Date: 12 August 2020 **Invitation No: MV-MEE-158464-CS-CQS**

Outline Terms of Reference

for Selection of Consultant to undertake the preparation of Environmental and Social Assessments (ESMPs or ESIAs) for the establishment or upgrading of Island Waste Management Centres in Zone 4 & 5 project islands

1. BACKGROUND

Solid Waste Management (SWM) is a priority sector for the Maldives due to the fact of high economic and social dependence on a healthy marine environment. In recent years there has been a significant increase in the magnitude of waste management problems throughout the country for a number of reasons, including but not limited to population increase, changing lifestyle, dependence on importation, coupled with the environmental challenges brought about by the growing tourism. The worsening waste management situation is increasingly resulting in pollution of the environment and the generation of conditions prejudicial to public health. Practices vary from community to community, but at most islands waste is building up into many open dump sites spreading across islands and disposed of either in the sea or by open burning. Predicting the threats to the economic development, the Government of Maldives took a decision to invest heavily in the waste sector with the support of various donors and international agencies to build the necessary infrastructure to develop an integrated and sustainable solid waste management system throughout the country on a Zonal approach.

This process has started in 2008 with the support of the World Bank Group, under the International Development Association (IDA) credit to develop an integrated SWM system for Zone II, namely the Maldives Environmental Management Project (MEMP). This project has been completed in 2015, by developing SWM systems at the island's level and a regional waste treatment facility for final disposal of residual wastes from Zone II islands.

Following the success of the MEMP project and the design implemented, the Government of the Republic of Maldives has applied for a grant from the IDA for another regional waste management project under the title "Maldives Clean Environment Project" (MCEP). A portion of the funds of the project funds are allocated for Consultancy Services for carrying out environmental and social assessment studies.

Phase 1 of the technical and financial feasibility study for the regional waste management of Zone 4&5 has been completed and cleared by the World Bank in September 2019. Upon completion of phase one and delivery of partially completed Island Waste Management Systems report which informs the preliminary requirements for island level component, the project has received go ahead from the World Bank to commence construction of IWRMCs based on a proposal submitted by the PMU. Based on the population and the size of the islands, 2 distinguished types of technologies are proposed to deal with the organic component of the island waste stream, namely, anaerobic digestion and mechanical aerobic technology (using a mechanised compost machine). In addition to this, 6 ESMP reports were initially prepared in 2018 and cleared by the World Bank and the EPA, however, due to delays in delivery of the feasibility study, construction of these 6 IWRMCs were put on hold. The technology reflected in these 6 ESMPs are manual composting, which is now to be changed to mechanical composting based on the aforementioned proposal including certain design variations brought to the overall design of the IWRMCs. Therefore, these 6 ESMPs will need to be updated and resubmitted to the World Bank and the EPA for further clearance.

Accordingly, as implementing agency of the above project, the Ministry of Environment (ME) is seeking assistance of two qualified and competent consultancy firms for preparing EISAs and / or ESMPs for the proposed development of IWRMCs in 36 islands of Zone 4&5, including the construction of Island Waste Resource Management Centres, establishing intra island waste collection systems and installation of organic waste treatment systems within the IWRMCs.

2. OBJECTIVES

The primary objective of this assignment is to ensure that the environmental and social safeguards have been taken into consideration for the establishment or upgrading of IWRMCs in 36 islands of Zone 4&5 and are in compliance with the existing relevant laws and regulations of the Maldives and the World Bank's Safeguards Policies applicable to the project.

The main objective of the MCEP is to improve solid waste management practices in selected regions, namely Zone 2 (Noonu, Raa, Baa and Lhaviyani atoll), Zone 4 (Meemu, Faafu and Dhaalu atoll) and Zone 5 (Thaa and Laamu atoll). This will be achieved through the following four (4) components:

- Component 1: National Solid Waste Management Strategy and Policy
- Component 2: Regional Waste Management Systems
- Component 3: Island Waste Management Systems
- Component 4: Project Management

Preparation of ESMP and ESIA reports are only related to Component 3, which will support development/completion of island level facilities for managing collection, segregation, on-site treatment and storage of residual waste, until its eventual transfer to a regional waste management facility. The candidate zones for the project are 4 and 5, in addition to residual activities in Zone 2.

The project is categorized under Environmental Category A as per the World Bank safeguards categorization process.

Therefore, following safeguard policies are applicable to the MCEP

1. OP 4.01 – Environmental Assessment to ensure any environmental impact associated with project activities are identified in time and mitigated.

2. OP 4.04 – Natural Habitats is triggered because all of the country's islands are surrounded by coral reefs which are significant natural habitats. The overall project will not conduct any activities within designated protected areas and project interventions will facilitate in mitigating pollution and degradation of such ecosystems due to inappropriate SWM.

3. OP 4.12 - The interventions leading to the construction and expansion of IWRMCs could lead to future in case finds of involuntary loss of crop and / or land taking as a small percentage of communities rely on surrounding land for agriculture and livelihood thus proper due diligence measures to tackle any in case finds have to be inbuilt in to project screening.

Furthermore, Environmental and Social Impact Assessments (ESIA) are a legal requisite in the Maldives for development projects that may have any undesirable impacts on the environment. Schedule D of the Amendment 2 to the Environmental Impact Assessment Regulations (2012) provides a screening list of all development types for which a full ESIA is mandatory. However, the proposed development of IWRMCs and associated technologies comprising of mechanical composting and anaerobic digestion (AD) are not included in the Schedule D of the Environmental Impact Assessment Regulations (2012) of the Maldives. Yet, initial discussions held with the EPA and the World Bank have suggested that ESIAs might be required for AD sub-projects, given the proposed technology being relatively new to the country, coupled with it not being tested exclusively in inhabited islands. Once preliminary designs are finalised, the PMU will carry out a two-fold screening process with the EPA and the World Bank, which will inform the level of environmental and social assessments (ESAs) required for each sub-project (ESMPs or ESIAs). ESMPs are envisaged for mechanical composting sub-projects due to the simplicity of the technology being proposed and its various similarities with manual composting.

The consultants should note that the ESAs prepared should meet the World Bank's safeguards requirements, in addition to the national requirement, and therefore, the scope of sub-projects which require ESMPs will be much broader than the national requirements. The first batch of technical TORs cleared by the World Bank are included in this RFP document. These include the following.

- TOR A: ESMP or ESIA for the establishment or upgrading of IWRMC with Anaerobic Digestion (AD) Technology
- TOR B: ESMP for the establishment or upgrading of IWRMCs with Aerobic Technology using Composting Machine
- TOR C: Updating ESMPs for the establishment of IWRMCs with Aerobic Technology using Composting Machine

The TORs will be updated after completing the screening process and submitted to the World Bank for reapproval, where the reapproved versions would go into the respective agreements of the selected firms. Additionally, if ESIAs are required for AD sub-projects, the consultant will be required to approve the TOR following scoping meeting with the EPA.

The scope of works and corresponding sections are split into 2 lots as follows, each having its corresponding sub-components. Two separate consultancy firms will be selected to carry out the works specified under each lot, through a competitive selection process.

LOT 1: Preparation of ESMPs for 14 upgrading IWRMCs and 6 new IWRMCs with mechanical composting technology.

- Lot 1A: Updating of the original 6 ESMPs to accommodate design and technology change from manual composting to mechanical composting.
- Lot 1B: Preparation of ESMPs for the upgrading of 14 IWRMCs with mechanical composting technology.

LOT 2: Preparation of ESAs for 8 pilot sub-projects (mechanical composting and AD), ESMPs for 8 new IWRMCs with mechanical composting technology.

- Lot 2A: Preparation of ESIAs or ESMPs for 4 AD pilot sub-project IWRMCs and ESMPs for 4 mechanical composting sub-project IWRMCs.
- Lot 2B: Preparation of ESMPs for 8 new IWRMCs with mechanical composting technology.

The following sections of the RFP reflects the scope of works and required team composition separate for each lot.

LOT 1: Updating of 6 ESMPs and Preparation of 14 new ESMPs

3.1. SCOPE OF WORKS

The scope of works covered under Lot 1A includes the following two sub-components. Scope of works is defined separately for each sub-lot, but the tasks are combinedly described.

Lot 1A: Updating the original ESMPs prepared for the establishment of 6 IWRMCs reflecting design and technology variations

Under this component the consultant should update the following 6 ESMPs to reflected design and technology variations from manual composting to aerobic composting using a compost machine;

1. ESMP for the establishment of IWRMC in Th. Buruni (Saleem, 2018)
2. ESMP for the establishment of IWRMC in Th. Kinbidhoo (Saleem, 2018)
3. ESMP for the establishment of IWRMC in Th. Madifushi (Saleem, 2018)
4. ESMP for the establishment of IWRMC in Th. Omadhoo (Saleem, 2018)
5. ESMP for the establishment of IWRMC in Th. Thimarafushi (Saleem, 2018)
6. ESMP for the establishment of IWRMC in M. Mulaku (Saleem, 2018)

The consultant shall ensure that the updated ESMPs are in accordance with Environmental Impact Assessment Regulations (2012) enforced by EPA of the Republic of Maldives, the Environmental and Social Assessment and Management Framework (ESAMF) of MCEP and the safeguards policies of the World Bank. In addition to the consultations reflected in the original ESMPs, consultation shall be made with but not necessarily limited to; Ministry of Environment, EPA, Maldives Land and Survey Authority (MLSA), Island Councils, Waste Management Committee, Women's Development Committee and where necessary the community (especially those directly impacted by the project).

Due credit must be given to the original consultant of the report and this should be specified in the introduction chapter as well as the executive summary by exclusively highlighting parts updated and extracted from the original report.

Lot 1B: Preparation of ESMPs for the upgrading of 14 IWRMCs with mechanical composting technology

Under this component the consultant is required to prepare ESMPs for the upgrading of the IWRMCs in the following 14 sub-project islands:

1. Upgrading of IWRMC in Maduvvari, Meemu Atoll
2. Upgrading of IWRMC in Naalaafushi, Meemu Atoll
3. Upgrading of IWRMC in Raiymandhoo, Meemu Atoll

4. Upgrading of IWRMC in Veyvah, Meemu Atoll
5. Upgrading of IWRMC in Bilehdhoo, Faafu Atoll
6. Upgrading of IWRMC in Dharanboodhoo, Faafu Atoll
7. Upgrading of IWRMC in Bandidhoo, Dhaalu Atoll
8. Upgrading of IWRMC in Hulhudheli, Dhaalu Atoll
9. Upgrading of IWRMC in Meedhoo, Dhaalu Atoll
10. Upgrading of IWRMC in Dhiyamigili, Thaa Atoll
11. Upgrading of IWRMC in Kandoodhoo, Thaa Atoll
12. Upgrading of IWRMC in Vilufushi, Thaa Atoll
13. Upgrading of IWRMC in Gaadhiffushi, Thaa Atoll
14. Upgrading of IWRMC in Veymandoo, Thaa Atoll

The consultancy firm shall produce the ESMP reports through a consultative process in accordance with Environmental Impact Assessment Regulations (2012) enforced by EPA of the Republic of Maldives, the Environmental and Social Assessment and Management Framework (ESAMF) of MCEP and Safeguards Policies of the World Bank. Consultation shall be made with but not necessarily limited to; Ministry of Environment, Environmental Protection Agency (EPA), Maldives Land and Survey Authority (MLSA), Maldives National Défense Force (MNDF), Waste Management Corporation (WAMCO), Island Councils, Waste Management Committee, Women's Development Committee and the local community (especially those directly impacted by the project).

Tasks to be completed under Lot 1A and 1B

The tasks to be undertaken by consultant under both Lot 1A and 1B are to be managed in close collaboration with Environmental and Social Safeguards (ESS) Specialist of the Project Management Unit (PMU) of MCEP at ME, and include but are not necessarily limited to the following:

- Inception Report for the 4 deliverables under Lot 1A and Lot 1B: plan for carrying out the environmental assessments and stakeholder consultations including the baseline data collection and survey methodologies with corresponding timelines.
- Undertake field observations and necessary stakeholder consultations and update the 6 ESMPs in accordance with the specifications given in **TOR C: Updating ESMP for the establishment or upgrading of IWRMCs with Aerobic Technology using Composting Machine** and as per the screening decision, ESAMF and the World Bank's safeguards policies.
- Undertake field observations and necessary stakeholder consultations and develop the 14 ESMPs in accordance to the specifications given in **TOR B: ESMP for the establishment or upgrading of IWRMCs with Aerobic Technology using Composting Machine** and as per the screening decision, ESAMF and the World Bank's safeguards policies.
- Submit draft ESMP report to the PMU/ME.

- Prepare the final report by considering the comments given by the PMU/ME.
- Submit the final ESMP report (3 hard copies and 1 soft copy) to the PMU/ME. The report will be submitted to EPA and the World Bank by the PMU/ME on behalf of the Consultant. Submission fee will be provided by PMU/ME.
- Acquire approval / decision statements from Environmental Protection Agency (EPA) and the World Bank for the ESMP.
- Shall furnish any request by EPA and the World Bank for any additional information during the ESMP reviewing stage until a final decision is made by the EPA and the World Bank.
- Submit the decision statement and the approved ESMP report to the PMU/ME.

Note: Technical TORs may be updated slightly following the screening process and the screening decision from the EPA and the World Bank.

3.2. TEAM COMPOSITION

The Consultant will be required to identify Key Personnel and provide sufficient qualified personnel to ensure achievement of all objectives of these tasks. The following minimum Key Personnel will be required for the assignment:

S.No	Key Professionals	Description of Services to be provided	Minimum Qualification & Experience	No. of persons
1	ESMP Consultant / Team Leader	Overall responsibility of preparing the ESMP consistent to the TOR. Writing / reviewing of all the chapters of the ESMP.	Bachelor's Degree in Environmental Engineering / Environmental Science / Environmental Management with minimum 05 years' experience in preparing ESIA or ESMP reports. Postgraduate qualifications will be an added advantage. Experience in conducting ESIA and ESMPs for Waste Management Systems and World Bank funded projects will be given preference. The consultant should hold an EIA license and his/her EIA license copy shall be submitted along with a dated letter stating his/her association with the bidding party.	1
2	ESMP Consultant / Co-team Leader	Assist or compliment the team leader in preparing the ESMP and managing the team.	Bachelor's Degree in Environmental Engineering / Environmental Science / Environmental Management with minimum 05 years' experience in preparing ESIA or ESMP reports. Postgraduate qualifications will be an	1

		Assist or compliment the team leader in writing / reviewing of all the chapters of the ESMP.	added advantage. Experience in conducting ESIA and ESMPs for Waste Management Systems and World Bank funded projects will be given preference. EIA consultants should submit a copy of his/her EIA license.	
3	Surveyors	Conduct environmental surveys to establish baseline data. Assist the ESMP consultant to develop the monitoring framework.	Diploma in Surveying or Mapping with minimum 03 years' experience in conducting land and/or marine surveys or related to the assignment. Those with Bachelor's Degree qualification or higher and experience in similar projects will hold an added advantage.	2
4	Social Assessment Expert	Conduct stakeholder and / or community consultations.	Bachelor's Degree in the Social Sciences, Business Administration, Environmental Science or related field with minimum 05 years' experience in undertaking stakeholder and/or community consultations related to development projects. Postgraduate qualifications and experience in similar projects will be an added advantage.	2
5	Technical Support including data management and analysis (preferably local staff)	Administrative arrangements, data entry and generating reports.	Highschool graduates or Diploma with Minimum 03 years' experience in organizing stakeholders' consultations, supervising field data collection, data entry and generating reports. Proficiency with MS Office Word/Excel/Power Point/Access) and field survey experience.	2

The Consultant may wish to propose alternative staffing configurations to ensure achievement of all objectives. The availability of each proposed staff person must be identified as well as whether they are full-time staff persons of the Consultants firm or hired consultants specific for the assignment.

Note: Since many of the activities covered in Lot 1 are to be carried out simultaneously, the proposed work plan under section 3.3. should be organised in such a way that a key consultant from each of the specified discipline is involved in developing and carrying out the required surveys and analysis of each ESMP.

3.3. TECHNICAL PROPOSAL

Past Performance, Capabilities and Experience: The Proposal must highlight (in around 10 pages) the firms experiences that relate to the work described by the terms of reference specifically to the tasks requested. Prior experience of carrying out similar assignments will be essential. This section should include the past performance of the proposed team members. The Consultant must include reference to specific waste management related projects. Specifically, the Consultant must demonstrate its overall and proven track record acting as environmental and social technical consultants including policy analysis and strategic environmental assessments in the country and national infrastructure and planning projects, including the names and descriptions of the specific project that the Consultant has worked on.

When demonstrating capabilities and experience of team members, knowledge of World Bank Group Environmental and Social Safeguard Policies in addition to local conditions, social and cultural practices, and national laws and regulations will be essential. Prior experience conducting EIAs, IEEs, EAs, EMPs, SEAs or sector based environmental assessments, social impact assessments and impact management tools is highly desirable.

An overview summary table of these experiences is required with sufficient details. Experience as a firm and experiences of the team members are to be described separately under two headings. This shall include but not limited to:

1. The CV's of the staff members containing the following information and supporting documents.
    a. Copies of accredited educational certificates.
    b. A copy of the EIA consultant license.
    c. Description of completed similar assignments and value of such assignments. The nature of the assignment (for example, waste management, infrastructure development etc.) and the role of the consultant and team members for each of the completed assignment should be specified (for example EIA consultant, social assessment expert, surveyor etc.). Work completion letters and / or decision statements issued by EPA for the completed assignments shall be furnished as supporting documents.

