

# Environmental Assessment and Review Framework

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## MLD: Greater Malé Environmental Improvement and Waste Management Project

Prepared by the Ministry of Environment and Energy of the Republic of Maldives for the Asian Development Bank.

## ABBREVIATIONS

3R	-	reduce, reuse and recycle [solid waste]
ADB	-	Asian Development Bank
CW	-	civil works
DBI	-	design, build install
EIA	-	environmental impact assessment
EMP	-	environmental management plan
ESCAP	-	United Nations Economic and Social Commission for Asia and the Pacific
GRM	-	grievance redress mechanism
IEC	-	Information education and communication
IWMC	-	Island Waste Management Centre
MEE	-	Ministry of Environment and Energy
NGO	-	nongovernment organization
O&M	-	operation and maintenance
PAM	-	Program Administration Manual
PCU	-	Project Coordination Unit
PIA	-	Project Implementation Assistance
PMDSC	-	Project Management, Design and Construction Supervision Consultants
RWMF	-	Regional Waste Management Facility
SAARC	-	South Asian Association for Regional Cooperation
SACEP	-	South Asia Co-operative Environment Programme
UNCLOS	-	United Nations Convention on the Law of the Sea
WAMCO	-	Waste Management Corporation Limited

## NOTES

- (i) In this report, "\$" refers to US dollars.

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## I. INTRODUCTION

### A. Overview of the Project

1. The Greater Malé Environmental Improvement and Waste Management Project (the project) will establish a sustainable regional solid waste management (SWM) system in Greater Malé by (i) improving collection, transfer, disposal, treatment, recycling, and dumpsite rehabilitation; (ii) strengthening institutional capacities for solid waste services delivery and environmental monitoring; and (iii) improving public awareness and behaviors in reduce-reuse-recycle (3R).<sup>1</sup> The project will be designed to reduce disaster risk and improve climate change resilience while creating a cleaner environment and reducing greenhouse gas emissions.

### B. Rationale

2. The Greater Malé capital region (classified as Zone 3 in the National Solid Waste Management Policy and the most populated in the country),<sup>2</sup> suffers from severe environmental pollution and deteriorating livability due to inadequate collection and haphazard disposal of solid waste. Open dumping and burning of garbage at the 30-year-old 10-hectare dumpsite on Thilafushi Island (6 km from Malé) creates a significant environmental and public health hazard. Plumes of smoke visible from the capital city Malé, the international airport, and surrounding resorts compromise air quality and pose a daily nuisance to residents and tourists, while toxic leachate contaminates soil and groundwater. Greater Malé and its 32 inhabited outer islands lack an organized and sustainable waste management system for the 774 tons of mixed solid waste generated per day (tpd).<sup>3</sup> With rapid urbanization and tourism development in the region, waste generation is expected to grow to 924 tpd by 2022. This increasing pressure on an already stressed waste management system poses a significant threat to tourism and fisheries, both of which rely heavily on the country's pristine environment and are cornerstones to the Maldives economy.<sup>4</sup> Poor communities in outer islands suffer from accumulated garbage with limited awareness and capacity to effectively manage solid waste.

3. **Existing waste collection, transfer, and disposal system.** High population density and narrow streets present unique challenges for waste collection in Malé. Waste collection is operated by the Waste Management Corporation Limited (WAMCO), a state-owned operator created in 2015 to collect and transport waste and manage the regional waste management facilities throughout the country.<sup>5</sup> WAMCO has limited professional experience in modern and efficient waste collection systems. The lack of technical and managerial skills is a key issue affecting sector performance.<sup>6</sup> While WAMCO is trying various initiatives to improve collection,

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<sup>1</sup> ADB. 2016. *Country Operations Business Plan: Maldives, 2017–2019*. Manila. The project is confirmed via letter dated 17 July 2016.

<sup>2</sup> The National Solid Waste Management Policy (2015) divided the country into 7 regional waste management zones (map) each with a regional waste management facility and system for safe transfer to those facilities.

<sup>3</sup> Breakdown of solid waste by type: household = 149 tpd (19%), commercial = 27 tpd (3%), resort = 48 tpd (6%), C&D = 530 tpd (68%), market = 2.5 tpd (0.3%), airport = 9.3 tpd (0.3%), hazardous = 1.5 (0.2%), end of life vehicles = 0.65 tpd (0.1%), industrial = 6 tpd (0.8%). Waste composition: organic (53%), paper and cardboard (12%), plastic (11%), hazardous (medical) waste (8%), metal (3%), glass (3%), and others (11%). *Source: Project Feasibility Study final report (2017)*.

<sup>4</sup> Tourism and fisheries account for a quarter of total employment in the country (2014 Census). Tourism being the most rapidly expanding industry and being the highest contributing sector to the Maldivian gross domestic product.

<sup>5</sup> WAMCO does not operate collection within the outer islands. This is the responsibility of island councils.

<sup>6</sup> Current collection coverage is estimated to be 89% in Malé, 89% in ViliMalé, and 84% Hulhumalé though highly inefficient resulting in waste piles.

the company received nearly 150 complaints per day (as of September 2017) on its hotline mostly related to non-collection. Collection equipment includes a fleet of aging vehicles unable to access narrow streets. There are no uniform refuse bins or formal transfer stations. Waste is transported to Thilafushi Island in open non-containerized vessels resulting in significant spillage into the ocean.<sup>7</sup> Since 2008, fires have been deliberately set at the dumpsite to reduce growing mounds. On-site equipment and poor site logistics are severely inadequate to efficiently manage incoming waste and maximize use of limited space. There is no separate collection and processing of construction and demolition waste (CDW) and end-of-life vehicles (ELV).<sup>8</sup> Household surveys in the project area show a high demand for 3R awareness and education programs.<sup>9</sup>

### C. Impact and Outcome

4. The project is aligned with the following impact: a healthy living environment created in the Greater Malé capital region and its outer islands. The project will have the following outcome: climate and disaster resilient SWM services improved.<sup>10</sup>

### D. Outputs

5. The project will have three outputs.

6. **Output 1: Waste collection, transfer, and disposal systems improved and made climate and disaster resilient.** This will include (i) an efficient waste collection strategy designed and applied in Malé and Hulhumalé in consultation with local communities targeting women; (ii) waste collection and transport equipment (trucks, bins, containers) for Malé, Hulhumalé and Villimalé provided; (iii) transfer stations in Malé and Villimalé constructed and transfer station in Hulhumalé designed; (iv) CDW processing plant and ELV dismantling workshop constructed; (v) waste vessel harbor at Thilafushi rehabilitated; (vi) 3 vessels for waste transport from outer islands to Thilafushi provided; (vii) heavy equipment (bulldozers, excavators, roll trucks) for controlled dumpsite management at Thilafushi provided; and (viii) construction of 2 administrative buildings for WAMCO at Malé transfer station and Thilafushi waste vessel harbor. All facilities designed will consider climate change and disaster resilient features.

7. **Output 2: Community-based outer island waste management systems targeting poor and women enhanced.**<sup>11</sup> This output will provide comprehensive support to strengthen sustainable solid waste management in poor outer island communities. It includes (i) a minimum of 22 island waste management centers (IWMCs) with processing equipment (balers, glass crushers, metal presses) developed or upgraded in consultation with community targeting women and incorporating climate and disaster risk measures;<sup>12</sup> (ii) collection equipment for outer islands (bins, refuse collection vehicles, dump trucks) provided; (iii) capacity building of eligible island councils targeting women in waste collection, segregation, composting, recycling, and O&M; and (iv) community awareness and behavior change campaigns in 3R targeting women in outer islands delivered. As subprojects under Output 2 will be prepared after Board approval, each

<sup>7</sup> Government of Maldives, Ministry of Environment and Energy. 2016. *State of the Environment*. Malé.

<sup>8</sup> The project will extend the life of the existing dumpsite in the medium term (8-11 years).

<sup>9</sup> Around half of TRTA household survey respondents highlighted increasing awareness and education is important. ADB. 2017. *TA-9327. Socioeconomic survey for Preparing the Greater Malé Environmental Improvement and Waste Management Project*. Manila

<sup>10</sup> The design and monitoring framework is in Appendix 1.

<sup>11</sup> There are 32 outer islands in the project area eligible for support under Output 2.

<sup>12</sup> Out of 32 outer islands, some have existing facilities but are not operational due to inadequate design and insufficient equipment which would be upgraded under the project.

island is required to meet minimum eligibility and selection criteria, including safeguards, to receive support from the project.<sup>13</sup> The criteria is intended to ensure sustainability and is outlined in the Project Administration Manual (PAM).<sup>14</sup> Output 2 will be partially funded by a Trust Fund grant focusing on poverty reduction, which will support islands in the following areas:<sup>15</sup> (i) IWMCs constructed in a minimum of 11 eligible islands, (ii) skills and capacity building in eligible islands targeting women provided, and (iii) awareness campaigns in 3R delivered in all outer islands.<sup>16</sup>

**8. Output 3: Institutional capacity and public awareness in sustainable waste management strengthened.** This will include (i) capacity building support to eligible WAMCO staff (including all eligible women staff) in waste collection, controlled dumpsite management, strategic and financial planning (tariffs, diversified revenue stream), and disaster risk management provided;<sup>17</sup> (ii) a recycling market study conducted;<sup>18</sup> (iii) public awareness and behavior change campaigns in 3R targeting the poor and women in Greater Malé delivered;<sup>19</sup> and (iv) project management, design, and supervision consultant support provided.

## **E. Purpose of the Environmental Assessment and Review Framework**

9. This EARF provides guidance the preparation of initial environmental examinations (IEEs), incorporating environmental management plans (EMPs) and review for the construction and commissioning of IWMCs for the 32 islands in Zone 3, in order to meet ADB requirements, and the requirements of the Ministry of Environment and Energy (MEE).

10. On most of the islands, waste disposal practices are at present inadequate, with waste being dumped in a haphazard fashion, and/or burned. While most islands have a designated dumpsite, much waste is dumped on the beach, or burned next to the homes, or buried. Some waste is collected by community groups or private entities (engaged by island councils), but often the waste placed for collection is in loose piles or various non-standard receptacles. Waste is brought to dumpsites by a combination of pushcarts, wheelbarrows or vehicles on some islands.

11. Several of the islands have existing waste management centers, some of which are abandoned, some sub-optimally used. IWMCs are being progressively constructed in zone 3, but with slow progress. Many of the existing IWMCs are “first generation” ones, which have various deficiencies including being too small, poorly sited, difficult to access by vehicle, inadequate storage capacity and no administration facilities). The IWMCs are essentially fenced enclosures with a concrete platform for composting, and concrete or masonry wall boxes inside a steel shed for storage of sorted fractions. Some are equipped variously with balers, glass crushers, metal can crushers and chippers.

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<sup>13</sup> All 32 outer islands will be screened through the selection criteria outlined in the PAM and EARF. Appraisal and safeguard reports will be approved by ADB prior to start of any project-related physical activities. Subprojects having resettlement impacts will not be included. IWMCs consist of concrete platforms, small covered sheds, segregated waste processing and storage areas, small office, fencing.

<sup>14</sup> Project Administration Manual (accessible from the list of linked documents in Appendix 2.)

<sup>15</sup> Additional selection criteria for Trust Fund supported islands includes climate change vulnerability, and women participation in island councils, and is outlined in the Project Administration Manual (accessible from the list of linked documents in Appendix 2.)

<sup>16</sup> Upon confirmation from the government and the approval of Trust Fund.

<sup>17</sup> Disaster risk management capacity building will include preparation of a SWM disaster action plan outlining prevention, preparedness, response and recovery tasks. DRM risk awareness activities will include first responders (police, fire fighters) on Thilafushi.

<sup>18</sup> The recycling market study will cover plastics, construction and demolition waste, and other primary recyclables.

<sup>19</sup> Public awareness and behavior change activities under Outputs 2 and 3 will be implemented through a Public Awareness and Community Capacity Building consultant recruited by the PMU.

12. Second generation ISWMCs, built generally between 2011 and 2015, have better vehicle accessibility, storage and composting facilities, however third generation IWMCs, being implemented since 2016, also have social and administration facilities, though none have as yet been constructed in Zone 3.

13. The MEE has developed standard layout plans for IWMCs, comprising fenced enclosures with impermeable concrete floors for waste handling including sorting, composting, secure storage, measures for exclusion of pests, indoor office space, roofed areas and provision for equipment for crushing and packaging the waste. per The preliminary design indicates a footprint of 30m by 30m, which is to be varied depending on the size of the population on the respective island.<sup>20</sup> Figure 1 shows the layout plan per Feasibility Study prepared by Water Solutions / Kocks Ingenieure in 2017.<sup>21</sup> The Feasibility Study considered a planning process based on project waste generation, composting rate and sorting rates for recyclables.

14. The project includes 5 civil works packages as shown in Table 1. While the project will be covered under an ADB project loan modality, Output 2 detailed components and locations at each outer island may only be prepared after ADB Board approval. As such, this EARF will guide the government in undertaking environmental assessment of Output 2 subprojects per requirements of ADB SPS, 2009.<sup>22</sup> This EARF relates to civil works package CW/03, of value US\$ 2.6 million, representing 6.5% of the total cost of the project of \$40 million. Table 1 includes subprojects under Output 1 where IEEs were prepared during project preparation stage.

15. Detailed preparations of Output 2 will be done after Board approval. The PMU will be supported by project management, design and construction supervision consultants (PMDSC) and public awareness and capacity building consultants (PACCB)<sup>23</sup> and implementation will follow a step-wise approach. All 32 outer islands will first be screened through the eligibility and selection criteria outlined in the PAM.<sup>24</sup> The PMDSC will oversee technical design issues and the PACCB consultants will support community consultation and capacity building. Only those islands

<sup>20</sup> World Bank Group's Environmental, Health and Safety (EHS) Guidelines requires IWMCs to consider standard design of 110% volume and banded for impermeable storage to avoid contaminated runoff entering the surface or groundwater.

<sup>21</sup> Consultancy Services for Feasibility Study for an Integrated Solid Waste Management System for Zone III (including Greater Malé) and Preparation of Engineering Design of the Regional Waste Management Facility at Thilafushi, Final Version December 2017, Water Solutions and Kocks Consult GmbH for Ministry of Environment and Energy

<sup>22</sup> ADB Safeguard Policy Statement, 2009 Operations Manual Section F1/OP states that "For project loans where subprojects or components are prepared after Board approval and have limited anticipated environment, involuntary resettlement, and Indigenous Peoples impacts, the environmental assessment and review framework, resettlement framework, and indigenous peoples planning framework may be submitted in lieu of safeguard plans for such subprojects or components."

<sup>23</sup> Under recruitment at the time of project processing.

<sup>24</sup> For any island council to receive support for development of IWMCs under Output 2 (community-based outer island waste management systems targeting poor and women enhanced), the island councils are required to satisfy 3 entry criteria: (i) provide sufficient and adequate land allocated on island (as required by IWMC design) which will avoid impacts to indigenous peoples and land acquisition, resettlement and livelihood loss—both permanent and temporary; (ii) confirm electricity connection for operating IWMC equipment available on selected site; (iii) sign a memorandum of understanding (MOU) with MEE clearly stating the responsibilities and commitments of both parties. The purpose of the MOU is to ensure operational and financial sustainability of assets and management systems supported under the project. Selection/prioritization of outer islands for Trust Fund support will follow 2 further criteria: (i) high or moderate climate risk vulnerability (e.g. coastal erosion, flooding) and (ii) gender inclusive governance in the island council (e.g. established and functioning island women's development committee). All Trust Fund supported outer islands have also to satisfy the 3 entry criteria mentioned. The PMU and Trust Fund coordinator will review and confirm the 5 eligibility criteria are satisfied for Trust Fund outer islands and 3 eligibility criteria are satisfied for other outer islands.



who satisfy the criteria will receive IWMC and capacity building support from the project, while all islands (including non-eligible) will receive awareness building support. The PMDSC will prepare appraisal reports with findings of feasibility study and designs for eligible islands. Appraisal reports will be approved by ADB prior to start of any project-related physical activities. The appraisal report will include the following:

- i) Assessment of existing solid waste management services and characteristics including existing waste composition, generation, service delivery, infrastructure gaps, and future requirements for sustainable waste management on the Island for a IWMC component.
- ii) Assessment of the island council capacity for O&M including technical and financial capacity.
- iii) Assessment of suitable land availability.
- iv) Confirmation of compliance with the selection criteria outlined in the environmental assessment and review framework (EARF).
- v) Confirmation of compliance with the eligibility criteria.
- vi) Minutes of community consultations.
- vii) Proposed design and detailed description of the IWMC.
- viii) Confirmation the EMP is included in the bidding document.
- ix) Assessment of procurement readiness and implementation schedule.

