of alternatives to the project development.
- **Independent monitoring.** The RoUM regulations are silent on internal and external independent monitoring. The Project Secretariat will conduct internal monitoring on land acquisition and reporting requirements for the ESMP implementation.
- **Public consultation and disclosure.** The RoUM regulations include several references and requirements to disclose information about a proposed project to the public and civil society. Posting of project information on publicly available signboards are also included in the national regulations along with the requirement to conduct consultations at all stages of a project.

**Table 3 Gap analysis between Union of Myanmar legal/regulatory framework and the World Bank OP 4.01.**

Subjects	OP 4.01	Myanmar Legal Framework	Gap/Project Measures
<b>1. EA Process</b>			
<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>	EIA Procedures (2015) Article 7: <ul style="list-style-type: none"> <li>Projects that involve Involuntary Resettlement or which may potentially have an Adverse Impact on Indigenous People shall comply with specific procedures separately issued by the responsible ministries. Prior to the issuance of any such specific procedures, all such Projects shall adhere to international good practice (as accepted by international financial institutions including the World Bank Group and Asian Development Bank) on Involuntary Resettlement and Indigenous Peoples.</li> </ul>	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". However, project alternatives are not required for this project.



**Table 3 (Cont'd.)**

<b>Subjects</b>	<b>OP 4.01</b>	<b>Myanmar Legal Framework</b>	<b>Gap/Project Measures</b>
<b>1. EA Process (Cont'd.)</b>			
<i>1.3 Retention of project advisors.</i>	<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>	<p>Environmental Conservation Rules (2014) Article 12: The Committee, for the conservation and enhancement of environment:</p> <ul style="list-style-type: none"> <li>a) May ask necessary proposals, advices, remarks from the relevant Government departments, Government organizations, international institutions, local and oversea nongovernmental organizations, social organization, experts and the public for a particular case or general.</li> </ul> <p>Environmental Conservation Rules (2014) Article 37:</p> <ul style="list-style-type: none"> <li>b) Shall carry out, as may be necessary, in coordination and cooperation with the relevant Government departments, Government organizations, Non-governmental organizations and Experts, in accord with the guidance of the Union Government, to enable to prevent damage to the environment which is caused or likely to cause by environmental emergency.</li> </ul>	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.
<b>2. Public Consultation and Disclosure</b>			
<i>2.1. The EA process must include public consultation and disclosure.</i>	<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>EIA Procedures (2015) Article 13: The Project Proponent shall:</p> <ul style="list-style-type: none"> <li>a) arrange for appropriate public consultation through all phases of the IEE and EIA process as required by Articles 34, 50, and 61,</li> <li>b) disclose to the public in a timely manner all relevant Project-related information in accordance with this Procedure except that which may relate to National Security concerns as informed by the Ministry.</li> </ul>	OP 4.01 Policy Procedures and EIA Procedures (2015) Article 13 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 4.01	Myanmar Legal Framework	Gap/Project Measures
<b>2. Public Consultation and Disclosure (Cont'd.)</b>			
		<p>EIA Procedures (2015) Article 34:</p> <p>The Project Proponent shall undertake the following public consultation process in regard to an IEE Type Project:</p> <ul style="list-style-type: none"> <li>a) Immediately upon commencement of the IEE, disclose relevant information about the proposed Project to the public and civil society through the Project or Project Proponent's website(s) and local media, including by means of the prominent posting of legible sign boards at the Project site which are visible to the public, and comply with technical guidelines issued by the Ministry; and</li> <li>b) arrange the required complement of consultation meetings as advised by the Ministry, with local communities, potential PAPs, local authorities, community based organizations, and civil society, and provide appropriate and timely explanations in press conferences and media interviews.</li> </ul>	
		<p>EIA Procedures (2015) Article 50:</p> <p>As part of the [EIA] Scoping, the Project Proponent shall ensure that the following public consultation and participation process is carried out:</p> <ul style="list-style-type: none"> <li>a) disclose information about the proposed Project to the public and civil society through posting on the Project or Project Proponent's website(s) and local media, including by means of the prominent posting of legible sign boards and advertising boards at the Project site which are visible to the public; and</li> </ul>	

Table 3 (Cont'd.)

Subjects	OP 4.01	Myanmar Legal Framework	Gap/Project Measures
<b>2. Public Consultation and Disclosure (Cont'd.)</b>			
		<p>b) arrange the required complement of consultation meetings as advised by the Ministry, with local communities, potential PAPs, local authorities, community based organizations, and civil society, and provide appropriate and timely explanations in press conferences and media interviews.</p> <p>National Land Use Policy (2014) Article 37: Fair environmental and social impact assessments:</p> <ul style="list-style-type: none"> <li>▪ When designing and implementing the project for land allocation and resettlement, the persons to be relocated shall be consulted systematically and shall be able to participate in person.</li> </ul>	
<b>3. Monitoring &amp; Evaluation</b>			
3.1 Internal and external independent monitoring are required	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.	Not included.	OP 4.01 Policy Procedures will be implemented. The Project/YCDC will conduct internal monitoring on land acquisition and reporting requirements for the ESMP implementation and will include progress reports, status of land acquisition, 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.

### 3.4.2 Operational Policy 4.04 Natural Habitats

With respect to natural habitat, while the Environmental Conservation 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, minor identified gaps will be complemented by applying the World Bank OP 4.04 (Table 4) and includes:

- **Promoting environmentally sustainable development.** Though critical natural habitats are not present within the footprint of the sub-project sites, the regulations do not include avoidance of significant conversion or degradation of these habitats. The regulations are also silent on the requirement to use land already converted from natural habitats to minimize impacts.

**Table 4 Gap analysis between Union of Myanmar legal/regulatory framework and the World Bank OP 4.04.**

Subjects	OP 4.04	Myanmar Legal Framework	Gap/Project Measures
<b>1. Promote Environmentally Sustainable Development</b>			
1.1 Use a precautionary approach to ensure environmentally sustainable development.	<i>The Bank supports, and expects borrowers to apply, a precautionary approach to natural resource management to ensure opportunities for environmentally sustainable development.</i>	Environmental Conservation Law (2012) Article 3: The objectives of this law are as follows: b) to enable to lay down the basic principles and give guidance for systematic integration of the matters of environmental conservation in the sustainable development process.	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.
1.2 Avoid significant conversion or degradation of critical natural habitats.	<i>The Bank does not support projects that, in the Bank's opinion, involve the significant conversion or degradation of natural habitats.</i>	Not included.	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.
1.3 Using lands already converted from natural habitats to minimize impacts.	<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.

**Table 4 (Cont'd.)**

Subjects	OP 4.04	Myanmar Legal Framework	Gap/Project Measures
<b>1. Promote Environmentally Sustainable Development (Cont'd.)</b>			
<p>1.4 Provide for the use of appropriate expertise for the design and implementation of mitigation and monitoring plans.</p>	<p><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></p>	<p>Environmental Conservation Rules (2014) Article 12: The Committee, for the conservation and enhancement of environment:</p> <ul style="list-style-type: none"> <li>a) May ask necessary proposals, advices, remarks from the relevant Government departments, Government organizations, international institutions, local and oversea nongovernmental organizations, social organization, experts and the public for a particular case or general.</li> </ul> <p>Environmental Conservation Rules (2014) Article 37:</p> <ul style="list-style-type: none"> <li>b) Shall carry out, as may be necessary, in coordination and cooperation with the relevant Government departments, Government organizations, Non-governmental organizations and Experts, in accord with the guidance of the Union Government, to enable to prevent damage to the environment which is caused or likely to cause by environmental emergency.</li> </ul>	<p>OP 4.04 Policy Procedures will be implemented to complement national regulations to provide guidance should the borrower be advised that independent, internationally recognized environmental specialists be engaged to provide advice on the Project review.</p>
<b>2. Public Consultation and Disclosure</b>			
<p>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.</p>	<p><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></p>	<p>See Section 7.0 on Public Consultation and Disclosure</p>	<p>OP 4.04 Policy Procedures and EIA Procedures (2015) will be implemented to provide guidance on public consultation and disclosure such that project affected groups and local NGOs are informed.</p>

### 3.4.3 Operational Policy 4.11 Physical Cultural Resources

The World Bank Physical Cultural Resources Operational Policy (OP/BP 4.11) is triggered because there is a possibility that physical cultural resources could be found during construction. Also, investments in public facilities retrofitting will likely include listed heritage buildings as part of Component 3. The Protection and Preservation of Cultural Heritage Regions Law (1998) provides for the identification, demarcation, establishment and protection of cultural heritage areas in Myanmar. This has led YCDC to consider establishing a heritage zone within the project area. However, Bank OP 4.11 which provides guidance for finds during construction, will complement national regulations where minor gaps exist (Table 5). These gaps include:

- **Conducting field surveys and using qualified experts:** Though national regulations including the Constitution of Myanmar (2008) state that all citizens have the duty to preserve cultural heritage and that government departments mandated with the preservation of cultural heritage must coordinate, the regulations do not include direction on field surveys and the use of qualified specialist to consult concerned government authorities.
- **Development of chance find procedures.** The EIA Procedures (2015) states that conditions may be prescribed in an Environmental Compliance Certificate on procedures for dealing with archeological finds, a chance find procedure is not clearly stated. For these cases OP 4.11 will be implemented in conjunction with the National EIA Procedures (2015) to guide the preparation of a PCR management plan should cultural resources be discovered during sub-project construction. Detailed retrofit designs solutions in Component 3 will need to consider the safety of continued use of the buildings as well as preserve the architectural, historical and aesthetic integrity of the buildings to minimize impacts to the cultural heritage value.

**Table 5 Gap analysis between Union of Myanmar legal/regulatory framework and the World Bank OP 4.11.**

Subjects	OP 4.11	Myanmar Legal Framework	Gap/Project Measures
<b>1. Preservation of Physical Cultural Resources</b>			
<p>1.2 As part of the EA, as appropriate, conduct field based surveys, using qualified specialists to consult government authorities, relevant non-governmental organizations, relevant experts and local people in documenting the presence and significance of physical cultural resource (PCR).</p>	<p>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>	<p>Constitution of Myanmar (2008) Article 390 (b):</p> <ul style="list-style-type: none"> <li>▪ Every citizen has the duty to assist the Union in carrying out the following matters: (a) Preservation and safeguarding of cultural heritage; (b) Environmental conservation; (c) Striving for development of human resources; (d) Protection and preservation of public property.</li> </ul> <p>The Protection and Preservation of Cultural Heritage Regions Law (1998) Sections 4 and 12:</p> <ul style="list-style-type: none"> <li>▪ The Ministry of Culture may, with the approval of the Government issue notification demarcating any or more than one of the following kinds of zones as a cultural heritage region: (a) ancient monumental zone; (b) ancient site zone; (c) protected and preserved zone.</li> <li>▪ Functions and duties of the Ministry of Culture are as follows: (c) determining with the approval of the Government, the ancient monuments and ancient sites that should be determined as cultural heritage in the cultural region.</li> </ul>	<p>OP 4.11 Policy Procedures will be implemented in conjunction with national regulatory instruments to ensure that likely physical cultural resources are identified.</p>



Table 5 (Cont'd.)

Subjects	OP 4.11	Myanmar Legal Framework	Gap/Project Measures
<b>1. Preservation of Physical Cultural Resources (Cont'd.)</b>			
		<p>Environmental Conservation Rules (2014) Article 48:</p> <ul style="list-style-type: none"> <li>▪ The Ministry may cooperate with the relevant Government departments and Government organizations or assign duty to cooperate them when carrying out environmental conservation activities for perpetuation of cultural heritage areas, natural heritage areas, cultural monuments, buildings and natural areas according to one of the existing laws.</li> </ul> <p>Environmental Conservation Law (2012) Article 19:</p> <ul style="list-style-type: none"> <li>▪ The Ministry shall cooperate with the relevant Government departments and Government organizations in the matters of environmental conservation for perpetual existence of cultural heritage sites and natural heritage sites, cultural monuments and natural areas stipulated under any existing law.</li> </ul>	
<p><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></p>	<p><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></p>	<p>EIA Procedures (2015) Article 91:</p> <ul style="list-style-type: none"> <li>▪ The Ministry may prescribe conditions of an ECC. Such conditions may encompass any or all of: Cultural resources: (i) protection of cultural heritage sites, structures and objects, and (ii) procedures for dealing with archeological finds.</li> </ul>	<p>OP 4.11 Policy Procedures will be implemented in conjunction with the EIA Procedures (2015) to guide the preparation of a PCR management plan should cultural resources be discovered during sub-project construction activities.</p>

**Table 5 (Cont'd.)**

Subjects	OP 4.11	Myanmar Legal Framework	Gap/Project Measures
<b>2. Public Consultation and Disclosure</b>			
<p><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>	<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>	<p>See Section 7.0 on Public Consultation and Disclosure</p>	<p>OP 4.11 will be implemented to provide guidance on public consultation and disclosure such that project affected groups and local NGOs are informed.</p>

## 4.0 POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

Potential environmental and social impacts arising from the sub-projects were identified by comparing sub-project initiatives and/or activities with the surrounding environmental and social context. Topographic and demographic information was sourced from secondary sources as well as consultations with relevant stakeholders.

The YCDC has identified candidate drains and public building facilities that are being assessed for sub-project suitability. However, at time of writing, a definitive short list of proposed sub-projects had not been identified and a framework approach has been applied to prepare the ESMF and RPF (see Section 3.3). Once sub-project infrastructure and locations have been identified and impacts are likely known then, site-specific safeguards tools (e.g., ESMP and ARAP), among other safeguards measures, can be prepared in accordance with the World Bank Operational Policies triggered (Table 2).

Although no major environmental and social impacts are expected, the most serious direct impacts associated with the proposed sub-projects would be related to: (i) sensitive environmental and social sites along the closed and open drains such as natural habitats, unknown physical cultural resources; (ii) potential minor land acquisition and resettlement of families along the drains and the potential economic impact on small and medium business and/or informal economic activities; (iii) the interaction of construction workers with local communities, potential damage to private property and community infrastructure, and nuisances to communities caused by construction activities; (iv) localized environmental impacts due to construction activities including excavation of material in the drains and retrofitting of public facilities; (v) exacerbation of road safety hot spots in the townships in the proximity to the construction locations; and (vi) management of non-motorized transport, two-wheel tractors and motorcycles. Road and sidewalk safety issues during construction were noted by local people during public and community consultations.

Another aspect to improving the development impact of the sub-projects will be to ensure that gender mainstreaming considerations are included in the project design and feasibility studies. Developing an understanding of gender issues as they relate to the sub-projects is necessary condition to ensuring a gender-responsive project design.

### 4.1 COMPONENT 2

#### 4.1.1 Environmental Impacts

A summary of potential environmental impacts of the proposed sub-projects is provided in Table 6.

Key potential environmental impacts from the urban drainage sub-projects include:

- *Noise and Air Quality:* Potential impacts (e.g., dust) may occur as a result of construction activities. This could be as a result of particulate matter generated through excavation activities, moving of soil and other excavated material as well as the use of vehicles without adequate emission control measures installed. It is anticipated that noise and air quality emissions will be temporary and short-term due to the short-term nature of the sub-project activities.
- *Runoff from Construction Areas:* During rain events can contain high concentrations of sediment and possibly other pollutants (e.g., hydrocarbons, heavy metals, etc.). Following a

period of little or no rain, stormwater in urban settings can contain increased levels of toxins that are flushed into the drains.

- *Solid Waste Management:* Solid waste including waste oil and chemicals used during construction can result in pollution and potentially affect water quality. Solid waste was raised as an issue during the community focus group discussions as an issue of concern.
- *Contaminated Soils:* Excavated materials have the potential to contain contaminants from stormwater runoff and other sources. Temporary storage, transport and disposal of this material can mobilize these contaminants and if not contained or treated, can result in adverse effects to terrestrial and aquatic ecosystems.

### 4.1.2 Environmental Mitigation Measures

Potential environmental impacts will be mitigated by identifying and ensuring Myanmar environmental and social legal frameworks, as well as the World Bank safeguards policies, are applied at the earliest stages of project preparation and planning and adhered to throughout all phases of project implementation. Measures to mitigate the potential environmental impacts listed include:

- *Noise and Air Quality:* Best practices to mitigate noise generation and adverse impacts to air quality should be implemented when construction is undertaken in proximity to residential areas and other socially sensitive areas through standard operating practices defined in the Environmental Code of Practice (ECoP). Examples of measures or best practices include: (i) application of water or other measures on exposed soil to suppress dust generation during construction; (ii) regular and effective maintenance of motorized equipment to mitigate emissions; (iii) re-vegetation of disturbed areas immediately following construction where appropriate or the surfacing of sites within the townships to reduce dust emissions; and (ii) during construction, the use of noise barriers in sensitive areas and restricting work hours.

**Table 6 Potential environmental impacts of the proposed Component 2 sub-projects before, during and following construction activities.**

No.	Sub-projects Associated Activities	Potential Environmental and Social Impact Issues	Expected Significance	Phase		
				Pre-construction	Construction	Post-construction
1	Improvements to open and closed drainage infrastructure	Loss of natural habitat	Low		✓	
		Air (dust and emissions) and noise pollution	Moderate	✓	✓	
		Water pollution (oil, fuel and other hydrocarbons)	Moderate		✓	
		Construction waste disposal	Moderate		✓	✓
		Mobilization of sediment or water containing contaminants into waterbodies	Moderate		✓	
		Excavation of drains and disposal of excavated material	Moderate		✓	
2	Equipment	Oil or fuel spills	Low		✓	
		Air (dust and emissions) and noise pollution	Moderate	✓	✓	✓
		Traffic impacts	Moderate	✓	✓	✓
		Introduction of invasive plant and animal species	Moderate		✓	
3	Work site maintenance	Oil or fuel spills	Low	✓	✓	✓
		Water pollution from sewage and rubbish disposal	Moderate		✓	✓
4	Disposal of excavated material / soil from the drainage infrastructure	Oil or fuel spills	Low		✓	
		Spill of material from haul trucks	Low		✓	
		Increase in air pollution (including dust and emissions)	Low		✓	

**Table 6 (Cont'd.)**

No.	Sub-projects Associated Activities	Potential Environmental and Social Impact Issues	Expected Significance	Phase		
				Pre-construction	Construction	Post-construction
5	Construction waste	From removal of small trees/branches, etc.	Low		✓	
		Used gravels, stones, mixed concrete, etc.	Moderate		✓	✓

Should general air quality be rated unhealthy<sup>15</sup> during the construction period, suspension of construction activities that utilize motorized equipment or machines could be considered to mitigate impacts to residents. To reduce vehicle emissions, a source for construction materials should be established in the vicinity of the sub-project site to limit hauling distances which would result in increases in traffic and vehicle emissions. Additionally, motorized vehicles should not be left with the engine running and all motorized engines must have functioning emissions controls.

- *Runoff from Construction Areas:* Standard operating practices defined in the ECoP should be implemented to contain and treat runoff from the construction site and direct the water into the drains. The implementation of silt control measures (e.g., silt fences, vegetated swales, etc.) can be effective in protecting water quality in open drains during construction.
- *Solid Waste Management:* 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. Spill kits to treat hydrocarbon spills must be provided on site to ensure timely responses and construction crews must be trained in applying the kits.
- *Contaminated Soils:* Excavated material including sediment in the open drains will be analyzed by the DIA to assess concentrations of heavy metals relative to national pollution standards. If analysis indicates compliance with the standards, the sediment could be disposed of at existing landfills or be used for urban tree planting or agricultural purposes after temporary storage in dry conditions to remove microbes and allow partial decomposition of organic compounds. The project is required to prepare an Excavated Material Management Plan (EMMP), which covers excavation works and excavated material management, when more comprehensive and up-to-date sub-project information is available and before any civil works are undertaken. The EMMP will be updated during the detailed design stage with additional necessary analysis of sediment quality, detailed information on the amount of sediment generated, and with requirements relating to the contractor's excavation method, transportation and disposal that are appropriate and cost-effective. The EMMP will be incorporated into the related bidding documents and construction contracts.

Prior to construction, the contractors shall prepare a specific EMMP, which will indicate volumes, physical-chemical-biological properties of excavated material, excavation procedures, temporary collection of excavated materials, and control of polluting material during temporary gathering and transportation, pollution control, and risks at disposal sites. Transportation of the excavated sediments must meet the environmental protection requirements and avoid leakage; the waste materials carrying trucks must be covered closely and not overloaded as permitted. Uncontrolled disposal of the excavated material is prohibited. In order to limit the impacts of odour of the excavated material, the contractor can be required to use effective microorganisms daily to eliminate malodors from hydrogen sulphide, methane and other potentially adverse gases.

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<sup>15</sup> The World Health Organization (WHO) Air Quality Guideline for fine particulate matter (PM<sub>2.5</sub>) is 100 ppm ([http://www.who.int/phe/health\\_topics/outdoorair/outdoorair\\_agq/en/](http://www.who.int/phe/health_topics/outdoorair/outdoorair_agq/en/)).

### 4.1.3 Social Impacts

Land acquisition or resettlement impacts are expected to be minimal, with investments focused mainly on underground drainage systems and unlined open drains that are regularly excavated and therefore free of encroachment. No physical resettlement is anticipated, nor would different populations (i.e., vulnerable groups – women and female/male youth and children, men, the elderly and disabled, etc.) be significantly impacted. Satellite imagery also reveals few, if any, informal settlements in the CBD. However, there are likely to be minor infrastructure impacts or the use of some areas as side ditches and temporary disposal sites resulting in unexpected low-level impacts to parcels of land or buildings. Nonetheless it may be necessary to acquire small amounts of land for the purpose of installing tidal gates and storm pumps. Most of the potential sites are within Yangon Port where there is flexibility to locate them away from existing buildings and working areas.

Potential social impacts will be mitigated by identifying and ensuring Myanmar social legal frameworks, as well as the World Bank safeguards policies, are applied at the earliest stages of project preparation and planning and adhered to throughout all phases of project implementation. A summary of potential social impacts of the proposed sub-projects is provided in Table 7.

