ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

For the proposed Island Waste Management Center

In Hanimaadhoo, Haa Dhaal Atoll

Proponent:

Ministry of Environment, Climate Change and Technology

Consultant:

ESIS Consulting Pvt Ltd

September 2021

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CONSULTANTS DECLARATION

This Environmental Management has been prepared according to the EIA Regulations 2012. I certify that the statements in this Environmental Social Management Plan study are true, complete and correct to the best of my knowledge and abilities.

12th September 2021

PROPONENTS DECLARATION

(attached in the following page)

1. INTRODUCTION

1.1 Background

This Environmental Management Plan (EMP) report has been prepared in order to meet the requirements of Clause 5 of the Environmental Protection and Preservation Act of the Maldives to formulate a management plan for the proposed Island Waste Management Centre (IWMC) in HDh.Hanimaadhoo.

The proponent of the project is the Ministry of Environment, Climate Change and Technology (MoECCT). The beneficiary or the end users are the community of HDh.Hanimaadhoo, represented by the Island Council. The waste management will also fall under the island council. The consultant is ESIS Consulting Pvt Ltd.

EMP is undertaken to study and determine the environmental and social impacts related to a project and to propose mitigation measures and how best to manage the project from an environmental point of view. EMP is at a lower tier compared to an EIA and does not include high level surveys of the existing environment and in-depth assessments. Generally, EMPs are carried out for projects with a smaller scope compared to EIAs.

The scope of works proposed for this project includes the construction of a waste management site in the island and the entire waste management operation in the island.

The EMP provides a framework upon which the proponent together with the end user, the island community represented by the island council can develop and implement integrated sustainable solutions based on the framework.

1.2 Need for the Project

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 to build the necessary infrastructure to develop an integrated and sustainable solid waste management system throughout the country on a Zonal approach.

1.3 Aims and Objectives of EMP

This EMP aims to ensure the environmental safeguards have been taken into consideration for the construction of the IWMC and are in compliance with the existing relevant laws and regulations of the Maldives. The EMP achieves this by completing the following objectives:

- Describe the project scope in detail
- Identify the policy and legal requirements for WMC
- Briefly describe the local environment in which the WMC will be setup
- Assess the environmental impacts of establishing the WMC both on the short term and the long term
- Provide mitigation measures for any potential significant impact
- Provide possible institutional arrangements for managing environmental and social impacts.
- Provide a clear grievance mechanism for the end users.
- Setup of monitoring plan to ensure the sustainability of the project

1.4 Methodology

The major findings of this report are based on qualitative and quantitative assessments undertaken during site visits and reviewing existing literature in November 2021.

Available long-term data were collected from available sources, such as long-term data on meteorology and climate from local and global databases. Long-term data on the project site is lacking. Site specific terrestrial information is provided based on the conditions during site visit.

Consultations were carried out with the proponent to identify the exact scope of works before site visit. Further consultations were carried out during site visit with the end users.

Existing literature related to the type of project being undertaken were reviewed. These include:

- National environmental and social laws and policy guidelines.
- Similar Environmental Management Plans for IWMCs
- International best practices for WMC management

Based on general and local data, and existing literature, site specific impact assessment was carried out. Mitigation and management tools were developed based on these impacts.

1.5 The Proponent

The project is being proposed by the Ministry of Environment, Climate Change and Technology (MoECCT). The Ministry is given the mandate of national waste management, which includes making policy and guidelines in addition to implementation and management of physical projects at site.

The Ministry works closely with the island councils to ensure the projects are implemented with the best interest of the island communities and caters to the needs and demands of the communities. The end users are the island community for each respective project, represented by the Island Council.

1.6 The Project Location

The project is based at Hanimaadhoo in Haa Dhaal Atoll. Hanimaadhoo is located at 6°45'34.19"N and 73°10'19.80"E, in Haa Dhaal (HDh) Atoll, in the North of Maldives. HDh.Hanimaadhoo approximately 289.7km away from Male' and is an inhabited island with a land area of about 305.7 hectares measuring approximately 6.8km in length and 0.7km in width.

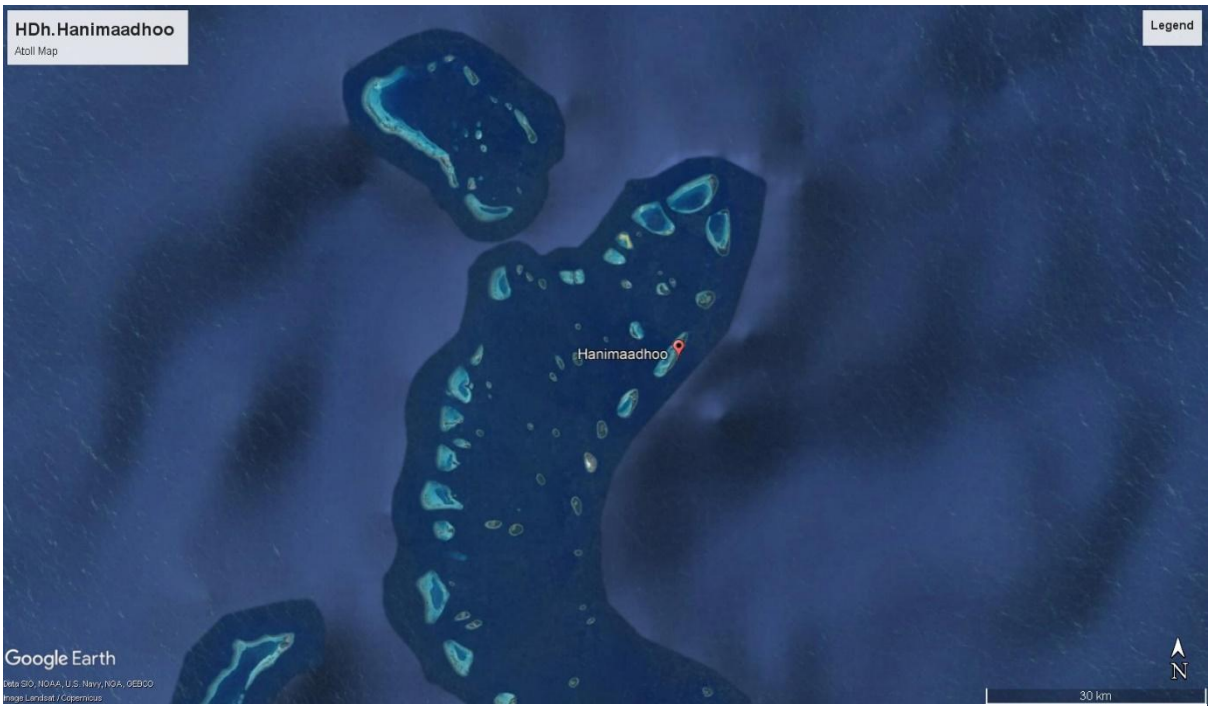

Figure 1: Location of H.Dh.Hanimaadhoo from Atoll Map (Source:Google Earth)

Figure 2: H.Dh.Hanimaadhoo (Source:Google Earth)

1.7 Legislative and Regulatory Considerations

1.7.1. REGULATIONS

There are numerous regulations which instruct the establishment of proper waste management procedures in Maldives islands and development of waste management centers. A summary is provided in the following table.

Name	Main area of concern	Key components covered	Relevance to the project	Main regulatory body
Acts				
Environmental protection and Preservation Act (Act no.4/93)	Nation-wide Environment and Ecosystems	Mandates that Environmental approvals are obtained for all economic development project that may have an undesirable impact on the environment; addresses the disposal of oil, waste and toxic gas or any substance that may harmful effects on the environment within the Maldivian territory; covers non-compliance penalties	Apply with respect to the social, economic and environmental impact of the project in the constructional and operational phase of the project.	Ministry of Environment
Maldivian Land Act	Land	Encompasses the issuing, receiving, owning, selling, leasing, utilizing and using Maldivian land.	Apply with respect to utilization of Maldivian lands	Ministry of Planning and National Infrastructure
Regulations				

Environmental Impact Assessment 2012 and Amendments	Sustainability of Development Projects	The regulation sets out criteria to determine whether a development proposal is likely significantly affect the environment and is therefore subject to Environmental Impact Assessment or Environmental Management Plan	The developer had submitted a screening form to EPA to determine which level study is required as directed by the Regulation. EPA had instructed to carry out an EMP.	Environmental Protection Agency
Waste Management Regulation	Waste Management	Addresses safe disposal, disposal guidelines and specifications for wastes. Provides details on waste management practices, approvals, license and penalties.	Apply with respect to management of waste during the construction and operational phase	Ministry of Environment / Environmental Protection Agency
Regulation on cutting down, uprooting, digging out and exporting of trees and palms from one island to another	Conservation and Biodiversity	Covers the requirements for cutting down, uprooting, digging out and export of trees and palms from one island to another without compromising the environmental integrity of the Maldivian islands.	Does not apply as large vegetation would not be required to be removed from the proposed construction site as it had been previously cleared.	Ministry of Environment and Energy/ Environmental Protection Agency
The Environmental Liability regulation (Regulation 2011/R-9)	Environmental Offences	Provide the basis for levying fines on environmentally damaging violations to avoid environmental deterioration, extinction of biological resources, environmental degradation and wastage of natural resources.	Apply with respect to the environmentally relevant aspects of the construction and operation phase	Ministry of Environment and Energy/ Environmental Protection Agency
Guidelines, Standards and Policy Guidance				