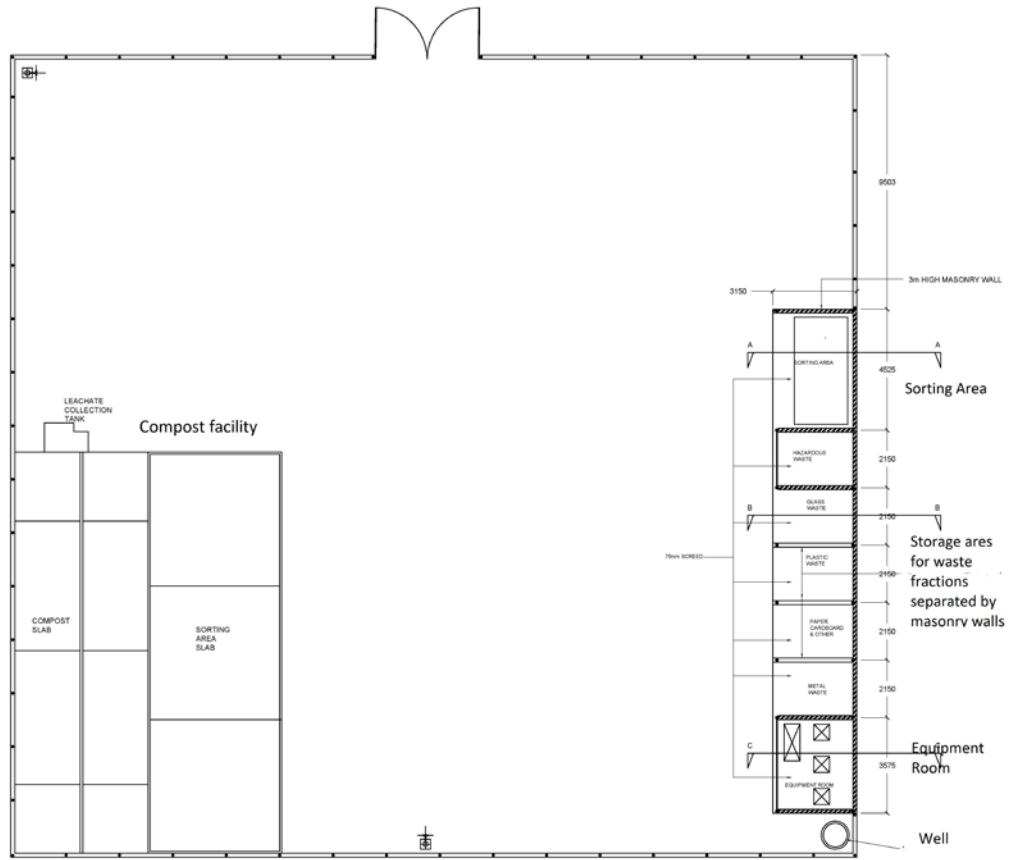
16. The step-wise implementation plan for Output 2 is as follows:

- (i) **Step 1:** Screening period. Screen 32 outer islands for eligibility. Confirm MOUs (3 months)
- (ii) **Step 2:** Appraisal and design period. Prepare appraisal reports and finalize bidding document in consultation with island councils and local communities. (4 months)
- (iii) **Step 3:** Procurement (7 months)
- (iv) **Step 4:** Implementation period (12 months)

17. The project is categorized as category B in accordance with ADB SPS, 2009. No subproject classified as environment category A as per ADB SPS, 2009 or subproject that will involve land acquisition and significant social impact will be considered for funding under the project.

18. During project preparation, two draft initial environmental examinations (IEEs) for Output 1 and one sample IEE for Output 2 were prepared based on preliminary designs. The draft IEEs concluded that the subprojects will only have small-scale, localized impacts on the environment which are readily mitigated. The potential adverse environmental impacts are mainly related to the construction period, which can be minimized by the mitigating measures and environmentally sound engineering and construction practices. Mitigation measures and monitoring plans were proposed in the respective environmental management plans (EMPs) of the subprojects, which form part of the IEEs.

**Figure 1: Sample Layout Plan for an IWMC**  
 Source: Feasibility Study, 2017



**Table 1: Subprojects with Civil Works**

<b>Subproject / Outputs</b>	<b>Subprojects / Outputs</b>	<b>Value (US\$ million approx.)</b>	<b>Initial Environmental Examination Prepared</b>
CW/01 (Output 1)	Harbor rehabilitation, waste processing, administration building, workshop and civil works platform for the construction and demolition waste (CDW) plant, recycling yard, and end-of-life vehicles (ELV) dismantling workshop (see output 4 below).	5.0	Yes. Draft initial environmental examination (IEE) prepared based on preliminary design. Final IEE to be prepared during detailed engineering design.
DBI/01 (Output 1)	Transfer stations in Malé and Villamalé, and Civil Works Contract (standard bidding documents for plant design, build and install) Malé and Vilimalé (incl. 6 storey admin Malé)	8.4	Yes. Draft IEE prepared based on preliminary design. Final IEE to be prepared during detailed engineering design.
DBI/02 Package 4 (Output 1)	CDW processing plant (includes equipment) (standard bidding documents for plant design, build and install, DBI) (includes pre-sorting, bag opening, screening, sorting, crushing, wind sifting, classifying)	2.0	Yes. Included in draft IEE prepared for Package CW/01 (Output 1).
CW/03 (Output 2)	Island waste management centre (IWMC) for 32 outer islands (including Disaster risk reduction and Climate Change costs)	2.6	Sample IEE prepared for Thulusdhoo. Remaining IWMC covered by this environmental assessment and review framework

19. This environmental assessment and review framework (EARF) has been prepared based on ADB Safeguard Policy Statement (SPS), 2009, and government of Maldives environmental acts, rules and regulations. This EARF

- (i) describes the proposed subprojects under Output 2;
- (ii) site selection and design criteria to ensure no adverse impacts from the IWMCs; explains the anticipated environmental impacts of the subprojects;
- (iii) specifies the requirements that will be followed in relation to subproject screening and categorization, assessment, and planning, including arrangements for meaningful consultation with affected people and other stakeholders and information disclosure requirements and, where applicable, safeguard criteria that are to be used in selecting subprojects and/or components;
- (iv) assesses the adequacy of the client's capacity to implement national laws and ADB's requirements and identify needs for capacity building;
- (v) specifies implementation procedures, including the budget, institutional arrangements, and capacity development requirements;
- (vi) specifies monitoring and reporting requirements; and
- (vii) describes the responsibilities of the client and of ADB in relation to the preparation, implementation, and progress review of safeguard documents of the subprojects.

#### **F. Proposed Subprojects under Output 2**

20. There are 32 inhabited islands defined as 'outer islands' for purpose of GMEIWMP (see Output 2). A list of the 32 islands is given in Table 2 below. All 32 outer islands will be screened

for support. No subproject classified as environment category A as per ADB SPS, 2009 or subproject that will involve land acquisition and significant social impact will be considered for funding under the project. Any land requirements for a project component will follow the guidelines and site selection criteria for the project.

**Table 2: List of Administrative Islands within Waste Management Zone 3**

Island	Population (2014 census)	Notes
<b>Kaafu Atoll</b>		
Hulhumalé	15,769	Urban island. One protected area, the “Banana reef” (Gaathu giri/Adhdhashu giri) is situated approximately 400m from the breakwater on the western side of the northern part of the island.
Kaashidhoo	1,865	Significant tourism activity. Site of ancient Buddhist artefacts.
Gaafaru	1,066	
Dhiffushi	1,053	Reclamation underway to form an industrial area.
Thulusdhoo	1,408	Atoll capital. Visited by TRTA team. Surfing destination. Coca cola factory; boatbuilding business
Huraa	1,300	A protected area – a wetland, is situated on the island
Himmafushi	1,725	
Gulhi	912	
Maafushi	3,025	Site of the country’s largest prison (approx. 500 inmates)
Guraidhoo	1,738	Site of mental hospital (approx. 175 resident patients)
<b>Alif Alif Atoll</b>		
Thoddoo	1,534	Significant agriculture – known for watermelon
Rasdhoo	1,067	Alif Alif atoll capital
Ukulhas	1,005	Former “Green Leaf” award winner for waste management programme (2014). IWMC was supported by the World Bank funded Ari Atoll Solid Waste Management Project
Mathiveri	662	
Bodufolhudhoo	608	Promotes a clean image and bans the use of plastic bags.
Feridhoo	441	
Maalhos	434	
Himandhoo	724	Receives tourists on day trips. Some ancient Buddhist artifacts.
<b>Alif Dhaalu Atoll</b>		
Hangnameedhoo	517	
Omadhoo	883	
Kuburudhoo	462	
Mahibadhoo	2,074	Capital of Alif Dhaalu atoll. Some industry (boat building and carpentry). Site of the atoll hospital.
Mandhoo	367	
Dhagethi	824	Some industry – boatbuilding and carpentry as well as tourism. Large school
Dhigurah	610	IWMC supported by World Bank funded Ari Atoll Solid Waste Management Project. Protected Marine area <i>Mushima migili Thila</i> close to the island.
Fenfushi	837	Visited by TRTA team. Island council active in waste management, with prior World Bank (Ari Atoll Solid Waste Management Project) and other donor support.
Dhidhdhoo	153	
Maamigili	2,359	Largest island of Alif Dhaalu atoll with the biggest population. Site of Villa International Airport (hub for the domestic carrier Flyme) and a large deep water harbor.
<b>Vaavu Atoll</b>		

Island	Population (2014 census)	Notes
Fulidhoo	372	
Thinadhoo	152	
Felidhoo	506	Capital of Vaavu atoll
Keyodhoo	675	
Rakeedhoo	106	

IWMC = Island Waste Management Center, TRTA = Transaction Technical Assistance

21. Zone 3 contains a total of 21 protected areas. Of these, all but one, a wetland and water body on Huraa Island, are in marine locations at least 600m from the inhabited islands.

## II. ASSESSMENT OF LEGAL FRAMEWORK AND INSTITUTIONAL CAPACITY

### A. Applicable National Laws, Rules and Regulations

22. The law governing the protection of the environment is the Environmental Protection and Preservation Act (EPPA) of 1993 (Act No 4/93). The law is brief and sets out the principles for sustaining and extending the benefits of the environment of the Maldives for the people and coming generations. The EPPA confers powers on the MEE to issue regulations and formulate policies for environmental protection and preservation. Such regulations include:

- (i) Environmental Impact Assessment (EIA) regulations of 2007, updated in 2012 (Regulation No. 2012/R-27);
- (ii) By-law on Uprooting, Cutting and Transportation of Plants and Trees (2006);
- (iii) Regulation on Stone, Coral and Sand Mining (undated);
- (iv) Regulation for the Protection and Conservation of the Natural Life and character of Old Plants and Trees in the Maldives;
- (v) Dewatering Regulation (213/R-R1697);
- (vi) Environmental Damage Liabilities Regulation (2011/R-9); and
- (vii) Waste Management Regulation (2013-R58).

23. **Cultural Heritage.** Items of cultural heritage significance are protected under the Law of Historical and Cultural Properties of the Republic of Maldives of 1979 (Law number 27/29) and its implementation is currently under the Ministry of Education. UNESCO state that there is a lack of rules and regulations, constraining the implementation of the law and that there is also no national inventory of heritage properties (no site has yet been inscribed under the World Heritage List). A new law is under preparation and awaiting completion as of June 2017<sup>25</sup>.

24. **Health and Safety.** Legislation covering occupational health and safety is currently included in the Employment Act (2008), Chapter 8 "Work Place Safety and Employer Health". This requires employers to implement measures for the safety and protection of employees at the work place, including safe work place, procedures, safe equipment and materials, provision of protective equipment, safety training to employees, conducting health checks where work involves chemical or biological materials that may cause a hazard, providing medical care as well as first aid for employees injured while at work. The law also sets out employee's obligations with regard to safety at work.

<sup>25</sup> UNESCO Country Programming Document for the Maldives (2017). UNESCO New Delhi Cluster Office for Bangladesh, Bhutan, India, Nepal, Maldives and Sri Lanka, New Delhi.

25. **Land use and acquisition.** The Land Act (2002) covers matters relating to land including land use, land ownership, and permissible uses of land belonging to island councils, which includes environmental protection.

26. **Decentralization.** The Decentralization Act of 2010 (Law 7/2010) devolves responsibility to island councils to carry out key functions related to their mandate to foster the social and economic well-being and development of the community and establish a safe, health and ecologically diverse environment. These functions include preparation of island development plans and implementing development projects planned and assigned by the government in line with the island development plans formulated by the islands. Services by the island councils under the Act including management of waste such that it is disposed of in a safe manner at the island level and does not create inconvenience to the community.

## **B. Environmental Assessment Requirements**

27. Responsibilities and procedures for conducting environmental assessments, together with the requirements for environmental monitoring of projects, are set out in the EIA Regulations of 2012. All projects that may have an impact on the environment are referred to the Minister of Environment and Energy (EPPA 5(a)).

28. The EIA Regulations assign primary responsibility for undertaking environmental assessment of projects to the project proponent and set out procedures, rights and responsibilities for the preparation and approval of EIAs. MEE undertakes review and approval of environmental assessment reports.

29. Project proponents are defined in the EIA regulations as a person, department or agency that is seeking to carry out or proposes to carry out a development proposal or is the owner or person having charge, management or control of a development proposal. The EIA work must be carried out by registered consultants, and the procedures and requirements for registration are set out in Part V of the regulations.

30. The EIA regulations include a schedule (Schedule D) of investment project types that require an EIA. These include landfills, waste incinerators and large-scale waste storage projects. These project types may be classified as environment Category A as per ADB SPS, 2009, and therefore, will not be considered under the project.

31. For schedule D projects and those identified by the IEE as requiring an EIA, a scoping meeting is convened by the MEE to determine the specific Terms of Reference for the EIA. On completion of investigations and reporting, the EIA report is subject to review by MEE, which invites comments from other relevant ministries and the public following which an environmental decision is made.

32. Projects related to solid waste management listed on schedule D are landfills, incinerators and large scale waste storage and separation facilities. The IWMCs do not include landfills, incineration and are not large scale and therefore not schedule D projects.