Potential sub-project environmental impacts include:

- *Land Acquisition and Resettlement:* Land acquisition and structure relocation are expected to be minimal and temporary. However, it may be necessary to acquire small amounts of land for the installation of tidal gates and storm pumps or to facilitate the improvements at open drains. These minor land acquisition requirements will be identified during the detailed design phase of project implementation.
- *Restricted Access on Roads and Sidewalks:* Construction activities will require sections of the roads to be barricaded to allow for sufficient work space for construction activities and safety for the movement of workers and construction vehicles. Street parking will also be affected as no parking will be allowed within the construction area. Access along sidewalks will also be affected as the closed drains are below the sidewalks. This will result in the removal of the drainage covers and access to residences and businesses – and locations for street vendors to work – will be restricted.
- *Physical Cultural Properties:* There is a possibility that physical cultural resources could be found during construction given that the previous finds have occurred during previous drainage improvement works. However, the detailed and site-specific ESMP would include chance find provisions for archaeological resources to mitigate potential adverse impacts of the proposed sub-projects.

### 4.1.4 Social Mitigation Measures

Measures to mitigate the potential social impacts listed include:

- *Land Acquisition and Resettlement:* To minimize land acquisition, land required for the sub-projects will be identified during the detailed design phase of project implementation so that either alternatives to the acquisition can be identified or the extent of the land needed assessed to ensure it is as minimal as possible.



- *Restricted Access on Roads and Sidewalks:* Prior to construction, detailed schedules of construction activities must be discussed with the township leaders and posted on signboards for residents and business owners in advance of construction activities. Project staff must go from building to building along the construction area at least one week in advance of the activities to notify residents and business owners. During construction, trained project staff must be positioned at all road entry points to the construction site to redirect traffic.

For residents to access homes and business to remain functioning, safe passage - which may include the use of handrails - must be made available and installed when drainage covers are removed from sidewalks. Residents and business owners will be consulted during the prior notification to ensure their access is suitable to their daily activities and to minimize disruptions.

Sidewalk safety during construction was highlighted as a concern by local residents during focus group discussions (FGD). In particular, residents noted the danger of unmarked hazards including openings in sidewalks which are not visible when roads and sidewalks are flooded. Best practices for safety measures during construction should be implemented by clearly demarcating construction sites and installing physical barriers to entry and covering open drains when construction work is not being done.

- *Physical Cultural Properties:* A detailed and site-specific ESMP must include chance find provisions for archaeological resources to mitigate potential adverse impacts of the proposed sub-projects. Workers will be trained on how to respond to chance finds and significant find must be reported and preservation actions considered in consultation with the YCDCPS.

**Table 7 Potential social impacts of the proposed Component 2 sub-projects before, during and following construction activities.**

No.	Sub-projects Associated Activities	Potential Environmental and Social Impact Issues	Expected Significance	Phase		
				Pre-construction	Construction	Post-construction
1	Land acquisition and resettlement issues	Land acquisition for sub-project installation	Low	✓	✓	✓
		Relocation of structures (temporary)	Moderate	✓	✓	
2	Workforce	Unrest and dissatisfaction among local communities (distribution of labour, opportunities and other benefits)	Low		✓	
		Unrest and dissatisfaction among local communities resulting from cultural differences with labour crew	Low		✓	
3	Worksite maintenance	Access restriction for traffic	Moderate		✓	
		Garbage and construction waste disposal	Moderate		✓	✓
		Health and safety risk to workers	Moderate		✓	
		Impact on health, safety and social well-being of local communities (introduction of diseases and disruption of existing social relationships)	Low		✓	✓
4	Disposal of excavated material / soil from the drainage infrastructure	Exposure of public to contaminants in excavated material / soil	Low		✓	✓
		Exposure of workers to contaminants in excavated material / soil	Moderate		✓	✓
		Increase in traffic to haul excavated material / soil	Moderate		✓	
5	Construction waste	Unused construction materials	Low		✓	✓

**Table 7 (Cont'd.)**

No.	Sub-projects Associated Activities	Potential Environmental and Social Impact Issues	Expected Significance	Phase		
				Pre-construction	Construction	Post-construction
6	Specific social issues	Increased marginalization of landless people	Low	✓	✓	✓
		Community disruption for access and use of streets	Moderate	✓	✓	
		Cultural heritage site destruction	Low		✓	
		Increased HIV/AIDS infection rate due to increased itinerant working population	Low		✓	
		Livelihood loss	Low	✓	✓	
		Increased spreading of waterborne diseases	Low		✓	
		Displacement of street vendors	Substantial	✓	✓	
7	Gender issues	Increased work burdens of women and children	Low	✓	✓	

## 4.2 COMPONENT 3

The retrofitting of existing public facilities will not result in land acquisition or resettlement as the structures are located on public land free of encroachment. Construction activities will be confined to property owned by the YCDC though access to the sites will be on public roads. The retrofitting of public building will result in the disruption of daily activities at the site. Should public facilities such as the Bogyoke Aung San Market be selected for a sub-project investment, measures to minimize economic impacts to merchants must be implemented through consultation with the Department of Markets Office as well as vendors.

### 4.2.1 Environmental Impacts

Potential environmental impacts will be mitigated by identifying and ensuring Myanmar environmental legal frameworks, as well as the World Bank safeguards policies, are applied at the earliest stages of project preparation and planning and adhered to throughout all phases of project implementation. A summary of potential environmental impacts of the proposed sub-projects is provided in Table 8.

Key potential environmental impacts from the retrofitting of public facilities' sub-projects include:

- *Noise, Air Quality and Vibration:* Potential impacts (e.g., dust) may occur as a result of construction activities in closed spaces. This could be as a result of particulate matter or hazardous gases generated through modifications to building structures or the operation of motorized engines without adequate emission control measures installed. Vibration could also be generated during construction as building modifications are conducted. It is anticipated that noise, air quality emissions and vibration impacts will be temporary and short-term due to the short-term nature of the sub-project activities.
- *Solid Waste Management:* Solid waste including waste oil and chemicals used during construction can result in pollution and potentially affect water quality around the public facilities. Solid waste was raised as an issue during the community focus group discussions as an issue of concern.
- *Wastewater Management:* Wastewater generated from construction activities can result in environmental impacts to the local drains and downstream ecosystems. Solid waste can result in environmental impacts if not stored in containers that are sealed and prevent spill of materials which could enter the drainage infrastructure. Hazardous materials including oils and fuel used on site can also result in environmental impacts should they be spilled.

**Table 8 Potential environmental impacts of the proposed Component 3 sub-projects before, during and following construction activities.**

No.	Sub-projects Associated Activities	Potential Environmental and Social Impact Issues	Expected Significance	Phase		
				Pre-construction	Construction	Post-construction
1	Construction and Transportation	Air (dust and emissions) and noise pollution	Moderate		✓	
2	Equipment	Oil or fuel spills	Low		✓	
		Air (dust and emissions) and noise pollution	Moderate		✓	
		Traffic impacts	Moderate	✓	✓	
3	Work site maintenance	Oil or fuel spills	Low		✓	
		Water pollution from waste disposal	Moderate		✓	
4	Construction Waste	From removal of small trees/branches, etc.	Low	✓	✓	
		Used gravels, stones, mixed concrete, etc.	Moderate		✓	✓

## 4.2.2 Environmental Mitigation Measures

Potential environmental impacts will be mitigated by identifying and ensuring Myanmar environmental legal frameworks, as well as the World Bank safeguards policies, are applied at the earliest stages of project preparation and planning and adhered to throughout all phases of project implementation. Measures to mitigate the potential environmental impacts listed include:

- *Noise, Air Quality and Vibration:* Best practices to mitigate noise generation, adverse impacts to air quality and adverse impacts from vibrations should be implemented during retrofitting of the public facilities. Standard operating practices defined in the Environmental Code of Practice (ECoP) should include: (i) ensure work spaces are well ventilated during construction; (ii) implementation of dust barriers between construction spaces and areas of the facilities where businesses will continue to operate; (iii) regular and effective maintenance of motorized equipment to mitigate emissions; (iv) the use of noise barriers in sensitive areas; (v) restricting work hours such that construction activities that generate dust, noise and vibration occur outside of normal business hours; and (vi) not operating motorized equipment within confined air spaces.
- *Solid Waste Management:* 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. Spill kits to treat hydrocarbon spills must be provided on site to ensure timely responses and construction crews must be trained in applying the kits.

*Wastewater Management:* Standard operating practices defined in the ECoP should be implemented to contain and treat wastewater from the construction site. The provision of control measures to contain wastewater should be provided on site during construction.

## 4.2.3 Social Impacts

Social impacts, including those on physical cultural, historical and religious properties, are anticipated to be short-term and temporary during civil works and can be mitigated by identifying and ensuring Myanmar social legal frameworks, as well as the World Bank safeguards policies, are applied at the earliest stages of project preparation and planning and adhered to throughout all phases of project implementation.

No land acquisition or resettlement impacts are expected during the retrofitting of public facilities though temporary displacement or disruptions to residents living within the public compounds proximal to construction are anticipated. Public facilities to be considered under this component will be on land owned by the YCDC and all activities will occur within this land. Potential social impacts could result in the management of buildings recognized as cultural heritage or religious sites, public health and safety for people and shop owners accessing the facilities and the health of workers at the sites. Specifically, potential positive impacts include the preservation and protection of the historical public facilities.

The process of consultation for temporary resettlement of project affected people (PAP) and project affected households (PAH) should be conducted in an open and transparent manner by the YCDC Engineering Department (Building) in conjunction with the General Administration Department at the Ward Level. Decisions regarding temporary resettlement should be based on free, prior and informed

consultation and documentation of the consultation process and subsequent agreements must be maintained. A summary of potential social impacts of the proposed sub-projects is provided in Table 9.

Potential sub-project social impacts include:

- *Relocation of public residences and businesses:* During the retrofitting activities and depending on the sites selected, residences for public employees working at the facilities may need to be temporarily relocated within the site. Business in markets may need to be relocated within the buildings depending on the nature of the activities and the location of their shop. These impacts will be temporary and only during the period of activity in the immediate vicinity of their residence or shop.
- *Traffic Safety:* Vehicles transporting construction machinery, equipment, materials and workers will need to travel on public roads to access the sub-project sites and could cause disruptions to traffic.
- *Public and Worker Health and Safety:* conducting retrofitting activities within operating structures poses risks to public and worker health and safety due to issues of working in confined air spaces, storage and handling of construction materials, movement of machinery and equipment and generating noise and vibration. These impacts are anticipated to be temporary in nature but still require mitigation measures to minimize impacts and protect the public and workers. Construction works in Myanmar are known to have used asbestos containing material (ACM) which can have adverse social as well as environmental impacts if not handled properly during retrofitting and disposal in a safe manner.
- *Physical Cultural and Historical Properties and Sensitive Areas:* There is a possibility that physical cultural resources could be found during construction given that the previous finds have occurred during previous drainage improvement works. Additionally, some sub-project sites may be recognized as cultural or religious structures and impacts to their intrinsic values could be adversely affected by retrofitting. A detailed and site-specific ESMP would include chance find provisions for archaeological resources to mitigate potential adverse impacts of the proposed sub-projects.

**Table 9 Potential social impacts of the proposed Component 3 sub-projects before, during and following construction activities.**

No.	Sub-projects Associated Activities	Potential Environmental and Social Impact Issues	Expected Significance	Phase		
				Pre-construction	Construction	Post-construction
1	Relocation of public employee residences and business	Relocation of employee residences at public facilities (temporary)	Moderate	✓		
		Relocation of shop owners and businesses in public markets (temporary)	Moderate	✓		
2	Retrofitting of public facilities	Loss of aesthetic /visual values	Low		✓	
		Public health and safety (including presence of ACM)	Low		✓	
		Vibration impacts on historical buildings and nearby structures	Moderate		✓	
		Loss of archaeological or historical values	Moderate		✓	
3	Workforce	Unrest and dissatisfaction among local businesses (distribution of labour, opportunities and other benefits)	Low		✓	
		Unrest and dissatisfaction among the market communities resulting from cultural differences with labour crew	Low		✓	
4	Worksite maintenance	Access restriction for traffic and buyers	Moderate	✓	✓	
		Garbage and construction waste disposal	Moderate		✓	✓
		Health and safety risk to workers	Moderate		✓	
		Impact on health and social well-being of local businesses (introduction of diseases and disruption of existing social relationships)	Low		✓	
5	Construction Waste	Unused construction materials	Low		✓	✓
6	Specific social issues	Increased HIV/AIDS infection rate due to increased itinerant working population	Low		✓	
7	Gender issues	Increased work burdens of women and children	Moderate	✓	✓	



## 4.2.4 Social Mitigation Measures

Measures to mitigate the potential social impacts listed include:

- *Physical Cultural, Historical and Religious Properties:* A detailed and site-specific ESMP must include chance find provisions for archaeological resources and provisions for the protection and preservation of cultural heritage to mitigate potential adverse impacts of the proposed sub-projects. Workers will be trained on how to respond to chance finds and significant finds must be reported and preservation actions considered in consultation with the YCDCPS. Retrofitting of public facilities already recognized as cultural heritage or religious sites will need to ensure the intrinsic values of the site are maintained. The ESMP will include appropriate mitigation measures that include: a) documentation of cultural assets including photographs of the assets, b) description of conservation or preservation activities to occur in situ, c) relocation of cultural assets that are moveable. During implementation, the ESMP will describe how authenticity of form, construction materials and techniques of the structures will be maintained and include provisions to protect the values of the site and ensure modifications to the structures do not compromise features recognized for their cultural or religious values. The project contractor or YCDC will seek technical inputs from Yangon Heritage Trust in order to not only consider the safety and disaster resilience of the public facilities, but also to sufficiently preserve the architectural, historical and aesthetic integrity of the existing structures
- *Relocation of Public Residences and Businesses:* Consultation with the Department of Markets Office as well as merchants' organizations will be conducted to communicate activities and schedules to ensure impacts from activities can be conducted with the least disruption to residences and businesses. In the situation that public employees reside at the sub-project site, activities will be assessed initially to determine if they can be conducted without disruption to the residences and in doing so, mitigate any need for temporary displacement of the employees. In the case of retrofitting in markets, measures included a phased approach and implementation outside of normal business hours will be reviewed to minimize potential disruptions.
- *Traffic Safety:* Vehicles transporting construction machinery, equipment, materials and workers will need to travel on public roads to access the sub-project sites and could cause disruptions to traffic. Trained project staff will be positioned at the entry and exit points to the site to manage traffic when vehicles transporting machinery, equipment and materials access the site.
- *Public and Worker Health and Safety:* conducting retrofitting activities within operating structures poses risks to public and worker health and safety due to issues of working in confined air spaces, storage and handling of construction materials, movement of machinery and equipment and generating noise and vibration. These impacts are anticipated to be temporary in nature but still require mitigation measures to minimize impacts and protect the public and workers.

Prior to project implementation and under project financing, the project contractor shall screen the public buildings for the potential of asbestos containing material (ACM). ACM can include flat panels, corrugated panels used for roofing, water storage tanks, and pressure, water, and sewer pipes and wallboards. The screening should follow the ASTM International E2356 Standard Practice for Comprehensive Building Asbestos Surveys as well as the World Bank Asbestos Guidance Note. Screening will include:

1. Assessing building plans and other relevant information, such as builders' invoices, which may indicate if asbestos was used in the construction or refurbishment of the premises;
2. Conduct a thorough inspection of the premises both inside and out to identify materials that are, or may contain asbestos;
3. Consulting others, such as the architects, employees or safety representatives, who may be able to provide more information.

If asbestos is confirmed in the building or there is uncertainty on the presence of ACM in the building, an Asbestos Removal Plan that protects the community, environment and workers must be developed and implemented by the contractor. In addition to the details listed above, the plan will include health and safety measures such as:

- The requirement of project personnel handling material that may contain asbestos to wear personal protective equipment;
- Best management and containment practices if ACM is not removed;
- No use of ACM in the retrofitting activities;
- Transportation best management practices including wetting the ACM to prevent dust;
- Limiting cutting and breaking of ACM and if any cutting or abrading is necessary, then the ACM must be kept wet during working to prevent dust; and
- Transportation guidance of the ACM including the use of the least populated route to the disposal site.

The contractor(s) responsible for handling ACM must be able to demonstrate experience and capability to observe international good practice standards with asbestos, including training of workers and supervisors, possession of (or means of access to) adequate equipment and supplies for the scope of envisioned works, and a record of compliance with regulations on previous work.

## **4.3 GENERAL CONSIDERATIONS**

### **4.3.1 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 labour laws and relevant core labour standards. With respect to labour and working conditions of women, there must be compliance with core labour 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 labour and forced labour), occupational health and safety, workers engaged by third parties, and supply chain are applicable in varying degrees due to differences in local context. It is important to note that Myanmar has ratified a number of key international conventions on labour and working conditions including the 1930 Forced Labour

Convention, the 1948 convention on Freedom of Association and Protection of the Right to Organise, and the 1999 convention on the worst forms of child labour. Potential impacts due to an influx of workers to the sub-project sites is likely to be minimal, as Yangon is a large urban area with significant pool of skilled, semi-skilled and unskilled labor to draw on. Nonetheless, contractors should have in-place robust mechanisms related to worker codes of conduct, as well as a grievance redress mechanism for residents to register complaints about worker conduct.

### 4.3.2 Relocation of Religious Monuments

Throughout the CBD, minor installations of Buddhist and Nat<sup>16</sup> shrines exist along sidewalks while some larger shrines extend into the roadway itself. Very few of those are however utilized spiritually, as most are present when people want to get rid of them from their homes, they dispose them on large trees rather than at the disposal sites. These shrines are typically small wood or metallic structures attached to a Bodhi tree. It is highly likely that upgrading the drainage system will require the relocation of some shrines or at least temporarily limit access to the shrines. The Project should take into consideration construction practices and design features which will mitigate adverse impacts on these religious monuments if they are of spiritual value and used by the local population. In situations where shrines must be relocated, the Project should work with local communities and religious leaders to establish respectful, culturally appropriate means for shrine relocation and related costs should be factored into the Project construction budget.

### 4.3.3 Recreational Use

Participants in the FGDs noted that children of all ages often play on the streets due to limited public parks and green areas in the CBD. This was confirmed through visual observations. In addition, older boys (pre-teen and teenagers), play football and chin lone<sup>17</sup> on side streets as well as major thoroughfares late in the evening when traffic levels are lower than during the daytime.

### 4.3.4 Livelihoods

Street vendors could also be temporarily impacted by drainage works occurring in their area. Interviews with street vendors revealed that they typically operate in the same one or two locations over many years. Though they have no formal ownership, street vendors have established 'their spot' because it is the most economically viable due to variables such as high foot traffic or regular customers living nearby. Temporarily relocating street vendors due to drainage works may adversely affect their income and possibly lead to confrontation between street vendors if those that are displaced encroach upon the 'good spots' of other vendors. However, the YCDC is currently relocating many of the street vendors in CBD to a night market, but this is an ongoing process with many street vendors still operating in other parts of CBD. The night market runs the length of several blocks on Strand Road primarily in Latha Township. The drainage gates run along Strand Road as does a connector drain. It is likely that any upgrades to the existing drainage infrastructure will require substantial construction work to be done along Strand Road and potential closures to sections of the night market.

Pedestrian access to storefronts will also temporarily be impeded due to drainage works. This may result in a decrease in sales and incomes for shop owners. In practice, a walkway is often put over open

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<sup>16</sup> Nat worship is a type of spirit worship. It is not a structured religion, but rather, a set of rituals and beliefs which are closely tied to Buddhism in Myanmar.

<sup>17</sup> Chin lone is a Myanmar game in which a rattan ball is kicked back and forth between a group of people or over a net.

drainage works, which allow pedestrians to access houses and businesses. This poses a degree of risk to the pedestrian as the walkways are typically constructed out of one or two boards without railings.

### **4.3.5 Religious and Cultural Ceremonies**

Streets in the CBD are periodically used for different ceremonies by various religious and cultural groups. Sometimes these ceremonies occur as a parade or march, while others are stationary. The nature of the ceremony is dependent upon the cultural and religious groups present in the area. For example, a large proportion of the population in Latha Township is Chinese, and numerous parades and street festivals area around Chinese New Year. Additionally, Buddhist street sermons, which are common throughout Myanmar including Yangon, result in roads typically being barricaded in the evening hours for several nights in a row.

### **4.3.6 Utilities**

According to FGD participants, and 100 household heads<sup>18</sup>, drainage works typically lead to the temporary interruptions in utilities. Water pipes leading into the front of the home often lack a protective casing and are often damaged during drainage works or need to be moved. Sanitation standards dictate that water pipes should not be placed in the drainage system. The Project design and budget should include measures for rerouting of water pipes outside of the drainage system.

### **4.3.7 Disposal of Construction Waste**

Dedicated waste disposal sites exist for waste material collected within each cardinal area or district (north, east, south and west) of Yangon. For example, the Pollution Control and Cleansing Department disposes of garbage collected in the CBD – which is located in the west district – at the Hteinbin Cemetery located in Hlaing Tharyar township. This is one of the largest cemeteries in Yangon. The majority of drainage and excavated soils from drains from the CBD are disposed of at a new project site at the South and North Dagon junction. Designated disposal sites must be included in the ESMP.

It is important that individuals disposing of waste follow standard safety guidelines and where applicable protective clothing, particularly if they are handling any hazardous materials. In addition, appropriate measures must be taken to ensure that the dump sites for construction waste are appropriate, meaning that they are not endangering natural habitat and that waste is placed in appropriate containers so that its contents does not contaminate the surrounding environment. If substantial construction waste is produced, environmental offset measures should also be considered.