Maldives Building Code	Building Construction	Provides the guidelines and standards which shall be used in designing buildings in Maldives	Does not apply as there will not be a significant structure built as part of the project	Ministry of National Planning and Infrastructure
Guideline for Land Use Planning	Land Use Planning	Provides land use instruments such as zoning and quotas to be allocated. LUP is prepared either by the MNPI or the island council in consultation with MNPI.	Apply for this project as site has to be allocated in a location that has been zoned for utilities and municipal zone	Ministry of National Planning and Infrastructure
Maldives National Strategy for Sustainable Development 2009-2013	Sustainable Development	Seeks sustainable development through appreciation of the true value of the natural environment, utilizing natural resources in a sustainable manner for national development, conserving the limited natural resources, building the capacity to learn about the natural environment and leaving a healthy natural environment for future generations.	Apply with respect to the construction and operational phase of the project.	Ministry of Environment and Energy/ Environmental Protection Agency
National Biodiversity Strategy and Action Plan	Biodiversity	Aims for the Conservation of biological diversity and sustainable use of biological resources; capacity building for biodiversity conservation through a strong governance framework and improved knowledge and understanding; fostering community participation, ownership and support for biodiversity conservation.	Apply with respect to the construction and operational phase of the project.	Ministry of Environment and Energy/ Environmental Protection Agency

Waste Management Policy	Waste Management	Covers polluter pay principles; integrated solid waste management; Best Practice Environmental Option (BPEO), Best Available Technology Not Entailing Excessive Costs (BATNEEC); proximity principle and private sector participation.	Apply with respect to management of waste during the construction and operational phase	Ministry of Environment and Energy/ Environmental Protection Agency

Table 1: Summary of Regulation

1.7.2. Approvals and Permits

There are 2 main permits that are required before the WMC can be set up and operational on the island. These include the following.

Land use consent

The Maldives Land and Survey Authority (MLSA) and the Island Council has given approval to use the allocated site for Waste management purposes. MLSA approval is provided in the Annex.

Approval to construct and operate WMC

Decision Statement by EPA will be needed to get the approval to construct and operate the Waste Management Centre (WMC).

2. PROJECT DESCRIPTION

2.1 Proposed Waste Management Center

The WMC is aimed at addressing the solid waste management problem faced by the island community of HDh.Hanimaadhoo. For waste management at island level, the establishment of an island WMC is a prerequisite as identified in the National Waste Management Policy 2015.

The WMC design and construction has to meet regulatory requirements stipulated in the Solid Waste Regulation 2012. The Ministry is in the process of completing the design works for the project and will announce the project for tender once EMP is submitted. The general design for all IWMC are the same and only few changes with respect to the site location will be brought.

2.2 Site Location and Land Use Planning

HDh.Hanimaadhoo consists of large areas of unused lands. Therefore, there are many options on where WMC could be built. As per the WMC guidelines by EPA, the WMC should be 30m away from the shoreline and 30m away from residential areas. As a similar structure has been constructed and surrounding land previously cleared, there is one ideal location for the project

site in the existing footprint. Therefore, island council has given approval for the site to be constructed at the eastern side of the island as shown below.

In the proposed location, the site would be about 50m away from the vegetation line and EPZ. The proposed site is an empty land next to the existing waste management center. The site does not have existing plants or trees. Council informed that, if there is a case where a plant/tree has to be removed, it will be relocated.

Figure 3: Dimensions of the project site

Figure 4: Land use outline chart

2.3 Design Details

Important design summary for the project are given below:

- Total plot area: 5574 sqm
- Development footprint: 9000 sqm (apprx)
- Existing structure 901 sqm
- Proposed composting slab 155 sqm
- Elevation: 3 m
- Perimeter fencing PVC Coated Mesh
- Access to site: From existing ring road only
- Main Compartments: Equipment room, Metal waste, paper cardboard and others, Plastic, Glass, Hazardous, Sorting area, composting bed, leachate tank

2.4 Existing Waste Management Center

There is one designated waste dumping site on the island.

The waste site that is predominantly used currently is located at the east side of the island near the proposed site. Currently open burning is only allowed to be done at this location. The site will be cleaned and any remaining waste will be transferred to the proposed waste management site. The existing waste site location is given below.

It was reported that the medical wastes were incinerated at the health center. Only waste generated in the island is managed within the island. No waste from any other island is transported to Hanimaadhoo.

Figure 5: Location of WMC (Source: Google Earth)

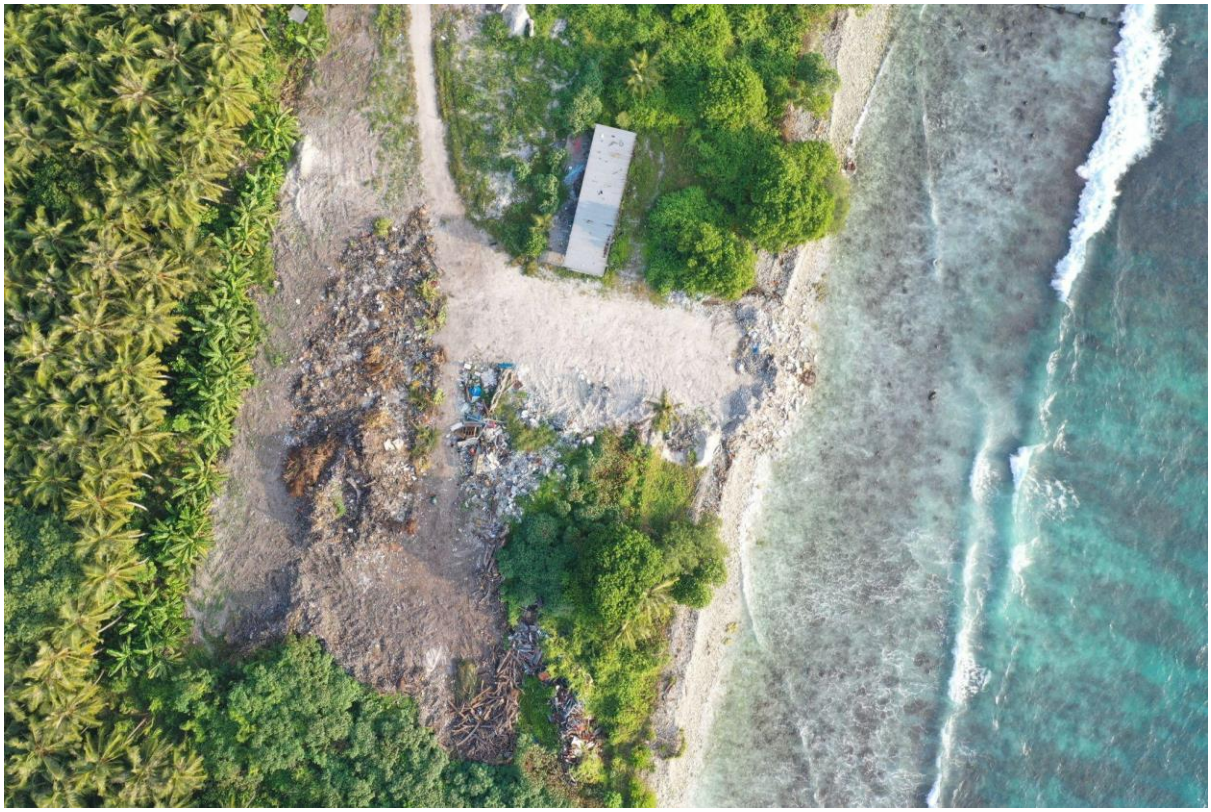

Figure 6: Existing WMC and the surrounding

2.5 WMC Facilities

The main facilities and components of the proposed IWMC are:

- Waste transfer area
- Sorting area
- Equipment room
- Stockpile area for paper/cardboards, plastics, metals, hazardous waste, and glass
- Compost slab
- Ground water pump
- Flood lights
- Boundary fence
- Gate
- Surrounding green zone

Details of the drawings are presented in the Annex.

The WMC in HDh. Hanimaadhoo will eventually consist of the following machinery

- Glass Crusher
- Garden Waste Shredder

- Dual Plastic and Metal Baler
- Manual Rotary compost screen
- Waste transfer vehicle

Precise specifications of the machinery were not provided by the developer at the time of report compilation as machinery and vehicle procurement is not included in this year's budget. All machinery is intended to be supplied next year in the 2nd phase of the project.

2.6 Construction materials and machinery

The construction materials to be used are detailed in the Inputs table. All the materials such as cement, Aggregate and Sand will be delivered to site based on consumption. Steel and Plywood will be stored at the contractor's warehouse. Barb bending and carpentry work will be prefabricated at company work yard and transported to site.

Concrete mixers will be used. Generally ready-mix concrete made on site will be predominantly used.

2.7 Utilities

As the contractor's staff will be placed in existing houses, existing island water and sewage options would be used. Rainwater collection is not part of the project. However, a groundwater well will be constructed and groundwater will be used at the site. The well will be enclosed at all times to ensure no contamination occurs.

Electricity will be provided by FENAKA. Backup generator will not be used at the site. 3 phase power point and single-phase power point will be connected. All switches will be weather proof. Wall mounted exhaust fans will be placed. The site will be well lit using 100W energy saving light.

2.8 Project Management

The project is proposed to be managed by the contractor. Procurement of a contractor will initiate once the EMP report is submitted.

All labourers will be accommodated at houses rented from the island.

Machinery and materials will be permanently stored at the proposed waste management site and surrounding area. All operations, work planning for the on-going construction work will be done at Site Office; a space rented from a residential house.

Council elected members would be checking daily progress and Site would be monitored and evaluated mid construction and end of construction upgrade. Council will report to the Ministry if there are any issues. The Ministry project team would inspect the site before taking over and commencing operations.