33. For project types not included schedule D, a screening form is submitted in a specified format based on which the MEE decides whether an EMP is required or if further information is required, in which case an IEE will be carried out. The IEE is completed according to a specified format. If the IEE finds that the project may cause a significant environmental impact, a full EIA is

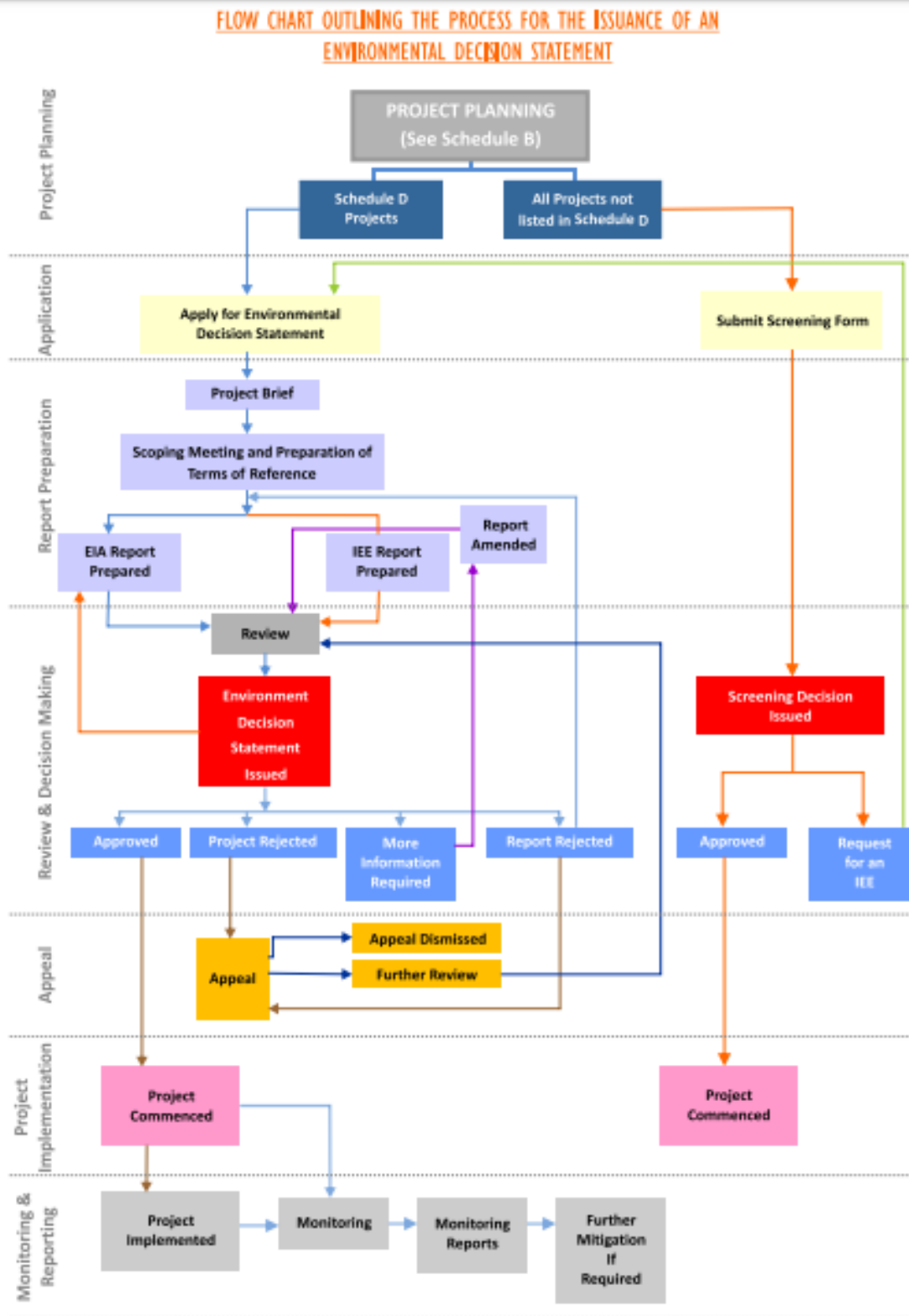
required, prior to preparation of an EMP. If an EIA is not required, an EMP is then prepared to address the impacts identified in the IEE.

34. The EMP, following either the IEE or the EIA process, is prepared on a specified format and reviewed for compliance by MEE.

35. The MEE issues the decision in the form of a decision note issued to the proponent, which sets out specific binding requirements for the conduct of the project based on review of the EIA report.

36. Summary of application stages and steps is outlined in Figure 2.

Figure 2: Flow chart of Maldives EIA process<sup>26</sup>



<sup>26</sup> EIA Regulations (2007) Schedule A.



37. The timelines for clearance and approvals are as follows:
- (i) On completion of a screening form for non-schedule D projects – 10 working days for a screening decision from MEE
  - (ii) For review of compliance of an EMP by MEE – 7 working days
  - (iii) For review of a project brief on Schedule D projects – 5 days to confirm the date of a scoping meeting
  - (iv) For consideration of Terms of Reference drafted by the project proponent following the scoping meeting – 10 days to confirm the Terms of Reference.
  - (v) For the review of a completed EIA report for completeness – 2 working days.
  - (vi) For circulation of an EIA report to other ministries and to the public for comment – 10 working days
  - (vii) For issuance of a decision or to request revisions, following circulation of the EIA report and receipt of comments – 28 working days.

### **C. Applicable International Environmental Agreements**

38. In addition to national laws, rules and regulations, the government of Maldives is also a signatory to various applicable international conventions, as follows:

- (i) UN Convention on the Law of the Sea – UNCLOS (1982);
- (ii) International Convention for the Prevention of Pollution of the Sea by Oil (1982);
- (iii) Vienna Convention for the Protection of the Ozone Layer (1985);
- (iv) Montreal Protocol on Substances that Deplete the Ozone Layer (1987);
- (v) Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal (1989);
- (vi) The London Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer (1990);
- (vii) Agenda 21 and the Rio Declaration of the United Nations Conference on Environment and Development (1992);
- (viii) Convention on Biological Diversity (1992);
- (ix) United Nations Framework Convention on Climate Change (1992);
- (x) The Copenhagen Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer (1992);
- (xi) The Montreal Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer (1997);
- (xii) The Beijing Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer (1999);
- (xiii) Washington Declaration on Protection of the Marine Environment from Land-Based Activities;
- (xiv) Kyoto Protocol to the United Nations Framework Convention on Climate Change (1998);
- (xv) Cartagena Protocol on Biosafety (Maldives acceded on 2 September 2002); and
- (xvi) United Nation Convention to Combat Desertification (2002).

### **D. ADB Policy**

39. ADB requires the consideration of environmental issues in all aspects of ADB's operations, and the requirements for environmental assessment are described in ADB SPS, 2009. This states that ADB requires environmental assessment of all ADB investments.

40. **Screening and categorization.** The nature of the environmental assessment required for a project depends on the significance of its environmental impacts, which are related to the type and location of the project; the sensitivity, scale, nature, and magnitude of its potential impacts; and the availability of cost-effective mitigation measures. Projects are screened for their expected environmental impacts, and are assigned to one of the following four categories:

- (i) **Category A.** A proposed project is classified as category A if it is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works. An environmental impact assessment is required.
- (ii) **Category B.** A proposed project is classified as category B if its potential adverse environmental impacts are less adverse than those of Category A projects. These impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects. An initial environmental examination is required.
- (iii) **Category C.** A proposed project is classified as category C if it is likely to have minimal or no adverse environmental impacts. No environmental assessment is required although environmental implications need to be reviewed.
- (iv) **Category FI.** A proposed project is classified as category FI if it involves investment of ADB funds to or through a financial intermediary (FI).

41. **Environmental management plan.** An EMP, which addresses the potential impacts and risks identified by the environmental assessment, shall be prepared. The level of detail and complexity of the EMP and the priority of the identified measures and actions will be commensurate with the project's impact and risks. EMPs should outline specific mitigation measures, environmental monitoring requirements, and related institutional arrangements, including budget requirements.

42. **Physical Cultural Resources.** The SPS requires that project components are to be sited and designed to avoid significant damage to physical cultural resources, 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. Should avoidance of physical cultural resources be necessary, this can only be on condition that (i) there are no alternatives for removal, (ii) overall benefits outweigh anticipated cultural loss from removal and (iii) any removal is in accordance with national laws and regulations.

43. **Pollution Prevention and Control Technologies.** During the design, construction, and operation of the project the project management unit (PMU) will apply pollution prevention and control technologies and practices consistent with international good practice, as reflected in the World Bank Group's Environment, Health and Safety Guidelines<sup>27</sup>. These standards contain performance levels and measures that are normally acceptable and applicable to projects. When Government of Maldives regulations differ from these levels and measures, the PMU will achieve whichever is more stringent. If less stringent levels or measures are appropriate in view of specific project circumstances, the PMU will provide full and detailed justification for any proposed alternatives that are consistent with the requirements presented in ADB SPS, 2009.

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<sup>27</sup> World Bank Group (2007) Environmental Health and Safety (EHS) Guidelines: 1.6: Waste Management. [http://www.ifc.org/wps/wcm/connect/topics\\_ext\\_content/ifc\\_external\\_corporate\\_site/sustainability-at-ifc/policies-standards/ehs-guidelines](http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines)

44. ADB's Public Communication Policy (2011) aims to enhance stakeholders' trust in and ability to engage with ADB, and thereby increase the development impact of ADB operations. The policy promotes transparency, accountability, and participatory development. It establishes the disclosure requirements for documents ADB produces or requires to be produced.

45. ADB's Accountability Mechanism Policy's (2012) objectives is to provide an independent and effective forum for people adversely affected by ADB-assisted projects to voice their concerns and seek solutions to their problems, and to request compliance review of the alleged noncompliance by ADB with its operational policies and procedures that may have caused, or is likely to cause, them direct and material harm. The Accountability Mechanism a "last resort" mechanism.

46. Appendix 3 provides the comparative analysis, based on a summary equivalence assessment which compared Maldives' legal and regulatory framework to the ADB Safeguard Policy (2009), and actions to be implemented to ensure ADB SPS requirements are met. These include (i) requirements for screening and categorization - the national and ADB SPS, 2009 environmental requirements shall be reviewed and the more stringent amongst them shall be followed; (ii) preparation of IEEs and EMPs - ADB SPS, 2009 environmental requirements will be followed; and (iii) disclosure, consultations and participation, reporting and monitoring will follow ADB SPS, 2009 requirements.

### III. ANTICIPATED ENVIRONMENTAL IMPACTS

47. Based on sample IEE prepared for Thulusdhoo Island and project preparatory team visits on multiple occasions on the 32 outer islands, IWMC construction and rehabilitation works will have limited and manageable negative environmental impacts. The proposed sites will be located well within island areas, away from residential and protected areas and will be environmental category B. The screening process, carried out during the preparation of support to each island, enabled rapid identification of impacts of potential concern and ensure that IWMCs are not located near sensitive areas, if any. However, the final IWMCs will be identified based on set criteria to be met by island councils for funding eligibility.<sup>28</sup> IEE preparation will include development of EMPs, which will provide for activity-specific mitigation measures which will be incorporated into the scope of work on each island. A list of potential impacts, prepared with reference to the EHS Guidelines on Waste Management Facilities (Waste Receipt, Unloading, Processing and Storage) and General Guidelines, is included as Table 3 below.

#### A. Impacts related to location and pre-construction activities

48. Works to rehabilitate existing IWMCs will be within the same sites/compounds unless the existing site has become unsuitable due to new developments around it or there is objection from communities to rehabilitate the existing IWMC. For new IWMCs, sites will be selected, with the involvement of local councils and with public consultation at suitable sites as far away as possible

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<sup>28</sup> For any island council to receive support for development of IWMCs under Output 2 (community-based outer island waste management systems targeting poor and women enhanced), the island councils are required to satisfy 3 entry criteria: (i) provide sufficient and adequate land allocated on island (as required by IWMC design) which will avoid impacts to indigenous peoples and land acquisition, resettlement and livelihood loss—both permanent and temporary; (ii) confirm electricity connection for operating IWMC equipment available on selected site; (iii) sign a memorandum of understanding (MOU) with MEE clearly stating the responsibilities and commitments of both parties. Selection/prioritization of outer islands for Trust Fund support will follow 2 further criteria: (i) high or moderate climate risk vulnerability (e.g. coastal erosion, flooding) and (ii) gender inclusive governance in the island council (e.g. established and functioning island women's development committee). All Trust Fund supported outer islands have also to satisfy the 3 entry criteria mentioned.

from sensitive sites including the shoreline, areas with mature trees, residential areas and any sites of archaeological or cultural importance. These are likely to be at or near existing dumpsites. There will be localized impacts at the IWMC sites, mainly odor and visual impacts and increase in local traffic, however these are expected to be less severe than existing impacts associated with dumpsites. Compared with existing dumpsites, IWMCs will discourage vermin and reduce or halt the existing practice of burning of waste. It will be necessary to clear vegetation in some cases. For existing IWMCs that will require rehabilitation, environmental audit will be conducted in accordance with ADB SPS. to determine the existence of any areas where the project may cause or is causing environmental risks or impacts. If the project does not foresee any new major expansion, the audit constitutes the environmental assessment for the project. A typical environmental audit report includes the following major elements: (i) executive summary; (ii) facilities description, including both past and current activities; (iii) summary of national, local, and any other applicable environmental laws, regulations, and standards; (iv) audit and site investigation procedure; (v) findings and areas of concern; and (vi) corrective action plan that provides the appropriate corrective actions for each area of concern, including costs and schedule.

49. Where equipment is procured, this will be for use within the IWMCs and effects of noise and emissions will mainly be confined to the IWMC compounds. Operation will be during daylight hours only.

## **B. Impacts associated with construction**

50. During construction, there will be increased vehicles and machinery activity to transport materials, carry out construction operations including excavation, compaction, concrete mixing and concrete laying. Contractors will be required to maintain vehicles and equipment in sound operable condition, free of leaks and fitted with exhaust baffles, to minimize noise and dust emissions during construction. Construction works will be limited to daylight hours. Fuels and fluids for vehicles and equipment will need to be stored on site for use. The Contractor will be required to arrange storage and handling in such a way that risks of spills are greatly reduced, and that materials to clean up spills are kept at fuel stores.

51. Water will be required for workers and construction operations. The need will be met through collecting rainwater supplemented by selected sources that entail limited or no impact on the availability of local water supplies. The Contractor will be required to make arrangements for safe disposal of wastewater, such as construction of latrines and of soak pits for grey water. These are to be closed on completion of construction work.

52. The release of silt from excavations and earthworks will be reduced by avoiding rainy conditions and the use of silt fences at water runoff points.

53. Construction workers, including plant operators, supervisors and some laborers will be brought to each island and will reside there during the construction period. The Contractor will be required to make arrangements for adequate accommodation, ensuring adequate, clean living conditions. Employment of island residents and use of their services, such as accommodation and catering, for construction workers will be encouraged and Contractors will be responsible to ensure that their staff do not engage in antisocial or harmful behavior.

### C. Impacts associated with operation and decommissioning

54. The sound operation of the IWMCs is expected to result in reductions in existing practices of burning garden waste, burying waste and disposal of food waste to sea and improved collection and removal of plastic and other harmful waste, reducing the amount that is released to the sea. Composting activities, particularly the re-use of compost, will reduce the volume of residual waste that needs to be transported to the dumpsite at Thilafushi. Per Feasibility Study, the project will extend the life of the existing dumpsite in the medium term (8-11 years).<sup>29</sup> The area allocated for the project will be delineated from the existing dumpsite. .

55. The composting process involves the proliferation of certain micro-organisms including fungi and bacteria. Fungal spores can cause lung infections and certain bacteria can produce fever and a form of pneumonia that requires treatment in intensive care. Risks are mitigated or eliminated by ensuring awareness among workers and use of masks when turning or begging the compost.

56. The use of presses and shredders entails risks, again these can be greatly reduced by training including the use of protocols to allow only authorized persons to operate, service or repair the machinery, and use of barriers and safety fences. Training in operation and maintenance of machinery is important to reduce safety and other risks.