## **5.0 GENDER CONSIDERATIONS**

The sub-project preparation provides a critical entry point for mainstreaming gender and related aspects. Once proposed sub-project locations are known, it will be important to have good 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 essential information for identifying potential impacts on different populations (i.e., ethnic minorities and vulnerable groups – women and female/male youth and children, men, the elderly and disabled, etc.) in relation to their health and safety and well-being concerns. The following sub-sections provide insight into the scope

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<sup>18</sup> Def. of 100 HH head

and details that should be considered for establishing baseline information and the subsequent gender analysis.

## 5.1 NATIONAL LAWS AND LEGAL FRAMEWORK

From an institutional perspective, the current wave of political, economic and social reform in Myanmar, offers significant potential for the strengthening of women's rights and an improvement in their livelihood and social status. However, deeply embedded cultural norms remain, leading to gender-based power discrepancies between men and women regarding economic opportunities, asset ownership (such as land), and participation and influence in household-level and community decision making as well as the continued suppression of women's rights in general.

In 2016, the Asian Development Bank (ADB), United Nations Development Programme (UNDP), United Nations Population Fund (UNFPA), and UN Women completed a situation analysis and outlined that key challenges remain in achieving gender equality and women's rights in Myanmar<sup>19</sup>. Conflicting messaging in the legal framework and across different levels of the legal system, a breakdown between policy and practice, and contradictory trends between related sectors (such as gains in education but slow progress in employment) suggest gender equality and women's rights are not being fully integrated into socioeconomic reforms<sup>19</sup>. Myanmar has ratified the United Nations Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), an international agreement that establishes standards and norms for laws and policies that should be enforced to eliminate discrimination against women, and became a state party to the Convention on the Rights of the Child in 1991 and the Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children in 2004. Myanmar also endorsed the Beijing Declaration and Platform for Action (1995)<sup>20</sup>, the Millennium Declaration and Goals (2000) and the Post-2015 Development Agenda including the 17 Sustainable Development Goals (2015)<sup>21</sup>. The government has also signed two of the ILO's fundamental conventions: (i) forced labour and (ii) worst forms of child labour<sup>22</sup>. Key ILO conventions not yet in force include equal remuneration, discrimination, and minimum age. Myanmar is also an active member of the Association of Southeast Asian Nations (ASEAN) Committee on Women and the ASEAN Commission on Protection and Promotion of the Rights of Women and Children, 2010<sup>23</sup>.

Myanmar's current Constitution, adopted through a public referendum in May 2008, came into force in 2011 and states 'The Union shall guarantee any person to enjoy equal rights before the law and shall equally provide legal protection' (Chapter VIII, Article 347) and 'The Union shall not discriminate [against] any citizen of the Republic of the Union of Myanmar based on race, birth, religion, official

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<sup>19</sup> ADB, UNDP, UNFPA, and UN Women. 2016. Gender Equality and Women's Rights in Myanmar: A Situation Analysis. Philippines: Asian Development Bank, United Nations Development Programme, United Nations Population Fund, and the United Nations Entity for Gender Equality and the Empowerment of Women

<sup>20</sup> Permanent Representative of the Republic of the Union of Myanmar to the United Nations. Follow-up to the Fourth World Conference on Women and to the twenty-third special session of the General Assembly, entitled 'Women 2000: gender equality, development and peace for the twenty-first century'. Accessed 1/27/2017 from <http://www.un.org/womenwatch/daw/csw/csw57/generaldiscussion/memberstates/myanmar.pdf>

<sup>21</sup> Union Minister for Foreign Affairs and Head of the Delegation of the Republic of the Union of Myanmar. Adoption of the Post-2015 Development Agenda. Accessed 1/25/2017 from <https://sustainabledevelopment.un.org/content/documents/20638myanmar.pdf>

<sup>22</sup> ILO. 2016. Ratifications for Myanmar. International Labour Organization. Accessed 1/27/2017 from [http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200\\_COUNTRY\\_ID:103159](http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:103159)

<sup>23</sup> Footnote 19

position, status, culture, sex and wealth' (Chapter VIII, Article 348)<sup>24</sup>. Under the Constitution, women are also entitled to the same remuneration – 'Women shall be entitled to the same rights and salaries as that received by men in respect of similar work' (Chapter VII, Article 350). The CEDAW Committee's concluding observations report (2008) noted the presence of conflicting messaging in the Constitution such as Article 352 (Chapter VII) which states 'The Union shall, upon specified qualifications being fulfilled, in appointing or assigning duties to civil service personnel, not discriminate for or against any citizen of the Republic of the Union of Myanmar, based on race, birth, religion, and sex. However, nothing in this Section shall prevent appointment of men to the positions that are suitable for men only'.<sup>25</sup>

Gender equality and women's empowerment programming is led by the Ministry of Social Welfare, Relief and Resettlement. The Ministry launched the National Strategic Plan for the Advancement of Women (2013-2022) in October 2013 which develops plans for the 12 areas of women's empowerment outlined in the 1995 Beijing Platform for Action. Chaired by the minister of social welfare, relief and resettlement and established in 1996, the Myanmar National Committee for Women's Affairs is the body responsible for inter-ministerial policy and decision-making for the advancement of women. In addition to government led initiatives, the Myanmar Women's Affairs Federation, is a non-governmental organization (NGO) that works closely with the National Committee for Women's Affairs and other local and international NGOs.

UNDP's Gender Inequality Index (GII) is a composite measure of inequality that assesses countries' based on political empowerment, education, labour force and health. Myanmar ranked 85<sup>th</sup> out of 186 countries and 5<sup>th</sup> among the listed ASEAN member states on the GII in 2014<sup>26</sup>. On the OECD Development Centre's Social Institutions and Gender Index (SIGI), Myanmar is classified as having high levels of gender discrimination in social institutions (0.22 < SIGI < 0.35) which is typical for countries with discrimination embedded in customary laws, social norms and practice<sup>27</sup>.

Myanmar has achieved gender parity at primary and secondary school levels, near gender parity in literacy and more women were enrolled in every level of higher education compared to men in 2012<sup>1928</sup>. Despite this progress in education, female labour participation remains low (53.9%) and underemployment high (41%) compared to males (82.1% and 35%, respectively)<sup>29</sup>. Women are also more likely to be employed in the informal sector than men and women within the formal sector tend to occupy mid-management positions and below, with few holding management positions<sup>30</sup>. This discrepancy between educational attainment and employment can partly be explained by entrenched gender stereotypes of women as wives, mothers, and religious celibates. The CEDAW committee also

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<sup>24</sup> Republic of the Union of Myanmar. 2008. Constitution of the Republic of the Union of Myanmar. Accessed 1/27/2017 from <http://www.president-office.gov.mm/en/sites/default/files/myanmarconstitution2008en.pdf>

<sup>25</sup> Committee on the Elimination of Discrimination against Women. 2008. Concluding observations of the Committee on the Elimination of Discrimination against Women. Accessed 1/27/2017 from <http://www.burmalibrary.org/docs5/CEDAW-C-MMR-CO-3.pdf>

<sup>26</sup> UNDP. 2015. Human Development Report 2015. Accessed 1/27/2017 from [http://hdr.undp.org/sites/default/files/2015\\_human\\_development\\_report.pdf](http://hdr.undp.org/sites/default/files/2015_human_development_report.pdf)

<sup>27</sup> OECD. 2014. Social Institutions and Gender Index: 2014 Results. Accessed 1/27/2017 from <http://www.genderindex.org/ranking>

<sup>28</sup> High national statistics do mask economic, regional, and urban–rural disparities<sup>19</sup>

<sup>29</sup> Ministry of National Planning and Economic Development, Swedish International Development Cooperation Agency, United Nations Children's Fund, and United Nations Development Programme. 2011. *Integrated Household Living Conditions Survey in Myanmar (2009–2010): MDG Data Report*. Yangon. As quoted in the ADB, UNDP, UNFPA, and UNWomen. 2016. *Gender Equality and Women's Rights in Myanmar: A Situation Analysis*. Philippines: Asian Development Bank, United Nations Development Programme, United Nations Population Fund, and the United Nations Entity for Gender Equality and the Empowerment of Women

<sup>30</sup> Footnote 19

expressed concern over the numerous references to women as mothers in the 2008 Constitution.<sup>31</sup> ADB, UNDP, UNFPA and UN Women (2016) report also notes widespread cultural perceptions of women as less intelligent and capable than men in decision making roles<sup>32</sup>. These perceptions constrain women's space for participation in public discussion and decision making.

Female political participation in Myanmar is low and far from the 30% target stipulated in the Beijing Framework for Action. In 2015, women held 12.9% of elected seats in all levels of Parliament which increased from 4.6% in 2012<sup>33</sup>. A quarter of seats in the legislature are reserved for the predominantly-male military.<sup>34</sup> At the region and state level, women held only 2.4% of ministerial positions in 2014 and at lower levels, no females held township administrator positions in 2013 and only 42 of 16,743 village tract and ward administrator posts were occupied by females in December 2012.<sup>35, 36</sup>

Participatory action research completed by Justice Base and supported by UN Women in 2014, revealed that in addition to low female representation in local governance, women were typically required to bring grievances to ward administrator or their assistants, who are generally male and would decide on the next steps.<sup>37</sup> Disputes were more likely to be managed through traditional dispute resolutions (customary law) rather than through the state legal system.

The same research also identified that domestic violence, sexual assault, and traditional inheritance practices were the most pervasive concerns faced by women in Myanmar. The CEDAW Committee expressed concern in 2008 over the prevalence of domestic and sexual violence in Myanmar and with the sexual violence and rape associated with armed and communal conflict.<sup>38</sup> The ADB, UNDP, UNFPA, and UN Women's report on Gender Equality and Women's rights in Myanmar reported on a study completed in 2013 which interviewed 600 people across five townships of Yangon and found that 19% of the female respondents had experienced violence directly, 53% knew of women abused by relatives or neighbours and only 40% of direct violence cases were reported.<sup>39</sup>

## 5.2 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

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<sup>31</sup> Footnote 25

<sup>32</sup> Footnote 19

<sup>33</sup> Footnote 19

<sup>34</sup> Footnote 27

<sup>35</sup> Footnote 19

<sup>36</sup> P. Minoletti. 2014. Women's Participation in Subnational Governance of Myanmar. Discussion Paper No. 3.

Yangon: Myanmar Development Resource Institute and The Asia Foundation. Accessed 1/27/2017 from <https://asiafoundation.org/resources/pdfs/WomensParticipationintheSubnationalGovernanceofMyanmar.pdf>

<sup>37</sup> Justice Base. 2014. Voices from the Intersection: Women's Access to Justice in the Plural Legal System of Myanmar. Bangkok, Thailand: United Nations Entity for Gender Equality and the Empowerment of Women (UN Women). Accessed 1/28/2017 <http://asiapacific.unwomen.org/en/digital-library/publications/2016/04/womens-access-to-justice-in-the-plural-legal-systems>

<sup>38</sup> Footnote 25

<sup>39</sup> Breaking the Silence Project. 2013. Gender-Based Violence in Five Yangon Townships: Research Report. Yangon as quoted in ADB, UNDP, UNFPA, and UNWomen. 2016. Gender Equality and Women's Rights in Myanmar: A Situation Analysis. Philippines: Asian Development Bank, United Nations Development Programme, United Nations Population Fund, and the United Nations Entity for Gender Equality and the Empowerment of Women

selection and appraisal, and social assessment for a particular project conducted at different times during the project cycle<sup>40</sup>.

Integrated urban flood management and improvements to public infrastructure are critical to ensure protection of communities during severe weather, natural disasters and to protect development gains. Due to the gender division of labour in daily life, men and women experience natural disasters and interruptions from flooding differently. Women and men access different urban areas for different purposes depending on their socially determined reproductive, productive, and community-related gender roles and generally use different modes of transport and routes. Women are more likely to walk or take public transport to complete household and productive responsibilities and are less likely to make direct trips between destinations; instead, try to accomplish many tasks simultaneously.<sup>41,42</sup> Traffic disruptions and road closures from flooding are likely to have disproportional impact on women, who are less likely to be able to find alternate routes. Similarly, traffic and route disruptions associated with public infrastructure improvement, retrofitting priority public facilities and emergency operation centres projects are likely to impact women more. In Myanmar, women's mobility in urban areas depends on service reliability and scheduling during off-peak hours, affordability, and physical and personal safety of public transport'.<sup>43</sup> Flooding in Yangon, which can occur 6 to 10 times per year, interrupt trading activities and street vending, typically run by women<sup>44</sup>.

Based on their different roles, needs and perception, women may have different views on project design and performance or on the prioritization of public facilities. Women are the primary care givers, collectors and users of domestic water, promoters of home sanitation, and responsible for household chores. Disruptions in water supply and services, sewage, and increased food costs associated with flooding may have a disproportionate impact on women. It is important to understand these differences in order to inform the design of gender-inclusive infrastructure projects, and to ensure gender considerations are mainstreamed into each phase of the project cycle.

The starting point for effective gender mainstreaming in infrastructure projects is to undertake the required gender analysis. 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<sup>45</sup>.

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

- Analyze gender roles in project design;

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<sup>40</sup> World Bank 2005. Gender-Responsive Social Analysis: A Guidance Note Incorporating Social Dimensions into Bank-Supported Projects. Developed by the Social Development Department of The World Bank, 1818 H Street, NW. Washington D.C. 20433.

<sup>41</sup> Footnote 40

<sup>42</sup> Footnote 19

<sup>43</sup> Footnote 19

<sup>44</sup> World Bank. Myanmar Southeast Asia Disaster Risk Management Project – Project Appraisal Document.

<sup>45</sup> USAID 2011. Tips for Conducting a Gender Analysis at the Activity or Project Level (<https://www.usaid.gov/sites/default/files/documents/1865/201sae.pdf>)



- 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.

It is important that sex-disaggregated baseline data are collected as part of the social assessment, and then the findings used to inform development of a project-specific gender action plan (GAP) as well as provide critical inputs to the Operational Manual (OM) of the sub-project. The social scientist that implements the social assessment must participate in the preparation of the OM to ensure that the findings of the social analysis are incorporated in the OM. Gender and urban development related issues listed in Table 10 should be included in the detailed social assessment.

### ***Potential Gender Constraints and Opportunities in Public Infrastructure, Urban Development, and Disaster Risk Management***

Projects designed and implemented to improve public infrastructure, urban development and disaster risk management often benefit women and men differently, and not always positively. Insufficient consideration of gendered needs can inadvertently exclude or further constrain access for some groups if projects are not designed to be gender and socially inclusive. New or improved public infrastructure and services do have the potential to benefit women through reduced vulnerability to disasters, improvement in economic activities through reduction in interruptions, employment opportunities, and reliable public facilities, if existing gender inequalities are addressed and their capacity to utilize such opportunities are supported. Effective consideration of gender dimensions in project design can maximize benefits and opportunities and reduce potential risks to women.

#### ***Gender Action Plan***

A project-specific 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 GAP should include clear targets, quotas, gender design features and quantifiable performance indicators to ensure women’s participation and benefits. Once proposed sub-project locations are identified then, key aspects of the GAP are incorporated into the OM and other project plans and regulations to promote ownership from implementing agencies and other project partners.

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.

**Table 10 Gender issues to be considered as part of the social assessment**

Category	Gender Issue
<p><b>Country Social and Institutional Context</b>  <i>If responses are mostly positive, the proposed project can design gender-responsive actions to support national mandates, assist reducing disparity, and promote equitable benefits.</i></p>	<ul style="list-style-type: none"> <li>▪ Does the country have policies or laws related to gender equality or equity (labour laws, property and business ownership, opening a bank account, obtaining passport, holding public office)?</li> <li>▪ Does the public infrastructure, urban development and disaster risk management sectors have strategies or policies that address gender issues?</li> <li>▪ What are the key social, cultural or legal constraints of female vulnerability to flooding and mobility compared with male vulnerability and mobility? Do these vary by other social characteristics (ethnic, minority, rural/urban, age)?</li> <li>▪ Do men and women have equal land ownership rights and access to and control over assets? Do women have equal decision-making power over household finances?</li> <li>▪ Are there male and female differences in access to public infrastructure and disaster risk management planning, services, and jobs?</li> <li>▪ Do women have equal access and interactions with public officials? Do women need their husband's or someone else's permission to participate in any activities supported by the Project? Do women and men lack the time, financial resources, experience or confidence to participate in activities supported by the Project?</li> <li>▪ What is the representation of women and men in the public sector agency involved in the Project?</li> </ul>
<p><b>Urban Development and Disaster Risk Management Needs</b>  <i>If there are gender-based differences in needs or constrains, better understanding and targeting of public infrastructure and urban development can improve project benefits</i></p>	<ul style="list-style-type: none"> <li>▪ What are the different needs and priorities for public infrastructure, urban development, and disaster risk management of women and men?</li> <li>▪ Are there different constraints experienced by men and women (e.g. on their mobility)? Does this vary by social characteristics (ethnic, minority, rural/urban, age)? How are these addressed by drainage improvements?</li> <li>▪ Is decision making on urban planning and infrastructure limited to municipal officials with little community participation?</li> <li>▪ How do women and men access information and early warnings? Is information and communication means, level and time of delivery sensitive to differences in education, means of accessing information, and time availability to attend meetings or listen to the radio?</li> <li>▪ What are the relative costs in time, effort, cash, and lost opportunities for women and men related to flooding?</li> </ul>
<p><b>Economic Opportunities</b>  <i>Actions can be introduced in the proposed project to provide equal economic opportunities for both women and men</i></p>	<ul style="list-style-type: none"> <li>▪ Is the project expected to facilitate employment creation or income generation?</li> <li>▪ Will the project use local labour for infrastructure improvements and retrofitting of priority public facilities?</li> <li>▪ Are there barriers to women's labour force participation? Do barriers apply to all levels of opportunities from unskilled to skilled positions?</li> </ul>

**Table 10 (Cont'd.)**

<b>Category</b>	<b>Gender Issue</b>
<p><b>Access to Health and Education</b></p> <p><i>If responses are positive, the proposed project can improve health and education</i></p>	<ul style="list-style-type: none"> <li>▪ Are there high rates of maternal mortality? Do maternal mortality rates increase with natural disasters? Can improvements in drainage and retrofitting of priority public facilities help address vulnerability to flooding and natural hazards?</li> <li>▪ Are there differences in mortality rates associated with natural disasters between men and women? Can improvements in public infrastructure and priority public facilities help address these differences?</li> <li>▪ As women are the primary care givers, what are the different health risks faced by children and in turn, borne by women during flood events? Can improvement in drainage and retrofitting of priority public facilities help address vulnerability to flooding and natural hazards? Are there any health issues associated with infrastructure improvement projects? Can management steps be taken to reduce these concerns?</li> <li>▪ What are the water supply and sanitation concerns associated with flooding? Do women and men experience these issues differently? Can improvements in drainage and retrofitting of priority public facilities help address sanitation and water supply concerns?</li> <li>▪ Do children and women have difficulty accessing schools during flood events? Is it safe for children to travel to school alone during high water events? Can improvements in drainage and retrofitting of priority public facilities help address this problem?</li> </ul>
<p><b>Personal Security and Safety</b></p> <p><i>If responses are positive, the proposed project can take actions for reducing risks</i></p>	<ul style="list-style-type: none"> <li>▪ Is gender-based violence a widespread problem during travel (by foot, public transport etc.)? Is gender-based violence a widespread problem during construction activities?</li> </ul>
<p><b>Gender-Related Risks</b></p> <p><i>If responses are positive, the proposed project can take actions for reducing risks</i></p>	<ul style="list-style-type: none"> <li>▪ Is there a high rate of HIV/AIDS infection in the general population?</li> <li>▪ Is there a significant rate of human trafficking?</li> <li>▪ What are the gender differences in project impacts on indigenous people?</li> </ul>

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 (Table 11). 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**

Gender-responsive monitoring and evaluation is essential to ensure that gender and related social issues addressed in the project design are implemented, progress monitored, and the impacts assessed. Indicators are linked to development objectives; and measure the outcome of the projects. Gender indicators track progress toward reducing gender disparities in natural disasters, mobility, employment, and business opportunities.