2.9 Road closure and traffic re-routing

Road Closures will not be required during the construction works as the site is at the eastern side of the island, away from residential area

2.10 Work Schedule

The project is expected to commence soon after the approval of this EMP report. The site is required to be completed within 12 months of project physical works commencement. Initially the architectural and structural design works had been completed and approved before undertaking the EMP. Once the EMP is approved, site mobilisation will take place.

The detailed expected project work scheduled is attached in the Annex.

2.11 Safety on site

General precautionary methods applied for virtually all similar projects in island environments will be implemented. Precautions will be taken for the safety of workers during the construction stage. Barricades, warning signs or devices will be placed on the road around the project site.

All workers are given instructions about the health and safety at site. The Site Engineers and Supervisors will give a brief on a daily basis before the work starts to all workers and all proper health and safety precautions will be implemented on site. Safety signs will be used on site, some of which are shown in the following Figure.

Personal protective equipment will be available for all the workers, for hazardous dust or chemicals, or high working areas. Emergency first aid kit will be at site for minor injuries. First aid kits will be provided in the nearby staff accommodation, where all safety clothing and

equipment will be held. All workers and personnel entering the premises will be given hard hats and safety shoes.

Figure 7: Warning signs

2.12 Accident and hazard scenarios during construction

Assessment for accidental and hazard is given below.

The following hazard and accident assessment are based on the following 3 stages of the building lifecycle, including construction, use and operation. Risk levels and probability are qualitatively assessed based on the following parameters; High, Moderate and Low.

Performance Consideration	**Risk Level**	**Risk Probability**	**Responsible Personnel**
Presence of hazardous substances, which impact on construction work eg: asbestos, SMF, hydrogen chloride, etc.	High	Moderate	Project Manager, Site Supervisor
Construction workers will be protected from / proximity to HV electrical, high risk energy sources.	High	Moderate	Site Supervisor
Traffic / pedestrian risks are minimised for planned loading & unloading for construction vehicles	Moderate	Low	Site Supervisor Project Manager

Neighbourhood construction considerations	Low	Low	Project Manager
Sufficient space is planned for access & to install / major fixed plant or equipment or specialised equipment	Low	Moderate	Project Engineer
Floor loading design has been assessed by engineer to be able to accommodate heavy equipment / plant to be installed in future	Moderate	Moderate	Project Engineer
Access to rooftops – safe access to within the safety zone, minimised manual handling of material, equipment tools.	Low	Moderate	Project Engineer
Accessible roof cleaning methods	Low	Moderate	Project Engineer
Accessible dirt or rubbish collection points	Moderate	Moderate	Project Engineer Maintenance Officer

Table 2: Accident and Hazard Assessment table

High risk scenarios provided by the above table, along with specific mitigation is given below.

Presence of hazardous substances, which impact on construction work eg: asbestos, SMF, hydrogen chloride, etc. While the risk level is high, the risk probability is low as material including such substances are not to be used. As a mitigation measure, this has to be ensured during material procurement. Moreover, hazardous substances should all be in sealed containers. It should be checked which substances can be stored together or not; and stored in separate containers accordingly.

Construction workers will be protected from / proximity to HV electrical, high risk energy sources while the risk level is high, the probability is given as moderate. Proper insulator gloves and protective cloth are to be worn by workers in close proximity to high risk energy sources. Moreover, it has to be ensured that these are not exposed at any given time.

2.13 Project Inputs and Outputs

Each component of the project has inputs and outputs based on human resources, economic resources, and the environment. However, since the operation is carried out in house, project inputs and outputs are greatly conserved and limited.

The major inputs and outputs associated with the project encompassing all the components, are tabulated below. The most significant inputs are during the construction of the project and the significant outputs are during the operation phase. Table 1 highlights the main inputs, while Table 2 highlights the major outputs.

Input resource(s)	**Estimated Quantity**	**Main sources of resource**
Construction workers	01 Project Manager 01 Site Engineer 02 - 05 Skilled Laborers 05 - 10 Non skilled Laborers 02 Security Staff (24 Hours security)	Contractor's permanent staff. Project staff. Labourers mostly registered workers from Bangladesh.
Machinery and equipment	Excavator Concrete Mixer Dump Truck Loader Bar bender	Contractor's own equipment mobilised to site
Energy supply (during construction)	30kW	From FENAKA mains

Construction materials	Masonry blocks, reinforcement bars, sand, cement, aggregate, roofing material, cement boards, PVC conduits, tiles, paint, varnish	Procured in Male' and transported to site on landing craft during mobilisation.
Water supply	Bottled water for drinking. Groundwater used for concrete mixing	Glass bottles procured and kept at site. Large 15L plastic bottles to be used to refill individual glass bottles to reduce waste.
Maintenance material	Construction machinery maintenance chemicals and lubricants	Procured from local supplier and mobilised to site
Masonry blocks (300x150x150)	100,00 No.	Supplied by local party or casted onsite by contractor.
Accommodation	2-3 houses	Rented from the island
Operation staff	3-4	From the island community
Electricity supply during operations	-	From the FENAKA mains. Distribution box near sewage outfall pump station area.
First aid kit	About 3 at site	Procured from local supplier
Fire extinguishers	About 3 at site	Procured from local supplier

Table 3: Major Inputs associated with the project

Products and waste materials	**Anticipated quantities**	**Method of Disposal**

Waste generated during construction	100 – 200 kg per day	Collected and sorted at site, stocked at site to be attended once WMC is operational. Food waste is dumped into the deep sea daily.
Sand from excavation	Limited quantity for single story structure	Re-used at site
Waste oil and grease	Minute quantities	Collected in used containers and transported to waste site
Air pollution	Debris in minute quantities	External influence minimised by site demarcation temporary boundary walls
Noise pollution	>80 db(A)	Minimised by site demarcation barriers. Ear muffs and safety equipment for workers on site.

Table 4: Major outputs associated with the project

Waste stream data has been estimated by the waste survey conducted for the island. Please refer to the waste survey for this output stream during WMC operation.

2.14 Site Access

Site access will be from the east of the island towards the project site. More details on the access road is presented in the Existing Environment Section. Vegetation removal is not expected to provide access to the site as there is already an existing road.

The site will be fenced out in areas where there is no structure. Access to the WMC will be via a gate. The gate signage would be there giving direction and notice to the public. This includes the conditions of entry, opening hours, types of wastes accepted at the facility, safety precautions to be taken before entering site, speed restrictions for vehicles.

Accommodation for construction team members will be arranged by their company. Material and equipment will be kept at the IWMC site.

2.15 Waste transfer vehicle

A 1.5 tonne pickup will need to be procured and dedicated for waste transfer works. A part time or full-time driver and assistant would need to be hired for the waste collection works.

The vehicle would require to be covered and partitions should be placed in order to maintain waste segregation during transfer.

It is expected that the vehicle would make 1 round around the island during morning hours for daily waste collection. Further waste collection can occur on an ad hoc basis based on requests to remove bulky wastes for a set fee.

As vehicle procurement is not part of the scope for this year's project, it is recommended for the council to lease/procure and use their own vehicle initially.

2.16 WMC operations

The main activities of the WMC will include the following:

- Receive domestic waste
- Receive commercial waste and waste from public institutions
- Separation of received waste
- Storage and transfer of waste
- Log and keep records of waste
- Retrieval and redistribution of recyclable resources
- Composting

Permanent staff would be hired by the council to be stationed at the WMC for security, management and logging records. Staff at the WMC would ensure the following

- Providing proper direction to individuals bringing waste to site
- Ensure security of site
- Recording any issues of where the public keep waste outside the premises
- Supervise disposal of waste
- Record and keep log of waste transferred and deposited
- Proper segregation of the incoming waste
- Ensure waste is sufficiently compacted
- Ensure waste transfer vehicles are covered
- Management of weed, pests, fire and litter
- Supervise the waste burning process
- Engage in composting

Waste burning will continue during the initial phase of the project and will only stop once the regional waste management site is operational.

2.16.1. Waste Acceptance

All waste streams that enter the WMC will be inspected before disposal to ensure they are among the accepted waste streams. Their entry will be recorded. If the load is suitable for the disposal, the drivers will be subsequently advised as to which section of the WMC each component of their load should be taken.

The WMC operators will not permit or allow any waste to be received at the premises except for those expressly referred to in the EPA "Decision Note". The materials listed below will not be accepted at WMC. Council staff will be responsible for preventing their acceptance.

- Liquid wastes
- Explosive and flammable materials

2.16.2. Waste Screening, Segregation and Handling

Households will be encouraged to sort waste materials at homes. Waste collection service operators will be encouraged by staff at the WMC entrance to sort waste materials into designated stockpiles or transfer bins at the point of access.

Material suitable for sale in the WMC is to be identified and placed aside for processing. All staff members that monitor the site entrance shall be trained in the identification and classification of waste. New staff will undergo at least one week of supervised training in the identification of materials not accepted at the WMC. Unacceptable loads of waste will be refused entry to the site. Waste handling will be undertaken in accordance with relevant government guidelines and standards.

2.16.3. Logging waste records

Staff at the gate will inspect all waste loads that come into the WMC. A volumetric survey will be used for the recording of quantities of wastes received. This will involve the Council surveyors surveying green waste and scrap metal stockpiles at the end of each reporting period. More details of waste logging and recording is given under the Reporting Section.

2.16.4. Waste Compaction

WMC will use waste compaction equipment as stated under Section 2.6. This is required to ensure that waste is adequately compacted. All the equipment used will be suitable for the small size of the site and relatively low quantity of waste streams.

Currently it is proposed to use compaction for metal cans and plastic bottles while glass material will be crushed. It is not anticipated that new large machinery will be required for the WMC operation.