       Note: Experience in providing consultancy services for developing environmental and social studies for waste management projects and world bank funded projects must be exclusively highlighted.

    d. Letter stating his/her association with the bidding party.
2. The company profile of the firm should reflect similar assignments completed as a firm. Nature and value of such assignments should be indicated. Work completion letters and / or decision

statements issued by EPA for the completed assignments shall be furnished as supporting documents.

Note: Experience in providing consultancy services for developing environmental and social studies for waste management projects and world bank funded projects must be exclusively highlighted.

3. The proposed consultant must meet the criteria given in Environment Impact Assessment Regulation, 2012.

Management and Implementation Plan: The Consultant must submit a management and implementation plan (no more than 10 pages excluding graphics and figures). The management plan will include a description of the Consultant's proposed management structure for implementing the work under the Contract; how it plans to ensure the quality of its performance in each activity; and its capability to quickly mobilize required experts to guide and execute the various assignments in this proposal. The implementation plan will contain a description of proposed activities and products for each task demonstrating a solid technical grasp of the requirements. The Consultant must identify Key Personnel in addition to the Project Manager and must provide a summary of specific experiences and times for performance with each task.

The consultant will provide a proposed work plan showing all tasks, schedule of activities, deliverables and dates for drafts, reviews and revisions. The proposal must present a detailed time schedule/ work plan, presenting a timeline of all activities to be undertaken for completing the necessary tasks. The proposed work plan should be organised in such a way that a minimum of one key consultant from each of the specified disciplines are involved in developing and carrying out the required surveys and analysis of each respective ESMP.

In addition to this, the consultant is required to propose a contingency work plan reflecting alternative methods of data collection and conducting baseline surveys and stakeholder consultations, giving special reference to COVID19 situation and associated restricted movements, while ensuring that the timeline for the delivery of the outputs are not being compromised. This plan may reflect upon method for obtaining travel clearances from concerned government authorities, use of personal health and safety equipment such as surgical masks and gloves etc. when visiting the islands, minimising the time spent on each island to conduct the required studies, restricting the movements inside the islands, using drone surveys, carrying out online surveys and consultations etc. During evaluation, masks will be awarded to both the proposed work plan and the proposed contingency work plan.

3.4. EVALUATION

Criteria, sub-criteria, and point system for the evaluation of the Full Technical Proposals:

Points

i) Specific experience of the Consultant (as a firm) relevant to the Assignment: [20]

The experience of the firm in developing ESMPs and ESIAs for similar projects. Experience in developing ESAs for the World Bank funded projects and in Waste Management field will be an added advantage.

(ii) Key Experts' qualifications and competence for the Assignment: [60]

[Notes to Consultant: each position number corresponds to the same for the Key Experts in Form TECH-6 to be prepared by the Consultant]

a) Position K-1: [Team Leader / ESMP Consultant]	*15*
b) Position K-2: [Co-team leader / ESMP Consultant]	*10*
c)Position K-3: [2 Surveyors]	*15 (7.5+7.5)*
d)Position K-4: [2 Social Assessment Experts]	*15 (7.5+7.5)*
e) Position K-5:[Support Staffs]	*5 (2.5+2.5)*

The number of points to be assigned to each of the above positions shall be determined considering the following three sub-criteria and relevant percentage weights:

1) General qualifications (general education, training, and experience): 20%

2) Adequacy for the Assignment (relevant education, training, experience in the sector/similar assignments) 70%

3) Relevant experience in the region (working level fluency in local language(s)/knowledge of local culture or administrative system, government organization, etc.): 10%

Total weight: 100%

**Note: A draft proposal providing further details on the evaluation of key experts are included in Annex 5.*

iii) Management and Implementation Plan: [20]

Work plan, timely delivery, sequencing of activities and distribution of key experts to manage and deliver the tasks simultaneously and the proposed contingency work plan.

Total points for the three criteria: [100]

Selection will be made based on Consultant's Qualification-Bases Selection method set out in the Procurement Regulations for Borrowers under Investment Project Financing, dated July 1, 2016.

3.5. OUTPUTS AND DELIVERABLES

The assignment will be completed over a 155-day period (approximately 5.5 months) period with deliverables split across four segments as per the delivery of key project implementation instruments, outlined below. The following instruments in support of the preparation of the ESAs are planned to be made available to the consultant by the client.

Instrument	**Date of Completion**
Outline design, technology details, site dimensions and land approval from MLSA for:	
Deliverable Set 1	1 September 2020
Deliverable Set 2	20 September 2020
Deliverable Set 3	20 October 2020
Deliverable Set 4	20 November 2020
Screening Decision for:	
Deliverable Set 1	1 September 2020
Deliverable Set 2	30 September 2020
Deliverable Set 3	30 October 2020
Deliverable Set 4	30 November 2020

All submissions are to be made directly to the PMU as per the schedule of delivery shown below. All payments are subject to clearance of the documents from the client, after clearance by the World Bank and the EPA. The Final EA reports should be prepared by the Consultant based on the comments of the World Bank, the client and the EPA.

Deliverable Set 1: Updating of 6 EMPs under Lot 1A

Deliverables	Details	Duration
Inception Reports	Inception report including data collection methodologies and consultation plan	Within 7 days from the date of the contract
Draft Updated ESMP Reports	The draft updated ESMP reports shall be prepared in accordance to TOR C, consistent to the general format and content of the ESMP study given in Schedule E3 of the Environmental Impact Assessment Regulations (2012), ESAMF of MCEP and Safeguards Policies of the World Bank.	Within 25 days from the date of the contract

Final Updated ESMP Report	The final ESMP report will be produced by considering the comments made, if any, by PMU/ME.	Within 30 days from the date of the contract
Submission to EPA and the World Bank	The final draft ESMP report will be submitted to EPA and the World Bank by PMU/ME on behalf of the consultant.	Within 30 days from the date of the contract
ESMP Review	The period taken by EPA and the World Bank to review the ESMP reports (15 calendar days).	Within 45 days from the date of the contract
Supplementary ESMPs	Any additional information requested by EPA and the World Bank shall be prepared as a supplementary document to the ESMP and submitted to EPA and the World Bank within 10 calendar days of receiving the request for additional information.	Within 55 days from the date of the contract

Deliverable Set 2: Preparation of first 4 ESMP reports under Lot 1B (refer to sequencing in section 3)

Deliverables	Details	Duration
Inception Reports	Inception report including data collection methodologies and consultation plan	Within 30 days from the date of the contract
Draft ESMP Reports	The draft ESMP reports shall be prepared in accordance to TOR B, consistent to the general format and content of the ESMP study given in Schedule E3 of the Environmental Impact Assessment Regulations (2012), ESAMF of MCEP and Safeguards Policies of the World Bank.	Within 55 days from the date of the contract
Final ESMP Reports	The final ESMP reports will be produced by considering the comments made, if any, by PMU/ME.	Within 60 days from the date of the contract
Submission to EPA and the World Bank	The final ESMP reports will be submitted to EPA and the World Bank by PMU/ME on behalf of the consultant.	Within 60 days from the date of the contract
ESMP Review	The period taken by EPA and the World Bank to review the ESMP reports (15 calendar days).	Within 75 days from the date of the contract
Supplementary ESMPs	Any additional information requested by EPA and the World Bank shall be prepared as a supplementary document to the ESMPs and submitted to EPA and the World Bank within 10 calendar days of receiving the request for additional information.	Within 85 days from the date of the contract

Deliverable Set 3: Preparation of second 5 ESMP reports under Lot 1B (refer to sequencing in section 3)

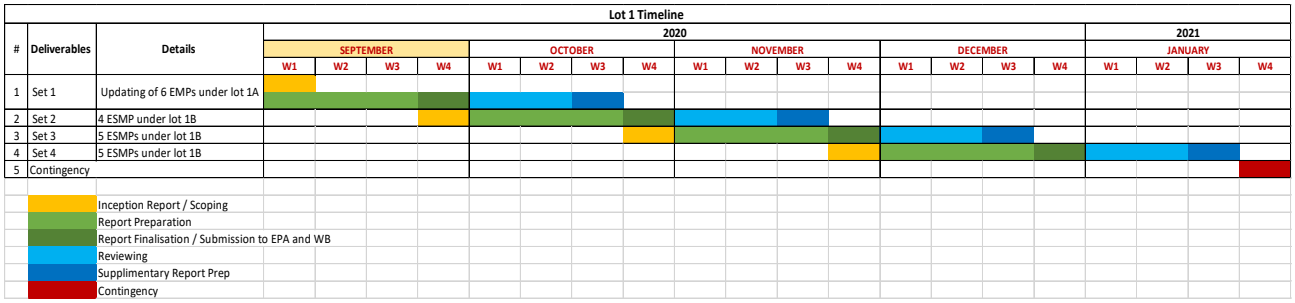
Deliverables	Details	Duration
Inception Reports	Inception report including data collection methodologies and consultation plan	Within 60 days from the date of the contract
Draft ESMP Reports	The draft ESMP reports shall be prepared in accordance to TOR B, consistent to the general format and content of the ESMP study given in Schedule E3 of the Environmental Impact Assessment Regulations (2012), ESAMF of MCEP and Safeguards Policies of the World Bank.	Within 85 days from the date of the contract
Final ESMP Reports	The final ESMP reports will be produced by considering the comments made, if any, by PMU/ME.	Within 90 days from the date of the contract
Submission to EPA and the World Bank	The final draft ESMP reports will be submitted to EPA and the World Bank by PMU/ME on behalf of the consultant.	Within 90 days from the date of the contract
ESMP Review	The period taken by EPA and the World Bank to review the ESMP reports (15 calendar days).	Within 105 days from the date of the contract
Supplementary ESMPs	Any additional information requested by EPA and the World Bank shall be prepared as a supplementary document to the ESMPs and submitted to EPA and the World Bank within 10 calendar days of receiving the request for additional information.	Within 115 days from the date of the contract

Deliverable Set 4: Preparation of final 5 ESMP reports under Lot 1B (refer to sequencing in section 3)

Deliverables	Details	Duration
Inception Reports	Inception report including data collection methodologies and consultation plan	Within 90 days from the date of the contract
Draft ESMP Reports	The draft ESMP reports shall be prepared in accordance to TOR B and in the general format and content of the ESMP study given in Schedule E3 of the Environmental Impact Assessment Regulations (2012). The ESMP shall also be prepared consistent to the ESAMF of MCEP.	Within 115 days from the date of the contract

Final ESMP Reports	The final ESMP reports will be produced by considering the comments made, if any, by PMU/ME.	Within 120 days from the date of the contract
Submission to EPA and the World Bank	The final ESMP reports will be submitted to EPA and the World Bank by PMU/ME on behalf of the consultant.	Within 120 days from the date of the contract
ESMP Review	The period taken by EPA and the World Bank to review the ESMP reports (30 calendar days).	Within 135 days from the date of the contract
Supplementary ESMPs	Any additional information requested by EPA and the World Bank shall be prepared as a supplementary document to the ESMPs and submitted to EPA and the World Bank within 10 calendar days of receiving the request for additional information.	Within 145 days from the date of the contract

Summary of Implementation Schedule :



3.6. APPROACH OVERALL MANAGEMENT AND COORDINATION

The successful consultancy firm will report to ESS Specialist of MCEP at ME or an alternate nominated by the Project Manager. A monthly meeting and briefing shall be required between the Consultant and the PMU. The Consultant will seek all the prerequisite and the screening decisions from the PMU.

Upon completion of the final ESMP reports, a total of 3 (three) hard copies and a digital copy on CD ROM (preferably in Acrobat PDF format) of the report shall be submitted to the client. The client will submit the report to the appropriate authorities for clearance on behalf of the Consultant and will bare any associated submission fee. The report shall include Dhivehi translations of the executive summary and the ESMP matrix. All raw data collected, including maps and surveys should be submitted in Raw form to the client in digital format. The decision statements issued by EPA and the approved reports shall be submitted to the PMU.

3.7. PAYMENT SCHEDULE

Payment will be in accordance with the schedule specified below;

Description	Allocation	Requirement
Submission of ESMP Report	**75%**	
Deliverable Set 1	15%	
Deliverable Set 2	20%	Submission of final ESMP report to EPA and the World Bank as per the approved TOR and EIA Regulations.
Deliverable Set 3	20%	
Deliverable Set 4	20%	
Approval of ESMP Reports	**25%**	
Deliverable Set 1	6%	Release of ESMP Decision Statement from EPA and clearance from the World Bank.
Deliverable Set 2	6%	
Deliverable Set 3	6%	
Deliverable Set 4	7%	

3.8. CONTRACT DURATION

a) The total duration of the assignment covered under lot 1 is 155 calendar days including the duration for the ESMP approval, release of ESMP decision statement/approval by the EPA and World Bank and 10% contingency.

LOT 2: Preparation ESIAs / ESMPs for 8 pilot Islands and ESMPs for 8 new IWRMCs

4.1. SCOPE OF WORKS

The scope of works covered under Lot 2 includes the following two sub-components. Scope of works is defined separately for each sub-lot, but the tasks are combinedly described.

Lot 2A: Preparation of ESMPs / ESIAs for 4 pilot AD sub-projects and ESMPs for 4 pilot mechanical composting sub-projects

Under this component the consultant is required to prepare ESMPs/ ESIAs for 4 pilot AD subprojects and ESMPs for 4 pilot mechanical composting sub-projects as detailed out below. The screening process will inform the level of ESAs required for pilot AD subproject, whereas ESMPs will be required for mechanical composting subprojects.

1. Civil works for pilot projects (AD) including upgrading of IWRMC Dh. Kudahuvadhoo
2. Civil works for pilot projects (AD) including upgrading of IWRMC in F. Nilandhoo
3. Civil works for pilot projects (AD) in L. Fonadhoo
4. Civil works for pilot projects (AD) including upgrading of IWRMC in M. Muli
5. Civil works for pilot projects (Mechanical Composting) including upgrading of IWRMC in F. Magoodhoo
6. Civil works for pilot projects (Mechanical Composting) in Dh. Rinbudhoo
7. Civil works for pilot projects (Mechanical Composting) including upgrading of IWRMC in Th.Vandhoo
8. Civil works for pilot projects (Mechanical Composting) in L. Maamendhoo

The consultancy firm shall produce the ESMP reports through consultative process in accordance with Environmental Impact Assessment Regulations (2012) enforced by EPA of the Republic of Maldives, the Environmental and Social Assessment and Management Framework (ESAMF) of MCEP and Safeguards Policies of the World Bank. Consultation shall be made with but not necessarily limited to; Ministry of Environment, Environmental Protection Agency (EPA), Maldives Land and Survey Authority (MLSA), Maldives National Défense Force (MNDF), Waste Management Corporation (WAMCO), Island Councils, Waste Management Committee, Women's Development Committee and the local community (especially those directly impacted by the project). Pilot AD subproject will require additional detailed data collection and survey analysis techniques to determine the baseline environment.

Lot 2B: Preparation of ESMPs for the establishment of 8 new IWRMCs with mechanical composting technology

Under this component the consultant is required to prepare ESMPs for the establishment of the IWRMCs in the following 8 subproject islands:

1. Construction of IWRMC in Dhiggaru, Meemu Atoll
2. Construction of IWRMC in Kolhufushi, Meemu Atoll
3. Construction of IWRMC in Feeali, Faafu Atoll
4. Construction of IWRMC in Maaeboodhoo, Dhaalu Atoll
5. Construction of IWRMC in Guraidhoo, Thaa Atoll
6. Construction of IWRMC in Hirilandhoo, Thaa Atoll
7. Construction of IWRMC in Gan, Laamu Atoll
8. Construction of IWRMC in Dhanbidhoo, Laamu Atoll

The consultancy firm shall produce the ESMP reports through a consultative process in accordance with Environmental Impact Assessment Regulations (2012) enforced by EPA of the Republic of Maldives, the Environmental and Social Assessment and Management Framework (ESAMF) of MCEP and Safeguards Policies of the World Bank. Consultation shall be made with but not necessarily limited to; Ministry of Environment, Environmental Protection Agency (EPA), Maldives Land and Survey Authority (MLSA), Maldives National Défense Force (MNDF), Waste Management Corporation (WAMCO), Island Councils, Waste Management Committee, Women's Development Committee and the local community (especially those directly impacted by the project).

Tasks to be completed under Lot 2A and 2B

The tasks to be undertaken by consultant under both Lot 2A and 2B are to be managed in close collaboration with Environmental and Social Safeguards (ESS) Specialist of the Project Management Unit (PMU) of MCEP at ME, and include but are not necessarily limited to the following:

- Inception Report for the 4 packages under Lot 2A and Lot 2B: plan for carrying out the environmental assessments and stakeholder consultations including the baseline data collection and survey methodologies with corresponding timelines.
- Undertake environmental surveys and data collection to establish the baseline environment and stakeholder consultations and prepare ESMPs / ESIAs for the 4 pilot AD subprojects in accordance to the specifications given in **TOR A: ESMP or ESIA for the establishment or upgrading of IWRMC with Anaerobic Digestion (AD) Technology** and as per the screening decision, ESAMF and the World Bank's safeguards policies.