**Table 11 Key gender issues, constraints and opportunities in public infrastructure, urban development, and disaster risk management.**

Key Gender Issues	Issues, constraints and opportunities	Recommendations
Economic opportunities in the public infrastructure, urban development, and disaster risk management sectors	<ul style="list-style-type: none"> <li>▪ Women compared with men generally lack capacity to fully capture economic opportunities from public infrastructure and urban development improvement project due to social norms and time flexibility.</li> <li>▪ Infrastructure improvement jobs can be considered “not appropriate” for women.</li> <li>▪ Securing construction employment for women in local communities is often difficult in civil works due to the difficulty in setting gender targets in bidding documents, skills required, travel distances to sites, lack of child-care facilities, and harassment.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Include gender employment targets with equal pay and gender-responsive physical design in standard contract bidding documents).</li> <li>▪ Train contractors on gender-sensitive employment practices and hiring of women.</li> <li>▪ Improve employment policies and practices of sector agencies, including for the recruitment, promotion, training, and working conditions of women.</li> <li>▪ Improve information outreach to women on infrastructure investments and employment opportunities.</li> <li>▪ Encouraging women into higher-level public infrastructure and urban development sector jobs, including through the use of sector-wide vocational training targets.</li> <li>▪ Women owned monitoring enterprises, labour contracting societies can be established.</li> <li>▪ Based on community consultations in sub-project areas, build a common facility targeted at women such as a small market in rehabilitated areas.</li> <li>▪ Assemble information on market opportunities for women as well as men along key roads with improved drainage.</li> </ul>
Impacts on existing (formal and informal) businesses	<ul style="list-style-type: none"> <li>▪ Public infrastructure improvements may reduce impact on economic activities during high water events. During flooding, street vendors, who are majority women, lose daily income.</li> <li>▪ Retrofitting and construction activities may temporarily interrupt or change access to formal and informal businesses such as through blocking access to street vendor locations.</li> <li>▪ Opportunity for elite capture of land value improvements with reduced vulnerability of area to floods.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ensure that improvements are inclusive for all, which may require participatory planning to prioritize areas of concern to groups of different socio-economic, gender, and cultural status.</li> <li>▪ Ensure that improvements do not hinder economic activities for existing businesses, such as through improved signage, parking, and traffic management in their vicinity. For street vendors, alternate locations during the construction may be required.</li> </ul>

**Table 11 (Cont'd.)**

Key Gender Issues	Issues, constraints and opportunities	Recommendations
Public (road) safety and security and mobility constraints	<ul style="list-style-type: none"> <li>▪ Women and children are considered more vulnerable road users, as they are more likely to be on foot or non-motorized transport, and sharing the road space with larger vehicles. They are also more likely to rely on smaller roadways and use a larger number of urban roadways while completing their daily activities.</li> <li>▪ In urban areas, children often play in the road and are vulnerable to other road users, poorly lit areas, roadway obstacles, uncovered manholes, or poorly planned drainage systems. Female respondents noted during stakeholder consultations that the safety of their children near potential constructions sites was their biggest concern.</li> <li>▪ Road accidents involving family members put women under disproportionate pressure to care for the injured.</li> <li>▪ Women may not feel safe taking certain public transportation routes due to incidence of gender-based violence.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Prioritization of drainage infrastructure to be improved should consider vulnerable road users and secondary roads of potentially greater importance to women and children and informal businesses.</li> <li>▪ Physical design of drainage infrastructure should consider enhanced safety and wider consideration of needs of vulnerable road users. Signage and other measures should be incorporated.</li> <li>▪ During construction activities, pathways and well-lit areas should be maintained to minimize disruption to road users.</li> </ul>
Interruptions in water supply and sanitation services	<ul style="list-style-type: none"> <li>▪ As primary care givers and responsible for household chores, women are more likely to be impacted from interruptions in water supply and sanitation services</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mechanisms to mitigate impacts from potential disruptions to water supply and sewage associated with drainage system improvements and retrofitting of existing public facilities, should be discussed and planned with both men and women to ensure female needs are considered.</li> <li>▪ Increased reliability of water taps and sanitation systems will improve lives of women through reduced time spent collecting water, providing healthcare as waterborne diseases increase with flooding.</li> <li>▪ Inclusion of positions for community development and gender officer to ensure that pro-poor infrastructure improvements that respond to the priorities of women.</li> </ul>

**Table 11 (Cont'd.)**

Key Gender Issues	Issues, constraints and opportunities	Recommendations
Sexual harassment	<ul style="list-style-type: none"> <li>▪ Women are not likely to report incidences of sexual harassment or gender-based violence to authorities for fear of being shamed<sup>39</sup>.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Build zero tolerance policy requirements for contractors and conduct training for workers, both male and female.</li> <li>▪ Provide and promote safe and female-oriented and accessible means of filing grievances.</li> <li>▪ Conduct public awareness campaigns on what constitutes gender-based violence and sexual harassment and where women can go to find support.</li> <li>▪ Build partnerships and coordination with gender-based violence and sexual harassment programs of NGOs and local authorities.</li> <li>▪ Provide helpline information targeted at young girls and working-age men.</li> </ul>
Access to public facilities and grievance mechanisms	<ul style="list-style-type: none"> <li>▪ Improved access to social and community services and public facilities during emergency.</li> <li>▪ Gender-sensitive emergency shelters and public facilities</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ensure that facilities prioritized for retrofitting are viewed as priorities for both men and women of different social, cultural and economic status.</li> <li>▪ Retrofitting and re-design should include gender specific considerations such as separate and private sanitation facilities.</li> </ul>
HIV/AIDS, sexually transmitted infections (STIs), and other communicable diseases	<ul style="list-style-type: none"> <li>▪ Infrastructure construction can draw 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.</li> <li>▪ Women and girls from vulnerable groups (the poor, ethnic minorities) are at a significantly higher risk of HIV infection.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide tailored training and awareness for contractors.</li> <li>▪ Integrate HIV/AIDS and STI prevention in contractor occupational health and safety programs.</li> <li>▪ Distribute free condoms to ensure sufficient availability on-site.</li> <li>▪ Conduct social marketing of condom use to high-risk groups.</li> <li>▪ Implement public awareness and education campaigns, targeted at and tailored for construction workplaces, entertainment establishments, and at-risk local communities.</li> <li>▪ Provide counseling and treatment services for sex workers, wives, and other female partners of interment workers.</li> <li>▪ Collaborate with existing local AIDS authorities to maximize coordination.</li> <li>▪ Build partnerships with local health providers for community awareness and referrals.</li> <li>▪ Build capacity of the DIA and relevant sector institutions on mainstreaming HIV prevention including development of guidelines.</li> </ul>

The following list provides examples of gender-responsive indicators for a number of common public infrastructure project outcomes.

#### **Improved flood protection system**

- Number of women and men benefiting from improved flood protection;
- Number of women and men who perceive that drainage improvements have improved their quality of life; and
- Number of women and men with improved access to risk information and early warning.

#### **Improved water supply and sanitation system**

- Level of public infrastructure use and awareness among males and females (e.g. level of satisfaction, pattern of use, access rates);
- Number of households with improved access to water supply with capacity to withstand interruptions during high water;
- Time saved in collecting water and managing alternative solutions during sanitation blockages from improved services; and
- Number of households with improved access to sanitation systems with capacity to withstand interruptions during high water.

#### **Improved public facilities**

- Number of men and women with improved access to public facilities during high water events; and
- Number of neighbourhoods with safe walking routes to access public facilities during high water events.

#### **Increased income, employment and entrepreneurship**

- Number of women and men employed in public infrastructure construction, public infrastructure and urban development services and planning, and government public infrastructure agencies;
- Increased access to informal and formal businesses during high water events; and
- Percent increase of new commercial enterprises run by women.

#### **Mitigating social and health risks**

- Number of deaths, injuries, and displacements caused by disasters disaggregated by gender, age, and hazard;
- Number of incidences of water-borne illness associated with disasters disaggregated by gender, age, household location, and hazard;
- Number of incidences of sexual harassment and gender-based violence;
- Number of HIV/AIDS, sexually transmitted infections (STIs), and communicable diseases, human trafficking and safety prevention, outreach and training activities, or public awareness campaigns conducted for high-risk men and women (e.g., sex workers, transport workers, migrant workers, contractors, labourers, and vulnerable youth); and

- Number of male and female government local officials and police who have participated in information and awareness about gender-responsive planning, gender-based violence and sexual harassment, HIV, STI, and human trafficking risks.

### **Gender Capacity Development**

To enhance gender mainstreaming of public infrastructure, urban development and disaster risk management sector projects, 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. 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.<sup>46</sup>

Recommended Gender Design Features for Capacity Development Support:

- Appointment of a gender specialist within the project management office (PMO) 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 PMO and TA 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 DIA;
- Development of gender awareness and GAP implementation training materials;
- Sex-disaggregated tracking of participation in all capacity development activities of the executing agency; and
- Target setting for female staff participation in training, as appropriate.

## **6.0 ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK**

The World Bank-funded SEA DRM 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 ...*” (World Bank SEA DRM Project ESMF Terms of Reference [TOR]). Discussions with the World Bank and YCDC staff confirmed the proposed sub-projects are proposed in six townships (i.e., Latha, Botahtaung, Pazundaung, Kyauktada, Pabedan, and Lanmadaw) in the CBD. All proposed sub-projects will undergo further review and consideration, particularly in relation to

<sup>46</sup> Asian Development Bank. 2013. Gender tool kit: Transport - Maximizing the benefits of improved mobility for all. Mandaluyong City, Philippines: Asian Development Bank.



potential environmental and social impacts and mitigation measures. As such, the ESMF is guided by the World Bank Group *Environmental Assessment* (OP/BP 4.01) and, specifically, operational policies (OP/BP 4.04, 4.11 and 4.12). Additionally, national safeguard policies have been considered and documented.

The purpose of the ESMF is to manage potential adverse impacts by establishing a guidance document which will inform the YCDC 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 SEA DRM Project, and whose infrastructure design and location is unknown and may change during project implementation. The ESMF comprises the guidance document required for the ESMP or a limited scope Environmental and Social Impact Assessment (ESIA)<sup>47</sup> if the scale of potential impacts is complex and other planning instruments (i.e., ARAP or RAP) to be applied at project appraisal and formulation when detailed feasibility studies and technical design details become available. The ESMF is a guidance and decision-support tool for the YCDC, stakeholders and different populations and has been prepared through consultations through focus group discussions in Latha and Botahtuang townships. The ESMF and RPF will be publicly disclosed to local communities and the general public.

As an overarching guideline document, the ESMF provides assurances that:

- The project will consider potential environmental and social issues, especially for different populations who would be directly impacted (positively or adversely) by the sub-projects;
- The project will consider socio-cultural and gender 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 or ECoP, and ARAP are suitably prepared and followed; and
- Safeguard instruments are compliant with the World Bank safeguard policies and procedures as well as national legislation.

The ESMF comprises the steps outlined in the remainder of this section.

## 6.1 SCREENING AND APPROVAL

Environmental and social screening is designed to identify and document potential adverse impacts arising from proposed sub-projects (Section 1.0). 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 categorized according to the screening procedure depending on the type, location, sensitivity and scale of the project and the nature and

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<sup>47</sup> A limited scope ESIA applies to a Category B project in that the scope is narrower than for a Category A project. This limited scope ESIA could be equivalent to an Initial Environmental Assessment (IEE) in the national legal framework.

magnitude of its potential environmental and social impact. A sample of environmental and social safeguard screening form is in Appendix A3.

As described in Section 3.3, any sub-project in Category A will be ineligible for funding provided that drainage improvement is confined within the existing alignment or results in significant environmental or social impacts. Category A sub-projects would result in ESIA's which require time and additional consultations to prepare and are beyond this Project objective as an urgent disaster risk management response.

Once the location and type of investment is identified then, a site-specific ESMP and ARAP/RAP can be prepared; only improvements to existing open and closed drains or retrofitting of public buildings classified as a Category B will be financed (see Section 3.3). The YCDC completes the initial screening with the Project Secretariat who are responsible for proposed sub-projects identification and screening (see Appendix A3) and ensuring that adequate environmental and social safeguards performance instruments are implemented. Once proposed sub-project locations are identified, the Project Secretariat will prepare proposed sub-project(s) descriptions, 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/ECOP, and ARAP)<sup>48</sup>. At the implementation phase, two national consultants will be contracted to support YCDC staff who are responsible for completing the screening safeguards forms.

## 6.2 SCOPING ENVIRONMENTAL AND SOCIAL ISSUES

The proposed sub-projects in the six townships would include improvements to open and closed urban drains and retrofitting of public facilities. However, at time of writing the sub-project locations had not been specified. The YCDC will be responsible for analyzing the level and extent of environmental and social issues relevant to each proposed sub-project to determine whether the proposed sub-project has the potential to cause any direct or indirect adverse social or environmental impacts.

The screening process will identify the nature of potential impacts, both positive and negative (adverse), that the sub-project(s) could generate within its region of influence (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 instrument or measure primarily depends on the degree of significance of anticipated environmental and social impacts as well as the associated environmental and social risks.

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 so as to allow planners to design changes which will mitigate potential environmental and social impacts as well as, possibly, project location to be modified.

### 6.2.1 Generic Environmental and Social Management Plan or ECoP

All sub-projects activities will require safeguards instruments such as limited scope ESIA's, ESMPs, and ARAPs within clearly delineated sub-project footprints. Each sub-project for the Myanmar DRM Project will require an ESMP. The ESMP is prepared by taking into account the need to comply with the 2015 national EIA procedures and WB's safeguard policies and Environmental, Health, and Safety (EHS) Guidelines. The ESMP is developed to ensure that all pollution sources arising from the sub-project

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<sup>48</sup> The Bank TOR state that "an independent consultant is to be retained to assist in the preparation of safeguards measures and procedures (ESMP/ECOP, ARAP, etc.) targeted at specific sub-projects during project implementation."

activities during the preparation, construction, and operation stages will not cause any negative impacts on the environment and public health. The ESMP's mitigation measures are based on the sample ECoP in Table 12. The ESMP would become part of the civil engineering, drainage improvement and building retrofitting contract. ESMP is developed based on the Generic Environmental Management Plan [EMP] (see Table 12). The ESMP is served as the contractual basis for supervision and enforcement of good environmental and social practice during subsequent sub-project investments such as drainage improvement and building retrofitting. A checklist type of ESMP would provide the appropriate due diligence instrument as illustrated in Table 12.

Once sub-project drainage infrastructure and public facilities have been identified, the site-specific ESMP will be prepared to identify potential impacts during pre-construction, construction, and operations. The environmental analysis, design and preparation of an ESMP for each sub-project must be conducted in close connection with the feasibility and engineering design. The analysis should concentrate on environmental and social issues associated with direct impacts along the drains, at the compounds where the public facilities are located and the management of these potential impacts.

The environmental and social screening will include, but not be limited to, the analysis of available information concerning the general population demographics, concentrations of low-income communities, areas of significant encroachment into the drainage infrastructure alignment, sensitive and/or critical natural habitats, watercourses that provide habitat, recorded cultural heritage sites, and any other potentially sensitive areas, based on recent census, official data and information from civil society organizations as well as detailed site visits. Screening forms are provided in Appendices A3 and A4 and include: (i) identification of all physical, environmental and social issues along the drains and/or at the public facilities; (ii) identification of mitigation measures identified by distance marker from the outfall or feature on the public facility; (iii) the 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 assessment sheet will include maps at appropriate scales and schematic summary tables with specific issues to be addressed (e.g., localized and natural hazards, erosion risks, tidal gate and storm pump installations, environmental or social hot spots, road safety and construction work areas). Finally, for each environmental and social concern identified and evaluated in the assessment sheet, mitigation measures must be identified and safeguards procedures discussed in the ECoP discussed below and community relations plan.

Improvements to the drainage infrastructure may disrupt communities in the vicinity of their alignment 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 representatives from different commune leaders) to address social issues raised during the construction period.

The objectives of the ESMP or ECoP are to: (i) establish specific environmental and social criteria for sub-project locations in Yangon; (ii) provide technical assistance; (iii) ensure general understanding of environmental and social impacts and define environmental and social criteria to minimize such impacts; (iv) ensure that drainage and structural engineers and technicians can find solutions for any problems arising during sub-project activities; and, (v) facilitate the preparation of environmental and social assessment for the sub-projects.

A generic ESMP for customizing by YCDC to fit each sub-project investment under Components 2 and 3 during implementation, and before any civil works are undertaken, is provided in Table 12. The requirement to prepare a customized or site-specific ESMP will be incorporated into the bid and contract documents. The contractor hired for the construction of the sub-projects is responsible for implementing the mitigation measures listed in the ESMP. Supervision of the contractor is the responsibility of the YCDC safeguard specialist with the support from the project-hired safeguard specialists. The ESMP can be used by the contractor and safeguard specialist to routinely monitor activities to ensure mitigation measures are being implemented effectively.

Implementation of the ECoP must ensure that no activities cause harm to people or the environment. An example of a practice in the ECoP could include dust:

1. Bulk storage of materials that could potentially generate dust should be located away from residences;
2. Construction activities should be undertaken using appropriate dust suppression techniques; and
3. Spoil, excavated material, and other waste materials that can generate dust should be watered regularly when handled and transported in vehicles with covers securely fastened over the material.

### **Chance Find Procedures**

The proposed sub-projects may yield archaeological, paleontological or cultural findings though past experience from such activities, in particular drainage improvements, have yielded few minor finds including pieces of pottery. 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 YCDC 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; (iii) secure the site to prevent any damage or loss of removable objects; (iv) notify the supervisory Engineer who, in turn, will notify the responsible local authorities; (v) 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; (vi) 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; (vii) implementation for the management of the finding communicated in writing; and (viii) construction work could resume only after permission is given from the responsible local authority concerning safeguard of the heritage. The YCDC Project Secretariat (YCDCPS) will monitor the process of design, implementation, and post project implementation with respect to chance finds.

**Table 12 Generic Environmental and Social Management Plan (ESMP) or ECoP.**

Potential Environmental and Social Impacts	Mitigation Measures
Work site management:	<ul style="list-style-type: none"> <li>▪ Prepare/finalize a worksite management plan for each sub-project in consultation with traffic authorities and township authorities.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Stockpiling materials at the site and on roads.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Set up the work sites with sufficient supplies of clean water, power, and sanitation facilities. There should be at least one toilet compartment for every 25 workers, with separate toilets for males and females.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Possible pollution of watercourses from construction products.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Select worker facilities and site office to minimize impacts on the environment and the people living in the immediate vicinity.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Works can have cause damage to utilities including electricity and washing/drinking water.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Safely install power lines at offices and in construction sites and do not lay connectors on the ground or water surface.</li> <li>▪ Choose appropriate locations for materials stockpiling and employ measures to limit mobilizing materials during rains and to prevent accidental introduction of construction materials into the drains.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Degradation to quality of life for residents</li> </ul>	<ul style="list-style-type: none"> <li>▪ Safely store fuels and chemicals in areas with impermeable ground with roofs and surrounding banks, equipped with safety warning signs located at least 20m from the site.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Soil and water pollution (trash dumping, oil spills)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Wherever possible, refueling will be carried out away from drainages and with spill containment measures in place between the refueling location and drains.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Provide spill kits at each sub-project site and train project staff on their use.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Construction materials and waste must be collected and stored in an orderly manner at designated storage sites at the end of each day or shift.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Ensure electrical conduits and water supply pipes are identified in advance of works and adequately protected to prevent disruption. Should damage occur, the contractor must communicate with the resident or business and ensure repairs are expedited to minimize adverse impacts.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Suspend all construction activities during heavy and prolonged rains and storms, or upon safety accidents or serious incidents resulting in worker(s) evacuation to medical facilities.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Turn off engines when equipment is not needed and control noise and vibrations, especially within the townships where works are adjacent to residential areas and at public buildings undergoing retrofitting.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Preserve trees and other vegetation as much as possible.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Burning of waste or construction materials is not allowed on site.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Restore the sites to their original state upon completion of the work.</li> </ul>

**Table 12 (Cont'd.)**

<b>Potential Environmental and Social Impacts</b>	<b>Mitigation Measures</b>
<p>Road safety and traffic management:</p> <ul style="list-style-type: none"> <li>▪ Road accidents due to in adequate control of vehicle speeds and signs/signals</li> <li>▪ Air and noise pollution from vehicles delivering construction materials and damage to roads.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Employ safe traffic control measures and limit possible disruption to non-construction traffic.</li> <li>▪ Constrain vehicle speeds and load weights.</li> <li>▪ Ensure loads are secure before transporting them to or from the site to prevent them from being ejected during transportation.</li> <li>▪ Use locally available construction material wherever possible to minimize transport distances.</li> <li>▪ Maintain vehicles and equipment in good working order and to ensure emission controls on engines are in place and effective.</li> <li>▪ Avoid material transportation for construction during rush hours.</li> <li>▪ Install road traffic signs during construction at junctions to both ends of the construction site, install safe traffic diversions, and employ sufficient and trained flagmen to direct the traffic.</li> <li>▪ Avoid encroachment that completely blocks passage on roads.</li> <li>▪ Position trained personnel to provide direction to traffic when materials are delivered to the site.</li> <li>▪ Construction materials and waste must be collected and stored in an orderly manner at designated storage sites at the end of each day.</li> <li>▪ Assess options including working after business hours or implementing a phased approach to retrofitting activities to minimize disturbance to market shop owners.</li> </ul>
<p>Solid and hazardous waste management:</p> <ul style="list-style-type: none"> <li>▪ Storage of hazardous materials on-site</li> <li>▪ Disposal of construction waste and hazardous materials</li> <li>▪ Exposure to contaminant laden material.</li> <li>▪ Possible pollution of drains.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Before construction, a solid waste control procedure (storage, provision of bins, site clean-up schedule, bin clean-out schedule, etc.) must be prepared by the Contractor(s) and it must be carefully followed during construction activities.</li> <li>▪ Before construction, all necessary waste disposal permits or licenses must be obtained and disposal sites clearly identified.</li> <li>▪ Provide training and proper personal protective equipment to workers involved in the excavation, transport and disposal of excavated material and soil.</li> <li>▪ Fuel, oil and hazardous materials will be located away from drains and with spill containment measures in place.</li> <li>▪ Ensure complete drying of excavated material and soil to minimize possible introduction of contaminants</li> <li>▪ All waste and hazardous materials will be stored and disposed of to acceptable industry standards at existing YCDC waste sites depending on the geographic location of the construction site and that public access to the disposal sites is restricted.</li> </ul>

**Table 12 (Cont'd.)**

<b>Potential Environmental and Social Impacts</b>	<b>Mitigation Measures</b>
<p>Worker health and safety management:</p> <ul style="list-style-type: none"> <li>▪ Conflict with residents</li> <li>▪ Training to mitigate inappropriate behaviours</li> <li>▪ Training to mitigate health and safety risks</li> <li>▪ Use of personal protective equipment (PPE)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Employ local laborers for simple tasks. Instruct workers on environmental issues, safety and health before construction tasks are assigned. It is advisable to communicate to migrant workers on local customs, practices and habits in order to avoid conflicts with local people.</li> <li>▪ Train workers on issues related to social security, social evils, diseases and epidemics, prostitution and drug use, environment, safety and health, HIV/AIDS and infectious diseases within 2 weeks prior to the commencement of packages with construction items lasting at least 6 months.</li> <li>▪ Equip workers with appropriate safety equipment such as masks, helmets, shoes/boots, goggles, etc. depending on job characteristics.</li> <li>▪ Provide fire-extinguishers, first-aid bags, and medical cabinets with sufficient medicines for treating general diseases in the locality must be provided at construction sites.</li> <li>▪ If temporary workers' camp or housing is provided, workers' beds must be provided with mosquito nets so as to prevent mosquito transmitted diseases.</li> </ul>
<p>Public health and safety:</p> <ul style="list-style-type: none"> <li>▪ Safety from construction hazards.</li> <li>▪ Pedestrian safety around construction sites.</li> <li>▪ Health impacts from noise, dust, vehicular emissions and vibrations.</li> <li>▪ Public safety risks from increased traffic.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Inform the community at least one week before commencement of the construction. In case electricity and water supplies are to be disrupted, YCDC must inform PAHs of the same at least two days in advance of any disruption to service; and provide a leaflet or postings on notice boards in the township.</li> <li>▪ During construction near schools, deploy staff at the site to guide the traffic at the start of school time and when school is over.</li> <li>▪ Barriers and signage to be provided during construction to mitigate the risk of pedestrians from entering construction areas and falling into openings; especially during night and during rainfall.</li> <li>▪ Where there are open manholes or excavation for side drains in front of shops/houses, contractor shall then: 1) cover them quickly or provide proper and clear sign to avoid danger to cyclists or pedestrians, especially at night time, and 2) provide temporary access road to the shops/houses to maintain normal business and living activities in the communities, and 3) ensure access for wheelchairs and install hand railings. The implementation results should be reported periodically.</li> </ul>

## 6.2.2 Abbreviated Resettlement Action Plan

If less than 200 people are affected by the sub-project, the appropriate safeguards measure is an Abbreviated Resettlement Action Plan (ARAP) described more fully in the RPF. The ARAP or Resettlement Action Plan (RAP) is prepared during project implementation, when detailed designs are available and before any civil works are undertaken. 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.