2.16.5. Managing Mixed Use Recyclables

WMC staff should direct customers to deposit any mixed recyclables into a large bin near the entrance of the WMC. The bin will be monitored daily and sorted to identify materials which can be recycled and materials that should end up in the predefined waste streams. Materials that can be reused can be separated and displayed as detailed under Section 5.2.

2.16.6. Managing Organic waste & Composting

The WMC will accept source separated compostable material. The source separated organics are made up of the following materials:

- Vegetables and fruits
- Bread, rice, pasta, and cereals
- Dairy products and eggs
- Fish Visceral
- Meat and poultry
- Coffee grounds, and tea bags
- Non-recyclable paper
- Certified compostable products

Current practice of food waste dumping to sea will be stopped.

All green waste will be shredded using a garden shredder and deposited adjacent to the green waste stockpile once the material is procured and supplied. Volume of deposited green waste should be closely monitored before it is pushed up into the stockpile.

The green waste stockpile shall not exceed the limits set in the composting plan. All works required to keep the stockpile within the size constraints will be conducted by WMC staff. Once the stockpiles have reached adequate size, the composting staff will transfer it to the

composting slab. At the composting slab, it will be ensured the correct mix ratio is present for effective composting. Composting is undertaken on the slab to ensure no interaction with the terrestrial environment including groundwater aquifer.

Pure food waste, garden waste, wood chips, and to some extent paper are suitable for producing good-quality compost and will be given priority. The temperature of the biomass increases due to the microbial activity and the insulation properties of the piled material. The compost area may be watered to reach the desired moisture content for effective composting. The leachate will be collected separately in the leachate tank.

Once composting is completed, all the product compost will be stockpiled. Compost will be used at the site for vegetation. Stockpile space should be closely monitored and would need arrangements for transfer when space constraints are reached.

2.16.7. Managing Scrap Metal

Scrap metal will be separated into ferrous metal and non-ferrous metal.

Ferrous metals will be stockpiled in a separate area. The non-ferrous metals comprising mainly aluminium and copper will be stockpiled separately. All works required to keep the stockpile within size constraints will be conducted by WMC staff. Public will be restricted from scavenging directly from the scrap metal stockpile. Council will make arrangements for the removal of scrap metal and receive any income from scrap metals.

2.16.8. Managing Hazardous waste

In general, management of hazardous waste will fall into 2 different phases. In the initial phase, with no regional waste transfer station, management will be difficult and some types would need to be stockpiled in the island for longer periods before being transported to Thilafushi. Moreover, some waste types would need to be incinerated in the island. However, once regional waste transfer stations are in place, there shall be no incineration in the island and waste will be transferred more frequently to the regional center.

Waste that is regarded among hazardous waste such as waste filter oil and chemicals used by FENAKA and any other waste oil collected would be stored in hazardous waste storage in the island and transported to Thilafushi, or R. Vandhoo once it is fully operational.

Waste such as contaminated nappies, sanitation pads etc will be incinerated initially using waste oil. Medical waste such as syringes and wound dressing would be incinerated as well. However, medical wastes would not be transported to the waste center and would be taken care of at the health facility. The Ministry of Environment has instructed the Health Ministry and related health facilities that any medical waste will be accepted at the Waste Management Center after it is autoclaved. Health Centers will be required to have their own autoclave machinery.

Batteries will be separated and stockpiled separately at the center. Batteries will be removed from the island and transported to Thilafushi or R. Vandhoo eventually if there are no other regional waste management centers developed nearby in the near future. All arrangements for the removal of batteries shall be informed to EPA and permission obtained.

2.16.9. Leachate Management

Leachate is described as any liquid that when it passes through waste matter extracts soluble and suspended solids or any other component of the material through which it has passed. Therefore, at a waste management site, generation of leachate will be high. Leachate management is important to prevent interaction between components of the waste and the underlying geology including the groundwater aquifer. However, at a small WMC site as proposed, the main form of leachate management is to explore avenues to minimise leachate.

This is mainly done by taking the following measures.

- Disrupting any interaction with rainwater and waste streams by keeping waste covered.
- Diverting stormwater away from the waste stockpiles
- Using minimum water to clean the WMC during scheduled maintenance and cleaning
- Regularly collecting leachate collected at the leachate tank at the composting area
- Monitoring and ensuring liquid waste are not brought to the WMC
- Inspecting plastic, glass, tin bottles and cans for liquid and discarding separately
- Ensure the site floor is sloped in such a way that water does not accumulate in one area and does not direct towards the waste stockpiles.
- Regularly monitor WMC drains and ensure they are functioning.

2.16.10. Staff training

All staff will be trained by the developer before WMC operation commences.

Staff will be trained in the following areas;

- Waste collection
- Waste acceptance and rejection
- Waste sorting
- Site supervision
- Use of equipment including compaction, crushing and composting equipment. (once they are provided)
- First Aid
- Site safety
- Response to fire and similar emergencies
- Documentation and record keeping
- Facilitating environmental monitoring.

2.16.11. Safety and Health during operations

All staff will be made aware of the potential hazards and risks present at the WMC. During their initial orientation and training. Training will be undertaken by the Developer, the Ministry of Environment. It will be ensured that the staff are provided with personal protective equipment as required to perform their duties in a safe and responsible manner.

Signage showing safety on site will be clearly displayed for the public, and staff visiting the site to ensure that safety precautions are adhered to.

Personal protective clothing and equipment would need to be at the site as detailed under the Mitigations Section. Earmuffs will be required to be used during noise intensive work. Dust masks should be used when handling organic wastes and hazardous wastes. Safety

shoes should be worn at the WMC at all times. Entry without safety shoes will be prohibited.

3. DESCRIPTION OF THE EXISTING ENVIRONMENT

This section covers the existing environmental conditions of the project site. Since this is an Environmental Management Plan, the existing environment is not studied in depth. However, important aspects that may affect the execution and sustainability of the project are studied. Furthermore, components of the existing environment which may have a direct impact from the project is also covered in this Section. These include the following:

- Rainfall
- Temperature,
- Wind
- Waves and tides.
- Proposed site and neighbouring structures
- Existing waste management practices in the island
- Existing vegetation at the project site
- Environmentally sensitive areas and heritage sites
- Hazard vulnerability

3.1 Climate

This section deals with the regional and local climate of the study area. Since the Maldives does not experience relatively highly varying climate patterns throughout the country, utilising the climate conditions on a regional scale provides a good indicator for the local environment, albeit with some errors. Data has been taken from the weather station at Hanimaadhoo.

The Maldives has a warm and humid tropical climate with average temperatures ranging between 25℃ to 30℃and relative humidity ranging from 73 per cent to 85 per cent. The country receives an annual average rainfall of 1,924.7mm in the central parts of Maldives, where Male' is located. (Department of Meteorology, 2012).

The climate of the Maldives is dependent upon the Indian Ocean Monsoons. Monsoon wind reversal plays a significant role in weather patterns.

The two monsoon seasons observed in the Maldives include the Northeast (Iruvai) and the Southwest (Hulhangu) monsoon. The northeast monsoon is the dry season that occurs from December to February and the southwest monsoon is the rainy season, which lasts from May to September. The transition period of northeast monsoon occurs from October to November while that of southwest monsoon occurs between March and April. The 'four seasons' of the Maldives is highlighted in the following Table.

Seasons	Duration
South West Transition	March to April
South West	May to September
North East Transition	October to November
South West Transition	December to February

Table 5: Seasons of the Maldives

3.1.1. Wind

Wind is an important indirect process affecting formation, development and seasonal dynamics in the Maldives. Winds often help to regenerate waves that have been weakened by travelling across the reef and they also cause locally generated waves in lagoons. Therefore, winds are an important factor, as being the dominant influence on the hydrodynamics in most coastal areas. It is also an important factor to consider with respect to how odours and potential smoke will affect the island community.

The two monsoon seasons have a dominant influence on winds experienced across Maldives. Since Maldivian islands are spread across the equator, monsoons are relatively moderate while strong winds and gales are rare. However, during the South West monsoon gusts of up to 60 knots have been recorded at Male'. Wind is an important indirect process affecting the formation, development and seasonal dynamics of the Maldivian islands. Reversal of winds in the Maldives means change of seasons from North East monsoon to South West or vice versa.

General wind surface wind pattern over the country during North East monsoon is north - easterly direction whereas during South West monsoon mean wind flow is westerly.

