

Outline Terms of Reference

for Selection of a Consultant to undertake the updating of 4 Environmental and Social Management Plans (ESMP) for the establishment Island Waste Resource Management Centres (IWMRMCs) in selected Zone 4 & 5 sub-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-vessel composting). 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 a qualified and competent **individual consultant for updating 4 previous ESMPs** for the proposed development of IWRMCs in selected 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 of IWRMCs in 4 selected 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 are small scale and therefore, is not listed under the Schedule D of the Environmental Impact Assessment Regulations (2012) of the Maldives. Following the screening process undertaken initially, ESMPs were prepared for all the 4 islands and subsequent clearance attained from the EPA and the World Bank. Therefore, the ESMPs will need to be updated to reflect the design and technology variations.

The consultants should note that the updated ESMPs should meet the World Bank’s safeguards requirements, in addition to the national requirement, and therefore, the scope of the ESMPs will be much broader than the national requirements. The first batch of technical TOR cleared by the World Bank for updating of the ESMPs are included in this document. This includes the following.

- TOR C: Updating ESMPs for the establishment of IWRMCs with Aerobic Technology using Composting Machine

4. SCOPE OF WORKS

The scope of works includes updating the following 4 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. Kinbidhoo (Saleem, 2018)
2. ESMP for the establishment of IWRMC in Th. Omadhoo (Saleem, 2018)
3. ESMP for the establishment of IWRMC in Th. Thimarafushi (Saleem, 2018)
4. 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.

Tasks to be completed under the assignment

The tasks to be undertaken by consultant 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: 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 4 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.
- Submit draft ESMP reports to the PMU/ME.
- Prepare the final reports by considering the comments given by the PMU/ME.
- Submit the final ESMP reports (soft copy) to the PMU/ME. The reports 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.

5. ELIGIBILITY AND QUALIFICATION

The Consultant should meet the following minimum requirements to be eligible for the assignment and to ensure achievement of all objectives of the tasks.

S.No	Key Professionals	Description of Services to be provided	Minimum Qualification & Experience	No. of persons
1	ESMP Consultant	Overall responsibility of preparing the ESMP consistent to the TOR.	Bachelor's Degree in Environmental Engineering / Environmental Science / Environmental Management or related field with minimum 05 years' experience in preparing ESIA or ESMP reports. The consultant should hold an EIA license in the Maldives (must be a registered consultant in the Maldives EPA) and his/her EIA license copy shall be submitted.	1

An overview summary table of these experiences is required with sufficient details. This shall include but not limited to:

1. The CV's of the consultant 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, the nature of the assignment (for example, waste management, infrastructure development etc.) and the role of the consultant for each of the completed assignment should be specified (for example EIA consultant, social assessment expert, surveyor etc.). Reference shall be made only to previous similar assignments successfully completed in the past 8 years (from 2012 onwards). Work completion letters and / or decision statements issued by EPA for the

completed assignments shall be furnished as supporting documents for the most relevant assignments.

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. The CV should be signed with a declaration certifying that the content provided in it is true and accurate. The CV is recommended to be prepared consistent to the template provided in Annex 3.
2. The proposed EIA consultant must meet the criteria given in Environment Impact Assessment Regulation, 2012.

6. EVALUATION

The Proposals will be evaluated based on the quoted price and eligibility of the consultant to the specified requirements.

7. OUTPUTS AND DELIVERABLES

The assignment shall be completed over a 40-calendar day period inclusive of the time taken for review and clearance, where the final updated reports must be submitted to the client, for submission to EPA and the World Bank, no later than 20 calendar days from the date of signing of the agreement. The following instruments in support of the updating of the ESMPs are planned to be made available to the consultant by the client.

Instrument	Date of Completion
Previous ESMP reports, outline design, technology details, site dimensions, land approval from MLSA and screening direction from EPA.	At the time of signing the agreement

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 reports should be prepared by the Consultant based on the comments of the World Bank, the client and the EPA.

Deliverables for Updating of 4 EMPs

Deliverables	Details	Duration
Inception Reports	Inception report including data collection methodologies and consultation plan	Within 3 calendar 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 15 calendar 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 20 calendar 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 20 calendar 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 35 calendar 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 5 calendar days of receiving the request for additional information.	Within 40 calendar days from the date of the contract

Note: Duration is specified in terms of calendar days including public holidays

8. APPROACH OVERALL MANAGEMENT AND COORDINATION

The successful consultant will report to ESS Specialist of MCEP at ME or an alternate nominated by the Project Manager. A weekly 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 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 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.