## 7.0 CONSULTATION AND INFORMATION DISCLOSURE

The sub-projects support a participatory and consultative approach involving meaningful engagement with different populations (i.e., ethnic minorities, vulnerable groups, women and female/male youth and children, men, the elderly and disabled, etc.), CSOs, CBOs and other relevant stakeholders. The approach was intended to enhance ownership and general understanding of different populations through public access to information for the ESMF and safeguard management instruments (i.e., ESMP and ARAP as necessary), roles and responsibilities, and perceptions as a basis for improving coordination and achievement of the sub-project objectives. The participatory and consultative approach should ensure effective communication and coordination with all stakeholders and different populations at national and subnational levels.

The Myanmar sub-projects were first discussed with key government decision-makers, the World Bank and the consultant on 2 December 2016 during the kick-off meeting in Yangon. Consultations to inform the draft ESMF and RPF were held in Latha and Botahtaung townships between 16 to 18 December 2016 and described more fully in Appendices A8, A9 and A10. Stakeholders and different populations were provided information on project objectives, sub-project descriptions and component initiatives, potential impacts (both positive and adverse effects). Prior to finalizing the safeguard instruments, a public consultation meeting was conducted on 29 March 2017 to discuss the draft ESMF and RPF documents. Appendix A11 contains the participants sign-in sheets. The comments received during the consultation meeting did not result in a revision of the safeguard instruments but rather sought clarification on project aspects and a discussion on applicable draft legislation on urban heritage conservation. These draft documents were translated into Burmese language and distributed to national, sub-national and local governments, key stakeholders and civil society organizations, and different populations in advance of (two weeks before) the meeting. Initial results suggest that most of the stakeholders and different populations support the proposed sub-projects. As sub-projects are formulated, additional consultations will be held with local authorities and different populations who are likely to be directly or indirectly affected from the proposed sub-project(s). Written records of the consultations are appended in Appendices A10 and A11.



### **Communication and Consultation Plan**

A project-specific Communication and Consultation Plan is a tool used by YCDC and the contractor(s) to ensure that community members including residents and vendors are meaningfully consulted with sufficient time before project implementation. As such, the plan must be prepared once sub-project sites are identified and in advance of project implementation. The Communication and Consultation Plan should include clear timelines for engaging with residents and vendors, number of consultations and frequency of communications. The plan should include details on:

- Dates for the dissemination of project materials;
- Location of boards to post project details including contact names and numbers for the contractor and YCDC representative(s) from whom interested parties can receive information on site activities, project status and project implementation results;
- Coordination with local authorities (Township EA and Head of 100 Households) for agreed schedules of construction activities at areas nearby sensitive places or at sensitive times (e.g., religious festival days);
- Disseminate project information to affected parties (for example local authority, enterprises and affected households, etc.) through community meetings before construction commencement;
- Copies of the site-specific plans in Myanmar language shall be made available to local communities and to workers at the site; and
- Inform local residents about construction and work schedules, interruption of services, traffic detour routes and provisional access corridors as appropriate.

As described in the generic ESMP, notification signs shall be erected at all construction sites providing information about the project, as well as contact information about the site managers, environmental staff, health and safety staff, telephone numbers and other contact information so that any affected people can have the ability to express their concerns and suggestions.

## **8.0 GRIEVANCE REDRESS MECHANISM**

The YCDC is expected to coordinate with the General Administration Department (GAD) under the Ministry of Home Affairs (MoHA) and establish grievance redress committees (GRC) at the township, district and regional levels to be comprised of citizens of Myanmar. At the township and district levels, the membership of the GRCs will be made up of representatives from project affected households (PAHs) who shall be chosen from among the PAPs. At the regional level, the GRC will be headed by the mayor of Yangon and the government will select the secretary and co-secretary for the committee; the secretary must be a department head. The state GRC must report directly to the Chief Minister. These committees will receive, evaluate and facilitate the resolution of PAP and PAH concerns, complaints and grievances. The grievance redress committees will function, for the benefit of PAP and PAH, during the entire life of the sub-project(s), including the defects liability periods. During the construction period, notice boards with contact names and phone numbers will be posted at the opposite ends of the construction site as well as within the site at the location of the daily construction activities.

Grievances from PAP and PAHs in connection with the implementation of the RP will be handled through negotiation with the aim of achieving consensus. Complaints have the option of passing

through four stages (described below) before potentially being elevated to a court of law as a last resort.

### ***Preliminary Stage, Head of 100 Household Level***

An aggrieved PAP or PAH may bring his/her complaint to the Head of 100 Households and the YCDC appointed person responsible for the respective township. The objective of the preliminary stage is to respond immediately to complaints as they occur and mitigate increasing the concerns unnecessarily. The grievance and resolution would be recorded and provided to the YCDCPS as they occur. This approach will inform subsequent sub-projects in an adaptive management manner to mitigate the occurrence of comparable issues.

### ***First Stage, Township Level***

An aggrieved PAH may bring his/her complaint to township complaints committee established under the YCDC. The committee should attempt to resolve the complaint within 10 working days following the lodging of the complaint by the aggrieved PAH. The composition of the group will vary depending on the township but will be subject to a process of free, prior and informed consultation and be gender and intergenerational balanced. If after 10 working days the aggrieved PAH does not receive a response or if the PAH is not satisfied with the decision taken during the first stage, the complaint may be brought to the District Office either in writing or verbally.

### ***Second Stage, District Level***

An aggrieved PAH may bring his/her complaint to the district level if the resolution in Stage One was unsatisfactory or no response was received. The District leader will call for a meeting of the GRC to decide on a course of action to resolve the complaint within two weeks, following the lodging of complaint by the aggrieved PAH. The District leader is responsible for documenting and maintaining files of all complaints that are processed. If after two weeks the aggrieved PAH does not hear from District authorities, or if the PAH is not satisfied with the decision taken during the second stage, the complaint may be brought to the Regional Office either in writing or verbally.

### ***Third Stage, Regional Level***

An aggrieved PAH may bring his/her complaint to the regional level if the resolution in Stage Two was unsatisfactory or no response was received. The GRC will be headed by the mayor of Yangon and the government will select the secretary and co-secretary for the committee; the secretary must be a department head. The committee chairperson will call for a meeting of the GRC to decide on a course of action to resolve the complaint within two weeks, following the lodging of complaint by the aggrieved PAH. The Regional GRC leader is responsible for documenting and maintaining files of all complaints that are processed. If after 20 working days the aggrieved PAH does not hear from Regional authorities, or if the PAH is not satisfied with the decision taken during the third stage, the complaint may be brought to the Office of the President either in writing or verbally

### ***Fourth Stage, Union Level***

An aggrieved PAH may bring his/her complaint to the Union level if the resolution in Stage three was unsatisfactory or no response was received. This would consist of filing a complaint with the Office of the President of the Republic of the Union Myanmar. If deemed necessary, the President may ask the YCDCPS for a review of the DMS by the External Monitoring Agency (EMA). Within 20 days

of the submission of the grievance to the Office of the President, a written decision must be made and a copy of the decision sent to YCDC and the PAH.

### ***Fifth Stage, the Court Procedures***

If the aggrieved PAH is not satisfied with proposed remedies developed by the Office of the President, the committee shall file administrative procedures against the PAH with to initiate legal proceedings. The case will be brought to the Provincial Court and the same will be litigated under the rules of the court. At the same time, the PAH can bring the case to the Provincial court. During litigation of the case, RoUM will ask the court that the project proceed without disruption while the case is being heard. If any party is not satisfied with the ruling of a lower level court, that party can bring the case to a higher court. The RoUM shall implement the decision of the court.

In addition to the above mechanisms, and at the prerogative of the PAP and PAH, grievances may be taken to other mediating bodies, such as a Members of Parliament, or to register a complaint directly to the Office of the President. All grievances, and how they are resolved, should be recorded in a grievance register, and a summary of grievances and their resolutions should be reported to the World Bank.

## **9.0 MONITORING AND REPORTING**

Monitoring is a key component of the environmental and social safeguards performance during sub-project implementation to ensure mitigation measures are being implemented and are effective. YCDC with support of the environmental and social safeguard consultants can use the ECoP in Table 12 or the sub-project ESMF prepared by the contractor for monitoring and reporting the contractor's safeguard compliance. 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 sub-projects; and
- Provide an opportunity to report the results of safeguards, impacts and proposed mitigation measures' implementation.

During sub-project implementation, the YCDCPS will conduct internal monitoring activities of the design and 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 YCDCPS Environmental and Social Specialist staff will ensure that sub-project studies are properly and expeditiously conducted in compliance with the ESMF and RPF.

The sub-project engineering design will consider the conditions for implementation of the ARAP 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 major 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, men, the elderly and disabled, landless, and poor, etc.) are not receiving sufficient support from the potential sub-projects.

During the implementation phase, compliance monitoring would include inspections during construction of the sub-project initiatives and/or activities to verify the extent with which conditions and licenses are issued and adhered. The effective project construction, operational and decommissioning phase will be the full responsibility of YCDC and compliance monitoring ensured by the Project Secretariat.

(ii) *Impacts Monitoring*: during implementation, monitoring of sub-project initiatives and/or activities' impact mitigation measures should be the duty of the YCDC and the PS. It is expected that the ESMP will be included in the contract to oblige the contractor to the ESMP compliance. YCDC will monitor to ensure that works are proceeding in accordance with the agreed mitigation measures in the ESMP/ESMF.

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

- Impacts on affected individuals, different populations, households and communities to be maintained at their pre-project standard of living, or better;
- Gender differentiated impacts to be avoided, minimized or addressed; 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).

An independent monitor may be recruited by the YCDC to assess potential sub-project related impacts depending on the nature and extent of impacts. Their report will be submitted to the YCDCPS and World Bank.

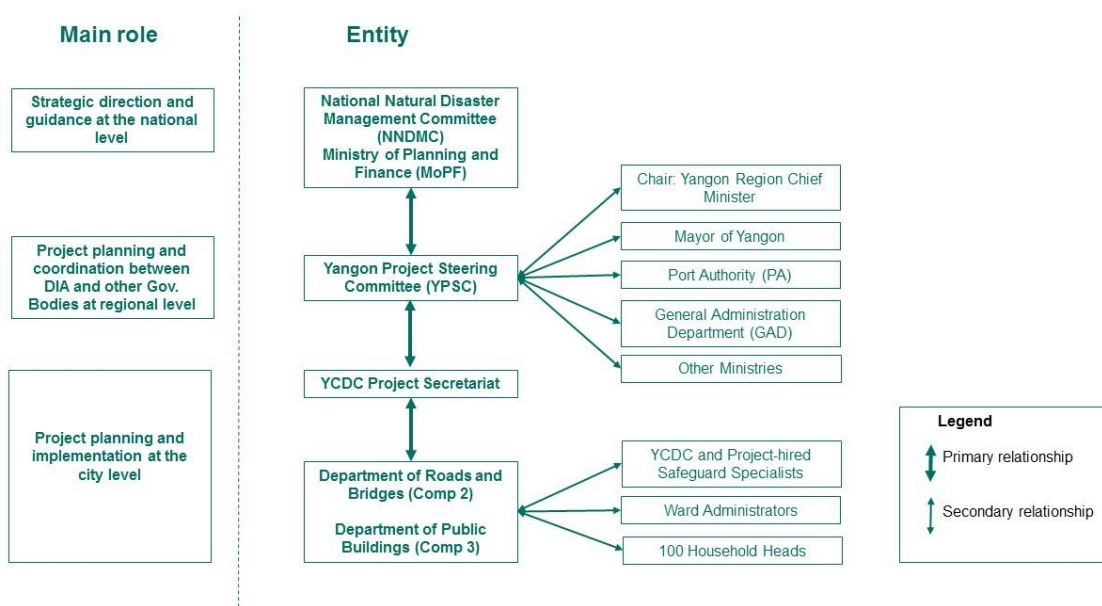
(iii) *Cumulative Impacts Monitoring*: impacts of the sub-project initiatives and/or activities on the environmental and social resources for the six respective townships will also be monitored in consideration of other developments which might be established.

## 10.0 ESMF IMPLEMENTATION

### 10.1 INSTITUTIONAL ARRANGEMENTS FOR SUB-PROJECT IMPLEMENTATION

The ESMF implementation will follow the project implementation arrangements. At the Union level, the MoPF will have oversight of the Myanmar DRM Project while collaborating with and seeking strategic guidance from the NNDMC. At the regional level, the project will establish the Yangon Project Steering Committee (YPSC). The YPSC will be chaired by the Yangon Chief Minister with representatives from YCDC and other government bodies involved in project implementation (Figure 1). Under the MoPF, the Yangon City Development Committee (YCDC) will be the designated implementing agency (DIA) for Components 2, 3 and 4 of the project.

**Figure 1 Institutional arrangements for ESMF implementation.**



Within YCDC, Component 2 will be implemented by the Engineering Department (Roads and Bridges) (EDRB) while Component 3 will be implemented by the Engineering Department (Building) (EDB). The YCDC Secretary, together with the Department Heads (Chief Engineer) from EDB and EDRB will constitute the YCDCPS, which will be tasked with coordination amongst YCDC Departments. The Department Heads will also be responsible for component management and technical coordination as well as procurement and compliance with environmental and social safeguards for activities under their respective component. The project will hire one international and two national environmental and social safeguard specialists to support the safeguards focal person assigned by EDRB and EDB in implementing, monitoring and reporting the ESMF compliance. Table 13 describes the steps, forms, and responsible staff for the sub-project cycle.

The General Administration Department (GAD) under the Ministry of Home Affairs (MoHA) will play a role in the project, particularly regarding public notification and grievances. Within the GAD, Ward Administrators (WA) are elected officials who oversee management of the ward administrative unit in urban areas. Below the WA, the '100-household head' is a semi-formal position in which a local resident is selected to serve as the interface between the community and government. WAs and '100 household heads' have worked with YCDC on past projects, serving both to notify residents of upcoming projects

and helping to address any grievances that arrive. The fact that these community representatives exist within a separate administrative structure from YCDC does cause some inherent weaknesses in accountability that will have to be addressed in the project by developing more formalized systems for project notifications and grievance processing with clear responsibilities and a chain of command for all stakeholders involved.

**Table 13 Tasks and institutional responsibilities for the project and sub-project safeguard implementation.**

Sub-project Cycle	Form	Task Description	Responsibility	Supervision
Screening	<ul style="list-style-type: none"> <li>Environmental and social safeguard screening forms</li> </ul>	<ul style="list-style-type: none"> <li>Assess any potential environmental and social safeguard issues early in the preparation process</li> <li>Describe potential safeguard issues in the safeguard screening forms to be attached to the sub-project proposal</li> </ul>	<ul style="list-style-type: none"> <li>EDRB and EDB environmental and social safeguard specialist with support from the project-hired safeguard consultants</li> </ul>	<ul style="list-style-type: none"> <li>YCDC Project Secretariat</li> </ul>
Preparation	<ul style="list-style-type: none"> <li>Generic ESMP or ECOP in Section 6</li> </ul>	<ul style="list-style-type: none"> <li>Undertake safeguard preparation actions as required, such as consultations with local communities and/or collection of data</li> <li>Design safeguard actions plan (ESMP, ARAP, etc.) as described in Section 6</li> </ul>	<ul style="list-style-type: none"> <li>EDRB and EDB environmental and social safeguard specialist with support from the project-hired safeguard consultants</li> </ul>	<ul style="list-style-type: none"> <li>YCDC Project Secretariat</li> </ul>
Review and approval	<ul style="list-style-type: none"> <li>Safeguard screening forms and Generic ESMP</li> </ul>	<ul style="list-style-type: none"> <li>Submit sub-project proposal with safeguard screening forms and safeguard action plan (ESMP and RAP) as agreed</li> </ul>	<ul style="list-style-type: none"> <li>EDRB and EDB environmental and social safeguard specialist with support from the project-hired safeguard consultants</li> </ul>	<ul style="list-style-type: none"> <li>YCDC Project Secretariat</li> </ul>
Implementation	<ul style="list-style-type: none"> <li>ESMP</li> </ul>	<ul style="list-style-type: none"> <li>Monitor and record implementation of safeguard actions plan (ESMP and ARAP)</li> <li>Include community representatives in participatory monitoring and evaluation exercises</li> </ul>	<ul style="list-style-type: none"> <li>Contractor</li> </ul>	<ul style="list-style-type: none"> <li>EDRB and EDB environmental and social safeguard specialist with support from the project-hired safeguard consultants</li> <li>YCDC Project Secretariat</li> </ul>

Sub-project Cycle	Form	Task Description	Responsibility	Supervision
Monitoring and Evaluation	▪ ESMP	<ul style="list-style-type: none"> <li>▪ Evaluate the implementation and outcomes of ESMP and ARAP</li> <li>▪ Include community representatives in participatory evaluation exercises</li> </ul>	<ul style="list-style-type: none"> <li>▪ EDRB and EDB environmental and social safeguard specialist with support from the project-hired safeguard consultants</li> <li>▪ Contractor</li> </ul>	▪ YCDC Project Secretariat

YCDC will also have to maintain open communication with the Port Authority (PA) through the Regional Government to negotiate access to sub-project sites. All current drainage outfalls into Yangon River are on PA land. This consists of a strip of land approximately 100 meters wide running nearly the entire length of the CBD Yangon River frontage.

## 10.2 CAPACITY ASSESSMENT

The Yangon City Development Committee (YCDC) is chaired by the Mayor of Yangon and includes the Secretary, Joint Secretary and other committee members. The YCDC oversees twenty departments, each headed by a Head of the Department. The departments most relevant to the Myanmar DRM project include Engineering Department (Roads & Bridges), Engineering Department (Building), Engineering Department (Water & Sanitation), Administration, and Budgets & Accounts (Figure 2).

**Figure 2 Organizational Chart and Departments of YCDC.**



The YCDCPS should be staffed with experienced environmental and social safeguards personnel though current experience is limited to the 2014-15 JICA project. Depending upon their previous 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 will be supported by the project-hired environmental and social safeguards consultants in the ESMF requirements while building staff capacity to address safeguard issues. Environmental and social sustainability of the proposed sub-

projects to be formulated is largely dependent upon the capacity of the implementing agencies to coordinate the planning and supervision of service providers.

With the exception of the 2014-15 JICA project for the Strategic Urban Development Plan of the Greater Yangon, YCDC has had practically no experience implementing project financed by donors and international finance institutions. Consequently, YCDC lacks in-depth knowledge and experience in implementing World Bank guidelines on environmental and social safeguards, and other related operational procedure. To ensure effective implementation of safeguards at planning, pre-construction, construction and operations phases, it is imperative to have capable and properly trained staff in place. While YCDC recognizes the importance of environmental protection and avoiding, minimizing, mitigating or compensating for adverse social impacts particularly as a precondition for obtaining World Bank financing, it must develop the institutional capacity and internal procedures to ensure these outcomes. Accordingly, an institutional strengthening and capacity building training program for this project will include on-the-job training, workshops, field visits and external training opportunities.

As an indication of education level within the YCDC, education levels for the EDRB and EDB staff were assessed by the Consultant in relation to education levels, knowledge and practical application of environmental and social safeguards implementation monitoring. Education levels within the EDRB indicates that 49.7 % of staff are engineers with advanced education, and a total of 63.8 % of staff have at least some form of post-secondary education (Table 14). Within the EDB, 57.4% of the staff are engineers with advanced education and 71.4% of the staff have at least some form of post-secondary education. While knowledge of environmental and social safeguards will require capacity building as noted, staff have had experience on other donor funded projects and key staff members could be allocated 'safeguard champion' roles to advocate for training and building knowledge within the department.

**Table 14 Education levels within the YCDC EDRB and EDB.**

Department	Education Level	No. of Persons	Remarks
EDRB	M.E	8	Engineers (177)
	B.E	39	
	A.G.T.I	130	
	B.A./B.Sc.	50	
	Non-Graduate	129	
	<b>Total</b>	<b>356</b>	
EDB	M.E	17	Engineers (229)
	B.E	113	
	A.G.T.I	99	
	B.Tech	4	
	B.A./B.Sc.	52	
	Non-Graduate	114	
	<b>Total</b>	<b>399</b>	



### 10.3 CAPACITY BUILDING AND INSTITUTIONAL STRENGTHENING

The lack of application of environmental and social safeguards instruments is not due to education levels, rather YCDC staff have had little exposure to donor-funded projects that included the application of environmental and social instruments for urban development infrastructure projects. Due to the assessment results in the previous section, the project will allocate a safeguard budget (see Section 10.4) to hire environmental and social safeguard consultants who will provide hand-on training and mentoring and ensure environmental and social safeguards instruments (ESMF and RPF) are properly monitored and reported during Project implementation.