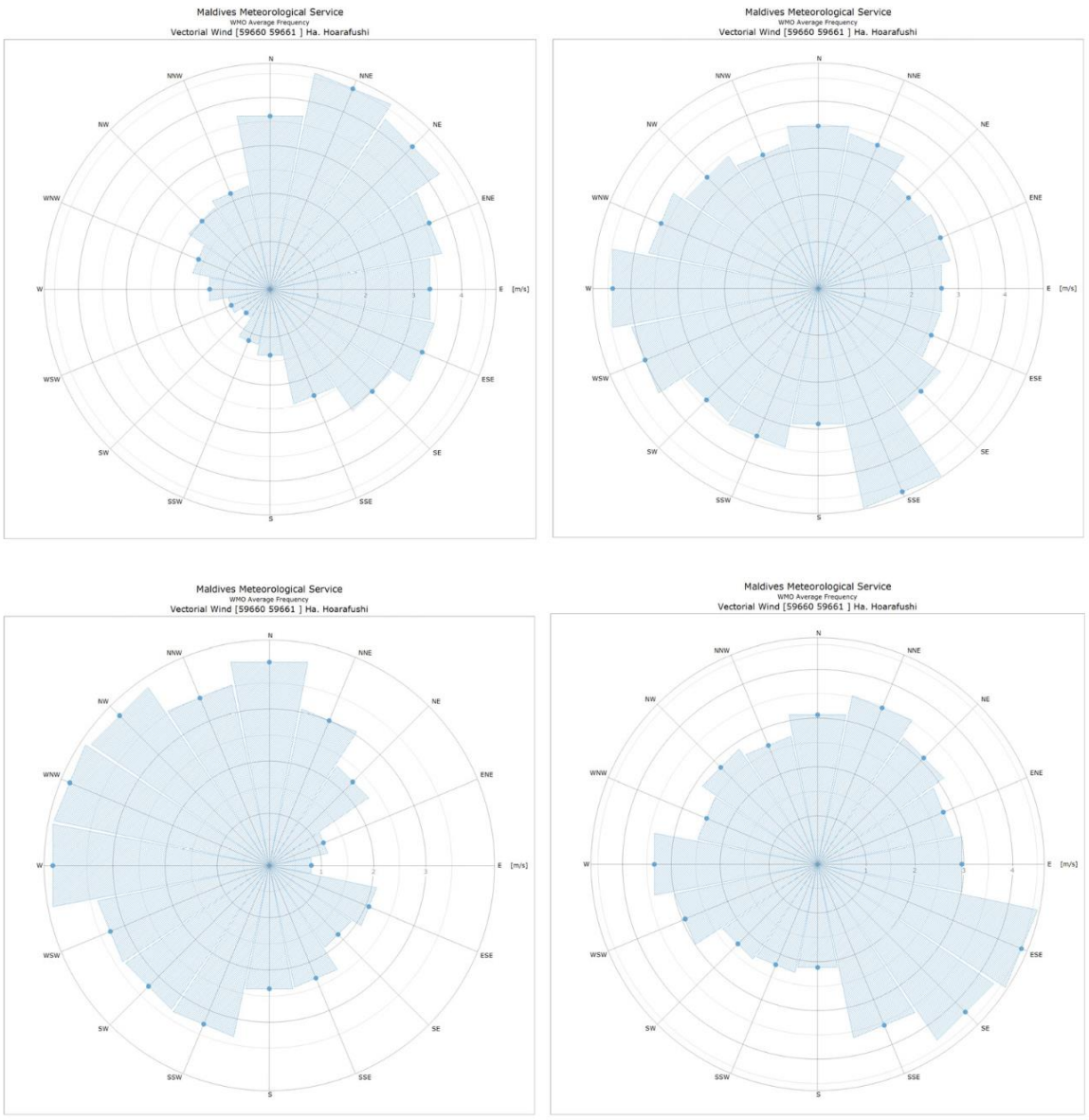

Figure 8: Wind Rose

3.1.2. Waves

Regional data has been studied and visual observation on site was used to analyse the environment, as even though direct wave impact is not expected to occur at the project site. The site being significantly aware from the shoreline, it is not vulnerable to wave impact.

Two major types of waves are formed on the Maldives coasts: waves generated by local monsoon wind and swells generated by distance storms. The local monsoon predominantly generates wind waves, which are typically strongest during May-July in the previously southwest monsoon period. During this period, swells generated north of the equator with heights of 2-3 m with periods of 18-20 seconds have been reported in the region. Local wave

periods are generally in the range 2-4 seconds and are easily distinguished from the swell waves.

3.1.3. Rainfall

The average annual rainfall for the archipelago is 1,937mm. There are regional variations in average annual rainfall. Southern atolls receive more rain compared to the northern atolls (MEC, 2004). Mean monthly rainfall also varies substantially throughout the year with the dry season getting considerably less rainfall. The north east monsoon is known as the dry season and the south west monsoon the rainy season.

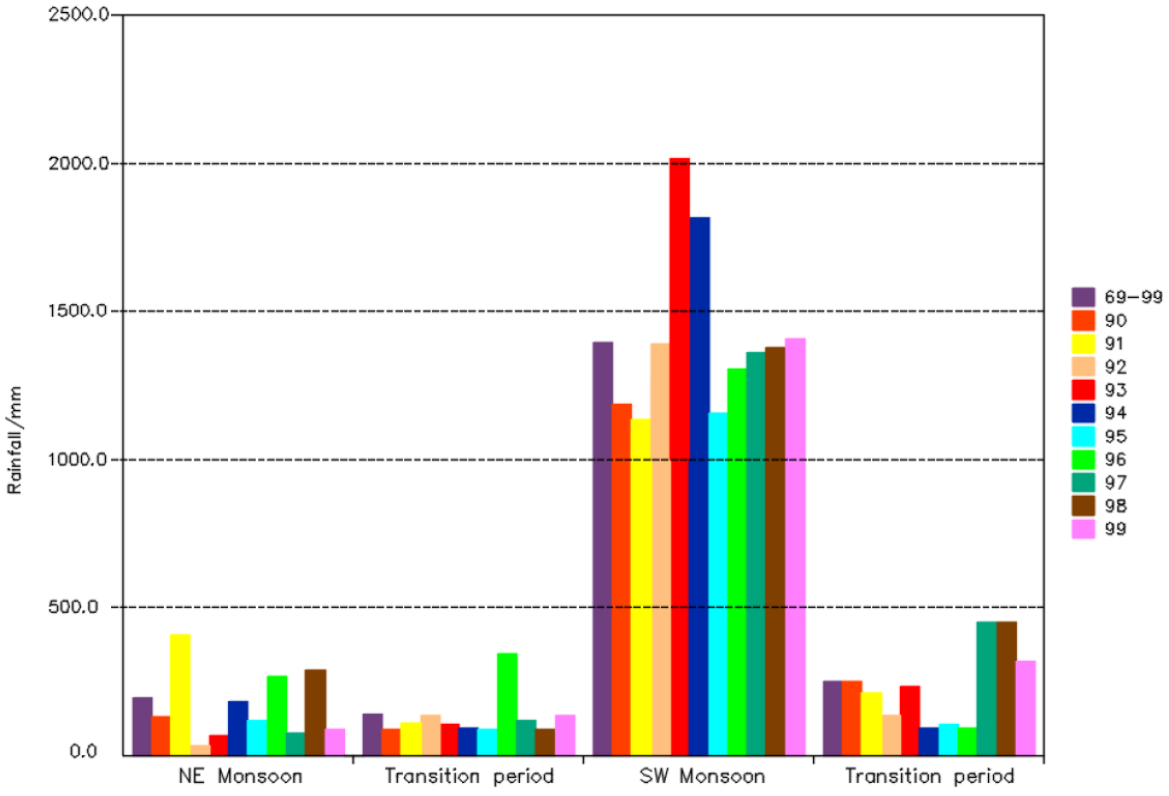

Figure 9:Rainfall Pattern of Maldives

3.2 Project Site and Neighbouring structures

The proposed site is at the far east side of the island away from residential areas. There is no other built environment near the proposed area.

The access to the site is from the main road from the residential area from the west. The ground is stable and compacted. Dark course fertile soil is present in the area. Closest distribution box is informed to be about 81.91m from the main power grid.

The council ensured that the 30m required by the regulation would be fulfilled when proposing new households and would not be located any closer to the WMC site.

A 5574 sqm area is given as the proposed area. The area is next to the existing waste management center and therefore, the site was previously cleared and is being used as a waste management center.

Figure 10: Access route to project site

Figure 11: Access road to the site

Figure 12: Proposed project site

3.3 Current waste management practices

The island has a semi developed waste management process in place. Unassigned waste dumping is not predominant. The island is generally clean except for the waste management area surroundings. Waste is divided into different categories and collected from all households and public institutions. Waste is separated at the source and open burning is practiced. There is no composting being done in the island currently. Fees are taken from household and institutions. Currently some amount of waste has been accumulated at the waste management site however, this site needs to be further cleared as part of this project.

The island is generally clean except for the surrounding areas of the waste management Site. The situation is worse in the waste management site as the site is too close to the shoreline and might have bad impacts on the coastline if current practices prolongs. As the site is very close to the proposed location, clean-up should be relatively easy.

Figure 13: Waste dumped at the location

Figure 14: Closeup of waste dumped at site

3.4 Vegetation and Environmentally Sensitive Area

There is no significant vegetation at the site as the site has been previously cleared. There was no significant vegetation at the access path to the site as the area had already been cleared. A main road exists to the site area as shown in Section 3.2.

3.5 Coastal modification and stability

H.Dh.Hanimaadhoo coastline is generally regarded to be dynamic in regard to seasonal coastal erosion. Coastal impacts are usually felt on islands where significant coastal developments have taken place such as harbours. Hanimaadhoo has been experiencing intensified coastal erosion due to the alteration of hydrodynamics of the area with the construction of harbour. Additionally, Hanimaadhoo has been facing coastal vegetation loss due to severe erosion mostly in the southern side of the harbour.

The eastern side shoreline facing the proposed waste management center has a rocky beach experiencing erosion. Since the eastern side of the island has beach rock developments erosion had not been as severe as it could have been. There is no immediate structural threat to the WMC due to erosion.

Figure 15: Eastern side beach near the proposed site

3.6 Environmentally Sensitive Areas

There are no designated environmentally sensitive areas on the island. However, during the field visit mangrove plants were observed within the airport premises and in a small part of the residential area.

3.7 Hazard Vulnerability

Maldives in general does not experience natural disasters and hazards on a frequent basis. However, the Indian Ocean Tsunami in 2004 was a major reminder on potential hazardous threats the country faces. The islands across Maldives face similar types of threats and hazards to varying degrees and magnitude depending on several factors.