- If ESIAs are found to be required for the 4 pilot AD subprojects, following the screening process, the consultant should complete the scoping process and finalize the TOR with EPA and the World Bank.
- Undertake field observations and necessary stakeholder consultations and develop the 4 ESMPs for 4 pilot mechanical composting subprojects in accordance to the specifications given in **TOR B: ESMP for the establishment or upgrading of IWRMCs with Aerobic Technology using Composting Machine** and as per the screening decision, ESAMF and the World Bank's safeguards policies.
- Undertake field observations and necessary stakeholder consultations and develop 8 ESMPs for the establishment of 8 new IWRMCs with mechanical composting technology in accordance to the specifications given in **TOR B: ESMP for the establishment or upgrading of IWRMCs with Aerobic Technology using Composting Machine** and as per the screening decision, ESAMF and the World Bank's safeguards policies.
- Submit draft ESMP and / or ESIA reports to the PMU/ME.
- Prepare the final reports by considering the comments given by the PMU/ME.
- Submit the final ESMP and / or ESIA reports (3 hard copies and 1 soft copy) to the PMU/ME. The report will be submitted to EPA and the World Bank by the PMU/ME on behalf of the Consultant. Submission fee will be provided by PMU/ME.
- Acquire approval / decision statements from Environmental Protection Agency (EPA) and the World Bank for the ESMPs and / or the ESIAs.
- Shall furnish any request by EPA and the World Bank for any additional information during the ESMP and / or ESIA reviewing stage until a final decision is made by the EPA and the World Bank.
- Submit the decision statement and the approved ESMP and / or ESIA reports to the PMU/ME.

Note: Technical TORs may be updated slightly following the screening process and the screening decision from the EPA and the World Bank.

4.2. TEAM COMPOSITION

The Consultant will be required to identify Key Personnel and provide sufficient qualified personnel to ensure achievement of all objectives of these tasks. The following minimum Key Personnel will be required for the contract:

S.N	Key Professionals	Description of Services to be provided	Minimum Qualification & Experience	No. of persons

1	ESIA / ESMP Consultant / Team Leader	Overall responsibility of preparing the ESIA / ESMP consistent to the TOR. Writing / reviewing of all the chapters of the ESMP.	Bachelor's Degree in Environmental Engineering / Environmental Science / Environmental Management with minimum 05 years' experience in preparing ESIA or ESMP reports. Postgraduate qualifications will be an added advantage. Experience in conducting ESIA and ESMPs for Waste Management Systems and World Bank funded projects will be given preference. The consultant should hold an EIA license and his/her EIA license copy shall be submitted along with a dated letter stating his/her association with the bidding party.	1
2	ESIA / ESMP Consultant / Co-team Leader	Assist or compliment the team leader in preparing the ESIA / ESMP and managing the team. Assist or compliment the team leader in writing / reviewing of all the chapters of the ESIA / ESMP.	Bachelor's Degree in Environmental Engineering / Environmental Science / Environmental Management with minimum 05 years' experience in preparing ESIA or ESMP reports. Postgraduate qualifications will be an added advantage. Experience in conducting ESIA and ESMPs for Waste Management Systems and World Bank funded projects will be given preference. EIA consultants should submit a copy of his/her EIA license.	1
3	Surveyors	Conduct environmental surveys to establish baseline data. Assist the ESIA / ESMP consultant to develop the monitoring framework.	Diploma in Surveying or Mapping with minimum 03 years' experience in conducting land and/or marine surveys or related to the assignment. Those with Bachelor's Degree qualification or higher and experience in similar projects will hold an added advantage.	2
4	Social Assessment Expert	Conduct stakeholder and / or community consultations.	Bachelor's Degree in the Social Sciences, Business Administration, Environmental Science or related field with minimum 05 years' experience in undertaking stakeholder and/or community consultations related to development projects. Postgraduate qualifications and experience in similar projects will be an added advantage.	2

5	Technical Support including data management and analysis (preferably local staff)	Administrative arrangements, data entry and generating reports.	Highschool graduates or Diploma with Minimum 03 years' experience in organizing stakeholders' consultations, supervising field data collection, data entry and generating reports. Proficiency with MS Office Word/Excel/Power Point/Access) and field survey experience.	2

The Consultant may wish to propose alternative staffing configurations to ensure achievement of all objectives. The availability of each proposed staff person must be identified as well as whether they are full-time staff persons of the Consultants firm or hired consultants specific for the assignment.

Note: Since many of the activities covered in Lot 2 are to be carryout simultaneously, the proposed work plan under section 4.3. should be organised in such a way that a key consultant from each of the specified discipline is involved in developing and carrying out the required surveys and analysis of each ESMP / ESIA.

4.3. TECHNICAL PROPOSAL

Past Performance: The Proposal must highlight (in around 10 pages) the firms experiences that relate to the work described by the terms of reference specifically to the tasks requested. Prior experience of carrying out similar assignments will be essential. This section should include the past performance of the proposed team members. The Consultant must include reference to specific waste management related projects. Specifically, the Consultant must demonstrate its overall and proven track record acting as environmental and social technical consultants including policy analysis and strategic environmental assessments in the country and national infrastructure and planning projects, including the names and descriptions of the specific project that the Consultant has worked on.

When demonstrating capabilities and experience of team members, knowledge of World Bank Group Environmental and Social Safeguard Policies in addition to local conditions, social and cultural practices, and national laws and regulations will be essential. Prior experience conducting EIAs, IEEs, EAs, EMPs, SEAs or sector based environmental assessments, social impact assessments and impact management tools is highly desirable.

An overview summary table of these experiences is required with sufficient details. Experience as a firm and experiences of the team members are to be described separately under two headings. This shall include but not limited to:

1. The CV's of the staff members containing the following information and supporting documents.
    a. Copies of accredited educational certificates.

b. A copy of the EIA consultant license.

c. Description of completed similar assignments and value of such assignments. The nature of the assignment (for example, waste management, infrastructure development etc.) and the role of the consultant and team members for each of the completed assignment should be specified (for example ESIA consultant, social assessment expert, surveyor etc.). Work completion letters and / or decision statements issued by EPA for the completed assignments shall be furnished as supporting documents.

Note: Experience in providing consultancy services for developing environmental and social studies for waste management projects and world bank funded projects must be exclusively highlighted.

d. Letter stating his/her association with the bidding party.

2. The company profile of the firm should reflect similar assignments completed as a firm. Nature and value of such assignments should be indicated. Work completion letters and / or decision statements issued by EPA for the completed assignments shall be furnished as supporting documents.

   Note: Experience in providing consultancy services for developing environmental and social studies for waste management projects and world bank funded projects must be exclusively highlighted.

3. The proposed consultant must meet the criteria given in Environment Impact Assessment Regulation, 2012.

Management and Implementation Plan: The Consultant must submit a management and implementation plan (no more than 10 pages excluding graphics and figures). The management plan will include a description of the Consultant's proposed management structure for implementing the work under the Contract; how it plans to ensure the quality of its performance in each activity; and its capability to quickly mobilize required experts to guide and execute the various assignments in this proposal. The implementation plan will contain a description of proposed activities and products for each task demonstrating a solid technical grasp of the requirements. The Consultant must identify Key Personnel in addition to the Project Manager and must provide a summary of specific experiences and times for performance with each task.

The consultant will provide a proposed work plan showing all tasks, schedule of activities, deliverables and dates for drafts, reviews and revisions. The proposal must present a detailed time schedule/ work plan, presenting a timeline of all activities to be undertaken for completing the necessary tasks. The proposed work plan should be organised in such a way that a minimum of one key consultant from each

of the specified disciplines are involved in developing and carrying out the required surveys and analysis of each respective ESMP / ESIA.

In addition to this, the consultant is required to propose a contingency work plan reflecting alternative methods of data collection and conducting baseline surveys and stakeholder consultations, giving special reference to COVID19 situation and associated restricted movements, while ensuring that the timeline for the delivery of the outputs are not being compromised. This plan may reflect upon method for obtaining travel clearances from concerned government authorities, use of personal health and safety equipment such as surgical masks and gloves etc. when visiting the islands, minimising the time spent on each island to conduct the required studies, restricting the movements inside the islands, using drone surveys, carrying out online surveys and consultations etc. During evaluation, masks will be awarded to both the proposed work plan and the proposed contingency work plan.

a. EVALUATION

Criteria, sub-criteria, and point system for the evaluation of the Full Technical Proposals:

Points

i) Specific experience of the Consultant (as a firm) relevant to the Assignment: [20]

The experience of the firm in developing ESMPs and ESIAs for similar projects. Experience in developing ESAs for the World Bank funded projects and in Waste Management field will be an added advantage.

(ii) Key Experts' qualifications and competence for the Assignment: [60]

[Notes to Consultant: each position number corresponds to the same for the Key Experts in Form TECH-6 to be prepared by the Consultant]

a) Position K-1: [Team Leader / ESMP Consultant]	*15*
b) Position K-2: [Co-team leader / ESMP Consultant]	*10*
c)Position K-3: [2 Surveyors]	*15 (7.5+7.5)*
d)Position K-4: [2 Social Assessment Experts]	*15 (7.5+7.5)*
e) Position K-5:[Support Staffs]	*5 (2.5+2.5)*

The number of points to be assigned to each of the above positions shall be determined considering the following three sub-criteria and relevant percentage weights:

1) General qualifications (general education, training, and experience): 20%

2) Adequacy for the Assignment (relevant education, training, experience in the sector/similar assignments) 70%

3) Relevant experience in the region (working level fluency in local language(s)/knowledge of local culture or administrative system, government organization, etc.): 10%

Total weight: 100%

**Note: A draft proposal providing further details on the evaluation of key experts are included in Annex 5.*

iii) Management and Implementation Plan: [20]

Work plan, timely delivery, sequencing of activities and distribution of key experts to manage and deliver the tasks simultaneously and the proposed contingency work plan.

Total points for the three criteria: [100]

Selection will be made based on Consultant's Qualification-Bases Selection method set out in the Procurement Regulations for Borrowers under Investment Project Financing, dated July 1, 2016.

b. OUTPUTS AND DELIVERABLES

The assignment will be completed over a 125-day period (approximately 4.5 months) period with deliverables split across four segments as per the delivery of key project implementation instruments, outlined below. The following instruments in support of the preparation of the ESAs are planned to be made available to the consultant by the client.

Instrument	**Date of Completion**
Outline design, technology details, site dimensions and land approval from MLSA for:	
Deliverable Set 1	06 September 2020
Deliverable Set 2	06 September 2020
Deliverable Set 3	20 September 2020
Deliverable Set 4	20 October 2020
Screening Decision for:	
Deliverable Set 1	06 September 2020
Deliverable Set 2	06 September 2020
Deliverable Set 3	30 September 2020
Deliverable Set 4	31 October 2020

All submissions are to be made directly to the PMU as per the schedule of delivery shown below. All payments are subject to clearance of the documents from the client, after clearance by the World Bank and the EPA. The Final EA reports should be prepared by the Consultant based on the comments of the World Bank, the client and the EPA.

Deliverable Set 1: Preparation of 4 ESMPs / ESIAs under Lot 2A for pilot AD subprojects

Deliverables	Details	Duration
Scoping Study	Complete scoping process and finalization of TOR A with EPA and the World Bank	Within 7 days from the date of the contract
Inception Reports	Inception report with scoping study including data collection methodologies and consultation plan	Within 7 days from the date of the contract
Draft ESMP/ ESIA Reports	The draft updated ESMP / ESIA reports shall be prepared in accordance to finalized TOR A, consistent to the general format and content of the ESMP study given in Schedule E3 of the Environmental Impact Assessment Regulations (2012) or the ESIA study given in Schedule E2 of the Environmental Impact Assessment Regulations (2012), ESAMF of MCEP and Safeguards Policies of the World Bank.	Within 35 days from the date of the contract
Final Updated ESMP / ESIA Reports	The final ESMP / ESIA reports will be produced by considering the comments made, if any, by PMU/ME.	Within 40 days from the date of the contract
Submission to EPA and the World Bank	The final ESMP / ESIA report will be submitted to EPA and the World Bank by PMU/ME on behalf of the consultant.	Within 40 days from the date of the contract
ESMP / ESIA Review	The period taken by EPA and the World Bank to review the ESMP /ESIA reports (15 calendar days).	Within 55 days from the date of the contract
Supplementary ESMPs / ESIAs	Any additional information requested by EPA and the World Bank shall be prepared as a supplementary document to the ESMPs / ESIAs and submitted to EPA and the World Bank within 10 calendar days of receiving the request for additional information.	Within 65 days from the date of the contract

Deliverable Set 2: Preparation of 4 ESMPs under Lot 2A for pilot mechanical composting subprojects

Deliverables	Details	Duration
Inception Reports	Inception report including data collection methodologies and consultation plan	Within 7 days from the date of the contract
Draft ESMP Reports	The draft ESMP reports shall be prepared in accordance to TOR B, consistent to the general	Within 25 days from the date of the contract

	format and content of the ESMP study given in Schedule E3 of the Environmental Impact Assessment Regulations (2012), ESAMF of MCEP and Safeguards Policies of the World Bank.	
Final ESMP Report	The final ESMP report will be produced by considering the comments made, if any, by PMU/ME.	Within 30 days from the date of the contract
Submission to EPA and the World Bank	The final ESMP report will be submitted to EPA and the World Bank by PMU/ME on behalf of the consultant.	Within 30 days from the date of the contract
ESMP Review	The period taken by EPA and the World Bank to review the ESMP reports (15 calendar days).	Within 45 days from the date of the contract
Supplementary ESMPs	Any additional information requested by EPA and the World Bank shall be prepared as a supplementary document to the ESMP and submitted to EPA and the World Bank within 10 calendar days of receiving the request for additional information.	Within 55 days from the date of the contract

Deliverable Set 3: Preparation of first 4 ESMP reports under Lot 2B (refer to sequencing in section 3)

Deliverables	Details	Duration
Inception Reports	Inception report including data collection methodologies and consultation plan	Within 30 days from the date of the contract
Draft ESMP Reports	The draft ESMP reports shall be prepared in accordance to TOR B, consistent to the general format and content of the ESMP study given in Schedule E3 of the Environmental Impact Assessment Regulations (2012), ESAMF of MCEP and Safeguards Policies of the World Bank.	Within 55 days from the date of the contract
Final Updated ESMP Report	The final ESMP report will be produced by considering the comments made, if any, by PMU/ME.	Within 60 days from the date of the contract
Submission to EPA and the World Bank	The final ESMP report will be submitted to EPA and the World Bank by PMU/ME on behalf of the consultant.	Within 60 days from the date of the contract
ESMP Review	The period taken by EPA and the World Bank to review the ESMP reports (15 calendar days).	Within 75 days from the date of the contract

Supplementary ESMPs	Any additional information requested by EPA and the World Bank shall be prepared as a supplementary document to the ESMP and submitted to EPA and the World Bank within 10 calendar days of receiving the request for additional information.	Within 85 days from the date of the contract

Deliverable Set 4: Preparation of final 4 ESMP reports under Lot 2B (refer to sequencing in section 3)

Deliverables	Details	Duration
Inception Reports	Inception report including data collection methodologies and consultation plan	Within 60 days from the date of the contract
Draft ESMP Reports	The draft ESMP reports shall be prepared in accordance to TOR B, consistent to the general format and content of the ESMP study given in Schedule E3 of the Environmental Impact Assessment Regulations (2012), ESAMF of MCEP and Safeguards Policies of the World Bank.	Within 85 days from the date of the contract
Final Updated ESMP Report	The final ESMP report will be produced by considering the comments made, if any, by PMU/ME.	Within 90 days from the date of the contract
Submission to EPA and the World Bank	The final ESMP report will be submitted to EPA and the World Bank by PMU/ME on behalf of the consultant.	Within 90 days from the date of the contract
ESMP Review	The period taken by EPA and the World Bank to review the ESMP reports (15 calendar days).	Within 105 days from the date of the contract
Supplementary ESMPs	Any additional information requested by EPA and the World Bank shall be prepared as a supplementary document to the ESMP and submitted to EPA and the World Bank within 10 calendar days of receiving the request for additional information.	Within 115 days from the date of the contract

Summary of the Implementation Schedule

#	Deliverables	Details	2020															
			SEPTEMBER				OCTOBER				NOVEMBER				DECEMBER			
			W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4
1	Set 1	4 ESMP / ESIAs for AD subprojects under lot 2A																
2	Set 2	4 ESMP for mechanical composting subprojects under lot 2A																
3	Set 3	4 ESMP under lot 2B																
4	Set 3	4 ESMPs under lot 2B																
6	Contingency																	

	Inception Report / Scoping
	Report Preparation
	Report Finalisation / Submission to EPA and WB
	Reviewing
	Supplimentary Report Prep
	Contingency

c. APPROACH OVERALL MANAGEMENT AND COORDINATION

The successful consultancy firm will report to ESS Specialist of MCEP at ME or an alternate nominated by the Project Manager. A monthly meeting and briefing shall be required between the Consultant and the PMU. The Consultant will seek all the prerequisite and the screening decisions from the PMU.