**Table 3: List of Potential Impacts of Island Waste Management Center construction and operation to be addressed**

Impacts	Mitigation Measures
Potential impacts from site operation	
Air Emissions	Mitigation by siting of the island waste management center (IWMC) as far as practicable from residential areas; regular sluicing of the sites and washing of collection vehicles
Contaminated Runoff	World Bank Group's Environmental, Health and Safety (EHS) Guidelines requires IWMCs to consider standard design of 110% volume and banded for impermeable storage to avoid contaminated runoff entering the surface or groundwater. Leachate may contain traces of contaminants such as nutrients, metals, pathogens and hazardous chemicals that may contaminate groundwater and seawater. Leachate from composting will have a high nutrient content. Mitigation includes (i) Inclusion in the design of IWMCs a leachate well for recovering and management of leachate (ii) Training of site operators in leachate management including re-circulation and/or collection in dedicated containers
Loss of waste / littering	(i) Provision for perimeter fence in IWMC design (ii) Use of containers; operation and maintenance training to include instruction on maintenance of containers, loaders, cranes and vessels and sound operation including licensing of vehicle and plant operators and restrictions on operation during stormy weather (iii) Good "housekeeping" on site
Noise and vibration	Limited scope for noise/vibration impacts during operation, due to the limited use of machinery (some IWMCs will have balers and crushers), siting away from residential areas and other receptors and high ambient noise levels from wave action.

<sup>29</sup> The regional waste management facility at Thilafushi as part of the long-term SWM project is being considered by MEE. This will be considered as a separate project in the future.

<b>Impacts</b>	<b>Mitigation Measures</b>
Risks of loss of containers and contents	O&M training to include instruction on maintenance of containers, loaders, cranes and vessels and sound operation including licensing of vehicle and plant operators and restrictions on operation during stormy weather
Pests: Rodents and birds	Maintenance of site cleanliness, minimizing storage time for putrescible waste, provision of enclosures for putrescible waste.
Fire risk	Limited due to small scale. Composting will involve the use of windrows well below the maximum 3m height recommended by EHS guidelines.
Operator occupational health and safety	(i) Operators trained to recognize risks and hazards. (ii) Personal safety equipment issued and worn, including face masks while handling compost. (iii) Health and safety recognized as primary employer responsibility.  Island councils to adopt the World Bank EHS Guidelines on OHS for solid waste management projects.
Community Health and safety issues	(i) Inclusion of perimeter fence and gate in the design. (ii) Restriction of entry to workers and authorized personnel. (i) Exclusion of burning (ii) Maintenance of site hygiene to deter pests.
<b>Construction impacts</b>	
Noise pollution and vibration	(i) Identifying potentially affected households; (ii) providing information on operations; (iii) limiting construction activities to daylight hours; (iv) adhering to schedule; and (v) maintaining construction equipment and vehicles in good operable order.
Construction waste	(i) All solid waste must be transported to the dumpsite; and (ii) importation of any materials rated as hazardous under the Globally Harmonized System of Classification and Labelling of Chemicals to be subject to approval by PMDSC, which will be conditional on stating adequate arrangements for disposal.
Release of silt	(i) Excavated areas to be rapidly refilled on completion of works; (ii) use of silt fences around temporary piles of excavated material; and (iii) avoid excavation in wet weather to the extent practicable.
Water pollution	(i) Vehicles and plant are to be maintained in sound operable condition, free of leaks. The condition of vehicles and equipment will be periodically checked. (ii) Contractor to prepare and submit a plan for spill management, including provision of spill kits, training/briefing of workers on procedures on handling spills and allocation of responsibility within the contractor's team for ensuring that spill kits are available and that workers know how to use them.
Community health and safety hazards	(i) Restriction of access to work site; (ii) warning notices to the public on hazards; and (iii) barriers when warranted.
Occupational health and safety hazards	(i) Contractors to appoint health and safety officers for each site and to ensure regular briefing of construction workforce on health and safety issues. (ii) Adequate personal protective equipment to be provided to the workforce.

#### **IV. ENVIRONMENTAL ASSESSMENT FOR SUBPROJECTS AND COMPONENTS**

##### **A. Selection Criteria for Subprojects**

57. Table 4 shows the selection criteria for planning and design, including siting and types, of subproject to be considered for IWMCs on the non-urban inhabited islands. The application of these criteria will entail discussions with island councils to identify sites, detailed inspection of proposed sites and alternatives and checking to ensure no other infrastructure development plans affect the sites. Implementation will involve a step-wise approach comprising (i) screening the 32 islands for eligibility using these criteria; (ii) appraisal and design when appraisal reports will be prepared and designs finalized in consultation with island councils and communities; (iii)

procurement; and (iv) implementation. The PMU will receive implementation support from consultants recruited under a capacity building transaction technical assistance (TRTA) package and support from the PMDSC in technical aspects including design and bid document preparation including incorporation of environmental management plans in these. A third group, PACCB will support community consultation and capacity building.

**Table 4: Criteria for Planning and Design for Subprojects**

Criteria	Remarks
<b>Pre-requisites</b>	
(i) No subproject scope will include features that appear on schedule D of the EIA regulations (2007, updated 2012) (List of Development Proposals Requiring an Environmental Impact Assessment Study)	Development proposals on Schedule D of the EIA regulations related to solid waste management are landfills, incinerators and large scale waste storage and separation facilities.
(ii) An IEE and EMP must be prepared for each subproject, which must comply with EHS Guidelines on Waste Management Facilities	PMU to seek clearance from ADB on project siting if the criterion cannot be met due to space constraints.
(iii) Sites must not have any land acquisition or involuntary resettlement and social safeguard issues.	Verify land ownership records. Prepare social safeguard document following the guidelines in the Resettlement Framework.
(iv) Any new facility must not be sited in an environmentally sensitive area, including all areas within 30m of the shoreline, or within 30m of areas such as thickly vegetated areas that are known to be habitats for bird species of conservation value	<p>The 30m distance should be exceeded where possible. The restriction may be reviewed depending on site availability and stakeholder consultation, and provision of design measures to prevent release of leachate into the sea or onto the vegetated area in the event of the capacity of the leachate collection tank being exceeded.</p> <p>On the island of Huraa, where space is restricted and there is a wetland which is a protected area, special attention must be paid to the size of the IWMC leachate collection tank and provisions to contain leachate overflow during storm events.</p>
(v) No new facility to be sited within 500m of areas of cultural significance, such as ancient religious artifacts	<p>Verification, through consulting island councils and the Ministry of Education<sup>30</sup>, that no physical cultural heritage sites are situated within 500m of the IWMC site. The restriction may be reviewed on the basis of site availability and consultation with stakeholders. PMU to seek clearance from ADB on project siting if the criterion cannot be met due to space constraints.</p> <p>Provide for use of “chance find” procedures in the EMP, such that any artifacts are preserved for future generations</p>
(vi) Sites must have sufficient capacity to contain or handle volumes of waste projected to be generated over at least a 20 year planning horizon	To be assessed based on projections on growth in waste generation for each island

<sup>30</sup> Management of the arts and culture sector is currently under the Ministry of Education.

<b>Criteria</b>		<b>Remarks</b>
(vii)	Sites must be at least 100m from residences, schools, clinics or mosques	The distance restriction may be reviewed depending on site availability and stakeholder consultation. PMU to seek clearance from ADB on project siting if the criterion cannot be met due to space constraints.
(viii)	Sites must be least 100m from groundwater wells	The 100m limit is precautionary, however attention must be given in detailed design to ensure that the leachate collection tank is protected to exclude flood waters, including during storm situations, to ensure that leachate does not enter the groundwater lens. PMU to seek clearance from ADB on project siting if the criterion cannot be met due to space constraints.
(ix)	Sites must not intersect with power lines, water supply pipelines or sewer lines	Where these lie across proposed sites, they must be re-aligned to avoid the site
(x)	For initiatives that require the use of machinery such as shredders and presses, there must be established access to technical expertise for servicing and spare parts must be regularly available in-country	
(xi)	Consensus from island communities on proposed improvements.	Records of public consultations, issues raised, and measures taken to address them to be summarized in IEEs. These consultations shall ensure consultees include women as well as men.
(xii)	No other work, including road, pipeline, or power line improvements are planned at or near the proposed site	Island council to confirm. If such sites are planned, details must be taken account of in design to ensure adequate separation of the infrastructure
(xiii)	World Bank Group's Environmental, Health and Safety (EHS) Guidelines requires IWMCs to consider standard design of 110% volume and bunded for impermeable storage to avoid contaminated runoff entering the surface or groundwater.	Final detailed design to confirm capacity is 110% and bunded
<b>Preferable</b>		
(i)	Where IWMCs exist, any improvements should be to the existing infrastructure, rather than replacement on new sites.	New sites may be necessary if existing site has become unsuitable due to new developments around it or there is objection from communities to rehabilitate the existing IWMCs.
(ii)	Removal of trees to be avoided where possible.	When mature trees (of diameter at breast height of 40cm or greater) must be removed, new trees must be planted of a number and species agreed with the island community
(iii)	Where composting facilities are to be introduced or expanded, a high level of commitment from the community should be evident to ensure both cooperation in ensuring that waste to be composed is not contaminated and that compost will be purchased or used.	Evidence of commitment from the island community should be obtained, for example signed minutes from a public meeting, or signatures from household heads.



## **B. Screening and Classification/Categorization**

58. Subproject screening and categorization is done at the earliest stage of project preparation when sufficient information is available for this purpose. Screening and categorization is undertaken to (i) reflect the significance of potential impacts or risks that a project might present; (ii) identify the level of assessment and institutional resources required for the safeguard measures; and (iii) determine disclosure requirements. The consultant environment specialist of Project Management, Design and Construction Supervision Consultants (PMDSC) will conduct screening by completing ADB's rapid environmental assessment (REA) checklists (see Appendix 1) and submitting this for review to PMU to ensure subproject will not fall under ADB SPS, 2009 category A for environment.

59. To comply national requirements for environmental assessment and environmental clearance, the PMU with assistance from the PMDSC will initiate the application process under the national EIA Regulations by completing the screening form as required by schedule C 1 of the regulations.

60. PMU to submit the completed REA checklists and categorization results to ADB for concurrence or further discussion, as required.

## **C. Preparation of Environmental Assessment Report**

61. Per ADB SPS, 2009, an IEE is required for each IWMC. While MEE may classify the IWMCs as non-Schedule D which will require IEEs. Preparation of IEEs for IWMCs will aim to meet both the government and ADB requirements. Appendix 2 provides the outline of an ADB IEE report following Appendix 1 of ADB SPS, 2009. Also, the sample IEE for Thulusdhoo prepared during project preparation provides a good sample which can be followed for preparation of IEEs for remaining IWMCs. Preparation of IEEs is to be informed by recent site visits to collect appropriate baseline information and to be done in conjunction with engineering appraisal and design, identifying specific impacts and to quantify them where possible. The IEE and EMP will be updated during the pre-construction phase should any design changes occur.

62. The IEE preparation will also involve carrying out meaningful consultation with affected people and other relevant stakeholders including civil society and facilitating their informed participation. PMU and PMCDSC will ensure affected people and stakeholders will have access to relevant project information prior to any decision-making that will affect them. The consultation process and its results will be documented and reflected in the IEE.

63. If an existing IWMC will be rehabilitated, an environmental compliance audit will be carried out and included in the IEE to determine whether the facilities are in accordance with ADB safeguard principles and requirements. The environmental audit will include (i) executive summary; (ii) facilities description, including both past and current activities; (iii) summary of national, local, and any other applicable environmental laws, regulations, and standards; (iv) audit and site investigation procedure; (v) findings and areas of concern; and (vi) corrective action plan that provides the appropriate corrective actions for each area of concern, including costs and schedule. The corrective action plan will define remedial actions, the budget for these actions, and timeframe for achieving compliance, and has to be concurred by ADB.

64. ADB and MEE require that an EMP must be developed as part of the IEE. The EMP will include the proposed mitigation measures, environmental monitoring and reporting requirements,

emergency response procedures, related institutional or organizational arrangements, capacity development and training measures, implementation schedule, cost estimates, and performance indicators. Key considerations include mitigation of potential adverse impacts to the level of “no significant harm to third parties”, the polluter pays principle, the precautionary approach, and adaptive management.

65. If some residual impacts are likely to remain significant after mitigation (however unlikely), the EMP will also include appropriate compensatory measures (offset) that aim to ensure that the project does not cause significant net degradation to the environment. Such measures may relate, for instance, to conservation of habitat and biodiversity and preservation of ambient conditions. Monetary compensation in lieu of offset is acceptable in exceptional circumstances, if the compensation is used to provide environmental benefits of the same nature and is commensurate with the project’s residual impact.

66. All IEEs and EMPs will be prepared prior to bid documents issuance. The bid documents will include the requirement to incorporate necessary resources for EMP implementation. The IEE as well as the EMP will form part of the contract document, and, if required, will need to be further updated during detailed engineering design stage. The update IEE will be submitted to ADB for concurrence. The contractor will be required to prepare site-specific contractor EMPs (CEMP) based on cleared updated IEE for submission to PMU. No works will be allowed until the CEMP has been approved by PMU.

67. The IEE prepared for Thulusdoo during project preparation provides a good sample which can be followed for preparation of environmental assessments in subsequent subprojects.

#### **D. Review of Environmental Assessment Reports**

68. The IEEs prepared by the PMDSC will be reviewed initially by the PMU. PMU will submit the IEEs to ADB for review and approval. In case an environmental clearance is required, the IEEs are to be forwarded to the MEE for approval.

69. No bid documents can be issued until ADB cleared the IEE. Contracts cannot be awarded until environmental clearance is issued by MEE.

#### **E. Updating of Initial Environmental Examination reports**

70. The IEEs prepared during project preparatory stage and/or based on preliminary design will be updated once detailed design is completed, or if there are any change in location/alignment, design or components. The final/updated IEE/s will be submitted to ADB for review and disclosure on its website. The PMU will be responsible to communicate to the contractors and stakeholders any update or revision in the IEE. No works can be started until ADB cleared the updated IEEs.

#### **F. Disclosure of IEEs and relevant project information**

71. Per ADB SPS, 2009, IEEs will be disclosed on ADB and project websites. The executive summaries, project-related and other environmental information will be available in an accessible place and in a form or language understandable to affected people and other stakeholders. For illiterate people, other suitable communication methods will be used. IEEs will

## V. CONSULTATION, INFORMATION DISCLOSURE, AND GRIEVANCE REDRESS MECHANISM

### A. Public Consultation and Information Disclosure

72. Consultations will be carried out on an ongoing basis throughout the project cycle. Consultation will occur freely and voluntarily, without any external manipulation, interference, or threat of retribution, and is conducted in an atmosphere of transparency. PMU will ensure that consultations be inclusive of various segments of the affected community, including both women and men, and accessible to the disadvantaged and vulnerable groups within the community.

73. **During IEE preparation.** Meetings and consultations with stakeholders from the target outer islands will take place to inform them of the proposed subproject and the possible environmental and social impacts. The following agenda will be used to ensure that there is adequate exchange of information and opinion. The dates, attendees, topics and conclusions will be recorded and included in the IEE.

- (i) A summary of the proposed works under the subproject;
- (ii) A summary of subproject objectives and likely positive and negative; environmental impacts, covering the construction phase and operational impacts;
- (iii) Invitation for feedback in respect of any areas of concern that the public may have, and suggested means of implementation;
- (iv) Disclosure of and feedback on the Grievance Redress Mechanism; and
- (v) Acceptability of the proposed works to the public.

74. Participants of the consultations, particularly from community groups, should include both women and men, and numbers of each should be recorded. Consultations must be conducted in a non-coercive environment, and care taken to ensure that the views of both women and men are heard. To ensure this, conducting focus group discussions for groups such as women, youth and the elderly should be considered. Should there be an groups identified as vulnerable on the island, focus group discussions should be held with such groups to understand their needs ways in which they may be affected by the subproject and any actions that may need to be taken to address these. Guidance should sought from the PACCB consultants.

75. Once the IEE is completed, a summary should be prepared in Deivehi. The IEE and Deivehi language summary should be distributed to the district authorities for their information and for display to the public. The IEE will be revised if necessary to address comments received from the stakeholders.