The vulnerability of islands to natural hazards depends on geological and more importantly geographic aspects of the island. As such, the location of the island, with respect to the country and atoll is quite important. Likewise, the level of protection the island is offered

from neighbouring islands, and the house reef, shape and orientation of the island are also important factors.

Based on the UNDP Disaster Risk Assessment Report of Maldives in 2006, Hanimaadhoo is located in an area that has been designated as a high-risk hazard zone. Furthermore, sea level rise due to climate change is a uniform hazard throughout the country. Figure profiling the Maldives based on the hazard zones are given in the following figure.

Local data on the hazard vulnerability of the island cannot be taken within such a short period as has been for this EIA report. Long-term data on a local and regional scale is required to deduce such probabilities.

The project site is located virtually at the eastern side of the island. In the event of a disaster such as a tsunami, where the impact will be felt throughout the island, the project site will be vulnerable.

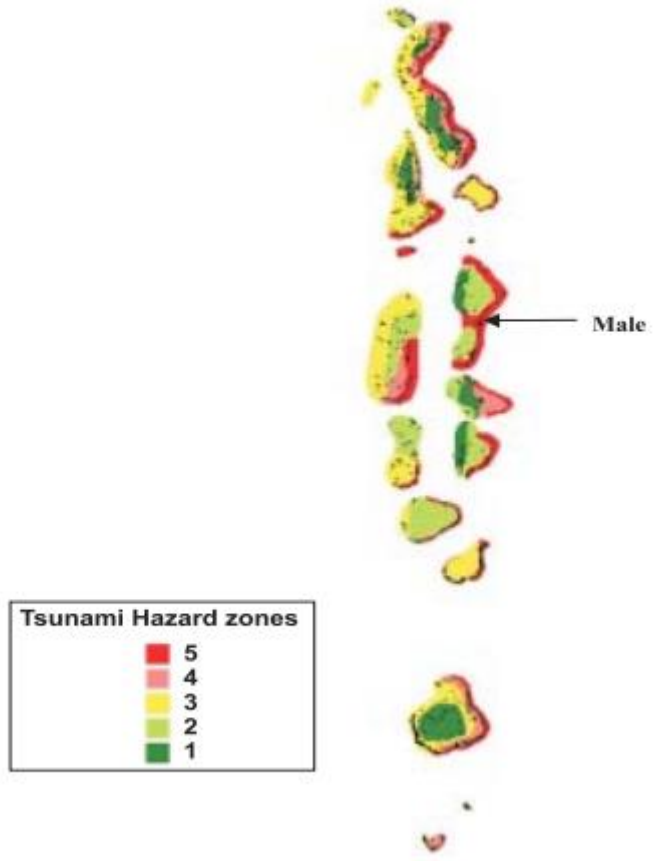

Figure 16: Tsunami hazard zones

4. IDENTIFICATION OF IMPACTS & SIGNIFICANCE

This section is based on the potential environmental impacts due to the project implementation including both for the construction of the IWMC and the waste management operation. Significant project components that could lead to environmental impacts during the construction phase include the following:

- Mobilisation and site setup
- Equipment and material storage
- Project site clearance
- Excavation
- Concrete works

Project components that could lead to impacts during operational phase include the following:

- Collection and transportation of waste within the island
- Burning waste
- Composting
- Exporting and transporting waste out of the island
- Pollution due to operation including noise pollution and air pollution
- Maintenance issues

Methods of identification of potential impacts and assessing the significance of the impacts are described in the following sections.

The general impact area is regarded as the whole island area as shown below. However, the direct impact area is the project site area.

Figure 17: Impact Area map

4.1 Identification of Impacts and their Significance

Impacts on the environment from various activities of the proposed project have been identified through:

- Literature review of EMPs done for existing IWMC sites
- Literature review on impacts and issues at Waste management sites in similar environments in other countries
- Reviewing research data that has been accumulated specific to the Maldivian context.
- Consultation with the Waste department of the Ministry
- Public consultation with the island community and the council.
- Using decision frameworks for assigning significance to impacts
- Baseline environmental conditions collected.
- Past experience of the consultant with similar projects.

Possible negative impacts on the environment have been considered in worst-case scenario to recommend mitigation measures in the best possible ways so that these impacts would be minimized and perhaps eliminated in the implementation and operation phase.

The impacts highlighted in the TOR for this EIA has been used as a guideline in identifying important impacts. However, this was not used as a strict instruction for the identification. Once new impacts not highlighted in the TOR were foreseen, they were given equal importance. Following are the major types of negative impacts foreseen as part of the project During Construction:

- Health and Safety
- Vehicle and Machinery
- Vegetation
- Ground water
- Noise
- Aesthetic

During Operations:

- Fly accumulation
- Pests and vermins
- Odour
- Noise pollution
- Litter
- Excessive accumulation of compost
- Leachate
- Air Pollution (Dust)
- Weed
- Emergency response
- Fire Prevention

There will be numerous positive impacts due to the project as well both from a socio-economic aspect and environment aspect. The project has been proposed to improve the waste management of the island which in turn has the following beneficial impacts:

- Improvement of the general lifestyle of the community
- Creating cleaner terrestrial environment
- Improving groundwater conditions
- Reduce open burning, thereby reducing aesthetic impacts and air pollution and associated health impacts

- Reduction of flies and mosquito population is the island

4.2 Impact Significance Assessment

This section provides a summation of the impacts of the project components discussed above. The impacts of the project have been evaluated according to the criteria proposed by Posford Haskoning (2004). The decision framework is given in the following figure.

In order to make the evaluation quantitative, the framework proposed by Haskoning has been modified. Spatial distribution of impact is also added in order to make the significance of the impacts more realistic. Scores are given for each impact once it is identified that the resource is vulnerable to the impact. Scores are based on the following factors.

- Sensitivity of Receptor
- Recoverability of Receptor
- Importance of Receptor
- Spatial Distribution of impact

The scales associated with the above criteria are given in the following table.

Criteria	**Scale**	**Attribute**
Sensitivity *How sensitive the receptor is to the impact*	1	Low
	2	Medium
	3	High
Recoverability or Return to original conditions *How long it would take for the receptor to recover from the impact*	1	Short
	2	Medium
	3	Non-recoverable
Importance *The importance of the receptor to the environment*	1	Low
	2	Medium
	3	High
Spatial Distribution	1	At project site only
	2	At an island level

Distribution of impact	3	At a national level
	4	At a global level

Table 6: Impact significance Assessment

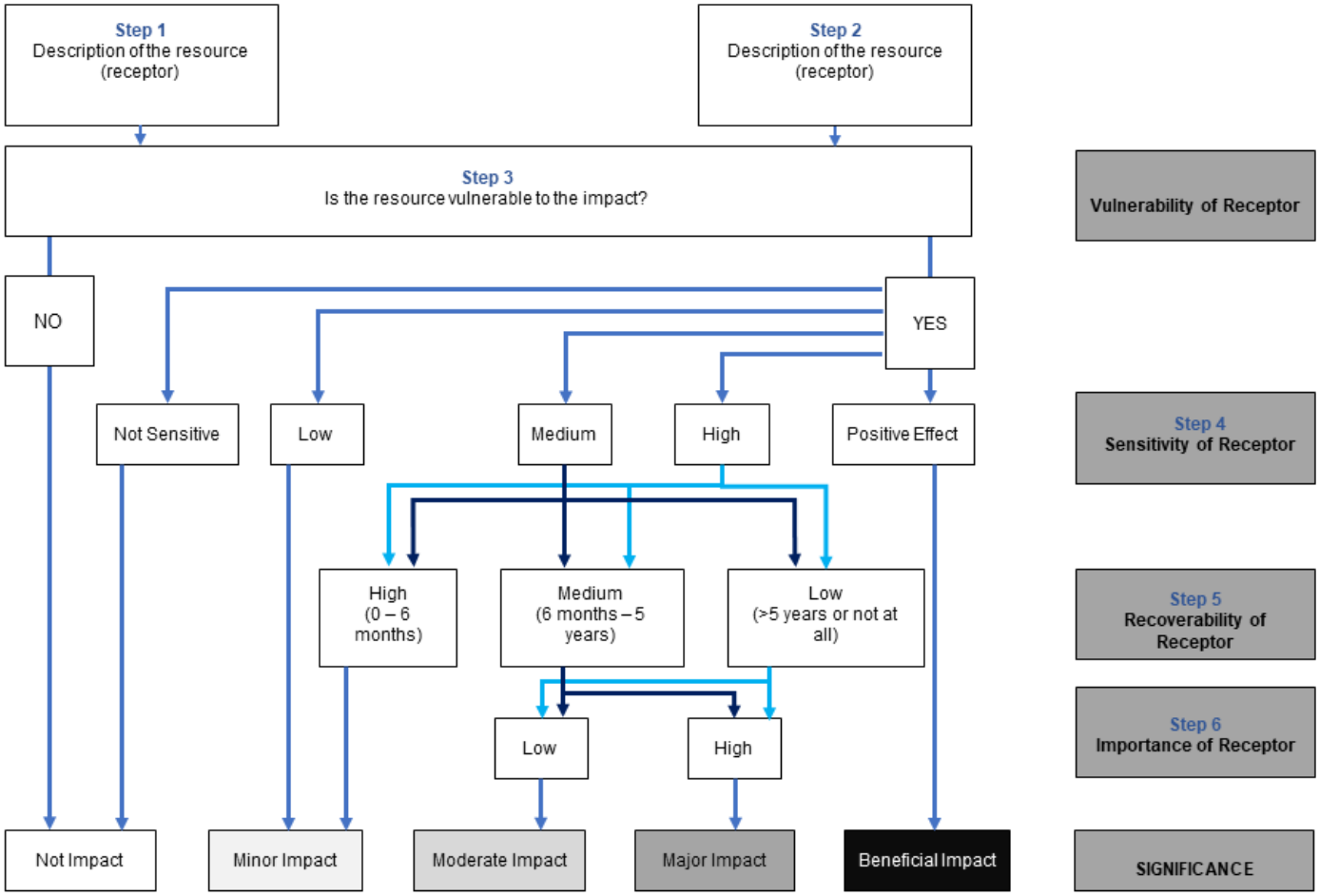

Figure 18: Decision Framework

In the Haskoning framework, if impact receives a -1 for sensitivity, it deems the impact to have a positive effect on the receptor and the other criteria is then not applied. The impact is referred to as a Beneficial impact as is done by the Haskoning framework.