Upon completion of the final ESMP and / or ESIA reports, a total of 3 (three) hard copies and a digital copy on CD ROM (preferably in Acrobat PDF format) of the report shall be submitted to the client. The client will submit the report to the appropriate authorities for clearance on behalf of the Consultant and will bear any associated with submission fee. The report shall include Dhivehi translations of the executive summary and the ESMP matrix. All raw data collected, including maps and surveys should be submitted in Raw form to the client in digital format. The decision statements issued by EPA and the approved reports shall be submitted to the PMU.

d. PAYMENT SCHEDULE

Payment will be in accordance with the schedule specified below;

Description	Allocation	Requirement
Submission of ESMP / ESIA Reports	**75%**	
Deliverable Set 1	25%	
Deliverable Set 2	20%	Submission of final ESMP / ESIA report
Deliverable Set 3	15%	to EPA and the World Bank as per the
Deliverable Set 4	15%	approved TOR and EIA Regulations.
Approval of ESMP/ ESIA Reports	**25%**	
Deliverable Set 1	7%	Release of ESMP Decision Statement
Deliverable Set 2	6%	from EPA and clearance from the
Deliverable Set 3	6%	World Bank.
Deliverable Set 4	6%	

e. CONTRACT DURATION

b) The duration of the assignment covered under lot 2 is 125 calendar days including the duration for the ESMP approval and release of ESMP decision statement and approval by the World Bank and a 10% contingency.

ANNEX 1: TECHNICAL TOR A

ESMP or ESIA for the establishment or upgrading of IWRMC with Anaerobic Digestion (AD) Technology

Technical Terms of Reference A: ESMP or ESIA for the establishment or upgrading of IWRMC with Anaerobic Digestion (AD) Technology

Objective and Scope of Preparation of ESMP or EISA

In order to ensure short and long term environmental and social impacts that would arise due to the proposed development are adequately mitigated and monitored, following the screening decision from EPA and the World Bank, an ESMP or an ESIA will need to be developed as per the scope presented below and in accordance with the ESAMF of the Project and the Environmental Impact Assessment Regulations (2012). The project IWMPs should be reviewed and used as the basis for baseline information. Field level verification should be conducted prior to the preparation of the ESMP or the ESIA.

While every attempt has been made to ensure that this TOR addresses all of the major issues associated with development proposal, they are not necessarily exhaustive. They should not be interpreted as excluding from consideration matters deemed to be significant but not incorporated in them, or matters currently unforeseen, that emerge as important or significant from environmental and social studies, or otherwise, during the course of preparation of the ESMP or ESIA report.

Following should be the key components/assessment outline of the ESMP/ESIA:

1. **Executive Summary:** An executive summary of the significant findings of the report shall be prepared both in Dhivehi and English language. The executive summary shall include summaries of project description and how significant environmental and social issues will be resolved. The conclusion of the study must be stated.

2. **Introduction:** Briefly describe the major components of the proposed project. Provide a brief history and justification of the project and describe how the proposed development will improve on the current arrangements for waste management in the project area. Provide details of the proponent, and institutional arrangements for implementation and operations of the proposed development, and environmental and social issues of similar projects. Include desktop studies and review of similar ESMPs and ESIAs.

Major components of the Island Waste Management Regulation and the Island Waste Management Plan (IWMP) should be described (fee structure, consultations undertaken for plan preparation etc.), indicating the status of approval (prepared, under review or approved by EPA) and highlighting any

challenges faced by the council in plan preparation and approval (if any). The report also should indicate whether a study or public consultation has been (or should be) undertaken to assess willingness / ability to pay.

3. **Legislative and Regulatory Considerations:** This chapter should cover the legal aspects related to the project. Outline the project's consistency with the existing national, state, regional and local planning that apply to the project include reference to relevant statutory and non-statutory plans, planning policies, guidelines, strategies and agreements as appropriate. Outline the pertinent policies, regulations and standards governing project location, land use, environmental quality, and public health and safety. This should cover information on legal requirements specific to the project, such as permits to be taken under the Environmental Impact Regulations (2012) and the land allocation process followed with MLSA and other relevant institutions. There should be a brief description on the process (and law) pertaining to the allocation of land to development projects, in general, and to the IWRMC, in particular. Issues related to land acquisition and resettlement should be addressed, stating no impact or minimal impact.

If the gas generated from the AD plant is intended to be used to produce electricity using a bio-generator, approval from Maldives Energy Authority (MEA) should be acquired and included in the report.

4. **Study Area:** Submit an A3 scaled plan with indications of all the proposed land infrastructures. Specify the boundaries of the study area for the ESMP or the ESIA highlighting the location and size of the proposed construction. The study area should include nearby environmentally and socially sensitive areas (EPAs / ESAs, houses, mosques, schools, playgrounds etc.), nearest 3 phase distribution box, water connection point (if water network system is present at the island), sewer connection point (if sewer network system is present at the island). Justification for site selection shall be provided. Relevant developments in the area must also be addressed including residential areas and all economic ventures and cultural sites.

5. **Project Description:** Provide a full description and justification of relevant parts of the project, using maps at appropriate scale where necessary. The following should be provided including all inputs and outputs related to the proposed activities shall be justified.

<u>General Construction and Operations</u>

- Provide a clearly labelled concept design and scaled site plan of the project boundary. If the project involves upgrading of an existing IWRMC, the infrastructure already present and

those that will be introduced as part of the upgrading works should be clearly distinguished in the concept design presented.

- Submit a detailed description of the components of the project and how the project activities will be undertaken.
- Describe the construction phase components of the project including but not limited to site clearance, collection bay area, AD plant room, equipment room, groundwater well, toilet, septic tank, leachate collection tank, resting area and perimeter walls and fences. If the project involves upgrading of an existing IWRMC, provide information on the existing structures of the IWRMC and how these structures will be incorporated into the design for upgrading.
- If the project involves upgrading of an existing IWRMC, suggest ideal locations for temporarily relocating the waste currently present at the existing IWRMC (if any). Propose adequate mitigation measures to prepare the temporary storage site with particular emphasis given to leachate prevention.
- Describe the operational phase components of the project including but not limited to waste collection services, method of storing, AD plant operations, bio-generator operations (if applicable), leachate management, arrangements for the removal of inorganic waste from the IWRMC and clean-up of existing small open dump sites.
- Details, types and numbers of labor/workers required during construction/establishment and during operation
- Include a project schedule.
- A matrix of inputs and outputs related to the project activities shall be included and described separately for construction and operational phase.

<u>Design of AD plant and associated components</u>

- Concept design of the AD plant and process flow diagram with all its components including the proposed method for gas storage and its subsequent use (conversion to electricity).
- Description of the AD plant and associated bio-generator (if the intended use is for generating electricity for the energy requirements of the IWRMC). Details of the materials that will be used for the construction of the plant should be given (fiber reinforced plastic, stainless steel etc.)
- Corresponding sizes and daily processing capacities of the AD plant and the associated bio-genitor (if applicable) should be given.
- Type and amount of waste that it can treat (food waste, green waste, paper etc. in mixed form or separated) and details of any products required for activation (such as water and bacterial inoculum) including its corresponding quantities to operate for a period of 1 year.

- Type and quantity of gas generated (methane, CO2 etc.), method of gas collection and storage, process for conversion to electricity (or any other use) and how to deal with any excessive gas must be clearly mentioned.
- Solid and liquid bi-products and output of the process (wet / dry compost) including the method of their potential use and/or disposal.
- If a bio-generator is to be installed, the following should be addressed:
  - Noise ammunition measures
  - Cooling water system including cooling pipe location (if any) and justification.
  - Emergency power supply plan.
  - Lower energy consumption ventures and awareness.
  - Chimney height and justification on how the height was determined based on relevant local and international standards.

Fuel Management (if applicable – in case additional fuel is required to operate the bio-generator)

- Volume required for plant operation
- Rate of waste lube oil generation, its collection, storage and disposal.
- Fuel storage tank details (size, location, method of transportation from harbor to storage plant).
- Fuel transportation, pipeline drawing and specification especially leakage proofing.
- Measures of fuel containment
- Method of fuel transport from harbor to storage
- Fuel handling and management plan during operations
- Mitigation in case of fuel spillage

Fire hazard, health and safety

- Vulnerability analysis of the system to fire, electrical and explosion hazard.
- Provision to fire safety, including details of firefighting equipment that will be established, signage, alarm system etc.
- Firefighting capacity of IWRMC operators. If not found to be adequate, recommend a fire safety training program to the IWRMC operators which should be completed prior to operationalization of the center. Indicate the availability of fire wardens in the island and their capability to assist in such a program.

Construction waste and waste oil

- Waste fuel and oil management details.
- Construction waste management and disposal.

6. **Existing Environment:** The existing environment study will require data collection and survey analysis techniques given the nature of the project and the proposed technology. A vegetation survey of the site must be presented since a large number of vegetation are subject for clearance. The vegetation analysis should be supplemented by drone imagery and / or photographs. The following information should also be provided based on field observations and consultations with the island council and the community. Photographic evidence should be provided where appropriate.

a) Current Waste Management Practices: Describe how waste is managed at present. This should include information about waste collection method and times, means of disposal (both organic and inorganic), staffs managing waste etc. Information about existing open dump sites (if any) and method of disposal should also be provided. Provide a map indicating the locations and dimensions of the open dump sites. Describe the waste composition and estimated volumes of each open dump site with photographic references.

b) Unassigned Waste Dumping: Describe the overall cleanliness of the island and whether unassigned waste dumping is observed. This should include an assessment of the status of contamination of the site as well via visual observation.

c) Project Site and Access Road: Describe the condition of the ground and soil of the project site (visual analysis). Provide an estimate of the amount and composition of waste present at the existing IWRMC and existing environments of temporary relocation sites (only applicable if an upgrading project). Provide information related to distances between residential areas, commonly used public places (mosques, schools, parks etc.), nearest 3 phase electricity distribution box, water connection point (if water network system is present at the island), groundwater wells and sewer connection point (if sewer network system is present at the island). Additionally, information related to the access road and route to waste unloading area shall be provided.

d) Land ownership and usage: Describe the legal boundaries of the site, and identified current usage of the land in terms of squatters, land encroachments, fixed and movable structures, trees and wells, etc. Describe land allocation/ownership details of the project area and any need for land taking causing resettlement impacts.

e) Coastal Modification / Erosion: Provide information related to any coastal modifications undertaken in the island in recent history and the side of the island subjected to coastal

erosion. Indicate whether any coastal erosion is noticed from the shoreline closest to the proposed development.

f) Vegetation present at the site: Describe the number and type of vegetation present at the project site and access road including scientific and local names. The amount of vegetation that require compensation and estimated cost must be indicated (separate for project site and access road, as the proponent of the access road is the island council). An explanation on how the rate of compensation is set by the Council and the process undertaken for the payment of compensation for loss of coconut palms and other trees should be given. Vegetation cover maps shall be included where appropriate (identifying the areas subjected for vegetation removal and translocation). Emphasis must be given to translocate trees (within the source islands or out of the island in instances where space scarcity is an issue) as much as possible. Methods of vegetation removal and translocation must be described, which should yield the preferred method for the project site and access road. Locations for compensatory 2:1 replantation must be identified and indicated on a map. *(Note: If development of an access road is found to be an associated project to which the island council will be the proponent, commitment letter from the island council stating their full responsibility to implement mitigation measures and assume monitoring responsibilities for the associated project must be included in the ESMP or ESIA).*

g) Groundwater Quality: Temperature, pH, conductivity, total dissolved solid (TDS) and total petroleum hydrocarbon (from the proposed location for bio-generator installation).

h) Air Quality: Particulate matter (PM10 and PM2.5), carbon monoxide (CO), nitrogen oxide (NO) and Sulphur dioxide (SO2).

i) Noise: outside within 1m radius and within the nearest residential area.

j) Protected Areas and Environmentally Sensitive Sites: Provide information on the environmentally protected and sensitive areas that exists close to the proposed development. Indicate distances from the project sites and if the protected area is in the project impact zone and if there are any observed potential impacts. Proximity of the site to surface water bodies or sensitive habitats (e.g. coats, mangroves, wetlands) should also be identified.

k) Areas of Historic and Cultural Significance: Provide information on areas of historic and cultural significance that exist close to the proposed development. Indicate distance from the selected project site.

l) Socio-Economic Environment: Describe the socio-economic environment of the island.

- Demography: total population segregated by gender, density, growth and pressure on land and marine resources.
- Details of vulnerable/marginalized groups (households headed by females, households' special needs, households below poverty line etc.) and community-based organizations (i.e. women's/youth groups etc.) & their activities.
- Economic activities and livelihood patterns: Major economic activities of the community including but not limited to local tourisms (no. of operational guesthouses), businesses (no. of wholesale and retail shops), cafés / restaurants, fishing vessels etc.
- Status of access to market, health facilities, banking, communication, etc.
- Electricity: Describe how electricity is provided at the islands and the capacity of the generators installed.
- Water Resources and Sewerage: Source of portable and non-portable water supply. If through RO indicate the type and capacity of the plant and water storage tanks. Describe how sewerage is treated at the island (i.e. through septic tanks or sewer network system).

7. **Impact Identification:** The ESMP or EISA should identify all the impacts, direct and indirect, during and after construction, as well as for the operations of the IWRMC and evaluate the magnitude and significance of each. Particular attention shall be given to impacts associated with the following:

a) Physical / Chemical: describe impacts on groundwater, soil, noise, air and waste.

- Impacts on noise pollution and disturbances (both in construction and operations)
- Impacts on groundwater table and quality due to construction, operations (leachate / stormwater runoff) and accidental fuel spillage (if fuel tanks are included within project scope).
- Impacts on ground vibrations to nearby houses and buildings.
- Impacts on air quality.
- Marine water pollution due to spillage during material transfer.

b) Biological: describe impacts on vegetation and fauna.

- Impact due to vegetation removal.
- Impacts to vegetation and fauna due to improper handling and driving during material transportation.
- Impacts due to material spillage during transfer of construction materials to the project island.

c) Any resettlement impact - such as loss of land, livelihoods, assets etc. due to land taking/acquisition and/or other project interventions.
   - Verify the legal status of the land required; document existing structures, land plots, and other physical assets at the project site to establish a cut-off date for entitlements in accordance with the policies given in ESMF.
   - Identify the persons and their families likely to be affected by the project including those who are vulnerable. This should cover information pertaining to members of families who are residing, practicing any trade, occupation or vocation in the project affected area, including those who may potentially lose income due to loss of coconut palms having a moderate economic value.
   - Project Affected Families are those who are likely to lose their house, homestead, commercial establishment, agricultural land, employment or are alienated wholly or substantially from the main source of their trade, occupation or vocation, or who will lose any other immovable property or their source of livelihood. Including people losing access to private property or common property resources.

d) Sociological / Cultural: describe impacts of road closure, nearby sensitive areas (mosques, schools etc.), health and safety of surrounding community / contracted labor and sociocultural conflict.

   - Sociocultural conflict due to arrival of expatriate workers and recruitment of expatriate IWRMC operators.
   - Impacts due to illegal immigrants being potentially recruited by the contractor.
   - Contractors code of conduct and communication.
   - Loss of source of sand for local public use due to sand mining from the area of the lagoon permitted for local public sand mining (which is prohibited under law).
   - Health and safety of the construction workers and the IWRMC operators.
   - COVID19 restrictions and special considerations for the contractor (potential mitigation measures may include daily temperature checks, cleaning procedures, shift roaster, arrangement for social distancing in labor camps, establishment of handwashing facilities at work site and labor camp etc.).
   - Fire hazard due to improper handling of fuel (if fuel storage is included with the project scope) and waste.

e) Economic / Enhancement Plans: describe any potential benefits or losses to the economy.

- Employment opportunities.
- Impacts to the local economy due to purchasing of locally available construction materials.
- Impacts to the public due to high user fees.
- Cost saving in IWRMC operations due to electricity being generated from waste.
- Some of these opportunities can be further developed to draw environmental and social benefits to the local area. The ESMP should identify such opportunities and develop a plan to systematically harness any such benefit

f) Specific Impacts Associated with the Proposed Technology: The Consultant should assess the following aspects in line with the proposed technology.

- **Odor Management:** Assess if the technology has an inbuilt odor management system and managed odors automatically.
- **Fluid and Discharges:** Will there be any fluid discharges from the proposed technology, will the machines require any extra piping space or water discharge systems or expansion of the existing leachate management system provided via the design, the consultants should propose suitable design requirements if so in the ESMP.
- **Waste Inputs:** Assess if the technology requires additional segregation of pre management of the incoming organic waste. Indicate specifically under the section on operational aspects of the ESMP what steps need to be taken specifically by the IWRMC operators in handling in coming waste to ensure it can be efficiently used in line with the proposed technology.
- **Energy Requirements and Efficiency:** The energy requirement to run the machinery and the status of energy efficiency of the machinery proposed should be assessed, i.e. the consultants should assess the energy requirements for operating the technology and propose the most efficient means of managing. Can a connection be made to the existing Island Grid, if so, will the capacity suffice, can a solar and battery generator be used as an energy source and if diesel generators are to be used which is the least alternative, the amount of fuel required etc. should be asses as part of the project alternatives analysis. For all energy sources impacts in terms of emissions, noise, safety risks etc. should be assessed and mitigatory measures suggested in the ESMP accordingly.
- **Sludge and Residuals:** The nature and amount of all residual material produced, solid and liquid should be assessed and recommend means by which it can be re-

used and/or managed in the ESMP. If reuse is recommended the consultant should also recommend the requirements for routine monitoring of quality of the digestate and liquid residue for instance if it is recommended to be used in agricultural processes.