9. PAYMENT SCHEDULE

Payment will be in accordance with the schedule specified below;

Description	Allocation	Requirement
Submission of ESMP Report	75%	Submission of final ESMP report to EPA and the World Bank as per the approved TOR and EIA Regulations.
Approval of ESMP Reports	25%	Release of ESMP Decision Statement from EPA and clearance from the World Bank.

10. CONTRACT DURATION

- a) The total duration of the assignment is 40 calendar days including the duration for the ESMP approval, release of ESMP decision statement/approval by the EPA and World Bank.

11. Arrangements to be made by the Client

The client will make the following arrangements and cover any associated expenses:

1. One person (the consultant or his representative)’s travel to the 4 sub-project islands to undertake field surveys and stakeholder consultations (if required). The consultant shall submit a travel plan as part of the inception report. This plan should include all the necessary logistical details and should be planned to cover 2 islands per day, so that the field investigations will be completed in a maximum 2 - 3 days.
2. Expenditure for food and accommodation per day will be provided on reimbursement basis as per the government rates.

Therefore, the aforementioned cost shall be excluded from the price proposal.

ANNEX 1: 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. Dhivehi translations of the executive summary and the ESMP matrix shall be provided.
- 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

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 ESIA's.

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.

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 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.

General Construction and Operations

- 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.

6. **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.

- 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).*

- g) 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. coasts, mangroves, wetlands) should also be identified.
- h) 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.
- i) 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 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:

- 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).
 - 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 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 anaerobic 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.

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 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 indicating 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.

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).
- 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.

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: Link to Reference Documents

1. Original ESMP reports of the 4 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_A5loj3zHSmETqN-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/1dacl_5rpfJ6P8hMdpT3v6i1ZO4GgnPQb?usp=sharing

ANNEX 3: CURRICULUM VITAE (CV)

Position Title and No.	{e.g., K-1, TEAM LEADER}
Name of Expert:	{Insert full name}
Date of Birth:	{day/month/year}
Country of Citizenship/Residence	

Education: {List college/university or other specialized education, giving names of educational institutions, dates attended, degree(s)/diploma(s) obtained}

Employment record relevant to the assignment: {Starting with present position, list in reverse order. Please provide dates, name of employing organization, titles of positions held, types of activities performed and location of the assignment, and contact information of previous clients and employing organization(s) who can be contacted for references. Past employment that is not relevant to the assignment does not need to be included.}

Period	Employing organization and your title/position. Contact information for references	Country	Summary of activities performed relevant to the Assignment
[e.g., May 2005-present]	[e.g., Ministry of, advisor/consultant to... For references: Tel...../e-mail.....; Mr. Hbbbb, deputy minister]		

Membership in Professional Associations and Publications:

Language Skills (indicate only languages in which you can work): _____

Adequacy for the Assignment: {Past Experience relevant to the task, starting with most recent assignments, list in reverse order. Only completed (EPA cleared) assignments should be reflected}.

Title of Assessment	Date	Proponent / Client	Status of clearance	Nature of the Assignment	Role	Summary of activities performed relevant to the Assignment
[e.g., EMP for the upgrading of IWMC in R. Ungoofaaru]	[e.g., May 2020]	[e.g., Ministry of Environment]	[e.g., Cleared by EPA]	[e.g., Waste Management]	[e.g., Lead Consultant]	[e.g., Reviewed the report, carried out field survey]
[e.g., EIA for the development of a tourist resort in Makunudhoo]	[e.g., June 2018]	[e.g., Villa Pvt. Ltd.]	[e.g., Cleared by EPA]	[e.g., Resort Development]	[e.g., Social Assessment Expert]	[e.g., Undertook stakeholder consultations, organised public consultations]

Expert's contact information : (e-mail, phone.....)

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by the Client, and/or sanctions by the Bank.

{day/month/year}

Name of Expert

Signature

Date

{day/month/year}

Name of authorized
Representative of the Consultant
(the same who signs the Proposal)

Signature

Date