It is imperative that institutional and capacity development are provided for environmental and social safeguards guidelines, safeguards frameworks, capacity building trainings, coordination between different government departments and organizations, awareness-raising campaign(s), and other measures for ensuring the knowledge gaps are addressed as expeditiously as possible for development of the sub-project and, subsequently, at feasibility and design stages and beyond. YCDC will integrate environmental and social safeguard provisions in order to enhance the potential positive impacts for sub-component 3.2 activities which aligns with the Safeguard Policies to Technical Assistance Activities in Bank-financed Projects.

As indicated, strengthening coordination between YCDC and ministries (i.e., MoPF) would help close the knowledge gap and lead to more effective implementation and monitoring of environmental and social safeguards instruments.

Partnerships and participation in externally-funded projects and programs such as the Myanmar sub-projects can provide a critical entry point for institutional strengthening and capacity development within the YCDC. The sub-projects will build on YCDC's strengths to enhance knowledge, technical skills in the application of environmental and social safeguards, strengthen the operations it supports and contribute to the global policy agenda on social and natural resources protection for urban development planning.

## 10.4 BUDGET FOR CAPACITY BUILDING AND IMPLEMENTING THE ESMF

ESMF implementation cost will include the development of the specific site-specific safeguards instruments, including staff costs, travel, consultation workshops, translation and trainings. The total indicative cost is estimated at 547,250 USD (Table 15), which will be supported by a combination of IDA and counterpart financing, from the project management component.

**Table 15 ESMF implementation costs.**

No.	Description	Indicative Cost (USD)
1	National Environment Safeguards Consultant	120,000
2	National Social Safeguards Consultant	120,000
3	International Safeguard Consultant	225,000
4	M&E for the implementation of the safeguard instruments	10,000
5	Public consultation on safeguard instruments in the six townships	2,500
6	Translation of safeguard instruments	15,000
7	Training Workshop in Yangon	5,000
8	Contingency (10%)	49,750
<b>TOTAL</b>		<b>547,250</b>

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## APPENDICES

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**Appendix A1**

**Activities Not Eligible for Project  
Financing**

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## **Appendix A2**

### **Applicability of World Bank OP 4.10 Indigenous Peoples**

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**Appendix A3**

**General Environmental  
Assessment Policy Instrument:  
Screening Form**

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## Appendix A3 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.

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

Questions	Answer			If Yes WB Policy triggered	If Yes Document requirement
	N/A	Yes	No		
<p>Are the sub-project impacts likely to have significant adverse environmental impacts that are sensitive<sup>1</sup>, diverse or unprecedented and extend beyond the drainage infrastructure or public building envelope?<sup>2</sup></p> <p>Please provide brief description:</p>				<p><i>OP 4.01 Environmental Assessment Category A</i></p>	<p>Ineligible for funding in the Myanmar DRM Project</p>

<sup>1</sup> 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 4.11, 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)

<sup>2</sup> 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.

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 social impacts that are sensitive, diverse or unprecedented <sup>3</sup> ? Please provide brief description:				OP 4.01 Environmental Assessment Category A	Ineligible for funding in the Myanmar DRM Project
Do the impacts affect an area broader than the sites - beyond the existing drainage infrastructure - 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 Myanmar DRM Project
Is the proposed sub-project likely to have minimal or no adverse environmental or social impacts? <sup>4</sup> 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? <sup>5</sup> Please provide brief justification:				OP 4.01 Environmental Assessment Category B	Limited Scope ESIA or IEE or ESMP

<sup>3</sup> 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.

<sup>4</sup> 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.,

<sup>5</sup> 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 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?				<i>OP 4.01 Environmental Assessment Category B</i>	Limited Scope ESIA or IEE or ESMP
Do sub-project documents clearly state that no new drainage infrastructure or buildings will be constructed?				<i>OP 4.01 Environmental Assessment Category B</i>	Limited Scope ESIA or IEE or ESMP
Does the sub-project document specify that there will be no use of any hazardous materials?				<i>OP 4.01 Environmental Assessment Category B</i>	Limited Scope ESIA or IEE or ESMP
Will the sub-project include the export of waste to another territory or country?				<i>OP 4.01 Environmental Assessment Category B</i>	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?				<i>OP 4.01 Environmental Assessment Category A</i>	Ineligible for funding in the Myanmar DRM Project
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>	Limited Scope ESIA or IEE or ESMP
Will the sub-project involve the significant conversion or degradation of critical natural habitats <sup>6</sup> ?				<i>OP 4.04 Natural Habitats Category A</i>	Ineligible for funding in the Myanmar DRM Project

<sup>6</sup> 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.

Questions	Answer			If Yes WB Policy triggered	If Yes Document requirement
	N/A	Yes	No		
Will the sub-project adversely impact physical cultural resources? <sup>7</sup> Please provide brief justification:				<i>OP 4.11 Physical Cultural Resources Category A</i>	Ineligible for funding in the Myanmar 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 justification:				<i>OP4.36 Forestry Category A</i>	Ineligible for funding in the Myanmar 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 Category A</i>	Ineligible for funding in the Myanmar DRM Project

<sup>7</sup> 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.

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**Appendix A4**

**Site-Specific Environmental and  
Social Screening Forms**

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## Appendix A4 Environmental and Social Safeguard Screening Forms

These forms will be filled by YCDC during the identification of the sub-project as part of the annual work plan. The Environmental and Social Safeguard Screening Form will be properly filled in, signed and attached to the sub-project proposal which to be reviewed by YCDC and/or MoPF.

### FORM A: Project Concept Safeguards Checklist

Ward:	Township:	Location – sketch map attached (Mark ✓)	
		<input type="checkbox"/> YES	<input type="checkbox"/> NO
Road Name:	Road No:	Landmark Reference (details):	
TYPE of works/activities (Mark ✓)			
<input type="checkbox"/> Drainage improvement		<input type="checkbox"/> Public facilities improvement	
<input type="checkbox"/> Open drains	<input type="checkbox"/> Closed drains	<input type="checkbox"/> Located near important cultural sites	
<input type="checkbox"/> Located within Yangon Port		<input type="checkbox"/> Located within or near a natural habitat site	
<b>Brief description of works/activities:</b> (i.e., length of drains, size of public facility, need/purpose of works, proposed works [list/explain activities], number of townships [approx. population] to benefit):			
Checklist	Yes	No	Explanation/Comments
1. Will the works require any households to move structures (include, houses, small shops, overhanging structures etc.) back from the drainage alignment?			
2. Are the works, located in or near a cultural/heritage area?			
3. Are the works, located near or in a protected area (or a buffer zone of a protected area)?			
4. Are the works likely to generate dust or create a dust problem? If yes, for how many months (during which season)?			
5. Will the works require NEW drainage infrastructure to be constructed?			
6. Will the works potential introduce invasive plant and/or animal species to the area?			
7. Will the works be located near a river, stream or waterway?			
8. Based upon visual inspection or available literature, are there areas of possible geologic or soil instability?			
9. Will the works result in increases in, or changes to the type of, traffic using the road?			
10. Will any of the works require the use of toxic chemicals?			

11. Has asbestos been used in the construction, repair or maintenance of the building being considered for retrofitting?			
12. Other information: map, additional issues or impacts etc. should be specified on the attached sheet: List attachments			
<b>Distribution of ESMF Initial Screening Form:</b>			
<b>Distributed to</b>	<b>Yes</b>	<b>No</b>	<b>Date</b>
YCDC			
MoPF			
EDB			
EDRB			
Others (list below)			
<b>ESMF Initial Screening Form compiled by:</b>			
Name:		Position:	
Signature:		Date:	
<b>ESMF Initial Screening Form verified by:</b>			
Name:		Position:	
Signature:		Date:	
Attachments (For map, sketches, other information, issues, potential impacts, etc. as mentioned in item 11 above)			
As required			

**FORM B: Land Acquisition & Resettlement (LAR) Screening Form for Drainage and Public Building Improvements**

Ward:	Township:	Location – sketch map attached (Mark ✓)	
		<input type="checkbox"/> YES	<input type="checkbox"/> NO
Road Name:	Road No:	Landmark Reference (details):	
TYPE of works/activities (Mark ✓)			
<input type="checkbox"/> Drainage Improvement		<input type="checkbox"/> Public Facility Improvement	
<b>Brief description of works/activities:</b> (i.e., length of drains, size of public facility, need/purpose of works, proposed works [list/explain activities], number of townships [approx. population] to benefit):			
<b>LAND ACQUISITION AND RESETTLEMENT (LAR) SCREENING</b>			
<b>Screening Questions</b>	<b>Yes</b>	<b>No</b>	<b>Explanation/Comments</b>
1. Is land acquisition likely to be necessary?			
2. Is the site for land acquisition known?			
3. Is the ownership status and current usage of the land known?			
4. Will easements be required to access the sub-project site?			
5. Are there any non-titled people who live or earn their livelihood at the site or within the grounds of the public facilities to be improved?			
6. Will there be loss of housing?			
7. Will there be loss land in Yangon Port?			
8. Will there be economic losses to store front businesses or enterprises?			
9. Will there be economic losses to street side vendors?			
10. Will people lose access to facilities, services, or natural resources?			
11. Will any social or economic activities be affected by land use-related changes?			
12. If involuntary resettlement impacts are expected:			
a) Will coordination between government agencies be required to deal with land acquisition?			
b) Are there sufficient skilled staff in the Executing Agency for resettlement planning and implementation?			
c) Are training and capacity-building interventions required prior to resettlement planning and implementation?			
<b>INFORMATION ON AFFECTED PEOPLE</b>			
Is an estimate available for the number of households that will be affected by the sub-project? [ ] Yes [ ] No			
If yes, approximately how many households?			





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**Appendix A5**  
**Key Stakeholders**

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## Appendix A5 Key Stakeholders

The YCDC supports the Myanmar DRM Project and supports actions to improve participation, public consultation and information disclosure. Implementation relies on strategies, legislation and procedures that are in place in Myanmar and will be supplemented - as necessary - with World Bank safeguards policies for participation, consultation and disclosure concerning the safeguards aspects of the sub-project as described in the ESMF, including procedures narrated in the RPF.

Components 2 and 3 will pursue a process of meaningful consultation and engagement that includes national and local government, and relevant stakeholders. Similarly, the sub-projects, once defined, will support consultative decision making by ensuring public access to information on environmental and social aspects. In addition to free, prior and informed consultation related to potential environmental and social impacts (i.e., positive or adverse effects), the consultation process should inform and explain the proposed sub-project(s) to affected communities, gather information from impacted populations, and conduct gender sensitive awareness raising.

Table A5.1 lists national and local government bodies, key stakeholders, various public entities and different populations who may be involved directly or indirectly in Components 2 and 3 and their subsequent sub-projects.

**Table A5.1 Stakeholders and various publics.**

Sl. No.	Entity	Key Stakeholder
1	Government and regulatory agencies	MoPF, MoHA/GAD, YCDC/EDRB & EDB, MoT/PA, Yangon Region Government, MONREC/ECD
2	Private sector companies	Private sector companies with the technical expertise and capacity, engineering capability to implement the sub-projects. These may include both national and international companies.
3	Civil society organizations	International, national and regional non-governmental organizations (e.g., UN Habitat, Yangon Heritage Trust, Turquoise Mountain, CDIA, YMCA, WMCA, and Salvation Army).
4	Local stakeholders	Local civil society organizations including community-based organizations (CBOs), ward and township level committees, 100 Household Heads, 10 Household Heads, street management committees, religious institutions and other local groups.
5	Academic and research institutions	Environmental research groups, universities and technical institutes.
6	Beneficiaries and affected communities and households	Sub-project beneficiaries will be consulted at community level during the preparation phase. In addition, potential sub-project affected households will be consulted on the potential impacts and mitigation measures. Particular attention will be given to different populations (i.e., ethnic minorities and vulnerable groups – women and female/male youth and children, men, the elderly and disabled, etc.) to enhance their benefits and avoid or mitigate adverse impacts.

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**Appendix A6**

**Participatory Social Assessment  
Guidelines**

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## Appendix A6 Participatory Social Assessment Guidelines

Community consultations will be based on free, prior and informed consultation to gauge support for the proposed sub-projects. Objectives of community consultations are to: (i) provide background information to various stakeholders and different populations; (ii) receive feedback from civil society organizations (CSOs) including non-government organizations (NGOs), community based organizations (CBOs), local leadership and other publics on issues and perceived concerns; and, (iii) discuss methods and resources to maximize the proposed sub-project initiatives and activities' environmental and social performance. These participatory and consultative meetings will provide YCDC 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-projects.

Ensuring that the sub-projects' 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 once specific proposed sub-project initiatives and/or activities' locations have been identified. 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 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 SMART (specific, measurable, achievable, relevant and time-bound) indicators to monitor the intended social benefits and development outcomes and risks of the sub-projects.

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, the SEA DRM Project aims to reduce the vulnerability of people and assets to natural hazards through an integrated package of structural and non-structural investments. According to the SEA DRM Project Concept Summary (DRAFT), the objective of the project is:

*“to build resilience in Yangon through improved drainage and structural performance of selected critical public buildings, enhance the capacity of Myanmar to finance disaster response, and provide immediate and effective response in the event of an Eligible Crisis or Emergency. “*

Although sub-projects have not yet been identified, Component 2 of the project 'Integrated Urban Flood Risk Management' will help to reduce flood risk and improve drainage in Yangon. Relatedly, Component 3 of the project 'Safer Public Facilities' will help to reduce Yangon's disaster risk and support scalable resilient approaches for upgrading and retrofitting Yangon's critical public infrastructure.

The Myanmar DRM project team, composed of both national and international consultants conducted an initial round of stakeholder consultations on 18 December 2016. The team split into two groups: one team conducted consultations in Latha Township while the other team conducted consultations in Botahtaung Township. Out of the six townships that comprise the CBD, these two townships were picked for consultation due to their contrast in ethnic composition and population density. While both townships are mixed in terms of ethnicity, a large proportion Latha township's population is ethnically Chinese while Botahtaung's population is largely Bamar and South Asian. Botahtaung Township is also religiously diverse with substantial Muslim and Hindu populations.<sup>57</sup> As the sub-projects will take place in an urban setting it is important to understand that people who work in the township do not necessarily live in the township and vis-versa. Hence, township residents were consulted as well as individuals who work in the township. In both townships, consultations were held with three separate groups; female residents, male residents, and both male and females who work in the township.

In order to ensure that community discussions complied with WBG requirements for free, prior and informed consultations, government staff were asked to not participate in the consultations. In Latha Township, the consultations were held in the home of the '100 Household Head'.<sup>58</sup> In Botahtaung Township, consultations were held in the office of the Ward Administrator. Respondents were generally supportive of the proposed 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.

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<sup>57</sup> The government has not released official population statistics on religion and ethnicity at the township level, making the exact ethnic composition of the townships difficult to determine. Through visual observations and discussions with residents, the consulting team was able to generally determine the dominant ethnic and religious groups in the two townships.

<sup>58</sup> The '100 Household Head' is a locally selected individual who is placed within the General Administration Department and serves as a liaison between the local population and government.

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## **Appendix A7**

# **Stakeholder Consultation Objectives**

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## Appendix A7 Stakeholder Consultations

### Importance of Stakeholder Consultations

Public consultations occur at all stages of sub-project preparation and planning of feasibility studies and detailed design. Public participation and consultations take place through individual, group or community meetings. Additionally, different media may be used (e.g., public notice boards, official invitation letter, electronic communication including internet websites, email or cell phone) to disseminate information. To ensure that World Bank consultation and disclosure policies are followed, project affected people (PAP) and communities in the region of influence are engaged through free, prior and informed consultation to gauge support for the proposed sub-projects. In this manner, stakeholders, various publics and different populations are consulted during several stages of sub-project preparation, including:

- **Project Identification:** preliminary consultations were conducted during identification of Components 1 and 2 whereby national and local government authorities were consulted to ensure that the Myanmar 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 consultations for Latha and Botahtaung Township are located in Appendix A7: Stakeholder Consultations. Similar consultations will be held for each sub-project when they are identified.
- **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 as well as collecting opinions of key stakeholders, various publics and different populations on potential environmental and social impacts;
- **Project Implementation:** for sub-projects under World Bank Category A that might be nationally controversial, a Communication Plan including a grievance redress mechanism will be developed for the proposed sub-project(s) and implemented prior to implementation. Participation of local leaders in disseminating information and resolving any disputes will be important. However, it should be noted that the proposed sub-projects can be categorized under World Bank Category B; Category A projects will not be funded under the SEA DRM Project.
- **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

From an institutional perspective, the current wave of political, economic and social reform in Myanmar, offers significant potential for the strengthening of women's rights and an improvement in their livelihood and social status. However, deeply embedded cultural norms remain, leading to gender-based power discrepancies between men and women regarding economic opportunities, asset ownership (such as land), and participation and influence in household-level and community decision making as well as the continued suppression of women's rights in general.



In 2016, the ADB, UNDP, UNFPA and UN Women jointly authored “*Gender Equality and Women’s Rights in Myanmar: A Situation Analysis*.” The document provides further detail on gender-based discrepancies. Although Myanmar has achieved gender parity at primary and secondary school levels and near gender parity in literacy, the proportion of women in higher education remains low. In terms of livelihoods, this translates into lower labour force participation rates and higher unemployment for women than men. Women are also more likely to be employed in the informal sector than men and women within the formal sector tend to occupy mid-management positions and below, with few holding management positions.<sup>59</sup> This is generally the result of a lack of gender mainstreaming in human resource practices combined with the cultural perception that women are less intelligent and capable than men in decision making roles. This same perception also constrains women’s space for participation in public discussion and decision making. These power discrepancies must be realized and properly accounted for in project screening, design and implementation. Careful consideration must be given into mainstreaming the gender specific considerations of both men and women. Such mainstreaming is particularly pertinent when designing an effective grievance redress mechanism which both men and women, who may be adversely impacted by the project, feel comfortable using.

An initial round of stakeholder consultations was held in Latha and Botahtaung townships on 18 December 2016. To ensure gender specific project concerns were captured, discussions with township residents were gender segregated. In general, female respondents supported and welcomed the project and believed it will improve their quality of life. The safety of their children near potential sub-project sites was their biggest concern. Respondents noted that in previous drainage projects conducted by YCDC, sites are not always properly demarcated or covered. In the rainy season when it floods, it is difficult to see these sites, and children can fall into open holes. Similarly, they stated that children and youth play on the street because there are few public parks downtown. Hence, any drainage works may pose a danger to their children if proper safety standards are not followed. They also noted that during drainage works, wooden planks are put over open drains to allow access to homes and businesses. These are often narrow and slippery when wet. They recommend to conduct drainage works in dry season only and the use of wider planks.

Female respondents were also asked if they have ever been harassed or physically threatened by itinerant workers on construction sites and if they feel safe going out at night. Although they stated that nighttime safety and sexual harassment has not been an issue, consideration must be given to the wider social context in Myanmar. According to the Situation Analysis cited above, gender-based violence (GBV) is difficult to determine because cases are often underreported due to a culture of silence and impunity in which victims may be stigmatized. The respondents’ silence on this issue doesn’t confirm its lack of existence, but rather apprehension towards openly discussing such a sensitive topic. Female national researchers on the safeguards team who live in Yangon have confirmed that sexual harassment from itinerant construction site workers does occur and recommend that these considerations be taken into account for project screening, design, planning, implementation and monitoring.

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<sup>59</sup> Gender Equality and Women’s Rights in Myanmar: A Situation Analysis (2016). ADB, UNDP, UNFPA and UN Women. <http://asiapacific.unwomen.org/en/digital-library/publications/2016/09/gender-equality-and-womens-rights-in-myanmar>

The abovementioned gender-related findings can be further interpreted and put into actionable recommendations for the sub-projects, including:

- Inclusion of gender considerations in early stages of the project is highly recommended. This can be done by engaging gender expertise at project design and as an integral part of the implementation team. The link and information exchange between YCDC and gender focal points from both national and sub-national government entities and CBOs should be strengthened. Once the proposed sub-project locations have been identified then, sufficient time and budget should be set aside to conduct a thorough gender-related analysis;
- Ensuring equal participation amongst men and women in the planning process remains the key to informed sub-project development. Consultation with communities should be handled to avoid raising expectation. The community should be well informed about how the sub-project(s) will be implemented, what the outputs will be and what the expected benefits are (i.e., the reason for doing the sub-projects);
- The shift in decision making and balance of power between men and women is a gradual process which demands effort to be invested in further capacity building, knowledge and awareness-raising amongst women and, which should be done by involving men so as to gain their support for more inclusive decision-making. The sub-projects could contribute to this gender mainstreaming process and women's empowerment in an incremental manner; and
- During consultation meetings, concerns were expressed regarding harassment of females by male contract workers. Therefore, it is suggested the role of community monitoring and reporting (particularly, women's potential involvement) should be well reflected in the construction contractor(s) terms of reference and tender documents to ensure community concerns are addressed.