- **Safety features on the machinery:** such as presence of emergency stop buttons, emergency lights and/or alarms for emergency use are equipped to ensure the best level of safety should be present and the consultants should assess if the proposed technology, especially machinery include these in addition to proposing other safety features in the ESMP.

The methods used to identify the significance of the impacts shall be outlined. One or more of the following methods must be utilized in determining impacts; checklists, matrices, overlays, networks, expert systems and professional judgment. Justification must be provided to the selected methodologies. The report should outline the uncertainties in impact prediction and also outline all positive and negative/short and long-term impacts. Identify impacts that are cumulative and unavoidable.

8. **Project Alternatives:** Describe alternatives including the "no project option" should be presented. Alternative examined for the project should include alternative locations, design and technology options, and alternative energy sources which shall be evaluated in environmental, social and economic terms. Alternative technology options for the treatment of organic waste may include manual composting and the use of compost machines. Depending on the source of energy proposed to operate the IWRMC, alternative energy sources evaluated shall include connection from existing power grid, solar, battery and diesel generators. For all energy sources impacts in terms of emissions, noise, safety risks etc. should be assessed and mitigatory measures suggested accordingly. All alternatives must be compared according to commonly accepted standards and norms and international standards as much as possible. The comparison should yield the preferred alternative for implementation. Mitigation options shall be specified for each component of the proposed project.

9. **Mitigation and management of negative impacts:** Identify possible measures to prevent or reduce significant negative impacts to acceptable levels. These will include both environmental and socio-economic mitigation measures. Mitigation measures to avoid or compensate habitat destruction caused by land clearance will have to be considered. Mitigation measures should be provided for COVID19 related aspects such as daily temperature checks, cleaning procedures, shift roaster, arrangement for social distancing in labor camps, establishment of handwashing facilities at work site and labor camp etc. Measures for both construction and operation phase shall be identified. Cost the mitigation measures, equipment and resources required to implement those

measures. The confirmation of commitment of the developer to implement the proposed mitigation measures shall also be included. An Environmental and Social Management Plan (ESMP) for the proposed project, identifying responsible persons, their duties and commitments shall also be given. The environmental and social management plan should be presented in matrix format, clearly indicting the responsible person, cost, equipment and resources required for each proposed action. In cases where impacts are unavoidable arrangements to compensate for the environmental and / or social effect shall be given.

On islands where large volumes of residual legacy waste are identified at the IWRMC site, the consultant will present a recommended course of action for island clean up, need for waste segregation and management options, including onsite and offsite, resource recovery, recycling and/or final disposal in the form of mitigatory actions defined for the context of each Island.

Mitigation measures should be presented as a matrix consistent to the format provided below.

Project Activity	**Potential Environmental Impacts**	**Proposed Mitigation Measures**	**Institutional Responsibilities** (Implementation and Supervision)	**Estimated Quantities Required and Material Specifications Recommended**	**Cost Estimates**	**Comments** (e.g. secondary impacts**)**
Detailed design and planning Phase						
Pre-Construction Phase -Site Preparation						
Construction Phase						
Operation and Maintenance Phase						

The proposed ESMP matrix shall be translated to Dhivehi language and provided as an Annex to the report.

10. **Development of monitoring and reporting plan:**

10.1. Monitoring Program: Identify the critical issues requiring monitoring to ensure compliance to mitigation measures and present impact management and monitoring plan for vegetation clearance, soil, groundwater, noise and air quality, spillage assessment and grievance redress mechanism. Detail of the monitoring program including the physical and biological parameters for monitoring, cost commitment from responsible person to conduct monitoring in the form of a commitment letter, detailed reporting scheduling, costs and methods of undertaking the monitoring program must be provided.

The monitoring program should give details of the following;

- Monitoring indicators to be measured for evaluating the performance of each mitigatory measure (for example national standards, engineering structures, extent of area replanted, etc.).
- Monitoring mechanisms and methodologies
- Monitoring frequency
- Monitoring locations
- Cost of monitoring
- Responsible party

The recommended format for presenting the monitoring program is given below.

Proposed Mitigation Measure	**Parameters to be monitored**	**Location**	**Measurements** (Incl. methods & equipment)	**Frequency of Measurement**	**Responsibilities** (Incl. review and reporting)	**Cost** (equipment & Individuals)
Detailed design and planning Phase						
Pre-Construction Phase						
Construction Phase						
Operation and Maintenance Phase						

10.2. Reporting Procedures and Implementation Schedule: The consultant should propose adequate reporting mechanisms with frequencies for the implementation of the ESMP and the proposed monitoring program.

10.3. Cost Estimates and Sources of Funds: Implementation of mitigatory measures mentioned in the ESMP will involve an initial investment cost as well as recurrent costs. The ESMP should include costs estimates for each measure and also identify sources of funding, which is to be covered under section 9. In addition to this, estimated costs shall be provided (separate for construction and operational phase activities) for specific items and materials that the contractor and the operators would require to implement the ESMP effectively. Such items may include the cost of purchasing PPEs, fire extinguisher, signages, trainings etc. This would essentially enable the contractor to reflect accurate costs in the bid documents. Potential sources of funding for the operational phase should be reflected.

10.4. Contract Clauses: This is an important section of the ESMP that would ensure recommendations carried in the ESMP will be translated into action on the ground. Contract documents will need to be incorporated with clauses directly linked to the implementation of mitigatory measures. Mechanisms such as linking the payment schedules to implementation of the said clauses could be explored and implemented, as appropriate.

11. Management of Other On- or Off-Site Environmental Pollution Control and Infrastructure

This section should address management of critical elements of pollution control and infrastructure that are not otherwise included in the mitigation plan because they were considered an essential part of the proposed project.

12. Summary of all Training Recommendations

This section should include programs targeted to increase the capacity of the contractor and the operator in the implementation of the ESMP. A capacity needs assessment for the operations of the IWRMC should be undertaken, highlighting gaps and training recommendations for a fully functional system. Special consideration must be given to cover operational training requirements of the proposed AD plant and associated bio-generator (if included with the project scope).

The training recommendations are likely to include the following:

- Strengthening the capacity of the contractor on ESMP implementation and reporting.
- Strengthening PMU's capacity on compliance monitoring.
- General awareness on health and safety.
- Contractor's code of conduct.
- Community Mobilization: Based on the assessment, the consultant should describe key messages for communication/awareness and recommend methods/tools. Also, recommend approaches to mobilize communities, enhance community participation (including that of women's groups) and create ownership/interest around waste management.
- Operation and Maintenance training of the AD plant and bio-generator.
- Fuel handling (if applicable).
- Fire safety training and fire drills.

Institutional Strengthening Activity	Position(s)	Scheduling	Responsibility(is)	Cost Estimates	

Training Activity	Participants	Types of Training	Content (modules, Etc.)	Scheduling	Cost Estimates

13. **Contingency Plans**

Contingency plans shall be prepared and described to address: a) failure to meet specific performance criteria established by law or necessary for the project to meet its commitments in the ESMP and b) respond to natural and other risks previously identified and mitigated in the ESMP in the event reasonable and feasible mitigation measures to address the risks are inadequate.

- Performance-related Contingency Plans, indicating the steps that will be taken should monitoring indicate that:
  - Environmental standards are not being met
  - Impacts are greater than predicted
  - Mitigation measures and/or rehabilitation are not performing as predicted
- Natural Disaster Risk Response Plan (assumes that risk identification and risk reduction have been addressed in other parts of the EA)
- Other Risks Response Plans (assumes that risk identification and risk reduction have been addressed in other parts of the EA)
- Contingency plans for maintaining service or reducing downtime in the event of accidents or natural catastrophes that disrupt project operation

14. **Grievance Redress Mechanism (GRM):** Describe the proposed grievance redress mechanism of the project developed by the PMU and offer suggested improvements including naming the responsible person in each tier.

15. **Stakeholder consultation:** Identify appropriate mechanisms for providing information on the development project and the GRM to relevant stakeholders. Consultations must be undertaken with all key stakeholders – including communities, government officials etc. During consultations the project activities should be introduced, and stakeholders given opportunity to ask questions/clarifications, raise their objections/concerns and the consultant should provide relevant feedback – this discussion should be documented in the form of a table noting the points discussed/issues raised and feedback provided. The report shall include a brief description of the Council's plan for GRM execution at tier 1. The report should include a list of people/groups consulted, their contact details and summary of the major outcomes. The following people or institutions should be consulted.

- Island Council (on GRM, Island Waste Management Plan, fee collection system, plan for 2:1 replantation, and the overall project in general)
- EPA (on the overall design of the IWRMC, AD component and operation licensing requirements).
- Maldives Energy Authority (on the operations and the bio generator to produce electricity for the IWRMC operations).
- FENAKA (on the capacity of the island power plant to cater for the energy requirements of the IWRMC).
- Health Protection Agency (on COVID19 health and safety requirements).
- Ministry of Planning and Infrastructure and Maldives Land and Survey Authority (regarding land use plan).
- Maldives National Defense Force (on handling of fuel, fire safety and willingness to assist in training the IWRMC operators on firefighting).
- Waste Management Committee (on their role of waste management at the island).
- Women's Development Committee (on their involvement and perspectives on how waste management can be improved in the Island)
- Community Consultation or Household Survey (randomly selected with emphasis given to those residing at a close proximity to the project site: on the adequacy of the proposed site, feasibility of overall design of the IWRMC and the proposed technology, health and safety considerations, proposed fee collection structure, willingness to pay and waste management plan of the council).
- Ministry of Environment / MCEP (on the overall project as the proponent and GRM at tier 2)

The consultant should take into consideration COVID19 safety measure during consultations, follow WHO/WB & GoM guidelines when conducting consultations and explore remote/online options when conducting consultation.

16. **Gender Empowerment / Preparation of Gender Action Plan**

The consultants will carry out Gender analysis as an integral part of the social assessment. The project designs should be gender responsive based on the gender analysis. The findings and recommendations from the gender analysis during project planning and feedback from beneficiaries during implementation must be discussed thoroughly to determine the need for further action. Listed below are the key action points:

- Identify key gender and women's participation issues.
- Conduct gender analysis as part of overall Social Assessment.

- Examine gender differences in knowledge, attitudes, practices, roles, status, wellbeing, constraints, needs, and priorities, and the factors that affect those differences.
- Assess men's and women's capacity to participate and the factors affecting that capacity.
- Assess the potential gender-differentiated impact of the project and options to maximize benefits and minimize adverse effects.
- Identify government agencies and nongovernmental organizations (NGOs), community-based organizations (CBOs), and women's groups that can be used during project implementation and assess their capacity. The possibility of utilizing such ground to execute 2:1 replantation and if so the requirement to provided financial assistance with estimates must be provided.
- List out major gender actions.
- Develop gender-disaggregated indicators and monitoring plan.

17. **Validation and Disclosure**

The draft executive summary and the ESMP (matrix table in mitigation chapter) in local language should be disclosed in all major affected settlements and at island level in printed format and disseminated as appropriate or made available via online means for public commenting. This should be completed prior to or at the time of submitting the report to the EPA and the World Bank for clearance, so the period for public commenting can be sequenced in parallel to the review process. The consultant will assist the project in disclosure documents in all major affected settlements and at island and national level. The final cleared version of the report will be disclosed in major project websites and social media platforms with a summary of major findings through the disclosure process reflected as an annex.

18. **Conclusion**

This section shall specify the environmental acceptability of the project, taking into account the impacts and measures identified during the assessment process. It shall also identify any other conditions or external requirements for ensuring the success of the project.

Presentation- The ESMP or ESIA report, to be presented in digital format, will be concise and focus on significant environmental issues. It will contain the findings, conclusions and recommended actions supported by summaries of the data collected and citations for any references used in interpreting those data. The ESMP or EISA report will be organized according to the final TOR, in accordance to, but not necessarily limited by, the outline the Environmental Impact Assessment Regulations (2012) and the ESAMF. The report shall include Dhivehi translations of the executive summary and the ESMP matrix. All raw data collected, including maps and surveys should be submitted in Raw form to the client in digital format.

ANNEX 2: TECHNICAL TOR B

ESMP for the establishment or upgrading of IWRMCs with Aerobic Technology using Composting Machine

Technical Terms of Reference B: ESMP for the establishment or upgrading of IWRMCs with Aerobic Technology using Composting Machine

Objective and Scope of Preparation of ESMP

In order to ensure short and long term environmental and social impacts that would arise due to the proposed development are adequately mitigated and monitored, following the screening decision from EPA and the World Bank, an ESMP will need to be developed as per the scope presented below and in accordance with the ESAMF of the Project and the Environmental Impact Assessment Regulations (2012). The project IWMPs should be reviewed and used as the basis for baseline information. Field level verification should be conducted prior to the preparation of the ESMP.

While every attempt has been made to ensure that this TOR addresses all of the major issues associated with development proposal, they are not necessarily exhaustive. They should not be interpreted as excluding from consideration matters deemed to be significant but not incorporated in them, or matters currently unforeseen, that emerge as important or significant from environmental and social studies, or otherwise, during the course of preparation of the ESMP report.

Following should be the key components/assessment outline of the ESMP:

19. **Executive Summary:** An executive summary of the significant findings of the report shall be prepared both in Dhivehi and English language. The executive summary shall include summaries of project description and how significant environmental and social issues will be resolved. The conclusion of the study must be stated.

20. **Introduction:** Briefly describe the major components of the proposed project. Provide a brief history and justification of the project and describe how the proposed development will improve on the current arrangements for waste management in the project area. Provide details of the proponent, and institutional arrangements for implementation and operations of the proposed development, and environmental and social issues of similar projects. Include desktop studies and review of similar ESMPs and ESIAs.

Major components of the Island Waste Management Regulation and the Island Waste Management Plan (IWMP) should be described (fee structure, consultations undertaken for plan preparation etc.), indicating the status of approval (prepared, under review or approved by EPA) and highlighting any

challenges faced by the council in plan preparation and approval (if any). The report also should indicate whether a study or public consultation has been (or should be) undertaken to assess willingness / ability to pay.

21. **Legislative and Regulatory Considerations:** This chapter should cover the legal aspects related to the project. Outline the project's consistency with the existing national, state, regional and local planning that apply to the project include reference to relevant statutory and non-statutory plans, planning policies, guidelines, strategies and agreements as appropriate. Outline the pertinent policies, regulations and standards governing project location, land use, environmental quality, and public health and safety. This should cover information on legal requirements specific to the project, such as permits to be taken under the Environmental Impact Regulations (2012) and the land allocation process followed with MLSA and other relevant institutions. There should be a brief description on the process (and law) pertaining to the allocation of land to development projects, in general, and to the IWRMC, in particular. Issues related to land acquisition and resettlement should be addressed, stating no impact or minimal impact.

22. **Study Area:** Submit an A3 scaled plan with indications of all the proposed land infrastructures. Specify the boundaries of the study area for the ESMP highlighting the location and size of the proposed construction. The study area should include nearby environmentally and socially sensitive areas (EPAs / ESAs, houses, mosques, schools, playgrounds etc.), nearest 3 phase distribution box, water connection point (if water network system is present at the island), sewer connection point (if sewer network system is present at the island). Justification for site selection shall be provided. Relevant developments in the area must also be addressed including residential areas and all economic ventures and cultural sites.

23. **Project Description:** Provide a full description and justification of relevant parts of the project, using maps at appropriate scale where necessary. The following should be provided including all inputs and outputs related to the proposed activities shall be justified.

<u>General Construction and Operations</u>

- Provide a clearly labelled concept design and scaled site plan of the project boundary. If the project involves upgrading of an existing IWRMC, the infrastructure already present and those that will be introduced as part of the upgrading works should be clearly distinguished in the concept design presented.
- Submit a detailed description of the components of the project and how the project activities will be undertaken.

- Describe the construction phase components of the project including but not limited to site clearance, collection bay area, composting machine room, equipment room, groundwater well, toilet, septic tank, leachate collection tank, resting area and perimeter walls and fences. If the project involves upgrading of an existing IWRMC, provide information on the existing structures of the IWRMC and how these structures will be incorporated into the design for upgrading.
- If the project involves upgrading of an existing IWRMC, suggest ideal locations for temporarily relocating the waste currently present at the existing IWRMC (if any). Propose adequate mitigation measures to prepare the temporary storage site with particular emphasis given to leachate prevention.
- Describe the operational phase components of the project including but not limited to waste collection services, method of storing, composting method, leachate management, arrangements for the removal of inorganic waste from the IWRMC and clean-up of existing small open dump sites.
- Details, types and numbers of labor/workers required during construction/establishment and during operation.
- Include a project schedule.
- A matrix of inputs and outputs related to the project activities shall be included and described separately for construction and operational phase.

Design of the Aerobic System (Composting Machine)

- Concept design and process flow diagram of the proposed technology for aerobic digestion using composting machine.
- Type and amount of waste that it can treat (food waste, green waste, paper etc. in mixed form or separated) and details of any products required for activation (such as bioculum) including its corresponding quantities to operate for a period of 1 year.
- Solid and liquid bi-products and output of the process (wet / dry compost) including the method for their potential use and/or disposal.