However, then the magnitude of the positive impact is not measured. Therefore, it is proposed that if the impact is identified as having a positive impact, negative points are given on the scale for each criterion.

The significance of the negative impacts will be given based on the following range:

No	Range	Impact Categories
1	1 – 5	Minor Impact
2	6 – 9	Moderate Impact
3	10 – 12	Major Impact

Table 7: Negative Impact Range

Potential Impact	Cumulative (C) / Immediate (I)	Direct / Indirect	Sensitivity	Recoverability	Importance	Spatial Distribution	Significance
CONSTRUCTION PHASE							
Health and safety impact on workers and neighbours during physical works	I	Direct & Indirect	3	2	3	1	9 Moderate
Impact on terrestrial surrounding environment due to movement and operation of vehicle and machinery.	I and C	Direct & Indirect	3	3	3	1	10 Major
Loss of vegetation as part of land clearance.	I	Direct	3	1	3	1	8 Moderate
Groundwater degradation due to excessive excavation and spills and oil leakage from machinery	C	Direct	3	1	1	2	7 Moderate
Noise emissions during machinery operation	C	Direct	2	1	1	1	5 Minor
Loss of visual amenity and disruption to island environment aesthetics	C	Indirect	2	1	1	1	5 Minor
OPERATION PHASE							

Accumulation of flies at the WMC and surrounding areas	C	Direct	3	1	2	2	8 Moderate
Prevalence of pests and vermins at the WMC and surrounding areas leading to disruption of work and also spreading diseases	C	Direct & Indirect	3	2	2	2	9 Moderate
Foul odour getting emitted from the WMC impacting on staff working on site and general public that is in the vicinity	C	Direct	2	3	1	1	7 Moderate
Noise emissions when machinery is working leading to noise pollution	C	Direct	1	1	2	1	5 Moderate
Litter beyond the dedicated areas at the WMC and also in the surrounding areas	C	Direct	3	1	3	2	9 Moderate
Leachate due to stormwater run-off from segregated waste stockpile area, green waste stockpile and compost area	I and C	Direct	3	2	2	2	9 Moderate
Air pollution due to emission of dust from waste streams	C	Direct	2	1	2	2	7 Moderate
Prevalence of weed growth in surrounding areas disrupting island native vegetation	C	Direct	3	2	3	2	10 Major
General health and safety issues for workers	C	Indirect	3	2	3	1	9 Moderate
Impact on health and safety of workers due to accidents	I	Direct	3	2	3	1	9 Moderate
Fire incidents leading to health and safety issues as well as disruption to terrestrial environment	I	Direct	3	3	3	2	11 Major

Improvement of the general lifestyle of the community	C	Indirect	-3	-2	-3	-2	-10 Positive
Impact on economy due to the effect on tourism industry	C	Indirect	-3	-3	-3	-3	-12 Positive
Formation of a cleaner environment for terrestrial flora and fauna to thrive	C	Direct	-3	-3	-3	-2	-11 Positive
Improvement of groundwater conditions due to lack of leachate at various areas of the island	C	Direct	-3	-2	-2	-2	-9 Positive
Reduction of air pollution and aesthetic impact due to reduction of open burning	C	Direct	-3	-2	-2	-2	-9 Positive

Table 8: Potential Impacts associated with the proposed projects

In conclusion, the project construction works are not expected to have a significant impact on the environment as the site had also been previously cleared.

Apart from that, the project will have general minor to moderate impacts on the environment common to other waste management sites. The main receptors for any impact is the population residing in the island in addition to terrestrial environment impacts. The major impacts in this aspect are with respect to accidents and health hazards, for which the probability is low. Nevertheless, mitigation for these and other impacts that were noted as significant will be provided in the following section.

If proper mitigation measures are in place to avoid the sensitive area, then the project can be undertaken without any major impacts.

It should also be noted that there are also numerous positive impacts noted that would have far reaching sustainable socio economic and environmental benefits due to the implementation of the project.

4.3 Uncertainties in Impact Prediction

The impact prediction has been carried out based on literature and tested methods. However, the prediction relies on the judgement of the consultant, and would therefore lead to uncertainties.

Moreover, the monitoring plan has been formulated over a short period and therefore there may be novel areas that are not found in existing local literature and that could not have been researched sufficiently. Alternatively, such projects as has been described in this report have been carried out on numerous islands in the Maldives. Therefore, by observing past literature in a local context, the uncertainty can be reduced. However, as there is no literature on monitoring, the exact magnitude of impacts cannot be measured and understood.

Uncertainties will therefore be reduced by undertaking the monitoring program and re-analysing impacts, after comparing the monitoring data with the baseline data in this report and previous recent environmental studies done for the island. The lack of such monitoring reports is one of the main reasons for persistent uncertainties from similar projects.

5. ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURES

Mitigation measures are proposed where significant impacts are expected; impacts that have been assessed to be either moderate or major. Successful implementation of the measures given would lead to a major reduction and/or nullification of the impacts on the environment and thereby ensuring that the project is environmentally sustainable.

5.1 Project Mitigation Management Details

Following mitigation measures are proposed for all significant impacts.

Mitigation Measures	Implementing Responsibility	Implementing Stage	Cost (MVR)
DURING CONSTRUCTION			
Impact on health and safety			
Site is to be demarcated and boundary fence or dust screen of approximately 6ft high are to be put in place after site clearance.	Project Manager	Site setup	~15,000
Warning signs to be placed outside the project boundary at 4 sides for the public	Project Manager	Site setup	~2,500
Safety briefing to be held daily for the construction team	Project Manager	Construction	0
Safety equipment and clothing to be procured and made available at site. Should be enforced. Those not practicing to be warned and subsequently penalized.	Project Manager	Construction	15,000
Ensure no material gets deposited outside project boundary	Project Manager, Site Engineer	Construction	0
All waste to be removed from site on a daily basis	Site Engineer	Construction	0
Impacts due to Vehicle and Machinery			
Ensure all machinery is serviced before mobilization	Project Manager	Mobilisation	35,000

Monitor and supervise if any foreign particles are present along with the vehicle and/or machinery during mobilization and commissioning. Dispose accordingly	Site Engineer	Mobilisation	0
Monitor the conditions of the roads during mobilization of machinery	Site Engineer	Mobilisation	0
Ensure the vehicles do not trespass into the sensitive area under any condition	Site Engineer, Island Council	Mobilisation and during construction	0
Groundwater Degradation			
Regular monitoring of groundwater condition on site	Project Manager	Construction	1000 MVR/test
Materials to be covered and not prone to getting wet	Site Engineer	Construction	0
Ensure any leaks from machinery are attended to immediately. Regularly monitor machinery	Site Engineer	Construction	0
Noise Pollution			
For workers, use of earmuffs at construction sites.	Project Manager	Construction	5,000
Construction to be scheduled in such a way that noise pollution will be at a minimum to the public. As such, works such as casting of slabs to be scheduled to be undertaken during morning or at noon to minimize impact on the public nearby. Such works are not to be undertaken during night time after 8pm under any condition., and not during the evenings on weekends.	Project Manager	Construction	0
Ensure proper site demarcation and boundary wall condition before commencing work.	Site Engineer	Construction	0
Air Pollution			
Workers should be made to wear dust masks during dust sensitive work.	Project Manager	Construction	50,000
Place dust screens demarking the concrete mixer	Project Manager	Construction	50,000

Daily water spraying and dampening to reduce spread of dust to surrounding areas. (only after physically dry cleaning the site)	Site Engineer	Construction	0
Inspect and fine-tune all machinery and vehicles before work commencement to ensure harmful gases released to the atmosphere are at a minimum.	Site Engineer	Construction	0
Cover building materials such as cement and sand, and should be contained during loading, unloading and storage. Should be covered while stockpiled.	Site Engineer	Construction	0
Aesthetic Impacts			
Demarcate the project site after site clearance by fencing out the site.	Project Manager	Construction	0
Collect any building and construction waste at the site. Ensure waste from the site does not get transferred elsewhere in the island. Should be contained.	Site Engineer	Construction	0
DURING OPERATIONS			
Accumulation of flies			
Monitor the waste stream and observe which is contaminated by flies	WMC Manager	Operations	0
Ensure all the waste streams are properly segregated. Even minute quantities of organic waste should be not found within in organic waste streams	WMC Manager	Operations	0
Ensure all waste is deposited and stockpiled in their designated locations	WMC Manager	Operations	0
Keep organic waste streams covered	WMC Manager	Operations	0
Keep fly sprays at site at all times to be used at fly infested areas.	WMC Manager	Operations	1,500 MVR
Increase in Pests and Vermin			
Monitor each waste stockpile daily for any pests.	WMC Manager	Operations	0