76. **Consultations pre- and during construction.** Subproject design and the IEE will disclosed to the community and to stakeholders to seek their feedback. This will be conducted within 60 days after mobilization of the contractors and before any works commence. The EMP will be revised if necessary, to incorporate suggestions and comments received. During construction, contractors will be required to inform affected people and other stakeholders of project activities which are likely to create environmental and social impacts, and to allow them to access general information about the subproject. In addition, should people affected by the project have any grievances, they have the right of lodging complaints through the grievance redress mechanism established for the project.

77. The PMU will establish channels of communication and engagement with affected communities to disclose information, including the results of monitoring and receive feedback on

the effectiveness of mitigation measures, and affected communities' ongoing interests and concerns about the project.

**78. Information, Education and Communication.** The Information, Education and Communication (IEC) component will address perceptions on solid waste management, communication channels within the island communities, the role of women and scope for public involvement in improved solid waste management activity, in line with the 3R. This will potentially include adopting practices at the household level that reduce waste generation (including in particular reduced use of disposable plastics) and the separation of compostable and recyclable waste, and eliciting participation in community level activity.

**79.** The IEC will also support island councils in the management of solid waste, particularly through partnerships with resorts, NGOs or other islands to support initiatives to manage solid waste safely and sustainably. Resorts could provide technical training to islands, help in repair of SWM equipment, joint transport of waste to treatment centers, and carry out joint awareness programs on SWM. Strategies may include:

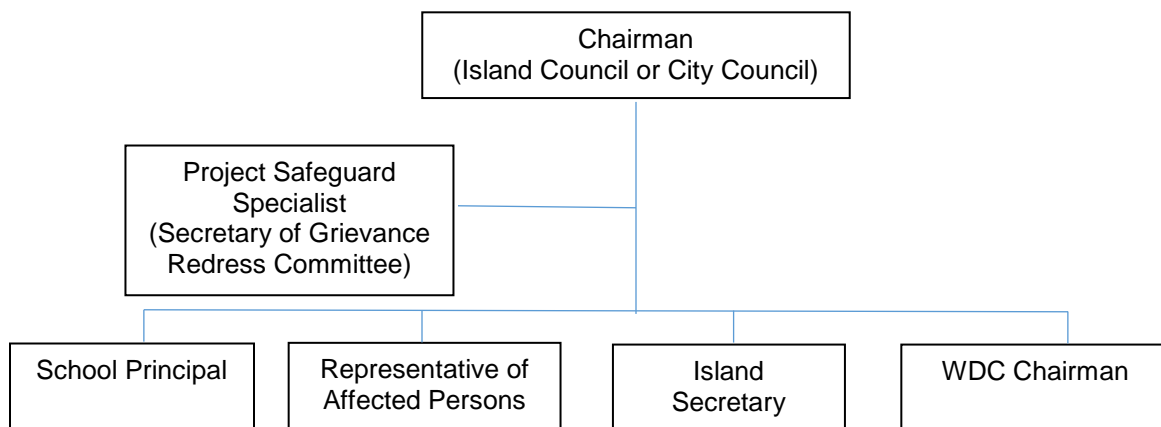
- (i) Involvement of environmental clubs that have been formed in schools;
- (ii) Use of social media, particularly those in common use already such as "facebook" and "viber";
- (iii) Setting up a dynamic knowledge portal;
- (iv) Sharing information on the project, its activities and roll out schedule of the project components;
- (v) Partnerships between resorts and neighbouring islands on sustainable waste management;
- (vi) Promoting 3R practices, including reduction of plastic water bottles through use of reusable glass bottles and/or large, reusable bottles for drinking water; and
- (vii) Encouraging use of locally produced compost.

## **B. Grievance Redress Mechanism**

**80.** A grievance redress mechanism (GRM) will be established to receive and facilitate the resolution of affected persons (APs) concerns, complaints, and grievances on negotiated/voluntary land donation or involuntary land acquisition, relocation, income restoration, environmental management and other construction and operation related issues. The GRM is accessible to all APs to address their concerns, grievances and issues effectively and swiftly, in accordance with ADP SPS, 2009.

**81. First Tier:** City Council/Island Council – grievances will be registered informally by contacting the city/island councils. If the grievance cannot be resolved informally then the APs can register a formal complaint. The council must screen the grievance to determine whether the concerns raised in the grievance are within the scope of the project. The council will determine solutions to the issues either by (i) discussing internally, or (ii) joint problem solving with aggrieved parties, or (iii) a combination of both options. If the complaint is resolved within a week, the council must communicate the decision to the aggrieved party formally or informally. Should matter be unresolved and/or the AP be unhappy with the result, the complaint will be referred to the next tier. The grievance redress committee (GRC) includes the island's representatives as well as project officers related to each island, as shown in the Figure 3 below.

**Figure 3: Grievance Redress Committee Composition for First Tier**



82. **Second Tier:** The AP can elevate the grievance to the second tier, and submit a complaint on a letter addressed to MEE. MEE will forward the letter to the PMU. The PMU will be responsible to resolve the complaint within 15 days and communicate the decision to the aggrieved party. The PMU screens the grievance and determines if it is related to the project. If unrelated, the AP is notified in writing. If it is relevant to the project, the PMU will hold discussions with the MEE on the matter and if necessary, (i) arranges visit the site and hold on-site discussions and/or (ii) refers the matter to the project steering committee. The PMU then decides on the action that will be taken by the project to address the grievance, and the decision will be conveyed to the AP in writing.

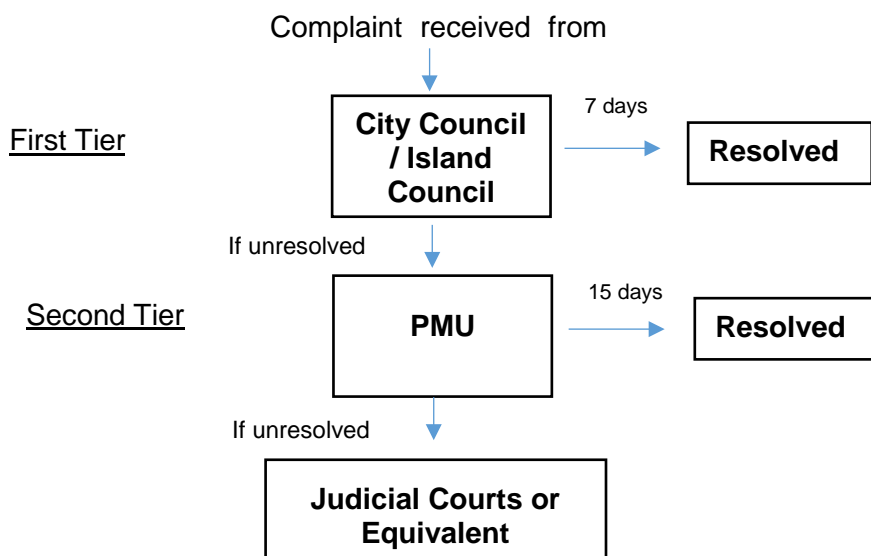
83. The affected persons can also direct contact (in writing) the ADB Project Officer at ADB headquarters. The complaint can be submitted in any of the official languages of ADB's Developing Member Countries. This may be done at any time [add appropriate address or method of contact].

84. The APs can also use the ADB Accountability Mechanism (AM) through directly contacting (in writing) the Complaint Receiving Officer (CRO) at ADB. The complaint can be submitted in any of the official languages of ADB's DMCs. The ADB Accountability Mechanism information will be included in the Project Information Document to be distributed to the affected communities, as part of the project GRM.

85. The GRM notwithstanding, an aggrieved person shall have access to the country's legal system at any stage through the Maldives judicial or appropriate administrative system. This can run parallel to accessing the GRM and is not dependent on the negative outcome of the GRM.

86. The flow diagram of resolving complaints under the GRC is shown in Figure 3.

**Figure 4: Grievance Redress Mechanism Diagram for Complaints Resolution**



87. The GRM will include group meetings and discussions with APs to address general and common grievances. These meetings and discussions will be announced in advance, conducted at the time of day agreed on with APs (based on their availability), and facilitated by the PMU and PMDSC at least quarterly. The PMU and PMDSC shall ensure that illiterate APs or vulnerable APs are assisted to understand the grievance redress process, to register complaints and with follow-up actions at different stages in the process. Records will be kept by the PMU to keep track of all grievances received, both informal and formal, including contact details of complainant, date when the complaint was received, nature of grievance, agreed corrective actions and the date when these were effected, and final outcome. A Sample Grievance Registration Form is attached in Appendix 4.

88. All costs involved in resolving the complaints (meetings, consultations, communication and reporting, and information dissemination) will be borne by the PMU.

## VI. INSTITUTIONAL ARRANGEMENT AND RESPONSIBILITIES

### A. Implementation Arrangements

89. The executing agency is the Ministry of Finance and Treasury (MOFT). The implementing agency is MEE who will establish a PMU comprising officials from MEE and WAMCO. The PMU will be strengthened with external experts in the areas of finance, procurement, technical areas, contract management and safeguards. The project steering committee chaired by Minister, MEE will provide overall guidance and strategic directions to the project. Consultant firms will be recruited under the project to support engineering designs, supervision, project management, institutional capacity strengthening, and community awareness.

90. **Project Management Unit.** The Director General of the Solid Waste Department of MEE informed a dedicated full-time PMU for the ADB Zone 3 waste management project will be established (pending approval by MOFT) with eight staff as follows: (i) Project Director (part-time, Director General of Department), (ii) Project Manager (full time), (iii) Procurement Specialist, (iv)

Finance Specialist, (v) Safeguard Specialist, (vi) Civil Engineer, (vii) IEC Specialist, and (viii) administrative assistant. The Project Director is a government official empowered to take official decisions, while remaining PMU staff are contracted staff recruited from the market. The PMU will be supported by consultants for project management, capacity building, monitoring, and technical design and supervision support. The proposed PMU contract staff are to be recruited competitively without further delay in phases.

91. **Terms of Reference for PMU Environment Officer.** Key tasks and responsibilities of the PMU environment officer are as follows:

- (i) confirm existing IEEs/EMPs are updated based on detailed designs, and that new IEEs/EMPs are prepared in accordance with the EARF and subproject selection criteria related to safeguards;
- (ii) confirm whether IEEs/EMPs are included in bidding documents and civil works contracts;
- (iii) provide oversight on environmental management aspects of subprojects and ensure EMPs are implemented by island councils and contractors
- (iv) establish a system to monitor environmental safeguards of the project, including monitoring the indicators set out in the monitoring plan of the EMP;
- (v) facilitate and confirm overall compliance with all government rules and regulations regarding site and environmental clearances, as well as any other environmental requirements (e.g., location clearance certificates, environmental clearance certificates, etc.), as relevant; e. supervise and provide guidance to the island councils to properly carry out the environmental monitoring as per the EARF;
- (vi) review, monitor, and evaluate the effectiveness with which the EMPs are implemented, and recommend necessary corrective actions to be taken as necessary;
- (vii) consolidate monthly environmental monitoring reports from PIUs and submit semi-annual monitoring reports to ADB;
- (viii) ensure timely disclosure of final IEEs/EMPs in locations and form accessible to the public;
- (ix) address any grievances brought about through the grievance redress mechanism in a timely manner;
- (x) with assistance from the PMDCSC, provide orientation to PCU and PIU staff in environmental management arrangements for the project;
- (xi) provide inputs to progress reports and the project completion report;
- (xii) visit worksites during construction and provide guidance relating to supervision and compliance monitoring; and
- (xiii) visit completed works and assist with establishing environmental monitoring procedures for the operation phase of the improved infrastructure.

92. **Consultants.** The PMDCSC includes an environmental safeguards specialist. The PMDCSC shall (i) prepare, review and update the IEEs prepared during project preparation stage; (ii) prepare/update IEEs for Output 2 (IWMCs for 32 outer islands); (iii) ensure EMPs are included in the bid and contract documents; (iv) ensure all statutory clearances are obtained prior to award of contracts; (v) facilitate meaningful consultations and carry out disclosure of safeguard documents as necessary; (vi) monitor EMP implementation; (vii) prepare environmental and social mentoring reports; and (viii) prepare corrective action plan/s as required to ensure compliance with ADB SPS, 2009 and national laws and regulations. The consultants recruited for strengthening capacity for sustainable solid waste management in the Greater Malé region, recruited under a capacity building transaction technical assistance (TRTA) package, will provide

implementation support including application of selection criteria, and environmental monitoring while support in community consultation will be provided by the PACCB consultants.

93. The PMDSC environmental safeguards specialist will:

- (i) screen and categorize IWMCs for inclusion in the project;
- (ii) ensure no Category A subproject per ADB SPS definition;
- (iii) prepare, review and update the IEEs prepared during project preparation stage;
- (iv) prepare/update IEEs for Output 2 (IWMCs for 32 outer islands);
- (v) as part of the EMP, prepare a project-focused Occupational Health and Safety Plan (OHS) to be adopted by PMU and contractors.
- (vi) ensure EMPs are included in the bid and contract documents;
- (vii) ensure all statutory clearances are obtained prior to award of contracts;
- (viii) facilitate meaningful consultations and carry out disclosure of safeguard documents as necessary;
- (ix) conduct Safeguards Orientation to contractors prior to mobilization
- (x) review the Contractor's Environmental Management Plan (CEMP) for adequacy in terms of compliance with the requirements of the EMP and instruct amendments and additions as necessary
- (xi) monitor contractors' implementation of the CEMPs.
- (xii) ensure that relevant OHS provisions in the contracts are abided by the contractors during the construction works.
- (xiii) develop and conduct regular safeguards trainings for PMU, island councils and other stakeholders to ensure common understanding of ADB SPS, 2009 requirements in all phases of project implementation.
- (xiv) monitor EMP implementation;
- (xv) assist PMU Safeguards Office in monitoring CEMP implementation by the contractors
- (xvi) prepare environmental and social mentoring reports
- (xvii) prepare corrective action plan/s as required to ensure compliance with ADB SPS, 2009 and national laws and regulations
- (xviii) assist in grievance redressal

94. The consultants recruited for strengthening capacity for sustainable solid waste management in the Greater Malé region, recruited under a capacity building transaction technical assistance (TRTA) package, will provide implementation support including application of selection criteria, and environmental monitoring while support in community consultation will be provided by the PACCB consultants.

95. **The Contractor.** The contractor will have the following roles and responsibilities:

- (i) complies with all applicable legislation, is conversant with the requirements of the EMP, and briefs staff about the requirements of same;
- (ii) ensures any sub-contractors/ suppliers, who are utilized within the context of the contract, comply with the environmental requirements of the EMP. The Contractor will be held responsible for non-compliance on their behalf;
- (iii) provides environmental awareness training to staff;
- (iv) bears the costs of any damages/ compensation resulting from non-adherence to the EMP or written site instructions;
- (v) conducts all activities in a manner that minimizes disturbance to directly affected residents and the public in general, and foreseeable impacts on the environment;



- (vi) ensures that its staff or engineers are informed in a timely manner of any foreseeable activities that will require input from the environment and safety officers (or equivalent);
- (vii) appoints one full time environment and safety officer (or equivalent) for implementation of EMP, community liaising, reporting and grievance redressal on day to day basis; and
- (viii) receives complaints/grievances from the public, immediately implements the remedial measures and reports to the PMU and PMDSC.