Fire hazard, health and safety

- Vulnerability analysis of the operational processes proposed for the IWRMC to fire, electrical and explosion hazard.
- Provision to fire safety, including details of firefighting equipment that will be established, signage, alarm system etc.
- Firefighting capacity of IWRMC operators. If not found to be adequate, recommend a fire safety training program to the IWRMC operators which should be completed prior to

operationalization of the center. Indicate the availability of fire wardens in the island and their capability to assist in such a program.

Construction waste and waste oil

- Waste fuel and oil management details.
- Construction waste management and disposal.

24. **Existing Environment:** The existing environment study will not require complex data collection and survey analysis techniques since this is an ESMP and not a full ESIA study. However, a vegetation survey of the site must be presented since a large number of vegetation are subject for clearance. The vegetation analysis should be supplemented by drone imagery and / or photographs. The following information should also be provided based on field observations and consultations with the island council and the community. Photographic evidence should be provided where appropriate.

m) Current Waste Management Practices: Describe how waste is managed at present. This should include information about waste collection method and times, means of disposal (both organic and inorganic), staffs managing waste etc. Information about existing open dump sites (if any) and method of disposal should also be provided. Provide a map indicating the locations and dimensions of the open dump sites. Describe the waste composition and estimated volumes of each open dump site with photographic references.

n) Unassigned Waste Dumping: Describe the overall cleanliness of the island and whether unassigned waste dumping is observed. This should include an assessment of the status of contamination of the site as well via visual observation.

o) Project Site and Access Road: Describe the condition of the ground and soil of the project site (visual analysis). Provide an estimate of the amount and composition of waste present at the existing IWRMC and existing environments of temporary relocation sites (only applicable if an upgrading project). Provide information related to distances between residential areas, commonly used public places (mosques, schools, parks etc.), nearest 3 phase electricity distribution box, water connection point (if water network system is present at the island), groundwater wells and sewer connection point (if sewer network system is present at the island). Additionally, information related to the access road and route to waste unloading area shall be provided.

p) Land ownership and usage: Describe the legal boundaries of the site, and identified current usage of the land in terms of squatters, land encroachments, fixed and movable structures, trees and wells, etc. Describe land allocation/ownership details of the project area and any need for land taking causing resettlement impacts.

q) Coastal Modification / Erosion: Provide information related to any coastal modifications undertaken in the island in recent history and the side of the island subjected to coastal erosion. Indicate whether any coastal erosion is noticed from the shoreline closest to the proposed development.

r) Vegetation present at the site: Describe the number and type of vegetation present at the project site and access road including scientific and local names. The amount of vegetation that require compensation and estimated cost must be indicated (separate for project site and access road, as the proponent of the access road is the island council). An explanation on how the rate of compensation is set by the Council and the process undertaken for the payment of compensation for loss of coconut palms and other trees should be given. Vegetation cover maps shall be included where appropriate (identifying the areas subjected for vegetation removal and translocation). Emphasis must be given to translocate trees (within the source islands or out of the island in instances where space scarcity is an issue) as much as possible. Methods of vegetation removal and translocation must be described, which should yield the preferred method for the project site and access road. Locations for compensatory 2:1 replantation must be identified and indicated on a map. *(Note: If development of an access road is found to be an associated project to which the island council will be the proponent, commitment letter from the island council stating their full responsibility to implement mitigation measures and assume monitoring responsibilities for the associated project must be included in the ESMP).*

s) Protected Areas and Environmentally Sensitive Sites: Provide information on the environmentally protected and sensitive areas that exists close to the proposed development. Indicate distances from the project sites and if the protected area is in the project impact zone and if there are any observed potential impacts. Proximity of the site to surface water bodies or sensitive habitats (e.g. coats, mangroves, wetlands) should also be identified.

t) Areas of Historic and Cultural Significance: Provide information on areas of historic and cultural significance that exist close to the proposed development. Indicate distance from the selected project site.

u) Socio-Economic Environment: Describe the socio-economic environment of the island.

- Demography: total population segregated by gender, density, growth and pressure on land and marine resources.
- Details of vulnerable/marginalized groups (households headed by females, households' special needs, households below poverty line etc.) and community-based organizations (i.e. women's/youth groups etc.) & their activities.
- Economic activities and livelihood patterns: Major economic activities of the community including but not limited to local tourisms (no. of operational guesthouses), businesses (no. of wholesale and retail shops), cafés / restaurants, fishing vessels etc.
- Status of access to market, health facilities, banking, communication, etc.
- Electricity: Describe how electricity is provided at the islands and the capacity of the generators installed.
- Water Resources and Sewerage: Source of portable and non-portable water supply. If through RO indicate the type and capacity of the plant and water storage tanks. Describe how sewerage is treated at the island (i.e. through septic tanks or sewer network system).

25. **Impact Identification:** The ESMP should identify all the impacts, direct and indirect, during and after construction, as well as for the operations of the IWRMC and evaluate the magnitude and significance of each. Particular attention shall be given to impacts associated with the following:

g) Physical / Chemical: describe impacts on groundwater, soil, noise, air and waste.

- Impacts on noise pollution and disturbances (both in construction and operations)
- Impacts on groundwater table and quality due to construction, operations (leachate / stormwater runoff).
- Impacts on ground vibrations to nearby houses and buildings.
- Impacts on air quality.
- Marine water pollution due to spillage during material transfer.

h) Biological: describe impacts on vegetation and fauna.

- Impact due to vegetation removal.
- Impacts to vegetation and fauna due to improper handling and driving during material transportation.
- Impacts due to material spillage during transfer of construction materials to the project island.

i) Any resettlement impact - such as loss of land, livelihoods, assets etc. due to land taking/acquisition and/or other project interventions.

- Verify the legal status of the land required; document existing structures, land plots, and other physical assets at the project site to establish a cut-off date for entitlements in accordance with the policies given in ESMF.
- Identify the persons and their families likely to be affected by the project including those who are vulnerable. This should cover information pertaining to members of families who are residing, practicing any trade, occupation or vocation in the project affected area, including those who may potentially lose income due to loss of coconut palms having a moderate economic value.
- Project Affected Families are those who are likely to lose their house, homestead, commercial establishment, agricultural land, employment or are alienated wholly or substantially from the main source of their trade, occupation or vocation, or who will lose any other immovable property or their source of livelihood. Including people losing access to private property or common property resources.

j) Sociological / Cultural: describe impacts of road closure, nearby sensitive areas (mosques, schools etc.), health and safety of surrounding community / contracted labor and sociocultural conflict.

- Sociocultural conflict due to arrival of expatriate workers and recruitment of expatriate IWRMC operators.
- Impacts due to illegal immigrants being potentially recruited by the contractor.
- Contractors code of conduct and communication.
- Loss of source of sand for local public use due to sand mining from the area of the lagoon permitted for local public sand mining (which is prohibited under law).
- Health and safety of the construction workers and the IWRMC operators.
- COVID19 restrictions and special considerations for the contractor (potential mitigation measures may include daily temperature checks, cleaning procedures, shift roaster, arrangement for social distancing in labor camps, establishment of handwashing facilities at work site and labor camp etc.).
- Fire hazard due to improper handling of waste.

k) Economic / Enhancement Plans: describe any potential benefits or losses to the economy.

- Employment opportunities.
- Impacts to the local economy due to purchasing of locally available construction materials.

- Impacts to the public due to high user fees.
- Cost saving in IWRMC operations due to electricity being generated from waste.
- Some of these opportunities can be further developed to draw environmental and social benefits to the local area. The ESMP should identify such opportunities and develop a plan to systematically harness any such benefit.

l) Specific Impacts Associated with the Proposed Technology: The Consultant should assess the following aspects in line with the proposed technology.

- **Odor Management:** Assess if the technology has an inbuilt odor management system and managed odors automatically.
- **Fluid and Discharges:** Will there be any fluid discharges from the proposed technology, will the machines require any extra piping space or water discharge systems or expansion of the existing leachate management system provided via the design, the consultants should propose suitable design requirements if so in the ESMP.
- **Waste Inputs:** Assess if the technology requires additional segregation of pre management of the incoming organic waste. Indicate specifically under the section on operational aspects of the ESMP what steps need to be taken specifically by the IWRMC operators in handling in coming waste to ensure it can be efficiently used in line with the proposed technology.
- **Energy Requirements and Efficiency:** The energy requirement to run the machinery and the status of energy efficiency of the machinery proposed should be assessed, i.e. the consultants should assess the energy requirements for operating the technology and propose the most efficient means of managing. Can a connection be made to the existing Island Grid, if so, will the capacity suffice, can a solar and battery generator be used as an energy source and if diesel generators are to be used which is the least alternative, the amount of fuel required etc. should be asses as part of the project alternatives analysis. For all energy sources impacts in terms of emissions, noise, safety risks etc. should be assessed and mitigatory measures suggested in the ESMP accordingly.
- **Sludge and Residuals:** The nature and amount of all residual material produced, solid and liquid should be assessed and recommend means by which it can be re-used and/or managed in the ESMP. If reuse is recommended the consultant should also recommend the requirements for routine monitoring of quality of the digestate and liquid residue for instance if it is recommended to be used in agricultural processes.

- **Safety features on the machinery:** such as presence of emergency stop buttons, emergency lights and/or alarms for emergency use are equipped to ensure the best level of safety should be present and the consultants should assess if the proposed technology, especially machinery include these in addition to proposing other safety features in the ESMP.

The methods used to identify the significance of the impacts shall be outlined. One or more of the following methods must be utilized in determining impacts; checklists, matrices, overlays, networks, expert systems and professional judgment. Justification must be provided to the selected methodologies. The report should outline the uncertainties in impact prediction and also outline all positive and negative/short and long-term impacts. Identify impacts that are cumulative and unavoidable.

26. **Project Alternatives:** Describe alternatives including the "no project option" should be presented. Alternative examined for the project should include alternative locations, design and technology options, and alternative energy sources which shall be evaluated in environmental, social and economic terms. Alternative technology options for the treatment of organic waste may include manual composting and anerobic digestion systems. Depending on the source of energy proposed to operate the IWRMC, alternative energy sources evaluated shall include connection from existing power grid, solar, battery and diesel generators. For all energy sources impacts in terms of emissions, noise, safety risks etc. should be assessed and mitigatory measures suggested accordingly. All alternatives must be compared according to commonly accepted standards and norms and international standards as much as possible. The comparison should yield the preferred alternative for implementation. Mitigation options shall be specified for each component of the proposed project.

27. **Mitigation and management of negative impacts:** Identify possible measures to prevent or reduce significant negative impacts to acceptable levels. These will include both environmental and socio-economic mitigation measures. Mitigation measures to avoid or compensate habitat destruction caused by land clearance will have to be considered. Mitigation measures should be provided for COVID19 related aspects such as daily temperature checks, cleaning procedures, shift roaster, arrangement for social distancing in labor camps, establishment of handwashing facilities at work site and labor camp etc. Measures for both construction and operation phase shall be identified. Cost the mitigation measures, equipment and resources required to implement those measures. The confirmation of commitment of the developer to implement the proposed mitigation measures shall also be included. An Environmental and Social Management Plan for the proposed project, identifying responsible persons, their duties and commitments shall also be given. The

environmental and social management plan should be presented in matrix format, clearly indicting the responsible person, cost, equipment and resources required for each proposed action. In cases where impacts are unavoidable arrangements to compensate for the environmental and / or social effect shall be given.

Depending on the source of energy proposed to operate the IWRMC, alternative energy sources evaluated shall include connection from existing power grid, solar, battery and diesel generators. For all energy sources impacts in terms of emissions, noise, safety risks etc. should be assessed and mitigatory measures suggested accordingly.

Mitigation measures should be presented as a matrix consistent to the format provided below.

Project Activity	**Potential Environmental Impacts**	**Proposed Mitigation Measures**	**Institutional Responsibilities** (Implementation and Supervision)	**Estimated Quantities Required and Material Specifications Recommended**	**Cost Estimates**	**Comments** (e.g. secondary impacts**)**
Detailed design and planning Phase						
Pre-Construction Phase -Site Preparation						
Construction Phase						
Operation and Maintenance Phase						

The proposed ESMP matrix shall be translated to Dhivehi language and provided as an Annex to the report.

28. **Development of monitoring and reporting plan:**

10.5. Monitoring Program: Identify the critical issues requiring monitoring to ensure compliance to mitigation measures and present impact management and monitoring plan for vegetation clearance, soil, groundwater, noise and air quality, spillage assessment and grievance redress mechanism. Detail of the monitoring program including the physical and biological parameters for monitoring, cost commitment from responsible person to conduct monitoring in the form of a commitment letter, detailed reporting scheduling, costs and methods of undertaking the monitoring program must be provided.

The monitoring program should give details of the following;

- Monitoring indicators to be measured for evaluating the performance of each mitigatory measure (for example national standards, engineering structures, extent of area replanted, etc.).
- Monitoring mechanisms and methodologies
- Monitoring frequency
- Monitoring locations
- Cost of monitoring
- Responsible party

The recommended format for presenting the monitoring program is given below.

Proposed Mitigation Measure	**Parameters to be monitored**	**Location**	**Measurements** (Incl. methods & equipment)	**Frequency of Measurement**	**Responsibilities** (Incl. review and reporting)	**Cost** (equipment & Individuals)
Detailed design and planning Phase						
Pre-Construction Phase						
Construction Phase						
Operation and Maintenance Phase						

10.6. Reporting Procedures and Implementation Schedule: The consultant should propose adequate reporting mechanisms with frequencies for the implementation of the ESMP and the proposed monitoring program.

10.7. Cost Estimates and Sources of Funds: Implementation of mitigatory measures mentioned in the ESMP will involve an initial investment cost as well as recurrent costs. The ESMP should include costs estimates for each measure and also identify sources of funding, which is to be covered under section 9. In addition to this, estimated costs shall be provided (separate for construction and operational phase activities) for specific items and materials that the contractor and the operators would require to implement the ESMP effectively. Such items may include the cost of purchasing PPEs, fire extinguisher, signages, trainings etc. This would essentially enable the contractor to reflect accurate costs in the bid documents. Potential sources of funding for the operational phase should be reflected.

10.8. Contract Clauses: This is an important section of the ESMP that would ensure recommendations carried in the ESMP will be translated into action on the ground. Contract

documents will need to be incorporated with clauses directly linked to the implementation of mitigatory measures. Mechanisms such as linking the payment schedules to implementation of the said clauses could be explored and implemented, as appropriate.

29. **Management of Other On- or Off-Site Environmental Pollution Control and Infrastructure**

This section should address management of critical elements of pollution control and infrastructure that are not otherwise included in the mitigation plan because they were considered an essential part of the proposed project.

30. **Summary of all Training Recommendations**

This section should include programs targeted to increase the capacity of the contractor and the operator in the implementation of the ESMP. A capacity needs assessment for the operations of the IWRMC should be undertaken, highlighting gaps and training recommendations for a fully functional system. Special consideration must be given to cover operational training requirements of the proposed AD plant and associated bio-generator (if included with the project scope).

The training recommendations are likely to include the following:

- Strengthening the capacity of the contractor on ESMP implementation and reporting.
- Strengthening PMU's capacity on compliance monitoring.
- General awareness on health and safety.
- Contractor's code of conduct.
- Community Mobilization: Based on the assessment, the consultant should describe key messages for communication/awareness and recommend methods/tools. Also, recommend approaches to mobilize communities, enhance community participation (including that of women's groups) and create ownership/interest around waste management.
- Operation and Maintenance training of the AD plant and bio-generator.
- Fuel handling (if applicable).
- Fire safety training and fire drills.

Institutional Strengthening Activity	**Position(s)**	**Scheduling**	**Responsibility(is)**	**Cost Estimates**	

Training Activity	Participants	Types of Training	Content (modules, Etc.)	Scheduling	Cost Estimates

31. **Contingency Plans**

Contingency plans shall be prepared and described to address: a) failure to meet specific performance criteria established by law or necessary for the project to meet its commitments in the ESMP and b) respond to natural and other risks previously identified and mitigated in the ESMP in the event reasonable and feasible mitigation measures to address the risks are inadequate.

- Performance-related Contingency Plans, indicating the steps that will be taken should monitoring indicate that:
  - Environmental standards are not being met
  - Impacts are greater than predicted
  - Mitigation measures and/or rehabilitation are not performing as predicted
- Natural Disaster Risk Response Plan (assumes that risk identification and risk reduction have been addressed in other parts of the EA)
- Other Risks Response Plans (assumes that risk identification and risk reduction have been addressed in other parts of the EA)
- Contingency plans for maintaining service or reducing downtime in the event of accidents or natural catastrophes that disrupt project operation

32. **Grievance Redress Mechanism (GRM):** Describe the proposed grievance redress mechanism of the project developed by the PMU and offer suggested improvements including naming the responsible person in each tier.

33. **Stakeholder consultation:** Identify appropriate mechanisms for providing information on the development project and the GRM to relevant stakeholders. Consultations must be undertaken with all key stakeholders – including communities, government officials etc. During consultations the project activities should be introduced, and stakeholders given opportunity to ask questions/clarifications, raise their objections/concerns and the consultant should provide relevant feedback – this discussion should be documented in the form of a table noting the points discussed/issues raised and feedback provided. The report shall include a brief description of the Council's plan for GRM execution at tier 1. The report should include a list of people/groups consulted, their contact details and summary of the major outcomes. The following people or institutions should be consulted.