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**Appendix A8**

**List of Stakeholders Consulted**

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**Table A8.1 List of consulted stakeholders.**

<b>Date</b>	<b>Stakeholders</b>	<b>Methodology</b>	<b>Location</b>
<b>16 December 2016</b>	YCDC Officers from Engineering Department (Road and Bridges) (EDRB) and 100 household (HH) head	Visual observation and discussion of drainage infrastructure, sidewalk usage, construction practices and potential social impacts	Latha Township
	YCDC Officers from (EDRB) and Engineering Department (Building) (EDB) and 100 HH Head	Visual observation and discussion of drainage infrastructure, sidewalk usage, construction practices and potential social impacts	Botahtaung Township
	Market committee leader and members of Their Gyi Zay (Market)	Meeting and interviewing about market building and drainage structure.	Thein Gyi Zay (Market)
	YCDC Officers from EDRB, EDB and Engineering Department (Water and Sanitation) (EDWS)	Interviews and discussion about pumping station functions, capacity, structural integrity and nearby residence.	Botahtaung Township, Pumping station
<b>17 December 2016</b>	YCDC engineers from EDRB	Boat trip on Yangon River from Sintotan jetty (Latha Township) to Ywar Thit Creek (Alone Township), Total of six drainage outfalls.	Yangon River
<b>18 December 2016</b>	People living and/or working in CBD where sub-projects will occur	3 Focus Group Discussions (FGD) 1. Male residents of township 2. Female residents of township 3. Mixed gender group of people working in the township. FGD members selected by 100 HH Head to be ethnically and economically diverse and representative of the township.	Latha Township
	People living and/or working in CBD where sub-projects will occur	3 FGD 1. Male residents of township 2. Female residents of township 3. Mixed gender group of people working in the township. FGD members selected by 100 HH Head to be ethnically and economically diverse and representative of the township.	Latha and Botahtaung townships
<b>18 December 2016</b>	Street vendors	Rapid sample interviews with six street vendors from Yangon night market. (Seasonal fruit sellers, street foods sellers, etc.)	Yangon night market (Latha Township)

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## **Appendix A9**

# **Stakeholder Consultations Responses**

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## Appendix A9 Stakeholder Consultations Conducted

### Stakeholders consulted in Botahtaung Township.

Consultation meeting and community focus group discussions were interactive with precise questions and issues raised over a total of five hours. There were several issues raised during each consultation, the below are only key issues that described in relation to environmental and social, as well as safeguards protection (Table A9.1). At the community level, 18 community members were consulted including eight residents during the female FGD, six residents during the male FGD and four participants during the mixed group vendor FGD. The participants consulted during the female FGD were a mix of ethnicities: Burmese Buddhists and South Asian Muslim.

**Table A9.1 Stakeholders' comments from Botahtaung Township.**

Issues Raised/Questions	Responses
How have you been impacted by flooding in your neighborhood?	<ul style="list-style-type: none"> <li>▪ Flooding is not too bad in this ward, but worse in other parts of downtown including around Ghandi Hospital and Mahabandoola Road.</li> <li>▪ Traffic problems on Mahabandoola Street because of flooding.</li> <li>▪ Worried about not seeing big holes or construction and falling in when streets are flooded</li> <li>▪ Floods at short intervals of 20 minutes to 1 hour</li> <li>▪ The drains at a nearby school is bad and its dangerous for kids to walk on the road there. Cars are also stuck on the road during flooding, which is another safety hazard.</li> <li>▪ River outlet is the problem; the flow is not good because of trash.</li> <li>▪ Ejector system for sewage is not always working properly. Sometimes sewage overflows behind the household. When this happens, people have to pay a private company to have their septic system drained.</li> </ul>
What has been done in the past to managing flooding?	<ul style="list-style-type: none"> <li>▪ Both government and communities clean (or pay for cleaning) of garbage from gutters during the rainy season.</li> <li>▪ YCDC collects garbage weekly, which helps to keep drains clean.</li> <li>▪ Community also manages the flooding risk by cleaning out the drains.</li> </ul>
How have businesses been affected by flooding?	<ul style="list-style-type: none"> <li>▪ Garbage goes into drain and clogs it, cars cannot move during the flood.</li> <li>▪ There are power cuts during flooding and also a danger of electrocution when walking in the water.</li> <li>▪ Customers don't go to the food shop during flooding because the water is dirty.</li> <li>▪ Taxi drivers cannot move during flood and there is a risk of engine damage. Cars get flooding/start to float.</li> <li>▪ The tire shop is closed during flooding.</li> <li>▪ Very narrow platform for people to walk over open trenches which is not safe.</li> </ul>

**Table A9.1 (Cont'd.)**

Issues Raised/Questions	Responses
What do you think about the proposed sub-projects?	<ul style="list-style-type: none"> <li>▪ Respondents welcome the projects, but think the drains should be made deeper and not wider to minimize impact.</li> <li>▪ Participants suggested that the collecting drain on Strand Road should be widened or deeper.</li> <li>▪ Drains need concrete bottom instead of sand which is currently the case and new technology needs to be employed in the construction new and improved drains.</li> </ul>
What has been your experience with previous drainage projects in the township?	<ul style="list-style-type: none"> <li>▪ Respondents were generally satisfied with the process.</li> <li>▪ YCDC would notify them ahead of time if electricity or other utilities would be cut off.</li> <li>▪ YCDC or home-owners would construct small bridges to cover the ditch in order to access their homes but commented that the bridges are slippery and dangerous, particularly for children, and stated that wider bridges would be safer.</li> <li>▪ Generally safer if construction work is done in dry season, because flooding can fill holes from construction and can be hazardous.</li> <li>▪ Sometimes water to home is cut off while working on drains because the water pipe is broken or must be moved.</li> <li>▪ Participants commented that they do not like that the household water pipe runs underground next to the drains because it is not sanitary.</li> <li>▪ Noise used to be an issue however under the new government noise is better managed. Example: The previous government gave tender to private company to put in new telecoms line underground. The company was very noisy and worked all night. People didn't complain because there was no right to do so.</li> <li>▪ Residents must also be asked to move their cars sometimes at night.</li> </ul>
What was your experience with construction workers in your community?	<ul style="list-style-type: none"> <li>▪ When drains are cleaned, the YCDC provides laborers daily wages while the local road committee prepares food for the workers.</li> <li>▪ Local residents are not familiar with workers the YCDC brings in from 'outside' on construction projects.</li> <li>▪ Participants commented both that females are safe to walk in this ward while others stated that nighttime safety was a concern and harassment of women by itinerant workers occurs.</li> <li>▪ On some projects, YCDC workers work from 9:00pm to 2:00am resulting in a little noise but this was not big problem.</li> </ul>
Are you aware of any grievance redress mechanism (complaint system)?	<ul style="list-style-type: none"> <li>▪ Participants were unaware of a complaint system and stated that they 'don't complain' but if they had a complaint, they would 'talk directly to YCDC.'</li> <li>▪ Respondents noted that people don't complain formally.</li> <li>▪ Some participants indicated that they would talk to the ward administrator but if a grievance redress mechanism is established, it should include the YCDC, township admin officer, ward administrator, road committee, and influential leaders from the ward.</li> </ul>

**Table A9.1 Cont'd.**

Issues Raised/Questions	Responses
<p>What are your recommendations for mitigation measures to be included in the proposed sub-projects?</p>	<ul style="list-style-type: none"> <li>▪ YCDC needs to be more careful about the water pipes while doing their work. Damage to the pipes has been a reoccurring issue.</li> <li>▪ Would prefer to receive notification 3-4 days before the project. For bigger projects, they would prefer notification 1 week in advance. notice.</li> <li>▪ Suggested road committee would be the best mechanism to deliver notification to the community.</li> </ul>
<p>What information would be beneficial to understand the sub-projects?</p>	<ul style="list-style-type: none"> <li>▪ Useful info:               <ul style="list-style-type: none"> <li>○ Project design</li> <li>○ Materials used</li> <li>○ Supervisor name</li> <li>○ Should do project section by section and timing of each section</li> </ul> </li> <li>▪ Currently people don't know about the project before it happens. Sometimes for big projects, people are informed by YCDC to 100 HH head, but residence still don't get info.</li> <li>▪ Respondents suggest that the Ward Administrator should inform people 1 week ahead and announce at least 3 times via loud speaker</li> </ul>
<p>General comments by participants</p>	<ul style="list-style-type: none"> <li>▪ There are three garbage bins on every street. Garbage is regularly collected but it is still too much for bins, which often overflow. More bins are needed</li> <li>▪ People on the streets - 'outsiders' - throw trash on the ground. The residents want to implement a fining system, but believe it would be difficult to enforce.</li> <li>▪ People need to understand the negative consequences of littering. We need public awareness raising projects about this issue.</li> <li>▪ Even when garbage is properly put in the bin, street children dig through the trash and make a mess by leaving it everywhere on the ground. This is more of a poverty issue and we don't know how to properly address it.</li> <li>▪ Respondents would prioritize construction of a green area or park for their children to play.</li> <li>▪ All wastewater goes into the Yangon River so water quality is very poor and getting worse.</li> <li>▪ Water gate in this area can't close due to sedimentation. It's not working, so needs to be fixed.</li> <li>▪ Water gates are manual and automatic gates would be better.</li> <li>▪ Need better coordination between governmental departments.</li> <li>▪ YCDC contracts out drain cleaning to private companies. The company cleans the drain but leaves all the trash on the ground. They leave the trash their and YCDC doesn't check. A lot trash falls back into the drain or stays on the sidewalk and smells.</li> <li>▪ YCDC needs better maintenance system over long-term. Currently it doesn't maintain infrastructure after it's built.</li> </ul>



## Stakeholders consulted in Latha Township.

Consultation meeting and community focus group discussions were interactive with precise questions and issues raised over a total of five hours. There were several issues raised during each consultation, the below are only key issues that described in relation to environmental and social, as well as safeguards protection (Table A9.2). At the community level, 17 community members were consulted including six residents during the female FGD, six residents during the male FGD and five participants during the mixed group vendor FGD. The participants consulted during the female and male FGD were predominantly Chinese.

**Table A9.2 Stakeholders' comments from Latha Township.**

Issues Raised/Questions	Responses
How have you been impacted by flooding in your neighborhood?	<ul style="list-style-type: none"> <li>▪ The floods happen during heavy rains and high tide. Flooding during heavy rains can range from ankle to knee deep. Depending on the conditions, if the flood gates from the river are closed, the flooding can last a few hours or if the water is running quickly, the flooding does not last long; 20 minutes.</li> <li>▪ When the streets are flooded, water sometimes comes into peoples' homes if their homes are lower than street level.</li> <li>▪ When the streets are flooded and lots of plastics and other debris are floating on the water, it is hard to see where to walk and sometime people fall into the drains where the drain covers (the concrete blocks that make up the sidewalk) are missing or broken.</li> <li>▪ Under the drainage covers, there are electronic cables/wiring and this causes plastics and other garbage to be blocked.</li> <li>▪ The participants mentioned that the dirty water causes skin irritation and itchy skin and in some cases, infections.</li> <li>▪ Women commented that they must go to markets and schools so it is difficult to go out during floods. They tend to walk in the road as there is less risk of sharp objects or obstacles sub-surface that cannot be seen through the dirty water.</li> </ul>
What has been done in the past to managing flooding?	<ul style="list-style-type: none"> <li>▪ Recently (June 2016), the drains in Latha Township were cleaned by workers using fire hoses.</li> <li>▪ The cleaning process with YCDC is a bit slow due to reporting procedures so the community – individual home owners – often take action on their own and clean the drains as the garbage accumulates, blocks the drains and backs up into the streets and homes.</li> <li>▪ The home owners will mark hazards on the streets with a bamboo pole so that people can avoid the hazards.</li> <li>▪ Work is conducted by the men in the community; not females.</li> </ul>
How have businesses been affected by flooding?	<ul style="list-style-type: none"> <li>▪ The restaurant proprietor mentioned there are no customers during flooding. The florist and fruit vendors raise their goods off the street during floods while taxi drivers have had the car engine damaged during floods.</li> </ul>
What do you think about the proposed sub-projects?	<ul style="list-style-type: none"> <li>▪ The participants want the project as it will make it easier to go about the community; need safe access from the street to their homes.</li> <li>▪ The projects will reduce the amount of parking on the streets until the works are finished.</li> </ul>

**Table A9.2 (Cont'd.)**

Issues Raised/Questions	Responses
<p>What has been your experience with previous drainage projects in the township?</p>	<ul style="list-style-type: none"> <li>▪ After the construction work is finished, the home owners have to clean the streets as the dirt is left on the sidewalks and roads</li> <li>▪ Construction materials are delivered randomly and in no specific locations which makes it difficult for the women to move around. There is no system or designated delivery location; materials are simply delivered without notification to the township administrators. Even if home owners say anything, the workers respond by saying that they are improving their community so the people should not say anything.</li> <li>▪ In some cases, leaks in pipes were only covered by rubber tires which is a temporary fix and still results in leakage from the pipes which the participants said is an environmental impact and causes loss of water.</li> <li>▪ Quality of the materials used in the improvements is lacking as contractors may try to save money by using lower quality materials in order to save money. This can make it easier for rodents to access the drains and cause damage.</li> <li>▪ Coordination between departments for on-site activities can be improved. For example, digging can happen several times as each department completes their activity but does not work with the other departments to minimize the number of times a site needs excavation.</li> <li>▪ During construction, the construction waste affects their ability to sell as customers do not access the site. If construction work prevents the vendors and restaurant from selling, their goods go bad and they cannot sell them.</li> <li>▪ The smell from drainage cleaning can be unpleasant.</li> </ul>
<p>What was your experience with construction workers in your community?</p>	<ul style="list-style-type: none"> <li>▪ The workers live elsewhere and come to the community only to work.</li> <li>▪ Sometimes the workers are not concerned about complaints and residents want YCDC supervisors on site to address any concerns.</li> <li>▪ The workers cleaning the drains do not wear safety clothes and are in the drains without footwear or gloves. They can be injured from broken bottles or other sharp debris which is a health concern.</li> <li>▪ The cleaners have been observed collecting recycling materials that they sell afterwards to recyclers.</li> </ul>
<p>Are you aware of any grievance redress mechanism (complaint system)?</p>	<ul style="list-style-type: none"> <li>▪ Participants were not aware of a grievance redress mechanism.</li> <li>▪ In the previous government, they never complained; have not had experience with major issues so had no comments.</li> <li>▪ The female participants feel the township administrators are effective and communicate any concerns.</li> <li>▪ If there is something minor in front of their home, residents speak with the construction supervisor and it is taken care of quickly; within a day.</li> <li>▪ If the issues are not in front of their home but in their neighbourhood, residents don't say anything.</li> </ul>

**Table A9.2 (Cont'd.)**

Issues Raised/Questions	Responses
<p>What are your recommendations for mitigation measures to be included in the proposed sub-projects?</p>	<ul style="list-style-type: none"> <li>▪ Want the construction work that is not noisy to be done during the evening or night time to minimize the impacts to daily activity. But the participants are aware that YCDC staff do not work at night.</li> <li>▪ The repairs need to be permanent rather than temporary.</li> <li>▪ Coordination between departments should be improved as the departments will dig up the site, do their own scope of work and then cover the site without coordinating with other departments which may have tasks to do at the site. This results in additional digging at the same site and prolonged disruption to the residents' lives.</li> <li>▪ The additional digging allows mice to get into the drains and damage pipes; they make holes in the water pipes and bricks lining the drains which results in leaks and contamination of the water pipes to the houses.</li> <li>▪ The participants said that the sub-projects should use U-shaped molds rather than the typical construction as normally done in Myanmar which may also address some noise concerns they could be made off-site and delivered ready to install.</li> <li>▪ Needs to be good quality of all materials as in the past there have been examples of the contractors not constructing to the quality that was in the original plans.</li> <li>▪ Quality control and financial transparency/oversight is needed.</li> <li>▪ Widen the drains to improve water flow. In the last two years, the flooding has been better (less often) due to drainage improvements including cleaning the small drain in the back alley.</li> <li>▪ YCDC cleans the back alley drains very infrequently so the restaurant proprietor cleans the drain herself. At the restaurant, the back alley drain floods longer as it takes longer to recede after the rains stop. The restaurant proprietor has constructed a small barrier to prevent water from coming into the restaurant.</li> </ul>
<p>What information would be beneficial to understand the sub-projects?</p>	<ul style="list-style-type: none"> <li>▪ Females requested at least one or two days' notification of project works so that they can plan for changes in access. Otherwise, food can be wasted if access is impeded.</li> <li>▪ Street vendors also need at least two days' notification so that they can decide to move their stall or close for the duration of the project.</li> <li>▪ Information that could be shared includes project duration and work details.</li> <li>▪ Participants suggested the use of a loud speaker to notify residents and that this be conducted after 6pm. Also, could post notification on formal notice boards though not all neighborhoods have notice boards.</li> <li>▪ Prefer verbal notification as some residents cannot read Burmese; they are of Chinese ancestry.</li> </ul>

**Table A9.2 (Cont'd.)**

Issues Raised/Questions	Responses
General comments by participants	<ul style="list-style-type: none"><li data-bbox="544 315 1385 405">▪ Previously there was a garbage collection truck that would go through the neighbourhood very quickly. The new government has put a garbage container at the end of the street and this is collected each day.</li><li data-bbox="544 421 1385 539">▪ But some people still throw garbage in the street and there should be penalties for people who do not dispose of garbage correctly. The YCDC should administer the issuance of penalties so that there are no bad feelings developed within the community.</li><li data-bbox="544 555 1385 645">▪ As long as the garbage container is closed, the smell is contained but the containers should be cleaned regularly as wet and dry garbage are mixed together.</li><li data-bbox="544 660 1385 750">▪ Some garbage collectors go up to the mobility challenged residents on upper floors to collect their garbage and get compensated with money plus domestic goods or clothes.</li><li data-bbox="544 766 1385 822">▪ Mostly Burmese collecting the garbage and sell the garbage to Indian people.</li><li data-bbox="544 837 1385 927">▪ The garbage collection truck comes up to three times per day but at least once per day. But need collection a couple times per day as there can be lots of garbage or smelly seafood waste.</li><li data-bbox="544 943 1385 1032">▪ When there is construction work and the streets are blocked off, the kids play more often on the streets. Kids will still play sports including soccer and badminton on the street in the evenings.</li><li data-bbox="544 1048 1385 1417">▪ Under the new government, every township has three elected representatives that form a committee. The committees were formed initially during President Thein Sein's term. The committee is comprised of one chairman, two members and the YCDC township authority (EO) who is the committee secretary. The committee discusses activities in the township including WB-project related activities regarding construction works such as widening drains, repair drainage covers and leaking pipes. The YCDC representative (EO) reports on committee activities to the related YCDC department(s) so that construction materials can be supplied to the community. The committee checks the quality of the material and works and can report to the YCDC through the EO. Under the NLD government's term, the city still needs to re-elect the committee.</li></ul>

## Consultations with the Department of Markets Office of the Western District Development in Pabedan Township.

A consultation meeting was held with the Department of Markets Office of the Western District Development in Pabedan Township to obtain their input on the proposed sub-projects and the potential concerns on selection of public facilities to be improved and consultation with market vendors (Table A9.3).

**Table A9.3 Department of Markets Office of the Western District Development in Pabedan Township Comments.**

Issues Raised/Questions	Response
Observations on flooding in the CBD?	<ul style="list-style-type: none"><li>▪ The biggest concern is during heavy rainfalls and when there is a high tide though flooding only lasts for approximately 20 minutes.</li><li>▪ The main concern is the accumulation of garbage. Shop owners in the markets will do their own cleaning or contract a company to do the cleaning.</li></ul>
What notification is needed?	<ul style="list-style-type: none"><li>▪ Notification to market vendors should be at least two days in advance of any works.</li><li>▪ Notification should include the use of a loudspeaker twice a day in addition to distributing a letter or posting on notice boards.</li></ul>
How are maintenance, cleaning or complaints managed?	<ul style="list-style-type: none"><li>▪ The department maintains a complaint book. Entries are usually resolved within 24 hours though some concerns are referred to the district and resolved within a month. There is no cost to vendors to register complaints.</li></ul>

## Civil Society Organization consulted in the CBD.

A consultation meeting was held with Yangon Heritage Trust (YHT), a CSO in the CBD to obtain their input on the proposed sub-projects and the potential concerns on preservation of cultural resources and development of a chance finds protocol (Table A9.4).

**Table A9.4 CSO Comments.**

Issues Raised/Questions	Response
Observations on flooding in the CBD?	<ul style="list-style-type: none"> <li>▪ Long term stagnant flooding is not an issue as water drains soon after rains stop and tides recede. The flooding could also be caused by an alteration of natural drainage or water flow.</li> <li>▪ High tide coupled with heavy rains and flood pulses which come down the Ayeyarwady River. This is an issue on Latha and 45th Streets where flooding occurs in the upper blocks.</li> <li>▪ Public participation is increasing. For drains, residents are concerned about digging that is not coordinated and multiple diggings result.</li> <li>▪ People have to build the walkways to cross open drains to access their homes and businesses.</li> </ul>
Cultural or archaeological concerns for the sub-projects	<ul style="list-style-type: none"> <li>▪ Street works that include digging have exposed drains with arched tops which date back to 1852 predominantly in the central area of the CBD which was an outpost / stockade with three jetties.</li> <li>▪ YHT recognizes that the city is developing and these older drains need to be upgraded to accommodate the increased development and this could result in removal of these old structures.</li> <li>▪ There have been chance archaeological finds in some of the drainage upgrades. For example, the heritage building where the Kempinski Hotel will be built yielded layers of different brick structures up to 15 feet deep. The top three feet were from British colonial times including structures from 1927 and 1867.</li> <li>▪ For other street works in the drains, workers are asked to notify the Trust of any finds.</li> </ul>
Recommendations for best practices during the project	<ul style="list-style-type: none"> <li>▪ Integrated the activities so that the services are all conducted at once.</li> </ul>
Recommendations for conservation practices for the buildings under consideration.	<ul style="list-style-type: none"> <li>▪ YHT informed the WB previously that there are several heritage buildings that are candidates including the three buildings that are being considered for the project though the Trust does not have a clear understanding of retrofitting that could be conducted at the compressor building. To be more beneficial for the public, other buildings could be considered.</li> <li>▪ Bogyoke Market is a good candidate site as it is very popular though it does not have flooding issues. Fire safety is a concern in the markets as it can cause devastating damage; fire safety upgrades should be prioritized. Input from the merchants would be essential and there may be merchant associations within the markets that are well networked.</li> <li>▪ Include heritage concerns as much as possible. In the port itself, there are several red warehouses from the post-war era that are of interest and these could be retrofitted.</li> </ul>

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**Appendix A10**

**Community and 1st Consultation  
Meeting Sign Up Sheets**

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Figure A10.1 Consultation meeting sign-up sheet (Latha Township Female Consultation).