**Table 5: Roles and Responsibilities of Project Implementation Organizations**

<b>Project Implementation Organizations</b>	<b>Management Roles and Responsibilities</b>
Executing agency Ministry of Finance and Treasury (MOFT)	<ul style="list-style-type: none"> <li>• Guide and monitor overall project execution.</li> <li>• Financial oversight. Ensure flow of funds to the implementing agency and timely availability of counterpart funding; ensure adequate budget for successful implementation of the project.</li> <li>• Monitors compliance with project legal Agreements</li> <li>• Procurement oversight. Responsible for approving procurement. Review and coordinate evaluation of bids for works, goods, and consultant services.</li> <li>• Maintaining project accounts and project financial records;</li> <li>• Review and sign withdrawal applications before submitting to Asian Development Bank (ADB).</li> <li>• Approve project management unit (PMU).</li> </ul>
Project steering committee [Chair: Minister, Ministry of Environment and Energy (MEE)]	<ul style="list-style-type: none"> <li>• Provide policy direction to facilitate project implementation.</li> <li>• High-level troubleshooting.</li> <li>• Meets quarterly (or as needed) to review project performance and resolve issues.</li> </ul>
Implementing agency 1 (MEE)	<ul style="list-style-type: none"> <li>• Overall day-to-day project management, monitoring, and evaluation.</li> </ul>
PMU in MEE	<ul style="list-style-type: none"> <li>• Responsible for overall project management, implementation and monitoring;</li> <li>• Reviews the reports submitted by (project management, design and construction supervision consultant) PMDSC with respect to detailed design, costs, safeguards, financial, economic, and social viability</li> <li>• Prepare, with the support of PMDSC, bidding documents, request for proposals, and bid evaluation reports;</li> <li>• Serves as point of contact with ADB, maintains project documents, and submits timely reports (quarterly progress reports and project completion report) to ADB by consolidating relevant inputs from PMDSCs and island council;</li> <li>• Consolidates expenditures and prepare withdrawal applications for direct payment, reimbursements and use of imprest advance;</li> <li>• Opens and manages imprest account for ADB Grant;</li> <li>• Organize project orientation for participating island councils by elaborating scope of the project and sharing about their obligation and including maintaining separate accounts for their respective contributions;</li> <li>• Establishment and maintaining of project website by disclosing progress reports, safeguard monitoring reports and design reports; and</li> <li>• Collect supporting documents and submit withdrawal applications to ADB via MOFT.</li> </ul>

Project Implementation Organizations	Management Roles and Responsibilities
	<ul style="list-style-type: none"> <li>Monitors and ensures the compliance of covenants, particularly timely submission of audited project accounts and compliance with safeguard requirements;</li> </ul>
Technical committee	<ul style="list-style-type: none"> <li>Advise and facilitate to resolve technical issues.</li> </ul>
WAMCO	<ul style="list-style-type: none"> <li>Operator for collection, transport, and disposal of waste services in project area</li> <li>Manage regional waste management facilities</li> </ul>
Island Councils	<ul style="list-style-type: none"> <li>Operators of solid waste services on outer islands</li> <li>Responsible for management and O&amp;M of Island Waste Management Centers</li> </ul>
ADB	<ul style="list-style-type: none"> <li>Conducts project review missions, midterm review mission and project completion review mission to assess project implementation progress of all outputs, compliance of grant covenants including actions required in terms of safeguards (environmental impacts and social mitigation measures applicable); timeliness of budgetary allocations and counterpart funding; project expenditures; progress with procurement and disbursement;</li> <li>Post on ADB website the updated project information documents and safeguards documents as per disclosure provision of the ADB safeguards policy statement.</li> <li>Reviews executing agency and implementing agency's submissions for procurement of goods, equipment, works and services and provides comments and no objection on the submissions</li> <li>Checks Statement of Expenditure on sampling basis</li> </ul>

## B. Institutional Capacity Development Program

96. The PMU, to be established by the MEE, will be responsible for the implementation of safeguards and ensuring that they comply with ADB requirements as well as the EPPA. The body responsible for approving environmental impact assessments and issuing of permits is the Environmental Protection Agency (EPA), which is under the Ministry of Environment and Energy.<sup>31</sup> Capacities were assessed by the PPTA consultants during interviews that took place in July and September 2017. The EPA has few trained technical staff and at the time of capacity assessment work undertaken by the PPTA consultants, all senior members of the EPA's waste department were away from the office for study, which is indicative of a low staffing resource level. The agency relies on external consultants for functions such as environmental monitoring for projects, however this is usually confined to the construction phase. The EPA does have one team of field staff a laboratory and a boat for fieldwork, but laboratory operations and travel is constrained by budget constraints. The situation is reflected in other departments of the MEE.

97. The PMDSC will provide assistance during the project for the implementation of safeguards in compliance with ADB SPS 2009 requirements and with the requirements of the EPPA. This provision responds to lessons learned for project design to include support to PMU staff in project implementation particularly in procurement, contract management, and safeguards. The PMDSC will provide assistance to the PMU for overseeing EMP implementation.

<sup>31</sup> Note that EPA, while it comes under MEE, has a governing board which is a statutory body.

98. Besides the IEC component which includes some capacity building measures for ICs (e.g. increasing outreach of IEC, closing feedback loop), the Transaction Technical Assistance (TRTA) for Strengthening Capacity for Sustainable Solid Waste Management in the Greater Malé Region will provide both implementation and safeguard guidance and assistance towards the PMU. Since recycling is of a major concern, a market sounding will be carried out during the TRTA to increase the knowledge in this regard and to inform the institutional stakeholders (mainly MEE, WAMCO and ICs) about the potential for recycling of certain waste components.

99. Included in the capacity development for the island communities is a package to enhance the awareness and knowledge relating to solid waste management aspects and the O&M of the IWMCs which will help to facilitate a proper operation of and a well-defined input for the IWMCs (source separation of compostable fraction).

### C. Indicative Budget Requirement

**Table 6: Indicative Budget Requirement**

Item	Unit cost per island (US\$)	Total Cost (US\$)
Site visits	135	4,320
IEE preparation for each IWMC	725	23,200
Environmental clearance for IEE	60	1,920
Consultations/Meetings	240	7,680
Establishment of GRM in each outer island	115	3,680
Updating of IEE/s	90	2,880
Disclosures	80	2,560
IEC Activities	165	5,280
Monitoring visits during construction	340	10,880
Capacity development	125	4,000
Contingency (10%)		6,640
<b>Total</b>		<b>73,040</b>

## VII. MONITORING AND REPORTING

100. **Monitoring.** The objectives of monitoring in relation to the project are (i) gauge the performance of improved waste collection and treatment operations, (ii) ascertain the level of behaviour change that occurs and (iii) to obtain the benefit of views from local communities on changes that occur in living conditions as the improved IWMCs and related measures come into operation. The process of obtaining community feedback is also expected to help foster a sense of ownership among the user communities. Monitoring activities will therefore be observations of efficiency of waste collection and treatment and obtaining feedback from local communities.

101. To ensure that potential environmental problems are detected and addressed appropriately, environmental monitoring will take place during construction and operation and maintenance stages of each subproject. During construction stage, responsibility for monitoring shall be held by the PMU, through the PMDCSC, and the construction supervision team. Key tasks will be the monitoring of compliance with environmental mitigation measures as indicated in the EMPs for each island. During operation and maintenance stage, responsibility for monitoring shall rest with the island councils. Indicative summary of these monitoring activities and responsibilities is shown in Table 7.

**Table 7: Indicative Summary of Monitoring Activities and Responsibilities**

Impact to be Monitored	Means of Monitoring	Pre-construction		Construction		Operation	
		Frequency	Responsible Agency	Frequency	Responsible Agency	Frequency	Responsible Agency
Incidence of burning (at homes and	Community feedback / site observations	Once, to establish baseline	Island Councils / PMDSC	Quarterly consultations and reporting	Island Councils / PMCDS	Annual consultations and reporting	Island councils
Adoption and effectiveness of source separation	Community feedback / site observations	Once, to establish baseline	Island Councils / PMDSC	Quarterly consultations and reporting	Island Councils / PMCDS	Annual consultations and reporting	Island councils
Increased re-use and recycling of waste	Community feedback / site observations / shipping records	Once, to establish baseline	Island Councils / PMDSC	Quarterly consultations and reporting	Island Councils / PMCDS	Annual consultations and reporting	Island councils
Efficiency of handling, treatment and transfer of waste	Community feedback / site observations / IWMC operational records / shipping records	Once, to establish baseline	Island Councils / PMDSC	Quarterly consultations and reporting	Island Councils / PMCDS	Annual consultations and reporting	Island councils
Compliance with the provisions of the EMP	Regular inspections of ongoing and completed work	Once	MEE / PMDSC	Daily	PMCDS	Three-monthly	MEE

102. **Reporting.** PMU with the help of PMDSC will prepare periodic monitoring reports that describe progress with implementation of the EMP and compliance issues and corrective actions, if any. Semi-annual environmental monitoring reports shall be submitted to ADB for review and disclosure on the ADB website. PMU shall likewise disclose the reports on its website and in places accessible to the public. The suggested semi-annual environmental monitoring report format is in Appendix 4.

## RAPID ENVIRONMENTAL ASSESSMENT CHECKLIST

**Instructions:**

- (i) The project team completes this checklist to support the environmental classification of a project. It is to be attached to the environmental categorization form and submitted to the Environment and Safeguards Division (RSES) for endorsement by the Director, RSES and for approval by the Chief Compliance Officer.
- (ii) This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB's (a) checklists on involuntary resettlement and Indigenous Peoples; (b) poverty reduction handbook; (c) staff guide to consultation and participation; and (d) gender checklists.
- (iii) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

**Country/Project Title:** Greater Malé Environmental Improvement and Waste Management Project

**Sector Division:** South Asia Urban Development and Water Division

Screening Questions	Yes	No	Remarks
A. Project Siting Is the project area...			
▪ Densely populated?			
▪ Heavy with development activities?			
▪ Adjacent to or within any environmentally sensitive areas?			
• Cultural heritage site			
• Protected Area			
• Wetland			
• Mangrove			
• Estuarine			
• Buffer zone of protected area			
• Special area for protecting biodiversity			
• Bay			
B. Potential Environmental Impacts Will the Project cause...			
▪ impacts associated with transport of wastes to the disposal site or treatment facility			
▪ impairment of historical/cultural monuments/areas and loss/damage to these sites?			
▪ degradation of aesthetic and property value loss?			

Screening Questions	Yes	No	Remarks
▪ nuisance to neighboring areas due to foul odor and influx of insects, rodents, etc.?			
▪ dislocation or involuntary resettlement of people?			
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?			
▪ risks and vulnerabilities related occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?			
▪ public health hazards from odor, smoke from fire, and diseases transmitted by flies, insects, birds and rats?			
▪ deterioration of water quality as a result of contamination of receiving waters by leachate from land disposal system?			
▪ contamination of ground and/or surface water by leachate from land disposal system?			
▪ land use conflicts?			
▪ pollution of surface and ground water from leachate coming from sanitary landfill sites or methane gas produced from decomposition of solid wastes in the absence of air, which could enter the aquifer or escape through soil fissures at places far from the landfill site?			
▪ inadequate buffer zone around landfill site to alleviate nuisances?			
▪ road blocking and/or increased traffic during construction of facilities?			
▪ noise and dust from construction activities?			
▪ temporary silt runoff due to construction?			
▪ hazards to public health due to inadequate management of landfill site caused by inadequate institutional and financial capabilities for the management of the landfill operation?			
▪ emission of potentially toxic volatile organics from land disposal site?			
▪ surface and ground water pollution from leachate and methane gas migration?			
▪ loss of deep-rooted vegetation (e.g. trees) from landfill gas?			
▪ explosion of toxic response from accumulated landfill gas in buildings?			
▪ contamination of air quality from incineration?			
▪ public health hazards from odor, smoke from fire, and diseases transmitted by flies, rodents, insects and birds, etc.?			

Screening Questions	Yes	No	Remarks
▪ health and safety hazards to workers from toxic gases and hazardous materials in the site?			
▪ large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?			
▪ social conflicts if workers from other regions or countries are hired?			
▪ risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?			
▪ community safety risks due to both accidental and natural hazards, especially where the structural elements or components (e.g., landfill or incinerator) of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning?			

### A Checklist for Preliminary Climate Risk Screening

**Country/Project Title:** Greater Malé Environmental Improvement and Waste Management Project

**Sector:** Waste Management

**Subsector:** Water and urban infrastructure and services

**Division/Department:** South Asia Department / Urban Development and Water Division

	Screening Questions	Score	Remarks <sup>32</sup>
<b>Location and Design of project</b>	Is siting and/or routing of the project (or its components) likely to be affected by climate conditions including extreme weather related events such as floods, droughts, storms, landslides?		
	Would the project design (e.g. the clearance for bridges) need to consider any hydro-meteorological parameters (e.g., sea-level, peak river flow, reliable water level, peak wind speed etc)?		
<b>Materials and Maintenance</b>	Would weather, current and likely future climate conditions (e.g. prevailing humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and humidity hydro-meteorological parameters likely affect the selection of project inputs over the life of project outputs (e.g. construction material)?		
	Would weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s) ?		
<b>Performance of project outputs</b>	Would weather/climate conditions, and related extreme events likely affect the performance (e.g. annual power production) of project output(s) (e.g. hydro-power generation facilities) throughout their design life time?		

<sup>32</sup> If possible, provide details on the sensitivity of project components to climate conditions, such as how climate parameters are considered in design standards for infrastructure components, how changes in key climate parameters and sea level might affect the siting/routing of project, the selection of construction material and/or scheduling, performances and/or the maintenance cost/scheduling of project outputs.

Options for answers and corresponding score are provided below:

Response	Score
Not Likely	0
Likely	1
Very Likely	2

Responses when added that provide a score of 0 will be considered low risk project. If adding all responses will result to a score of 1-4 and that no score of 2 was given to any single response, the project will be assigned a medium risk category. A total score of 5 or more (which include providing a score of 1 in all responses) or a 2 in any single response, will be categorized as high risk project.

**Result of Initial Screening (Low, Medium, High):** \_\_\_\_\_

**Other Comments:** \_\_\_\_\_  
 \_\_\_\_\_

**Prepared by:** \_\_\_\_\_



## CONTENT AND FORMAT OF ENVIRONMENTAL ASSESSMENT DOCUMENTS

1. An environmental assessment report is required for all environment category A and B projects. Its level of detail and comprehensiveness is commensurate with the significance of potential environmental impacts and risks. A typical EIA report contains the following major elements, and an IEE may have a narrower scope depending on the nature of the project. The substantive aspects of this outline will guide the preparation of environmental impact assessment reports, although not necessarily in the order shown.
2. **Executive Summary.** This section describes concisely the critical facts, significant findings, and recommended actions.
3. **Policy, Legal, and Administrative Framework.** This section discusses the national and local legal and institutional framework within which the environmental assessment is carried out. It also identifies project-relevant international environmental agreements to which the country is a party.
4. **Description of the Project.** This section describes CRDP-II; its major components; and its geographic, ecological, social, and temporal context, including any associated facility required by and for the project (for example, access roads, power plants, water supply, quarries and borrow pits, and spoil disposal). It normally includes drawings and maps showing the project's layout and components, the project site, and the project's area of influence.
5. **Description of the Environment (Baseline Data).** This section describes relevant physical, biological, and socioeconomic conditions within the study area. It also looks at current and proposed development activities within the project's area of influence, including those not directly connected to the project. It indicates the accuracy, reliability, and sources of the data.
6. **Anticipated Environmental Impacts and Mitigation Measures.** This section predicts and assesses the project's likely positive and negative direct and indirect impacts to physical, biological, socioeconomic (including occupational health and safety, community health and safety, vulnerable groups and gender issues, and impacts on livelihoods through environmental media and physical cultural resources in the project's area of influence, in quantitative terms to the extent possible; identifies mitigation measures and any residual negative impacts that cannot be mitigated; explores opportunities for enhancement; identifies and estimates the extent and quality of available data, key data gaps, and uncertainties associated with predictions and specifies topics that do not require further attention; and examines global, trans boundary, and cumulative impacts as appropriate.
7. **Analysis of Alternatives.** This section examines alternatives to CRDP-II site, technology, design, and operation—including the no project alternative—in terms of their potential environmental impacts; the feasibility of mitigating these impacts; their capital and recurrent costs; their suitability under local conditions; and their institutional, training, and monitoring requirements. It also states the basis for selecting the particular project design proposed and, justifies recommended emission levels and approaches to pollution prevention and abatement.
8. **Information Disclosure, Consultation, and Participation.** This section: (i) describes the process undertaken during project design and preparation for engaging stakeholders, including information disclosure and consultation with affected people and other stakeholders; (ii) summarizes comments and concerns received from affected people and other stakeholders and how these comments have been addressed in project design and mitigation measures, with

special attention paid to the needs and concerns of vulnerable groups, including women, the poor, and Indigenous Peoples; and (iii) describes the planned information disclosure measures (including the type of information to be disseminated and the method of dissemination) and the process for carrying out consultation with affected people and facilitating their participation during project implementation.