- Island Council (on GRM, Island Waste Management Plan, fee collection system, plan for 2:1 replantation, and the overall project in general)
- EPA (on the overall design of the IWRMC and operation licensing requirements).
- FENAKA (on the capacity of the existing power plant to cater for the energy requirements of the IWRMC).
- Health Protection Agency (on COVID19 health and safety requirements).
- Ministry of Planning and Infrastructure and Maldives Land and Survey Authority (regarding land use plan).
- Maldives National Defense Force (on fire safety and willingness to assist in training the IWRMC operators on firefighting).
- Waste Management Committee (on their role of waste management at the island).
- Women's Development Committee (on their involvement and perspectives on how waste management can be improved in the Island)
- Community Consultation or Household Survey (randomly selected with emphasis given to those residing at a close proximity to the project site: on the adequacy of the proposed site, feasibility of overall design of the IWRMC and the proposed technology, health and safety considerations, proposed fee collection structure, willingness to pay and waste management plan of the council).
- Ministry of Environment / MCEP (on the overall project as the proponent and GRM at tier 2)

The consultant should take into consideration COVID19 safety measure during consultations, follow WHO/WB & GoM guidelines when conducting consultations and explore remote/online options when conducting consultation.

34. **Gender Empowerment / Preparation of Gender Action Plan**

The consultants will carry out Gender analysis as an integral part of the social assessment. The project designs should be gender responsive based on the gender analysis. The findings and recommendations from the gender analysis during project planning and feedback from beneficiaries during implementation must be discussed thoroughly to determine the need for further action. Listed below are the key action points:

- Identify key gender and women's participation issues.
- Conduct gender analysis as part of overall Social Assessment.
- Examine gender differences in knowledge, attitudes, practices, roles, status, wellbeing, constraints, needs, and priorities, and the factors that affect those differences.
- Assess men's and women's capacity to participate and the factors affecting that capacity.

- Assess the potential gender-differentiated impact of the project and options to maximize benefits and minimize adverse effects.
- Identify government agencies and nongovernmental organizations (NGOs), community-based organizations (CBOs), and women's groups that can be used during project implementation and assess their capacity. The possibility of utilizing such ground to execute 2:1 replantation and if so the requirement to provided financial assistance with estimates must be provided.
- List out major gender actions.
- Develop gender-disaggregated indicators and monitoring plan.

35. **Validation and Disclosure**

The draft executive summary and the ESMP (matrix table in mitigation chapter) in local language should be disclosed in all major affected settlements and at island level in printed format and disseminated as appropriate or made available via online means for public commenting. This should be completed prior to or at the time of submitting the report to the EPA and the World Bank for clearance, so the period for public commenting can be sequenced in parallel to the review process. The consultant will assist the project in disclosure documents in all major affected settlements and at island and national level. The final cleared version of the report will be disclosed in major project websites and social media platforms with a summary of major findings through the disclosure process reflected as an annex.

36. **Conclusion**

This section shall specify the environmental acceptability of the project, taking into account the impacts and measures identified during the assessment process. It shall also identify any other conditions or external requirements for ensuring the success of the project.

Presentation- The ESMP or ESIA report, to be presented in digital format, will be concise and focus on significant environmental issues. It will contain the findings, conclusions and recommended actions supported by summaries of the data collected and citations for any references used in interpreting those data. The ESMP or EISA report will be organized according to the final TOR, in accordance to, but not necessarily limited by, the outline the Environmental Impact Assessment Regulations (2012) and the ESAMF. The report shall include Dhivehi translations of the executive summary and the ESMP matrix. All raw data collected, including maps and surveys should be submitted in Raw form to the client in digital format.

ANNEX 3: TECHNICAL TOR C

Upgrading ESMP for the establishment or upgrading of IWRMCs with Aerobic Technology using Composting Machine

Technical Terms of Reference C: Upgrading ESMP for the establishment or upgrading of IWRMCs with Aerobic Technology using Composting Machine

Specific Objective and Scope of Updating the ESMP

In order to ensure short and long term environmental and social impacts that would arise due to the proposed development are adequately mitigated and monitored, following the screening decision from EPA and the World Bank, the previously prepared ESMP will need to be updated to reflect the change in design and the technology proposed for aerobic digestion treatment, as per the scope presented below and in accordance with the ESAMF of the Project and the Environmental Impact Assessment Regulations (2012).

The proposed technology for the treatment of organic waste in the previous ESMP is manual composting which has now changed to aerobic digestion system using a composting machine, in addition to other design variations that will be brought to the overall design of the IWRMC. This may as well change the previously allocated site dimensions. The project IWMPs should be reviewed and used as the basis for baseline information. Field level verification should be conducted prior to the preparation of the ESMP. Following should be the key components/assessment outline for updating the ESMP:

- Revise the Project Description chapter completely, to reflect the new design and the proposed aerobic system using composting machine (Chapter 2).
- Update any changes to site boundary due to the design change, by referring to the MLSA and EPA criteria for IWRMC siting. Update information regarding the number and type of vegetation that are required to be removed from the project site if an extension or a deviation is brought to the site boundary referred in the previous ESMP to accommodate the new design (Chapter 3).
- Update any changes perceived to the associate access road project due to change in site dimensions for which the island council will be the proponent and is beyond the scope of this project. If development of an access road is included as part of the original ESMP, commitment letter from the island council stating their full responsibility to implement mitigation measures and assume monitoring responsibilities for the associated project must be included in the ESMP

- Undertake community consultations to seek public opinion on the project such as the adequacy of the location, feasibility of the proposed design and technology, staff requirement, health and safety considerations etc. and understand concerns they have regards any risks/impacts linked to the proposed changes, especially on vulnerable groups etc.
- Undertake additional consultations with the island council, designated waste management focal point, the island waste management committee (if formulated), EPA, Ministry of Planning and Infrastructure, Maldives Land and Survey Authority and Maldives National Defence Force.
- Provide an update on the GRM establishment in terms of any changes to the focal point, displaying of posters etc. The PMU and the island council shall be consulted regarding this.
- Incorporate additional impacts and corresponding mitigation measures to the respective chapters to reflect revisions to the project design and technology, with special consideration given to workers' Health and Safety due to COVID19 situation. Impacts and mitigation measures should be presented in matrix format (refer to the General Technical TOR).
- Provided manual composting and anaerobic digestion technology options as alternatives in project alternatives chapter.
- Include sections on communication and community mobilization including actions to encourage women's participation and address any gender issues identified during consultations.
- Check the consistency of the other sections with the General Technical TOR provided by the PMU and update where necessary. Executive Summary, Introduction and Conclusions should be revised accordingly.
- Include a section on Training Recommendations and Contingency Plans (for details refer to the General Technical TOR)

General Technical Terms of Reference: ESMP for the establishment or upgrading of IWRMCs with Aerobic Technology using Composting Machine

37. **Executive Summary:** An executive summary of the significant findings of the report shall be prepared both in Dhivehi and English language. The executive summary shall include summaries of project description and how significant environmental and social issues will be resolved. The conclusion of the study must be stated.

38. **Introduction:** Briefly describe the major components of the proposed project. Provide a brief history and justification of the project and describe how the proposed development will improve on the current arrangements for waste management in the project area. Provide details of the proponent, and institutional arrangements for implementation and operations of the proposed development, and environmental and social issues of similar projects. Include desktop studies and review of similar ESMPs and ESIAs.

Major components of the Island Waste Management Regulation and the Island Waste Management Plan (IWMP) should be described (fee structure, consultations undertaken for plan preparation etc.), indicating the status of approval (prepared, under review or approved by EPA) and highlighting any challenges faced by the council in plan preparation and approval (if any). The report also should indicate whether a study or public consultation has been (or should be) undertaken to assess willingness / ability to pay.

39. **Legislative and Regulatory Considerations:** This chapter should cover the legal aspects related to the project. Outline the project's consistency with the existing national, state, regional and local planning that apply to the project include reference to relevant statutory and non-statutory plans, planning policies, guidelines, strategies and agreements as appropriate. Outline the pertinent policies, regulations and standards governing project location, land use, environmental quality, and public health and safety. This should cover information on legal requirements specific to the project, such as permits to be taken under the Environmental Impact Regulations (2012) and the land allocation process followed with MLSA and other relevant institutions. There should be a brief description on the process (and law) pertaining to the allocation of land to development projects, in general, and to the IWRMC, in particular. Issues related to land acquisition and resettlement should be addressed, stating no impact or minimal impact.

40. **Study Area:** Submit an A3 scaled plan with indications of all the proposed land infrastructures. Specify the boundaries of the study area for the ESMP highlighting the location and size of the proposed construction. The study area should include nearby environmentally and socially sensitive areas (EPAs / ESAs, houses, mosques, schools, playgrounds etc.), nearest 3 phase distribution box, water connection point (if water network system is present at the island), sewer connection point (if sewer network system is present at the island). Justification for site selection shall be provided. Relevant developments in the area must also be addressed including residential areas and all economic ventures and cultural sites.

41. **Project Description:** Provide a full description and justification of relevant parts of the project, using maps at appropriate scale where necessary. The following should be provided including all inputs and outputs related to the proposed activities shall be justified.

<u>General Construction and Operations</u>

- Provide a clearly labelled concept design and scaled site plan of the project boundary. If the project involves upgrading of an existing IWRMC, the infrastructure already present and those that will be introduced as part of the upgrading works should be clearly distinguished in the concept design presented.
- Submit a detailed description of the components of the project and how the project activities will be undertaken.
- Describe the construction phase components of the project including but not limited to site clearance, collection bay area, composting machine room, equipment room, groundwater well, toilet, septic tank, leachate collection tank, resting area and perimeter walls and fences. If the project involves upgrading of an existing IWRMC, provide information on the existing structures of the IWRMC and how these structures will be incorporated into the design for upgrading.
- If the project involves upgrading of an existing IWRMC, suggest ideal locations for temporarily relocating the waste currently present at the existing IWRMC (if any). Propose adequate mitigation measures to prepare the temporary storage site with particular emphasis given to leachate prevention.
- Describe the operational phase components of the project including but not limited to waste collection services, method of storing, composting method, leachate management, arrangements for the removal of inorganic waste from the IWRMC and clean-up of existing small open dump sites.
- Details, types and numbers of labor/workers required during construction/establishment and during operation
- Include a project schedule.

- A matrix of inputs and outputs related to the project activities shall be included and described separately for construction and operational phase.

Design of the Aerobic System (Composting Machine)

- Concept design and process flow diagram of the proposed technology for aerobic digestion using composting machine.
- Type and amount of waste that it can treat (food waste, green waste, paper etc. in mixed form or separated) and details of any products required for activation (such as bioculum) including its corresponding quantities to operate for a period of 1 year.
- Solid and liquid bi-products and output of the process (wet / dry compost) including the method for their potential use and/or disposal.

Fire hazard, health and safety

- Vulnerability analysis of the operational processes proposed for the IWRMC to fire, electrical and explosion hazard.
- Provision to fire safety, including details of firefighting equipment that will be established, signage, alarm system etc.
- Firefighting capacity of IWRMC operators. If not found to be adequate, recommend a fire safety training program to the IWRMC operators which should be completed prior to operationalization of the center. Indicate the availability of fire wardens in the island and their capability to assist in such a program.

Construction waste and waste oil

- Waste fuel and oil management details.
- Construction waste management and disposal.

42. **Existing Environment:** The existing environment study will not require complex data collection and survey analysis techniques since this is an ESMP and not a full ESIA study. However, a vegetation survey of the site must be presented since a large number of vegetation are subject for clearance. The vegetation analysis should be supplemented by drone imagery and / or photographs. The following information should also be provided based on field observations and consultations with the island council and the community. Photographic evidence should be provided where appropriate.

v) Current Waste Management Practices: Describe how waste is managed at present. This should include information about waste collection method and times, means of disposal (both organic and inorganic), staffs managing waste etc. Information about existing open dump sites (if any) and method of disposal should also be provided. Provide a map indicating the locations and dimensions of the open dump sites. Describe the waste composition and estimated volumes of each open dump site with photographic references.

w) Unassigned Waste Dumping: Describe the overall cleanliness of the island and whether unassigned waste dumping is observed. This should include an assessment of the status of contamination of the site as well via visual observation.

x) Project Site and Access Road: Describe the condition of the ground and soil of the project site (visual analysis). Provide an estimate of the amount and composition of waste present at the existing IWRMC and existing environments of temporary relocation sites (only applicable if an upgrading project). Provide information related to distances between residential areas, commonly used public places (mosques, schools, parks etc.), nearest 3 phase electricity distribution box, water connection point (if water network system is present at the island), groundwater wells and sewer connection point (if sewer network system is present at the island). Additionally, information related to the access road and route to waste unloading area shall be provided.

y) Land ownership and usage: Describe the legal boundaries of the site, and identified current usage of the land in terms of squatters, land encroachments, fixed and movable structures, trees and wells, etc. Describe land allocation/ownership details of the project area and any need for land taking causing resettlement impacts.

z) Coastal Modification / Erosion: Provide information related to any coastal modifications undertaken in the island in recent history and the side of the island subjected to coastal erosion. Indicate whether any coastal erosion is noticed from the shoreline closest to the proposed development.

aa) Vegetation present at the site: Describe the number and type of vegetation present at the project site and access road including scientific and local names. The amount of vegetation that require compensation and estimated cost must be indicated (separate for project site and access road, as the proponent of the access road is the island council). An explanation on how the rate of compensation is set by the Council and the process undertaken for the payment of compensation for loss of coconut palms and other trees should be given.

Vegetation cover maps shall be included where appropriate (identifying the areas subjected for vegetation removal and translocation). Emphasis must be given to translocate trees (within the source islands or out of the island in instances where space scarcity is an issue) as much as possible. Methods of vegetation removal and translocation must be described, which should yield the preferred method for the project site and access road. Locations for compensatory 2:1 replantation must be identified and indicated on a map. *(Note: If development of an access road is found to be an associated project to which the island council will be the proponent, commitment letter from the island council stating their full responsibility to implement mitigation measures and assume monitoring responsibilities for the associated project must be included in the ESMP).*

bb) Protected Areas and Environmentally Sensitive Sites: Provide information on the environmentally protected and sensitive areas that exists close to the proposed development. Indicate distances from the project sites and if the protected area is in the project impact zone and if there are any observed potential impacts. Proximity of the site to surface water bodies or sensitive habitats (e.g. coats, mangroves, wetlands) should also be identified.

cc) Areas of Historic and Cultural Significance: Provide information on areas of historic and cultural significance that exist close to the proposed development. Indicate distance from the selected project site.

dd) Socio-Economic Environment: Describe the socio-economic environment of the island.

- Demography: total population segregated by gender, density, growth and pressure on land and marine resources.
- Details of vulnerable/marginalized groups (households headed by females, households' special needs, households below poverty line etc.) and community-based organizations (i.e. women's/youth groups etc.) & their activities.
- Economic activities and livelihood patterns: Major economic activities of the community including but not limited to local tourisms (no. of operational guesthouses), businesses (no. of wholesale and retail shops), cafés / restaurants, fishing vessels etc.
- Status of access to market, health facilities, banking, communication, etc.
- Electricity: Describe how electricity is provided at the islands and the capacity of the generators installed.
- Water Resources and Sewerage: Source of portable and non-portable water supply. If through RO indicate the type and capacity of the plant and water storage tanks.

Describe how sewerage is treated at the island (i.e. through septic tanks or sewer network system).

43. **Impact Identification:** The ESMP should identify all the impacts, direct and indirect, during and after construction, and evaluate the magnitude and significance of each. Particular attention shall be given to impacts associated with the following:

m) Physical / Chemical: describe impacts on groundwater, soil, noise, air and waste.

- Impacts on noise pollution and disturbances (both in construction and operations)
- Impacts on groundwater table and quality due to construction, operations (leachate / stormwater runoff).
- Impacts on ground vibrations to nearby houses and buildings.
- Impacts on air quality.
- Marine water pollution due to spillage during material transfer.

n) Biological: describe impacts on vegetation and fauna.

- Impact due to vegetation removal.
- Impacts to vegetation and fauna due to improper handling and driving during material transportation.
- Impacts due to material spillage during transfer of construction materials to the project island.

o) Any resettlement impact - such as loss of land, livelihoods, assets etc. due to land taking/acquisition and/or other project interventions.

- Verify the legal status of the land required; document existing structures, land plots, and other physical assets at the project site to establish a cut-off date for entitlements in accordance with the policies given in ESMF.
- Identify the persons and their families likely to be affected by the project including those who are vulnerable. This should cover information pertaining to members of families who are residing, practicing any trade, occupation or vocation in the project affected area, including those who may potentially lose income due to loss of coconut palms having a moderate economic value.
- Project Affected Families are those who are likely to lose their house, homestead, commercial establishment, agricultural land, employment or are alienated wholly or substantially from the main source of their trade, occupation or vocation, or who will lose any other immovable property or their source of livelihood. Including people losing access to private property or common property resources.

p) Sociological / Cultural: describe impacts of road closure, nearby sensitive areas (mosques, schools etc.), health and safety of surrounding community / contracted labor and sociocultural conflict.