M / F / Mix Group Focus Group Discussion Respondent's profile Date 18 December 2016  
 Township LATHA

No	Name	Occupation	Age	Ethnicity	Signature	Remark
1	ဒေါ်အေးအေး	ကျေးကျေး	၆၂	ဗမာ		
၂	ဒေါ်အေးအေး	အိမ်ထောင်ရေး	၅၈	ဗမာ		
၃	ဒေါ်အေးအေး	ကျေးကျေး	၅၄	ဗမာ		
၄	ဒေါ်အေးအေး	ကျေးကျေး	၄၀	ဗမာ		
၅	ဒေါ်အေးအေး	ကျေးကျေး	၆၀	ဗမာ		
၆	ဒေါ်အေးအေး	ကျေးကျေး	၅၆	ဗမာ		



Figure A10.2 Consultation meeting sign-up sheet (Latha Township Mixed Gender Consultation).

M/G/ Mix Group

Focus Group Discussion Respondent's profile

Date 18 December 2016

Township Latha

No	Name	Occupation	Age	Ethnicity	Signature	Remark
၁၁	ဖိုးဝင်း	ကုန်သည် / အလုပ်	33	ကျောက်ဆည် / မြန်မာ	ဖိုးဝင်း	အသုံးပြု
၂၀	မအေး	ပျဉ်းကျား	45	ဗမာ	မအေး	အသုံးပြု
၃၀	ဒေါ်အိမ်စိန်	ကုန်သည်	64	ဗမာ	ဒေါ်အိမ်စိန်	မပါ
၄၀	ဒေါ်အိမ်စိန်	ကုန်သည်	59	ဗမာ	ဒေါ်အိမ်စိန်	အသုံးပြု
၅၀	ဒေါ်အိမ်စိန်	Taxi	40	ဗမာ	ဒေါ်အိမ်စိန်	အသုံးပြု

**A10.3 Consultation meeting sign-up sheet (Latha Township Male Consultation).**

M / ~~E~~ / Mix Group

Focus Group Discussion Respondent's profile

Date 18 December 2016

Township Latha





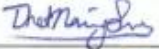

No	Name	Occupation	Age	Ethnicity	Signature	Remark
1.	ဦးကျော်စိန်	ကျွေးမွေးရေး	54	ကရင်ပြည်သူ့အဖွဲ့		
2.	ဦး ဆို.	ကျွေးမွေးရေး	56	မာရား/မာရား		
3	ကိုအောင်ကျော်	ကျွေးမွေးရေး	53	ကရင်. မူ		
4.	ဒေါ်အိမ်စွာ	ကျွေးမွေးရေး	63	ကရင်ပြည်သူ့အဖွဲ့	 Myint Hwe 18/12/16	
5.	ကိုသက်နိုင်စွာ	ကျွေးမွေးရေး	25	ကရင် ပုဂံ		
6.	ဒေါ်အိမ်စွာ	ကျွေးမွေးရေး	47	ကရင် ပုဂံ		

Figure A10.4 Consultation meeting sign-up sheet (Botahtaung Township Male & Female Consultations).

Community Consultation on Disaster Risk Management Project, 18 Dec 2016, Botahtaung Township

စဉ်	အမည်	အလုပ်အကိုင်	ကျား/မ	အသက်	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁	ဒေါ်စားစား	နို့ နို့	မ	၅၀	၀၉၆၉၇၇၅၅၆	စား	
၂	ဒေါ်လှစင်	နို့ နို့	မ	၆၉	၀၉၂၅၄၂၀၀၅၅	စင်	
၃	ဦးအိုင်	ပင်းမင်း	မ	၂၉	၀၉၄၅၀၈၅၀၇	အိုင်	
၄	မြ၊ ဇေဝင်း	ဈေးရောင်း	မ	၅၁	မရှိ	ဇေဝင်း	
၅	မအိ	ရွေးကောက်	မ	၅၂	၀၉-၅၇၂၂၀၅	မအိ	
၆	မအိ	ရွေးကောက်	မ	၅၂	၀၉-၇၇၇-၄၅၀၅	မအိ	
၇	ဒေါ်အိမ်စိန်	အိမ်ထောင်ရေး	မ	၅၀	၀၉-၄၂၂၄၇၆၇၅	အိမ်စိန်	
၈	ဒေါ်အိမ်စိန်	နို့ နို့	မ	၅၃	၀၉-၄၅၀၀၂၅၆၄၅	အိမ်စိန်	
၉	ဒေါ်အိမ်စိန်	ကျား	ကျား	၅၀	၀၉-၅၅၂၂၅၅၅	အိမ်စိန်	
၁၀	ဒေါ်အိမ်စိန်	ကျား	ကျား	၅၂	၀၉-၅၅၀၀၂၅၆၄၅	အိမ်စိန်	
၁၁	မအိ	ကျား	ကျား	၆၉	၀၉-၄၇၅၀၂၅၆၄၅	မအိ	
၁၂	ဒေါ်အိမ်စိန်	ကျား	ကျား	၅၅	၀၉-၂၆၃၆၅၇၂၅၃၄	အိမ်စိန်	
၁၃	ဒေါ်အိမ်စိန်	ကျား	ကျား	၄၁	၀၉၅၇၅၇၅၇၅	အိမ်စိန်	

Figure A10.5 Consultation meeting sign-up sheet (Botahtaung Township Mixed Gender Consultations).

Community Consultation on Disaster Risk Management Project, 18 Dec 2016, Botahtaung Township

စဉ်	အမည်	အလုပ်အကိုင်	ကျား/မ	အသက်	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁၈	မာဏဝင်းလေး	ရွေးကောင်း	မ	၄၂	၀၉၃၁၈၆၀၁၅၅		
၂၈	အောင်မာမာ	စေ့စေ့	ကျား	၃၄	၀၉၉၇၄၁၉၉၄၆၅		
၃၇	ဦးမင်းစိန်မာမာ	အမျိုးကောင်း	ကျား	၄၅	၀၉၃၁၈၆၀၁၅၅		
၄၄	ဦးအောင်စိန်	ကတော်	ကျား	၃၇	၀၉၃၆၆၂၉၆၆		

Figure A10.5 Consultation meeting sign-up sheet (Department of Markets Office of Western District Development in Pabedan Township).

Consultation Meeting - Market

M / F / Mix Group      Focus Group Discussion Respondent's profile      Date 16 18 December 2016

Township Thain Cyn market - building (C)

No	Name	Occupation	DEPT <del>Age</del>	Email <del>Ethnicity</del>	Signature	Remark
1.	ဒေါ်ခင်ခင်	ကုန်သည်	၅၀			09-73225566
2.	ဒေါ်ခင်ခင်	ကုန်သည်	"			09-450097796
3.	ဒေါ်ခင်ခင်	ကုန်သည်	၅၀			09-5085068
4.	JIM WEBB	ENV SPECIALIST	HATFIELD	jwebb@hatfieldgroup.co.uk		09-979183276
5.	Bart Robertson	Social Specialist	MIID	bjrobertson97@gmail.com		09250224127
6.	Dr. Myung Eo	Consultation MIS Specialist	MIID	lwinlwinwain@gmail.com		095053917
7.	May Pannich	Research Coordinator	MIID	maypannic@miid.org		09421098871

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**Appendix A11**

**2<sup>nd</sup> Public Consultation Meeting  
Sign Up Sheets**

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Figure A11.1 2nd public consultation meeting sign up sheets.

မြန်မာနိုင်ငံ အရှေ့တောင်အာရှ သဘာဝဘေးအန္တရာယ် စီမံခန့်ခွဲမှုဆိုင်ရာ စီမံကိန်းအတွက်  
Public Consultation Meeting တက်ရောက်သူများစာရင်း

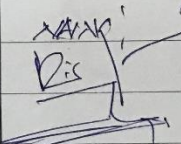
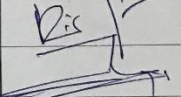

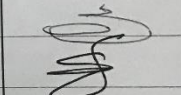
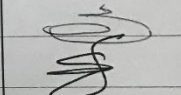
၂၀၁၇ ခုနှစ်၊ မတ်လ ၂၉ ရက်

အမည် Participant's Name	ဌာန/အဖွဲ့အစည်း Department/Organization	ရာထူး/အဆင့် Position	ဖုန်းနံပါတ်	E mail	လက်မှတ် Signature
ဦးဖြူသောင်း ဒေါက်တာသိန်းဆွေ	စီမံ/ဘဏ္ဍာ ဝန်ကြီး		၀၉၄၂၁၁၄၁၀၅၃	Uheinswe ၄၃@gmail.com	
ဒေါ်လှိုင်မော်စို	YCDC	အတွင်းရေးမှူး			
ဒေါ်မေမေသွယ်	YCDC	ကော်မတီဝင် (၄)			
ဒေါ်ဆန်းဖြူအောင်	YCDC	ကော်မတီဝင် (၅)			
ဦးတင်မောင်ကြည်	YCDC	ဌာနမှူး၊ လမ်း/တံတား	၀၉၅၁၄၃၅၇၉		

မြန်မာနိုင်ငံ အရှေ့တောင်အာရှ သဘာဝဘေးအန္တရာယ် စီမံခန့်ခွဲမှုဆိုင်ရာ စီမံကိန်းအတွက်  
Public Consultation Meeting တက်ရောက်သူများစာရင်း

ပွဲတော်ကျိပ်စားလှုပ်ရှားမှု

၂၀၁၇ ခုနှစ်၊ မတ်လ ၂၉ ရက်

အမည် Participant's Name	ဌာန/အဖွဲ့အစည်း Department/Organization	ရာထူး/အဆင့် Position	ဖုန်းနံပါတ်	E mail	လက်မှတ် Signature
ဦးသန်းကျော်	mp / PAREDAI ဖွဲ့		၀၉၅၀၇၆၀၂၃	trainingmore@gmail.com	
ဦးသက်စွန်းဝင်း	ဗိုလ်တပ်စာရင်း		၅၁၉၂၂၆၂		
ဦးစောစော	"		၀၉-၇၂၀၁၈၁၇၈		
ဒေါ်မျိုးစိန်စိန်	ကျေးဇူးတင်မှု ပူးတွဲပေး	ဒေါ်မျိုးစိန်စိန်	၀၉၄၂၃၂၁၅၅၁		
ဒေါ်စိုးပေညို	ပန်း ကုန်		၀၉၄၄၆၀၃၈၀၃၀		



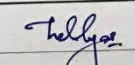
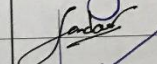
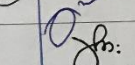
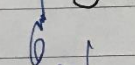
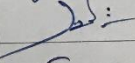
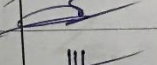
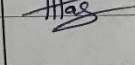
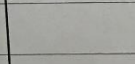
မြန်မာနိုင်ငံ အရှေ့တောင်အာရှ သဘာဝဘေးအန္တရာယ် စီမံခန့်ခွဲမှုဆိုင်ရာ စီမံကိန်းအတွက်  
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အမည် Participant's Name	ဌာန/အဖွဲ့အစည်း Department/Organization	ရာထူး/အဆင့် Position	ဖုန်းနံပါတ်	E mail	လက်မှတ် Signature
ဦးကျော်အောင်	Yangon Heritage Trust	Senior Program Officer	240544	kyandyneanung@gmail.com	
Alan Sam San	WB	Consultant		palsmr@gmail.com	
Dr. Lwin Lwin Wai	Halfield /WB	Consultant	095053917	lwinlwinwai09@gmail.com	
Jim WESS	HAFFIELD /WB	CONSULTANT	95 9979 183276	juebbehalfieldgroup.com	
ဦးကျော်စွာ	၅/၂၄	ဦးစီး	095160797		
ဦးကျော်စွာ	YCDC	AE	0973016790	htutkhaungwin09@gmail.com	
ဦးကျော်စွာ	Y.C.D.C	EE	09-5181951	nuhtwe72@gmail.com	
ဦးကျော်စွာ	Y.C.D.C	AE	09 302488	hmine.03@gmail.com	
ဒေါ်ဖြူရတီ	MP.	MP ဦးစီး J.m	09-25337772	myahla3am@gmail.com	
ဦးကျော်စွာ	စစ်.ရေ.ဇ.		09 250 28 3795		
ဦးကျော်စွာ	မဟာဂွေ	စီမံ ဖန်တီး	09-777045020	မဟာဂွေ ဇေ.ရ.ဇ.	
Dr. ENAY	YCDC အဖွဲ့အစည်း	ဒါရိုက်တာ	09-5174702	tinlat@gmail.com	
ဦးကျော်စွာ	စော့ကန်မြို့နယ်	ဗဟိုဌာန	09-5502133		
ဦးကျော်စွာ	"	"	09-73068236		

မြန်မာနိုင်ငံ အရှေ့တောင်အာရှ သဘာဝဘေးအန္တရာယ် စီမံခန့်ခွဲမှုဆိုင်ရာ စီမံကိန်းအတွက်  
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Thal Nhejar Lewin			၀၉-၇၇၇၈၃၈၃၆၅		
Mga Sandar			၀၉-၄၀၁၆၀၇၆၀၇		
U Aung See			၀၉-၂၅၄၀၁၇၁၅၄		
Chinnar Aung Kyaw			၀၉-၅၀၇၅၁၅၂		
ဦးမောင်မောင်			၀၉-၇၈၇၁၁၆၆၅၆		
မောင်မောင်ကျော်			၀၉-၇၅၁၅၅၄၆၇၇		
ဦးကေစွာ			၀၉-၂၅၀၂၈၃၇၂၈		
ဒေါ်ဌေးမင်းသိန်း			၀၉-၃၁၂၃၇၇၂၃		

၄၇၇ဆိုင်ရာ

မြန်မာနိုင်ငံ အရှေ့တောင်အာရှ သဘာဝဘေးအန္တရာယ် စီမံခန့်ခွဲမှုဆိုင်ရာ စီမံကိန်းအတွက်  
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ဦး နှိုင်းကဝေ	ညွှန်ကြားရေးမှူးချုပ်ရုံး	ဝ/တ/ ရှ ည	၀၉-၅၂၆၄၈၂၆	[Signature]
ဦးစံထွန်း	ဇေယျာ	န/စ ဝန် ည	၀၉-၂၅၀၀၅၀၇၀၀	[Signature]
ဦးကျော်စွာ	ဆက်သွယ်ရေး	န/ဝန် ည	၀၇-၅၂၀၃၂၅၇	[Signature]
ဦးကျော်စွာ	လုပ်ငန်းရေးရာ	န/ဝန် ည	၀၉-၅၀၀၀၀၀၀	[Signature]
ဦးကျော်စွာ	စာရေးဆရာ	ဒါရိုက်တာ	၀၉-၄၂၇၂၂၇၅၅	[Signature]
ဦးကျော်စွာ	MPA	ILH	၀၉-၄၄၄၇၁၄၃၇၇	[Signature]
<b>Tim Tun Oo</b>	<b>EORB, YCDC</b>	<b>Assistant Chief Engineer</b>	<b>095321675</b>	[Signature]
ဦးကျော်စွာ	လက်ထောက် YCDC	EE	၀၉-၅၀၃၂၀၉၆	[Signature]
ဦးကျော်စွာ	လက်ထောက်	CB	၀၉-၄၂၅၅၅၅၅	[Signature]
ဦးကျော်စွာ	လက်ထောက်	န/ဝန် ည	၀၉-၂၅၀၂၈၀၀၃၆	[Signature]
ဦးကျော်စွာ	လက်ထောက်	န/ဝန် ည	၀၉-၅၂၀၄၃၅၂	[Signature]

၄၅၃ ဘိုင်လပ်

မြန်မာနိုင်ငံ အရှေ့တောင်အာရှ သဘာဝဘေးအန္တရာယ် စီမံခန့်ခွဲမှုဆိုင်ရာ စီမံကိန်းအတွက်  
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Daw Ei Ei Khine	Plan International Myanmar	Resilience Project Manager	eiei.plan@international.org	
U Aung Kyaw Co.	MPA	area manager	0943069551	
DAW MAR CHA	ပါကိုင်	EE	09-5053774	
Daw Su Sandar Swe	"	SAE	09-5179231	
U. Win Naing	ကန်	ဒီပဲယက်	095501042	
Dr Myint Than Tun	ကျွန်းမင်းတန်း	လ/ဝန်	095507152	
ဦးကျော်	မဟာ	ဒီပဲယက်	495101771	
ဦးကျော်စွာ	စေ့	ဒီပဲယက်	095000882	
ဦးကျော်စွာ	စေ့/ဒီပဲ	ဒီပဲ	095083389	
ဦးကျော်စွာ	(စေ့/ဒီပဲ)	ဒီပဲ	020200766	
Marc Forni	World Bank	Sr. DRM Specialist	mforni@worldbank.org	
ဦးကျော်စွာ	ဒီပဲယက်	ဒီပဲယက်	09440436880	
ဦးကျော်စွာ	စေ့/မ	ဒီပဲ	02-9000109	

NGO များ

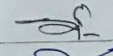
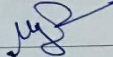
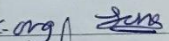

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Noda Katsuya	Fukuoka city	Chief		noda.yangon@gmail.com	
Michael Bunt	WB	TTL		mbunt@worldbank.org	
Su Zar Chi Thein	UMFCCI	Staff Officer	09-799295894	suzarchithein21@gmail.com pr.umfcci@gmail.com	
Khin Aye Yee	WB	Operations Officer	095126327	kyee@worldbank.org	
Saw Chinnar Khin	World Vision	DRR Manager	09782228099	Saw.Chinnar.Khin@wvi.org	
John Nyun	IOM	Comms & Reporting Asst	0930339413	jnyun@iom.int	
Su Myat Aung	MCRB	Associate	095201008	monica.su.myat.aung@myanmar-replicablebusiness.org	
Naw Hser Wah	BANCA	A.O	09-5192210	banca Myanmar@gmail.com	

မြန်မာနိုင်ငံ အရှေ့တောင်အာရှ သဘာဝဘေးအန္တရာယ် စီမံခန့်ခွဲမှုဆိုင်ရာ စီမံကိန်းအတွက်  
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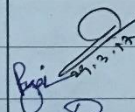




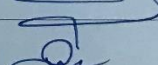





၂၀၁၇ ခုနှစ်၊ မတ်လ ၂၉ ရက်

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ကုန်းမိုးစိန်	မြည်သူဌာန	၁၆ / စက်မှုဇာတိရေးရာ ဝန်ထမ်း	5094534	
စိုးမင်းဦး	"	၅၀၉ / စရောင်းရေး ဝန်ထမ်း		
Leng Bunlong	World Bank	Environment Specialist	BLeng@worldbank.org	
AUNG NAUNG OO	"	Inspector	aung-naungoo@hotmail.com	



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ဦးစောကျို			၀၉ ၂၅၄၃၈၇၆၀၀		
ဒေါ်မေပြည်စုံဝင်း			၀၉၄၅၀၀၄၂၆၈၆		
ဒေါ်အေးအေးစိန်			၀၉ ၄၂၀၀၄၀၄၂၁		
ဦးလှဝင်း			၀၉၅၀၀၀၁၅၁၆		
ဒေါ်ဝါဝါခင်			၀၉ ၇၅၀၅၂၄၈၄		
ဦးမိုးစွန်းမောင်			၀၉ ၂၅၀၂၉၀၃၁၃		
ဦးကဲကျော်			၀၉ ၃၁၁၁၂၄၂၃		
ဒေါ်ခွဲစွာမာမာ			၀၉ ၇၇၈၄၄၀၁၇၇		
ဦးစုကြည်စိန်			၀၉ - ၈၁၇၇၉၉၃၆		
ဦး ကံစိန်			၀၉ - ၇၃၀၆၂၅၁၁		
ဒေါ်ခိုင်ယုန်စွန်			၀၉-၇၇၇၀၀၂၄၅၅		



မြန်မာနိုင်ငံ အရှေ့တောင်အာရှ သဘာဝဘေးအန္တရာယ် စီမံခန့်ခွဲမှုဆိုင်ရာ စီမံကိန်းအတွက်  
Public Consultation Meeting တက်ရောက်သူများစာရင်း

၂၀၁၇ ခုနှစ်၊ မတ်လ ၂၉ ရက်

အမည် Participant's Name	ဌာန/အဖွဲ့အစည်း Department/Organization	ရာထူး/အဆင့် Position	ဖုန်းနံပါတ် E mail	လက်မှတ် Signature
ဒေါ်အိအိနီ			၀၉၄၂၁၀၅၇၆၃၄	သိ
ဒေါ်အောင်အောင်စိုး			၀၉-၄၄၈၀၄၈၅၈၉	အောင်
ဒေါ်အောင်အောင်စိုး			၀၉-၄၄၈၀၄၃၅၉၂	အောင်
ဒေါ်စာစာစာစာ			၀၉-၅၀၃၁၀၉၆	စာ
ဒေါ်အေးအေး			၀၉-၇၆၆၄၆၀၂၅၇	အေး
ဒေါ်အေးအေး			၀၉-၃၀၄၃၂၈၇	အေး
ဒေါ်အေးအေး			၀၉-၅၅၀၂၁၃၃	အေး
ဒေါ်အေးအေး			၀၉-၂၆၅၂၂၄၈၅၅	အေး
ဒေါ်အေးအေး			၀၉-၄၂၀၀၀၀၅၃၂	အေး
ဒေါ်အေးအေး			၀၉-၇၇၇၈၆၂၄၅၄	အေး
ဒေါ်အေးအေး			၀၉-၇၉၆၅၇၀၅၈၁	အေး
ဒေါ်အေးအေး			၀၉-၇၇၇၅၃၂၇၂၂	အေး
ဒေါ်အေးအေး			၀၉-၂၆၀၂၁၅၁၀၁	အေး