9. **Grievance Redress Mechanism.** This section describes the grievance redress framework (both informal and formal channels), setting out the time frame and mechanisms for resolving complaints about environmental performance.

10. **Environmental Management Plan.** This section deals with the set of mitigation and management measures to be taken during project implementation to avoid, reduce, mitigate, or compensate for adverse environmental impacts (in that order of priority). It may include multiple management plans and actions. It includes the following key components (with the level of detail commensurate with the project's impacts and risks):

i) **Mitigation** identifies and summarizes anticipated significant adverse environmental impacts and risks; describes each mitigation measure with technical details, including the type of impact to which it relates and the conditions under which it is required (for instance, continuously or in the event of contingencies), together with designs, equipment descriptions, and operating procedures, as appropriate; and provides links to any other mitigation plans (for example, for involuntary resettlement, Indigenous Peoples, or emergency response) required for the project.

ii) **Monitoring** describes monitoring measures with technical details, including parameters to be measured, methods to be used, sampling locations frequency of measurements, detection limits and definition of thresholds that will signal the need for corrective actions; and describes monitoring and reporting procedures to ensure early detection of conditions that necessitate particular mitigation measures and document the progress and results of mitigation.

iii) **Implementation arrangements** specify the implementation schedule showing phasing and coordination with overall project implementation; describes institutional or organizational arrangements, namely, who is responsible for carrying out the mitigation and monitoring measures, which may include one or more of the following additional topics to strengthen environmental management capability: technical assistance programs, training programs, procurement of equipment and supplies related to environmental management and monitoring, and organizational changes; and estimates capital and recurrent costs and describes sources of funds for implementing the environmental management plan.

iv) **Performance indicators** describes the desired outcomes as measurable events to the extent possible, such as performance indicators, targets, or acceptance criteria that can be tracked over defined time periods.

11. **Conclusion and Recommendation.** This section provides the conclusions drawn from the assessment and provides recommendations.

## COMPARATIVE ANALYSIS OF MALDIVES FRAMEWORK AND ADB SAFEGUARD POLICY STATEMENT

ADB Safeguard Policy Statement	Corresponding Legal Provisions of the draft of the Law on EIA / EIA regulations of 2008 / 2015	Extent of Equivalence	Recommended Gap Filling Measures	Confirmation / Action taken / where covered in EARF
<p>Key element (6)</p> <p>Identify socioeconomic impacts (including on livelihood through environmental health and safety, vulnerable groups, and gender issues)</p>	<p>In the EIA Regulations, “EIA” is defined as a means of identifying, predicting, evaluating and mitigating the biophysical, social, cumulative, economic and other relevant effects of a proposed development and “the Human Environment” as the natural and physical environment and the relationships of people. Schedule C.1 of the EIA Regulations Part 3 requires the EIA to identify and assess the impacts on public well-being, public health, public safety, public transport, employment and economic status.</p>	<p>Partial Equivalence</p> <p>There is no reference in the EIA legislation regarding need to assess impacts on vulnerable groups and gender issues.</p>	<p>For full equivalence, the EIA Regulations should include assessment of the impact on vulnerable groups and gender related impacts.</p>	<p>Para 84 describes consultations that need to take place, the findings of which need to be reflected in project / EMP design. Specific reference to gender impacts is included and reference to vulnerable groups has been added.</p>
<p>Key element (9)</p> <p>Assess potential trans- boundary impacts</p>	<p>There is no explicit reference to “assessment of trans-boundary impacts” in the legal framework.</p>	<p>No Equivalence.</p>	<p>For full compliance, new or revised legislation/regulations should require assessment of trans-boundary impacts</p>	<p>Given very limited scale of subprojects (mostly 30m x 30m facilities) no specific mention of transboundary impacts included.</p>

ADB Safeguard Policy Statement	Corresponding Legal Provisions of the draft of the Law on EIA / EIA regulations of 2008 / 2015	Extent of Equivalence	Recommended Gap Filling Measures	Confirmation / Action taken / where covered in EARF
Key element (11) Use strategic environmental assessment	There is no explicit reference to conduct of strategic environmental assessment in the legislation	No equivalence	To achieve full compliance the EIA regulations or similar legislation should require the conduct of SEAs, including assessment of plans, programs and policies	Assume this is to be addressed at policy / sector level rather than under the project
Key Element (4) Prepare an environmental management plan (EMP) that includes... related institutional or organizational arrangements	Schedule I of the EIA Regulations "Review of IEE or EIA study" Number 7: "Mitigation" requires the mitigation measures or "EMP" Plan to define in specific, practical terms the costs, manpower, equipment, timing and technology needed	Partial Equivalence  While, the EMP is required to provide for manpower requirements for its implementation, it is not explicit in terms of requiring institutional or organization arrangements for its implementation	To attain full equivalence, the EMP should explicitly require the definition of institutional or organization arrangement	Provided in Section VI (A) of the EARF
Key Element (5) Prepare an environmental management plan (EMP) that includes the proposed... capacity development and training measures	Schedule I of the EIA Regulations "Review of IEE or EIA study" Number 7: "Mitigation" requires an assessment of institutional capacity to carry out mitigation measures	Partial Equivalence The requirement for capacity development and training for implementation of EMP is implicit, rather than explicit in the legislation	To attain full equivalence, the legislation should made explicit reference for including capacity building and training needs in the EMP	Provided in VI (B) of the EARF
Key Element (9) Key considerations for EMP preparation include mitigation of potential adverse impacts to the level of no significant harm	The legislation is implicit in terms of the requirement to avoid or minimizing the impact on the environment or human health and safety	Partial Equivalence  There is no explicit reference to the polluter pay principle	To attain full equivalence, the legislation should explicitly made requirement for ensuring that the developer or polluter pay if there is damage to the environment or third party	As this project involves eliminating (or at least reducing) existing polluting practices viz open burning of rubbish, placing

ADB Safeguard Policy Statement	Corresponding Legal Provisions of the draft of the Law on EIA / EIA regulations of 2008 / 2015	Extent of Equivalence	Recommended Gap Filling Measures	Confirmation / Action taken / where covered in EARF
to third parties, and the polluter pays principle.				waste on soil this does not apply. Consideration could be given however to assisting with development of bylaws such as imposing fines for continued burning, or illegal dumping
Key element (1) Carry out meaningful consultation with affected people and facilitate their informed participation	Schedule E of the EIA Regulations lists the Public Consultation requirements as follows:  That the IEE and EIA process and report should include:  (a) A list of persons consulted including persons in statutory bodies, atolls and island offices, community groups and NGOs, local residents, local fishermen, tourism operators and others likely to be affected by the proposed development (b) Information on how, when and where consultations were conducted, e.g. stakeholder meetings in affected area, individual meetings,	Partial Equivalence  There is no clear timeline established when consultation should occur, if consultation should take place throughout project implementation and the means for resolution of any affected person's concerns	For full equivalence, the EIA Regulations should explicitly identifying the different stages at which consultation should take place (e.g. early in EIA process, before finalization of EIA and during project implementation and monitoring) as well as means to address people's concerns and grievances	Section V (A) gives guidance on when & how consultations are to take place

ADB Safeguard Policy Statement	Corresponding Legal Provisions of the draft of the Law on EIA / EIA regulations of 2008 / 2015	Extent of Equivalence	Recommended Gap Filling Measures	Confirmation / Action taken / where covered in EARF
	questionnaires; and (c) Summary of outcome of consultations, including the main concerns identified.			
Key element (2) Ensure women's participation in consultation	There is no explicit reference to women's participation in the consultative process, although reference to consultation in the EIA regulations.	No equivalence	For full equivalence the EIA Regulations should explicitly require consultation and participation of women in the EIA process and during project implementation	Section V(A) specifically mentions consultations with women as well as men
Key element (3) Involve stakeholders, including affected people and concerned nongovernment organizations, early in the project preparation process.	While there is explicit reference in Schedule E of the EIA Regulations of the requirements for involving stakeholders and affected people as outlined below, it does not specify the stages (including early in project preparation process) that consultation is mandatory: That the IEE and EIA process and report should include:  (a) A list of persons consulted including persons in statutory bodies, atolls and island offices, community groups and NGOs, local residents, local fishermen, tourism operators and others likely to	Partial equivalence  There is no reference in the legislation to the stages and timing of consultations	To attain full equivalence, the EIA Regulations should explicitly identifying the different stages at which consultation should take place, including early in the project preparation process	As above

ADB Safeguard Policy Statement	Corresponding Legal Provisions of the draft of the Law on EIA / EIA regulations of 2008 / 2015	Extent of Equivalence	Recommended Gap Filling Measures	Confirmation / Action taken / where covered in EARF
	be affected by the proposed development (b) Information on how, when and where consultations were conducted, e.g. stakeholder meetings in affected area, individual meetings, questionnaires; and (c) Summary of outcome of consultations, including the main concerns identified.			
Key element (4) Establish a grievance redress mechanism	There is no explicit reference to establishment of a grievance redress mechanism at the project level	No equivalence	For full equivalence the EIA Regulations should specify mechanisms for addressing people's grievances both during the EIA process and during project implementation	GRM included – Section V (B)
Key element (1) Disclose a draft environmental assessment (including the EMP) in a timely manner, before project appraisal, in an accessible place.	The EIA Regulations require public consultations, and the intent that the project is complex and sufficiently controversial, the Ministry of Environment can request additional public consultation. This would take place before the EA report is finalized.	Partial equivalence  There is no guidance on the disclosure of draft EA (and EMP), including timing, location and language	To achieve full equivalence, the EIA Regulations should clearly specify the timing, location, language and other specifics regarding the disclosure of the draft EA (and EMP)	Language and mode of disclosure given in V (A)
Key element (2) Disclose the final environmental	There is no guidance in the legislation	No equivalence	For full equivalence, the EIA Regulation should explicitly	As above

ADB Safeguard Policy Statement	Corresponding Legal Provisions of the draft of the Law on EIA / EIA regulations of 2008 / 2015	Extent of Equivalence	Recommended Gap Filling Measures	Confirmation / Action taken / where covered in EARF
assessment, and its updates if any, to affected people and other stakeholders	regarding the disclose of the final EA report and EMP, although the decision of approval or environmental clearance has to be disclosed		specify the need for disclosure of the final EA and EMP reports in an accessible location and in a language that is understandable to the affected people and other stakeholders	
Key element (2) Document monitoring results, including the development and implementation of corrective actions, and disclose monitoring reports.	<p>The EIA Regulations, Part IV Item 13 “Environmental Monitoring and Mitigation has the following instructions:</p> <p>(i) The proponent shall fund and conduct environmental monitoring and implementing mitigation measures for the development proposal if specified and required by virtue of the Environmental Decision Statement</p> <p>(ii) The proponent shall regularly submit summary environmental monitoring reports.....</p> <p>(iii) The proponent shall maintain records of all monitoring data and on request make these available to the Ministry of Environment</p>	<p>Partial equivalence</p> <p>There is no requirement for public disclosure of the monitoring results, disclosure is limited to submission to government agencies</p>	For full equivalence, the EIA Regulations should specify requirement for public disclosure of monitoring results	Specific mention of results of monitoring added to para 56



ADB Safeguard Policy Statement	Corresponding Legal Provisions of the draft of the Law on EIA / EIA regulations of 2008 / 2015	Extent of Equivalence	Recommended Gap Filling Measures	Confirmation / Action taken / where covered in EARF
	<p>(iv) The proponent shall submit a final environmental monitoring and mitigation report to the Ministry of Environment when the project is completed or at such time as may be specified in the Environment Decision Statement</p> <p>(v) The Ministry of Environment may request to put in place necessary additional measures based on the finding of the monitoring reports</p>			
<p>Key Element (2) If a project is located within a legally protected area, implement additional programs to promote and enhance conservation aims of the protected area</p>	<p>The EIA Regulations Schedule B further requires development to ensure that economic development is sustainable and that any development project assess the “presence or absence of critical ecosystems” that would “Environmental Sensitive Areas” (ESA) that have been identified by the Ministry of Environment. If such an ESA has been identified in the development</p>	<p>Partial Equivalence</p>	<p>To attain full equivalence, the legislation should be explicit if development can take place in protected areas or ESAs, and if so under what conditions and what added measures are necessary for enhancing conservation of the area</p>	<p>Conditions and criteria relating to ESAs set out in Table 3: planning and design criteria</p>

ADB Safeguard Policy Statement	Corresponding Legal Provisions of the draft of the Law on EIA / EIA regulations of 2008 / 2015	Extent of Equivalence	Recommended Gap Filling Measures	Confirmation / Action taken / where covered in EARF
	<p>area, that that site should be either removed for consideration for future development or that development could to take place, taking into consideration the conservation of the sensitive area, there by mitigating the negative impacts.</p> <p>However Schedule B of the EIA Regulations clarifies that if a site/island or its surrounding reef is part of the island/reef ecosystem included in the ESA sites listed for special protection, such sites should not be considered for any development. Also, any site/island selected for development must have at least a 20 m space (measured from the seaward edge inland) for maintenance of an undisturbed band of vegetation that could serve as a “no-development” buffer zone, or else it should be removed from any</p>			

ADB Safeguard Policy Statement	Corresponding Legal Provisions of the draft of the Law on EIA / EIA regulations of 2008 / 2015	Extent of Equivalence	Recommended Gap Filling Measures	Confirmation / Action taken / where covered in EARF
	development activity			
Key Element (3) In an area of natural habitats, there must be no conversion or degradation, unless (i) alternatives are not available; (ii) the overall benefits from the project substantially outweigh the environmental costs, and (iii) any conversion or degradation is appropriately mitigated	While, the legislation recognizes the need to ensure that development is excluded from specially designed environmentally sensitive sites, the EIA Regulations calls for evaluation of alternatives to development that cause less harm of the environment (that is defined as fauna, flora and natural habitats....)	Partial equivalence There is no explicit requirement for evaluating cost and benefits of damaging the environment (including natural habitats) in decision-making on conversion or degradation of natural habitats	To attain full equivalence, the legislation should specify the options for conversion and/or degradation of natural habitats including assessment of costs and benefits of conversion and mitigation options	Conversion of natural habitats excluded (Table 3)
Key Element (4) Use a precautionary approach to the use, development, and management of renewable natural resources	Schedule B of the EIA Regulations states that development that is in harmony with the natural environment is the preferred approach for the Maldives and environment is defined as the fauna, flora, natural habitat and the human environment. However, there is no specific reference to use of a precautionary approach to management of renewable natural resources	No Equivalence	To attain full equivalence, the legislation should require the explicit use of a precautionary approach to use and management of renewable natural resources	No significant ongoing use of natural resources involved in implementation
Key element (1) Apply pollution prevention and control	The main piece of legislation that provides regulations for the	Partial equivalence	For full equivalence, guidelines are required as stipulated by the EPP Act to manage	Reference to EHS General Guidelines included