- Sociocultural conflict due to arrival of expatriate workers and recruitment of expatriate IWRMC operators.
- Impacts due to illegal immigrants being potentially recruited by the contractor.
- Contractors code of conduct and communication.
- Loss of source of sand for local public use due to sand mining from the area of the lagoon permitted for local public sand mining (which is prohibited under law).
- Health and safety of the construction workers and the IWRMC operators.
- COVID19 restrictions and special considerations for the contractor (potential mitigation measures may include daily temperature checks, cleaning procedures, shift roaster, arrangement for social distancing in labor camps, establishment of handwashing facilities at work site and labor camp etc.).
- Fire hazard due to improper handling of waste.

q) Economic / Enhancement Plans: describe any potential benefits or losses to the economy.

- Employment opportunities.
- Impacts to the local economy due to purchasing of locally available construction materials.
- Impacts to the public due to high user fees.
- Cost saving in IWRMC operations due to electricity being generated from waste.
- Some of these opportunities can be further developed to draw environmental and social benefits to the local area. The ESMP should identify such opportunities and develop a plan to systematically harness any such benefit.

r) Specific Impacts Associated with the Proposed Technology: The Consultant should assess the following aspects in line with the proposed technology.

- **Odor Management:** Assess if the technology has an inbuilt odor management system and managed odors automatically.
- **Fluid and Discharges:** Will there be any fluid discharges from the proposed technology, will the machines require any extra piping space or water discharge systems or expansion of the existing leachate management system provided via the design, the consultants should propose suitable design requirements if so in the ESMP.

- **Waste Inputs:** Assess if the technology requires additional segregation of pre management of the incoming organic waste. Indicate specifically under the section on operational aspects of the ESMP what steps need to be taken specifically by the IWRMC operators in handling in coming waste to ensure it can be efficiently used in line with the proposed technology.
- **Energy Requirements and Efficiency:** The energy requirement to run the machinery and the status of energy efficiency of the machinery proposed should be assessed, i.e. the consultants should assess the energy requirements for operating the technology and propose the most efficient means of managing. Can a connection be made to the existing Island Grid, if so, will the capacity suffice, can a solar and battery generator be used as an energy source and if diesel generators are to be used which is the least alternative, the amount of fuel required etc. should be asses as part of the project alternatives analysis. For all energy sources impacts in terms of emissions, noise, safety risks etc. should be assessed and mitigatory measures suggested in the ESMP accordingly.
- **Sludge and Residuals:** The nature and amount of all residual material produced, solid and liquid should be assessed and recommend means by which it can be re-used and/or managed in the ESMP. If reuse is recommended the consultant should also recommend the requirements for routine monitoring of quality of the digestate and liquid residue for instance if it is recommended to be used in agricultural processes.
- **Safety features on the machinery:** such as presence of emergency stop buttons, emergency lights and/or alarms for emergency use are equipped to ensure the best level of safety should be present and the consultants should assess if the proposed technology, especially machinery include these in addition to proposing other safety features in the ESMP.

The methods used to identify the significance of the impacts shall be outlined. One or more of the following methods must be utilized in determining impacts; checklists, matrices, overlays, networks, expert systems and professional judgment. Justification must be provided to the selected methodologies. The report should outline the uncertainties in impact prediction and also outline all positive and negative/short and long-term impacts. Identify impacts that are cumulative and unavoidable.

44. **Project Alternatives:** Describe alternatives including the “no project option” should be presented. Alternative examined for the project should include alternative locations, design and technology options, and alternative energy sources which shall be evaluated in environmental, social

and economic terms. Alternative technology options for the treatment of organic waste may include manual composting and anerobic digestion systems. Depending on the source of energy proposed to operate the IWRMC, alternative energy sources evaluated shall include connection from existing power grid, solar, battery and diesel generators. For all energy sources impacts in terms of emissions, noise, safety risks etc. should be assessed and mitigatory measures suggested accordingly. All alternatives must be compared according to commonly accepted standards and norms and international standards as much as possible. The comparison should yield the preferred alternative for implementation. Mitigation options shall be specified for each component of the proposed project.

45. **Mitigation and management of negative impacts:** Identify possible measures to prevent or reduce significant negative impacts to acceptable levels. These will include both environmental and socio-economic mitigation measures. Mitigation measures to avoid or compensate habitat destruction caused by land clearance will have to be considered. Mitigation measures should be provided for COVID19 related aspects such as daily temperature checks, cleaning procedures, shift roaster, arrangement for social distancing in labor camps, establishment of handwashing facilities at work site and labor camp etc. Measures for both construction and operation phase shall be identified. Cost the mitigation measures, equipment and resources required to implement those measures. The confirmation of commitment of the developer to implement the proposed mitigation measures shall also be included. An Environmental and Social Management Plan for the proposed project, identifying responsible persons, their duties and commitments shall also be given. The environmental and social management plan should be presented in matrix format, clearly indicting the responsible person, cost, equipment and resources required for each proposed action. In cases where impacts are unavoidable arrangements to compensate for the environmental and / or social effect shall be given.

Depending on the source of energy proposed to operate the IWRMC, alternative energy sources evaluated shall include connection from existing power grid, solar, battery and diesel generators. For all energy sources impacts in terms of emissions, noise, safety risks etc. should be assessed and mitigatory measures suggested accordingly.

Mitigation measures should be presented as a matrix consistent to the format provided below.

Project Activity	**Potential Environmental Impacts**	**Proposed Mitigation Measures**	**Institutional Responsibilities** (Implementation and Supervision)	**Estimated Quantities Required and Material Specifications Recommended**	**Cost Estimates**	**Comments** (e.g. secondary impacts**)**
Detailed design and planning Phase						

Pre-Construction Phase -Site Preparation						
Construction Phase						
Operation and Maintenance Phase						

The proposed ESMP matrix shall be translated to Dhivehi language and provided as an Annex to the report.

46. **Development of monitoring and reporting plan:**

10.9. Monitoring Program: Identify the critical issues requiring monitoring to ensure compliance to mitigation measures and present impact management and monitoring plan for vegetation clearance, soil, groundwater, noise and air quality, spillage assessment and grievance redress mechanism. Detail of the monitoring program including the physical and biological parameters for monitoring, cost commitment from responsible person to conduct monitoring in the form of a commitment letter, detailed reporting scheduling, costs and methods of undertaking the monitoring program must be provided.

The monitoring program should give details of the following;

- Monitoring indicators to be measured for evaluating the performance of each mitigatory measure (for example national standards, engineering structures, extent of area replanted, etc.).
- Monitoring mechanisms and methodologies
- Monitoring frequency
- Monitoring locations
- Cost of monitoring
- Responsible party

The recommended format for presenting the monitoring program is given below.

Proposed Mitigation Measure	**Parameters to be monitored**	**Location**	**Measurements** (Incl. methods & equipment)	**Frequency of Measurement**	**Responsibilities** (Incl. review and reporting)	**Cost** (equipment & Individuals)
Detailed design and planning Phase						
Pre-Construction Phase						
Construction Phase						

Operation and Maintenance Phase						

10.10. Reporting Procedures and Implementation Schedule: The consultant should propose adequate reporting mechanisms with frequencies for the implementation of the ESMP and the proposed monitoring program.

10.11. Cost Estimates and Sources of Funds: Implementation of mitigatory measures mentioned in the ESMP will involve an initial investment cost as well as recurrent costs. The ESMP should include costs estimates for each measure and also identify sources of funding, which is to be covered under section 9. In addition to this, estimated costs shall be provided (separate for construction and operational phase activities) for specific items and materials that the contractor and the operators would require to implement the ESMP effectively. Such items may include the cost of purchasing PPEs, fire extinguisher, signages, trainings etc. This would essentially enable the contractor to reflect accurate costs in the bid documents. Potential sources of funding for the operational phase should be reflected.

10.12. Contract Clauses: This is an important section of the ESMP that would ensure recommendations carried in the ESMP will be translated into action on the ground. Contract documents will need to be incorporated with clauses directly linked to the implementation of mitigatory measures. Mechanisms such as linking the payment schedules to implementation of the said clauses could be explored and implemented, as appropriate.

47. **Management of Other On- or Off-Site Environmental Pollution Control and Infrastructure**

This section should address management of critical elements of pollution control and infrastructure that are not otherwise included in the mitigation plan because they were considered an essential part of the proposed project.

48. **Summary of all Training Recommendations**

This section should include programs targeted to increase the capacity of the contractor and the operator in the implementation of the ESMP. A capacity needs assessment for the operations of the IWRMC should be undertaken, highlighting gaps and training recommendations for a fully

functional system. Special consideration must be given to cover operational training requirements of the proposed AD plant and associated bio-generator (if included with the project scope).

The training recommendations are likely to include the following:

- Strengthening the capacity of the contractor on ESMP implementation and reporting.
- Strengthening PMU's capacity on compliance monitoring.
- General awareness on health and safety.
- Contractor's code of conduct.
- Community Mobilization: Based on the assessment, the consultant should describe key messages for communication/awareness and recommend methods/tools. Also, recommend approaches to mobilize communities, enhance community participation (including that of women's groups) and create ownership/interest around waste management.
- Operation and Maintenance training of the AD plant and bio-generator.
- Fuel handling (if applicable).
- Fire safety training and fire drills.

Institutional Strengthening Activity	**Position(s)**	**Scheduling**	**Responsibility(is)**	**Cost Estimates**	
Training Activity	**Participants**	**Types of Training**	**Content (modules, Etc.)**	**Scheduling**	**Cost Estimates**

49. **Contingency Plans**

Contingency plans shall be prepared and described to address: a) failure to meet specific performance criteria established by law or necessary for the project to meet its commitments in the ESMP and b) respond to natural and other risks previously identified and mitigated in the ESMP in the event reasonable and feasible mitigation measures to address the risks are inadequate.

- Performance-related Contingency Plans, indicating the steps that will be taken should monitoring indicate that:
  - Environmental standards are not being met
  - Impacts are greater than predicted
  - Mitigation measures and/or rehabilitation are not performing as predicted
- Natural Disaster Risk Response Plan (assumes that risk identification and risk reduction have been addressed in other parts of the EA)

- Other Risks Response Plans (assumes that risk identification and risk reduction have been addressed in other parts of the EA)
- Contingency plans for maintaining service or reducing downtime in the event of accidents or natural catastrophes that disrupt project operation

50. **Grievance Redress Mechanism (GRM):** Describe the proposed grievance redress mechanism of the project developed by the PMU and offer suggested improvements including naming the responsible person in each tier.

51. **Stakeholder consultation:** Identify appropriate mechanisms for providing information on the development project and the GRM to relevant stakeholders. Consultations must be undertaken with all key stakeholders – including communities, government officials etc. During consultations the project activities should be introduced, and stakeholders given opportunity to ask questions/clarifications, raise their objections/concerns and the consultant should provide relevant feedback – this discussion should be documented in the form of a table noting the points discussed/issues raised and feedback provided. The report shall include a brief description of the Council's plan for GRM execution at tier 1. The report should include a list of people/groups consulted, their contact details and summary of the major outcomes. The following people or institutions should be consulted.

- Island Council (on GRM, Island Waste Management Plan, fee collection system, plan for 2:1 replantation, and the overall project in general)
- EPA (on the overall design of the IWRMC, AD component and operation licensing requirements).
- FENAKA (on the capacity of the existing power plant to cater for the energy requirements of the IWRMC).
- Health Protection Agency (on COVID19 health and safety requirements).
- Ministry of Planning and Infrastructure and Maldives Land and Survey Authority (regarding land use plan).
- Maldives National Defense Force (on fire safety and willingness to assist in training the IWRMC operators on firefighting).
- Waste Management Committee (on their role of waste management at the island).
- Women's Development Committee (on their involvement and perspectives on how waste management can be improved in the Island)
- Community Consultation or Household Survey (randomly selected with emphasis given to those residing at a close proximity to the project site: on the adequacy of the proposed site, feasibility of overall design of the IWRMC and the proposed technology, health and safety

considerations, proposed fee collection structure, willingness to pay and waste management plan of the council).

- Ministry of Environment / MCEP (on the overall project as the proponent and GRM at tier 2)

The consultant should take into consideration COVID19 safety measure during consultations, follow WHO/WB & GoM guidelines when conducting consultations and explore remote/online options when conducting consultation.

52. **Gender Empowerment / Preparation of Gender Action Plan**

The consultants will carry out Gender analysis as an integral part of the social assessment. The project designs should be gender responsive based on the gender analysis. The findings and recommendations from the gender analysis during project planning and feedback from beneficiaries during implementation must be discussed thoroughly to determine the need for further action. Listed below are the key action points:

- Identify key gender and women's participation issues.
- Conduct gender analysis as part of overall Social Assessment.
- Examine gender differences in knowledge, attitudes, practices, roles, status, wellbeing, constraints, needs, and priorities, and the factors that affect those differences.
- Assess men's and women's capacity to participate and the factors affecting that capacity.
- Assess the potential gender-differentiated impact of the project and options to maximize benefits and minimize adverse effects.
- Identify government agencies and nongovernmental organizations (NGOs), community-based organizations (CBOs), and women's groups that can be used during project implementation and assess their capacity. The possibility of utilizing such ground to execute 2:1 replantation and if so the requirement to provided financial assistance with estimates must be provided.
- List out major gender actions.
- Develop gender-disaggregated indicators and monitoring plan.

53. **Validation and Disclosure**

The draft executive summary and the ESMP (matrix table in mitigation chapter) in local language should be disclosed in all major affected settlements and at island level in printed format and disseminated as appropriate or made available via online means for public commenting. This should be completed prior to or at the time of submitting the report to the EPA and the World Bank for clearance, so the period for public commenting can be sequenced in parallel to the review process. The consultant will assist the project in disclosure documents in all major affected settlements and at island and national level. The final cleared version of the report will be disclosed in major project

websites and social media platforms with a summary of major findings through the disclosure process reflected as an annex.

54. **Conclusion**

This section shall specify the environmental acceptability of the project, taking into account the impacts and measures identified during the assessment process. It shall also identify any other conditions or external requirements for ensuring the success of the project.

Presentation- The ESMP or ESIA report, to be presented in digital format, will be concise and focus on significant environmental issues. It will contain the findings, conclusions and recommended actions supported by summaries of the data collected and citations for any references used in interpreting those data. The ESMP or EISA report will be organized according to the final TOR, in accordance to, but not necessarily limited by, the outline the Environmental Impact Assessment Regulations (2012) and the ESAMF. The report shall include Dhivehi translations of the executive summary and the ESMP matrix. All raw data collected, including maps and surveys should be submitted in Raw form to the client in digital format.

ANNEX 4: Link to Reference Documents

1. Original ESMP reports of the 6 ESMPs required for upgrading
   https://drive.google.com/drive/folders/16RGeuldVYYU9liCLUGQnqWiCirX5XYwa?usp=sharing

2. Environmental and Social Assessment and Management Framework of MCEP
   https://drive.google.com/drive/folders/12ziRmEV_XqjkxGggPmyZBh1brao6-oYV?usp=sharing

3. The World Bank's EHS Guidelines for waste management facilities
   https://drive.google.com/drive/folders/1s2smOy2_A5Ioj3zHSmETqN-L-cRkzxoJ?usp=sharing

4. ESMP of N. Holhudhoo IWMC (prepared internally and cleared at one go from World Bank and EPA).
   https://drive.google.com/drive/folders/1-6TzFB8gOMX-n1gE4LlwlLqSOHGCbys5?usp=sharing

5. Guidance Documents on Environmental Management and AD technology
   https://drive.google.com/drive/folders/1dacI_5rpfJ6P8hMdpT3v6i1ZO4GgnPQb?usp=sharing

ANNEX 5: Proposal for Key Expert Evaluation (Draft)

KEY EXPERT EVALUTION (DRAFT)							
#		Percentage	Team Leader	Co-team Leader	Surveyors	Social Experts	Support Staffs
1	**Education**						
1.1	Meets Minimum Requirement	20%	*Bachelors Degree*	*Bachelors Degree*	*Diploma*	*Bachelors Degree*	*High School Graduate or Diploma*
1.2	Additional Qualifications (for applicable fields)	10%	*Postgraduate*	*Postgraduate*	*Degree or higher*	*Postgraduate*	
	Sub-Total	**30%**					
2	**Experience**						
2.1	Meets Minimum Requirement (evaluated in terms of years of experience)	30%	*5 years experience in preparing ESAs*	*5 years experience in preparing ESAs*	*3 years experience in undertaking land / marine based surveys*	*5 years expereince in undertaking community consultantions for ESAs in development projects*	*Minimum 03 years' experience in organizing stakeholders' consultations, supervising field data collection, data entry and generating reports.*
2.2	Relevant Experiece in preparing ESMPs and ESIAs in waste management and infrastructure development sector in the specified decipline (ex: lead consultant, social assessment, surveyor etc.)	20%	*A range between 2 to 5 points will be assagined for each similar project involved. Waste Management projects will be given more weightage than general infrastructure development project.*				
2.3	Relevant Experience in preparing ESAs for WB	10%	*2 points will be awarded for each assignment undertaken*				
	Sub-Total	**60%**					
3	**Experience in Region**						
	Experience in the Region	10%	Knowledge of local culture or administrative system, government organization, etc.				
	Sub-Total	10%					
	Grand Total	**100%**					
	Total Allocated for Key Expert Section	**60%**	Score will be converted to 60%				