ADB Safeguard Policy Statement	Corresponding Legal Provisions of the draft of the Law on EIA / EIA regulations of 2008 / 2015	Extent of Equivalence	Recommended Gap Filling Measures	Confirmation / Action taken / where covered in EARF
<p>technologies and practices consistent with international good practices.</p>	<p>protection and prevention of pollution is the Environment Protection and Preservation Act of 1993</p> <p>Under section 1 of Act, requires the Government and citizens to give special attention to the protection of its environment including both sea and the atmosphere. The relevant Government authorities shall also provide guidelines for the protection and preservation and everyone is required to respect such guidelines.</p> <p>Under section 7(a), any type of wastes, oils, poisonous gases or any substance that may have harmful effects on the environment shall not be disposed of within the territory of the Maldives. In cases where the disposal of such substances becomes absolutely necessary, they shall be disposed of only within those areas</p>	<p>While the EPPA does not make reference to international standards of pollution management</p>	<p>and deal with the pollution of air, water, land based on internationally recognized standards</p>	

ADB Safeguard Policy Statement	Corresponding Legal Provisions of the draft of the Law on EIA / EIA regulations of 2008 / 2015	Extent of Equivalence	Recommended Gap Filling Measures	Confirmation / Action taken / where covered in EARF
	designated for such purposes by the Government. If such waste is to be incinerated, appropriate precautions should be taken to avoid any harm to the health of the population. Similarly, the Act also states that wastes that are harmful to human health and the environment shall not be disposed of anywhere within the territory of the country and permission should be obtained from the relevant authority at least 3 months in advance of any trans-boundary movement of such wastes through the territory of the Maldives.			
Key Element (3) Avoid pollution, or, when avoidance is not possible, minimize or control the intensity or load of pollutant emissions and discharges, including direct and indirect greenhouse gases emissions, waste generation, and release of	Environment Protection and Preservation Act in Article 7 and 8 address the issues related to waste disposal and hazardous toxins.  Article 7 "Waste disposal, Oil and Poisonous Substances" states that  (a) Any types of waste oil, poisonous gases	Partial Equivalence  There is no recognition of load minimization and control, including measures for generation, release, handling and storage	To attain full equivalence, the legislation should require avoidance and control of emission and discharge loads and handling, production and storage of such materials	Steps for avoidance of use and control of hazardous materials in construction provided in list of potential impacts and in the sample IEE

ADB Safeguard Policy Statement	Corresponding Legal Provisions of the draft of the Law on EIA / EIA regulations of 2008 / 2015	Extent of Equivalence	Recommended Gap Filling Measures	Confirmation / Action taken / where covered in EARF
hazardous materials from their production, transportation, handling, and storage.	<p>or any substance that may be harmful on the environment shall not be disposed within the territory of the country</p> <p>(b) In case, where the disposal of substances stated in (a) becomes absolutely necessary, they shall be disposed within the areas designated by the government. If such wastes are incinerated, appropriate precautions should be taken to avoid harm to the health of the population</p> <p>Article 8 Hazardous/Toxic or Nuclear Wastes states that such wastes that is harmful to human health and the environment shall not be disposed in the territory of the country, Permission is required for any transboundary movement of such wastes through the territory of the Maldives</p>			
Key Element (4) Avoid the use of hazardous materials subject to international bans or phase-outs	The legislation (Environmental Protection and Preservation Act) refers to disposal of hazardous wastes and	Partial Equivalence	To attain full equivalence, the legislation should deal explicitly with the use of hazardous materials on the basis of	As above

ADB Safeguard Policy Statement	Corresponding Legal Provisions of the draft of the Law on EIA / EIA regulations of 2008 / 2015	Extent of Equivalence	Recommended Gap Filling Measures	Confirmation / Action taken / where covered in EARF
	transboundary movement of such wastes, but is silent on its use and phase-outs		international norms and phase out schedules	
Key Element (5) Purchase, use, and manage pesticides based on integrated pest management approaches and reduce reliance on synthetic chemical pesticides.	<p>There is no specific legislation that governs the purchase, use and management of pesticides in the Maldives.</p> <p>The Environment Protection and Preservation Act deals more broadly with the impacts of development related activities on the environment (fauna, flora, natural resources, etc.) and on the health and well being of the people. The direct and indirect impacts on air, water, and other natural systems (that likely refers to soil, renewable and non-renewable natural resources</p>	No Equivalence	To attain full equivalence, the legislation should provide guidance on the purchase, use and management (production, transport, storage, handing, disposal) of chemicals use in agriculture	Not applicable – no (or very limited) agriculture involved on project islands and not related to IWMC operation
Key Element (1) Conserve physical cultural resources and avoid destroying or damaging them by using field-based surveys that	The EIA regulations requires the need to conserve and protect cultural resources	<p>Partial equivalence</p> <p>The legislation lacks mention of the need to use field-based surveys and qualified experts during the EIA process</p>	To attain full equivalence, the legislation should require the use of field based surveys and qualified experts to assess impacts on cultural resources during EIA preparation	Requirements for surveys given in Table 3

ADB Safeguard Policy Statement	Corresponding Legal Provisions of the draft of the Law on EIA / EIA regulations of 2008 / 2015	Extent of Equivalence	Recommended Gap Filling Measures	Confirmation / Action taken / where covered in EARF
employ qualified and experienced experts during environmental assessment.				
Key Element (2) Provide for the use of “chance find” procedures that include a pre- approved management and conservation approach for materials that may be discovered during project implementation	None	There is no guidance on how to deal with “chance finds”	For full equivalence, the EIA regulations or other legislation should provide for the us of “chance find” procedures	Provided in Table 3



## GRIEVANCE REDRESS MECHANISM COMPLAINT FORM

(To be available in local language, if any)

The Greater Malé Environmental Improvement and Waste Management Project welcomes complaints, suggestions, queries and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing **\*(CONFIDENTIAL)\*** above your name. Thank you.

<b>Date</b>		<b>Place of registration</b>			
<b>Contact Information/Personal Details</b>					
<b>Name</b>		<b>Gender</b>	<b>Male</b>	<b>Female</b>	<b>Age</b>
<b>Home Address</b>					
<b>Village / Town</b>					
<b>District</b>					
<b>Phone no.</b>					
<b>E-mail</b>					
<b>Complaint/Suggestion/Comment/Question Please provide the details (who, what, where and how) of your grievance below:</b>					
If included as attachment/note/letter, please tick here:					
<b>How do you want us to reach you for feedback or update on your comment/grievance?</b>					

### FOR OFFICIAL USE ONLY

<b>Registered by: (Name of official registering grievance)</b>	
<b>If – then mode:</b>	
<input type="checkbox"/>	<b>Note/Letter</b>
<input type="checkbox"/>	<b>E-mail</b>
<input type="checkbox"/>	<b>Verbal/Telephonic</b>
<b>Reviewed by: (Names/Positions of Official(s) reviewing grievance)</b>	
<b>Action Taken:</b>	
<b>Whether Action Taken Disclosed:</b>	<input type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>
<b>Means of Disclosure:</b>	

### GRIVENCES RECORD AND ACTION TAKEN

Sr. No.	Date	Name and Contact No. of Complainer	Type of Complain	Place	Status of Redress	Remarks

## SEMI-ANNUAL ENVIRONMENTAL MONITORING REPORT FORMAT

### INTRODUCTION

- Overall project description and objectives
- Environmental category as per ADB Safeguard Policy Statement, 2009
- Environmental category of each subproject as per national laws and regulations
- Project Safeguards Team

Name	Designation/Office	Email Address	Contact Number	Roles
1. PMU				
2. PIUs				
3. Consultants				

- Overall project and sub-project progress and status
- Description of subprojects (package-wise) and status of implementation (preliminary, detailed design, on-going construction, completed, and/or O&M stage)

Package Number	Components/List of Works	Contract Status (specify if under bidding or contract awarded)	Status of Implementation (Preliminary Design/Detailed Design/On-going Construction/Completed/O&M) <sup>33</sup>	If On-going Construction	
				%Physical Progress	Expected Completion Date

<sup>33</sup> If on-going construction, include %physical progress and expected date of completion

### COMPLIANCE STATUS WITH NATIONAL/STATE/LOCAL STATUTORY ENVIRONMENTAL REQUIREMENTS<sup>34</sup>

Package No.	Subproject Name	Statutory Environmental Requirements <sup>35</sup>	Status of Compliance <sup>36</sup>	Validity if obtained	Action Required	Specific Conditions that will require environmental monitoring as per Environment Clearance, Consent/Permit to Establish <sup>37</sup>

### COMPLIANCE STATUS WITH ENVIRONMENTAL LOAN COVENANTS

No. (List schedule and paragraph number of Loan Agreement)	Covenant	Status of Compliance	Action Required

### COMPLIANCE STATUS WITH THE ENVIRONMENTAL MANAGEMENT PLAN (REFER TO EMP TABLES IN APPROVED IEE/S)

- Confirm if IEE/s require Contractors to submit site-specific EMP/construction EMPs. If not, describe the methodology of monitoring each package under implementation.

#### Package-wise IEE Documentation Status

Package Number	Final IEE based on Detailed Design				Site-specific EMP (or Construction EMP) approved by Project Director? (Yes/No)	Remarks
	Not yet due (detailed design not yet completed)	Submitted to ADB (Provide Date of Submission)	Disclosed on project website (Provide Link)	Final IEE provided to Contractor/s (Yes/No)		

<sup>34</sup> All statutory clearance/s, no-objection certificates, permit/s, etc. should be obtained prior to award of contract/s. Attach as appendix all clearance obtained during the reporting period. If already reported, specify in the "remarks" column.

<sup>35</sup> Specify (environmental clearance? Permit/consent to establish? Forest clearance? Etc.)

<sup>36</sup> Specify if obtained, submitted and awaiting approval, application not yet submitted

<sup>37</sup> Example: Environmental Clearance requires ambient air quality monitoring, Forest Clearance/Tree-cutting Permit requires 2 trees for every tree, etc.

- For each package, provide name/s and contact details of Contractor/s' nodal person/s for environmental safeguards.

**Package-wise Contractor/s' Nodal Persons for Environmental Safeguards**

Package Name	Contractor	Nodal Person	Email Address	Contact Number

- With reference to approved EMP/site-specific EMP/construction EMP, complete the table below

**Summary of Environmental Monitoring Activities (for the Reporting Period)<sup>38</sup>**

Impacts (List from IEE)	Mitigation Measures (List from IEE)	Parameters Monitored (As a minimum those identified in the IEE should be monitored)	Method of Monitoring	Location of Monitoring	Date of Monitoring Conducted	Name of Person Who Conducted the Monitoring
<b>Design Phase</b>						
<b>Pre-Construction Phase</b>						
<b>Construction Phase</b>						
<b>Operational Phase</b>						

<sup>38</sup> Attach Laboratory Results and Sampling Map/Locations

### Overall Compliance with CEMP/ EMP

No.	Sub-Project Name	EMP/ CEMP Part of Contract Documents (Y/N)	CEMP/ EMP Being Implemented (Y/N)	Status of Implementation (Excellent/ Satisfactory/ Partially Satisfactory/ Below Satisfactory)	Action Proposed and Additional Measures Required

### APPROACH AND METHODOLOGY FOR ENVIRONMENTAL MONITORING OF THE PROJECT

- Briefly describe the approach and methodology used for environmental monitoring of each sub-project.

### MONITORING OF ENVIRONMENTAL IMPACTS ON PROJECT SURROUNDINGS (AMBIENT AIR, WATER QUALITY AND NOISE LEVELS)

- Discuss the general condition of surroundings at the project site, with consideration of the following, whichever are applicable:
  - Confirm if any dust was noted to escape the site boundaries and identify dust suppression techniques followed for site/s.
  - Identify if muddy water is escaping site boundaries or if muddy tracks are seen on adjacent roads.
  - Identify type of erosion and sediment control measures installed on site/s, condition of erosion and sediment control measures including if these are intact following heavy rain;
  - Identify designated areas for concrete works, chemical storage, construction materials, and refueling. Attach photographs of each area in the Appendix.
  - Confirm spill kits on site and site procedure for handling emergencies.
  - Identify any chemical stored on site and provide information on storage condition. Attach photograph.
  - Describe management of stockpiles (construction materials, excavated soils, spoils, etc.). Provide photographs.
  - Describe management of solid and liquid wastes on-site (quantity generated, transport, storage and disposal). Provide photographs.
  - Provide information on barricades, signages, and on-site boards. Provide photographs in the Appendix.
  - Indicate if there are any activities being under taken out of working hours and how that is being managed.
- Briefly discuss the basis for environmental parameters monitoring.
- Indicate type of environmental parameters to be monitored and identify the location.
- Indicate the method of monitoring and equipment used.
- Provide monitoring results and an analysis of results in relation to baseline data and statutory requirements.

As a minimum the results should be presented as per the tables below.

**Air Quality Results**

Site No.	Date of Testing	Site Location	Parameters (Government Standards)		
			PM10 µg/m3	SO2 µg/m3	NO2 µg/m3

Site No.	Date of Testing	Site Location	Parameters (Monitoring Results)		
			PM10 µg/m3	SO2 µg/m3	NO2 µg/m3

**Water Quality Results**

Site No.	Date of Sampling	Site Location	Parameters (Government Standards)					
			pH	Conductivity µS/cm	BOD mg/L	TSS mg/L	TN mg/L	TP mg/L

Site No.	Date of Sampling	Site Location	Parameters (Monitoring Results)					
			pH	Conductivity µS/cm	BOD mg/L	TSS mg/L	TN mg/L	TP mg/L

**Noise Quality Results**

Site No.	Date of Testing	Site Location	LA <sub>eq</sub> (dBA) (Government Standard)	
			Day Time	Night Time

Site No.	Date of Testing	Site Location	LA <sub>eq</sub> (dBA) (Monitoring Results)	
			Day Time	Night Time

**GRIEVANCE REDRESS MECHANISM**

- Provide information on establishment of grievance redress mechanism and capacity of

grievance redress committee to address project-related issues/complaints. Include as appendix Notification of the GRM (town-wise if applicable).

### **COMPLAINTS RECEIVED DURING THE REPORTING PERIOD**

- Provide information on number, nature, and resolution of complaints received during reporting period. Attach records as per GRM in the approved IEE. Identify safeguards team member/s involved in the GRM process. Attach minutes of meetings (ensure English translation is provided).

### **SUMMARY OF KEY ISSUES AND REMEDIAL ACTIONS**

- Summary of follow up time-bound actions to be taken within a set timeframe.

### **APPENDIXES**

- Photos
- Summary of consultations
- Copies of environmental clearances and permits
- Sample of environmental site inspection report
- all supporting documents including **signed** monthly environmental site inspection reports prepared by consultants and/or Contractors
- Others

### SAMPLE ENVIRONMENTAL SITE INSPECTION REPORT

Project Name \_\_\_\_\_  
 Contract Number \_\_\_\_\_

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_  
 TITLE: \_\_\_\_\_ DMA: \_\_\_\_\_  
 LOCATION: \_\_\_\_\_ GROUP: \_\_\_\_\_

WEATHER CONDITION: \_\_\_\_\_

INITIAL SITE CONDITION: \_\_\_\_\_

CONCLUDING SITE CONDITION:

Satisfactory \_\_\_\_\_ Unsatisfactory \_\_\_\_\_ Incident \_\_\_\_\_ Resolved \_\_\_\_\_ Unresolved \_\_\_\_\_

INCIDENT:  
 Nature of incident: \_\_\_\_\_

Intervention Steps: \_\_\_\_\_

Incident Issues

Resolution

Project Activity Stage	Survey	
	Design	
	Implementation	
	Pre-Commissioning	
	Guarantee Period	

#### Inspection

Emissions	Waste Minimization
Air Quality	Reuse and Recycling
Noise pollution	Dust and Litter Control
Hazardous Substances	Trees and Vegetation

Site Restored to Original Condition      Yes            No     

Signature \_\_\_\_\_

**Sign off**

\_\_\_\_\_  
**Name**  
**Position**

\_\_\_\_\_  
**Name**  
**Position**