Utilise baits, traps, glues to capture pests to be discarded	WMC Manager	Operations	0
Keep pesticides in place to be used only for pests. Should ensure that it does not get mixed with storm water and/or leachate.	WMC Manager	Operations	5,000
Odour Pollution			
Keep all putrescible waste covered at all times	WMC Manager	Operations	0
Ensure all putrescible waste is dry and prevent any interaction with stormwater	WMC Manager	Operations	0
Keep in place baking soda stock as a remedy to neutralize excessive odours.	WMC Manager	Operations	1,500
Noise Pollution			
Ensure that machinery such as crushes and balers are not in use during night time.	WMC Manager	Operations	1,500
Ensure thick vegetation is maintained around the WMC site, the green buffer	Island Council	Construction and Operations	0
Carry out periodic maintenance of machinery and transfer vehicles as per the manufacturer/supplier	WMC Manager and Island council	Operations	0
Excessive Litter			
Ensure the waste transfer vehicle is covered and waste will not fall off from the vehicle.	Island Council	Operations	0
Keenly monitor the site after each waste transfer cycle, whether the site has been littered by any falling wastes	WMC Manager	Operations	0
Inspect the surrounding area daily for waste littered right outside the WMC. If found, pick and transfer to the waste site.	WMC Manager	Operations	0
If littering outside the WMC is prevalent, place CCTV cameras outside to identify the personnel carrying out the littering. Report to council, give warnings, and eventually penalize if the issue persists.	Island Council	Operations	5,000 MVR

Where bulky wastes cause litter in residential areas, have a quarterly large waste collection schedule in place throughout the island	Island Council	Quarterly during operations	50 MVR taken from households to dispose bulky wastes
Leachate			
Monitor plastic, glass, bottles and cans for liquid. Dispose liquid accordingly	WMC Manager	Operations	0
Monitor if any hazardous liquid waste is brought to site among plastic wastes. Transfer to correct waste stream	WMC Manager	Operations	0
Daily monitor the compost and organic waste area for any presence of water	WMC Manager	Operations	0
Compost area to be bunded to prevent water access to the area	WMC Manager	Operations	0
After each cleaning event of the site, ensure all the water is properly drained and not accumulated.	WMC Manager	Operations	0
All waste stockpiles should be covered to prevent/minimize interaction with water during rainy weather	WMC Manager	Operations	0
Ensure the site flooring is levelled and graded to prevent water accumulation	WMC Manager	Operations	0
Monitor roofs on a fortnightly basis for water accumulation and drain water if present.	WMC Manager	Operations	0
Supervise/Inspect regularly if the WMC drains are working and attend. All drains to be regularly cleaned.	WMC Manager	Operations	0
Air Pollution			
Clean and sprinkle the access road area on a monthly basis	Island Council	Operations	0

Carry out maintenance of the equipment and machinery as directed be manufacturer/supplier	WMC Manager	Operations	0
Once construction works are completed, ensure the site green buffer area is established around the project site.	Island Council	Operations	0
Ensure waste that require burning is kept at a minimum	Island council and WMC Manager	Operations	0
Weed			
Cover all incoming and outgoing organic and green waste loads to prevent seed dispersal	WMC Manager	Operations	0
Regularly monitor the site for weeds and remove physically and/or by spraying	WMC Manager	Operations	0
Healthy and Safety measures			
Undertake health and safety training for workers	Ministry of Environment	Pre-construction	In Project cost
Put up warning signs around the project area restricting entry and giving conditions of entry. State clearly opening hours.	WMC Manager	Operations	0
Encourage use of safety cloth and equipment at the site at all times. These include safety helmets, dust masks, conspicuous fluorescent cloths, earmuffs, safety shoes, etc.	Ministry of Environment, WMC Manager	Operations	0
Fire Hazards			
Place fire extinguishers at WMC site at accessible locations	WMC Manager	Operations	In Project cost
Ensure all workers are aware of evacuation procedures and set evacuation spots to the beach area towards the South.	WMC Manager	Operations	In Project cost

Table 9: Impact mitigation measures

5.2 Waste Reduction

The island council has reported that waste generation has nearly doubled over the last 3-4 years. If this trend continues, the waste management site that is currently being built will soon be insufficient. Therefore, waste reduction is critical. This can be achieved via general waste reduction awareness programs and reduction of targeted waste streams as given below.

Reduction of Nappy and Sanitary pads.

Nappy and Sanitary pads take up the bulk of the volume that requires burning. This waste stream would be significantly reduced if the waste generation of this waste type can be reduced from the source. This can be achieved by using alternative materials to the disposable materials currently predominantly in use. It is recommended to seek alternatives such as cloth diapers and sanitary cups which can be reused multiple times, thereby significantly reducing waste that is burnt.

Restriction of Single Use Plastics

Ban of single use plastics is a critical step to reduce waste volume in the island. With the establishment of the WMC, it is recommended to enforce this further by giving incentives to practitioners and eventually penalizing those who import such materials into the island.

One of the main sources of single use plastics comes in the form of plastic water bottles. This can be minimized by having a glass bottling plant operation in the island. It is recommended to study the feasibility of undertaking such a project on the island.

The other main source of single use plastics is plastic bags. Use of cloth reusable bags can reduce dependency on plastic bags.

Setting up a mechanism to Reuse discarded items

It is also proposed to set up a mechanism by which items can be reused. A reuse centre by the island council where items that are discarded from households that are in good condition can be made available for pickup by other members of the community. This can be setup near the WMC or elsewhere in the island. Set times can be made for members of the community to drop off such items that can potentially be re-used and these can be put on display at the site.

6. STAKEHOLDER CONSULTATIONS

Stakeholder consultations were carried out with the developer, the island council and online questionnaire surveys were carried out for the residents of the island.

6.1 Consultation with the Developer

Date: 30th November 2021 10:00am

Medium: Online meeting

Name	Office	Designation
Ismail Ajmal	Ministry of Environment, Climate Change and Technology	Senior Environmental Analyst
Adam Saaneez	ESIS Consulting Pvt Ltd	EIA Consultant
Irthisham Hassan Zareer	ESIS Consulting Pvt Ltd	Environmental Analyst
Fazeela Jaufar	ESIS Consulting Pvt Ltd	Environmental Analyst

Shanyz brought up that as per Land and Survey Authority, there is no approved land. The council letter shared also gave no specific answer for this. He requested the Environment Ministry to give a map drawing with the allocated land. To which the Environment ministry said they would check with the island council. But also mentioned that the island's Land Use Plan is currently unfinished and that areas have not been allocated. Environment ministry further mentioned that with a written document stating there is land allocated for this purpose, the Island Waste Management Plan is likely to get approved.

Shanyz mentioned that for purposes like tree counts and clearance, identification of exact land area is necessary. The potential site which the council showed had coconut palms and other trees. While the Environment Ministry mentioned there's no trees in the area that they understood to be the project site. There seems to be discrepancies between site area understood by the two parties

Environment ministry stated that it is left to the council to decide the site and that the project will go forward after it's figured out. Shanyz mentioned that he will send a map with sites in 2 days' time.

Shanyz requested to clarify how the waste management center is set to be built as well as how many staff are going to be operating. Environment ministry mentioned there will be an office section, changing rooms, toilets and a green area (waiting area). Entire waste management is set to have a modular concept, with no temporary panels, (no permanent station) to accommodate changes. Similar to aircraft hangars in a way that can accommodate vehicle entry and exit. As it is a bigger island with a big airport, expected to have more staff (smaller islands generally have 2 staff), but this will be decided by island council.

Environment ministry: Waste management center set to be handed to council once completed. The waste will be taken to the waste transfer station in Kunburudhoo, and then from Kunburudhoo it will be taken to Mandhoo.

Shanyz asked if it would be given to WAMCO or if there are others in the private sector. To which the Environment Ministry said they can't say for sure, but that it is likely to be WAMCO.

Environment ministry asked to critically comment on the concept, and that they were open to critical comments. Shanyz suggested that it might be a good idea to have moving partitions, so transferring between sites is more manageable, and it also dissuades from formation of landfills.

6.2 Consultation with Island council

Date: 1st December 2021

Medium: Online meeting

Name	**Designation**	**Office**
Abdul Sattar Hassan	President	H.Dh.Hanimaadhoo Council
Mohamed Asif	Secretary General	H.Dh.Hanimaadhoo Council
Ali Ibrahim	Council Member	H.Dh.Hanimaadhoo Council
Haarisaa Mohamed	Council Member	H.Dh.Hanimaadhoo Council
Naziya Hassan	Council Member	H.Dh.Hanimaadhoo Council
Adam Saaneez	EIA Consultant	ESIS Consulting Pvt Ltd
Ibrahim Anoof	Environmental Analyst	ESIS Consulting Pvt Ltd
Fazeela Jaufar	Environmental Analyst	ESIS Consulting Pvt Ltd

Shanyz brought up that as per Land and Survey Authority, there is no approved land for a waste management center. To which council said that, development of land use plan is in the process and land is allocated in the land use plan. Shanyz requested to share the dimensions of the proposed waste management center and land allocation document.

Shanyz asked, by which party the current waste management center and proposed center would be handled. to which council said that both current and proposed centers would be handled by the council.

Shanyz asked, if any fee is taken from households for waste disposal. to which council said that an amount of 100 rf is taken from each household on a monthly basis. However, the amount

differs for shops, guesthouses and city hotels, which the council said they would share the details through email.

Shanyz mentioned that, with the redevelopment of the airport more waste is tended to develop and, in that case, if council is interested in handling waste generated from the airport as an income generating source. to which council answered that, currently waste generated at the airport is managed by the council therefore, in the future council is much interested in managing waste as an income generating source after the redevelopment of the airport.

6.3 Public Consultation

An online survey questionnaire built with google forms was shared with the council to distribute among the individuals of the island and viber groups within the island. Online survey as a method was chosen due to Covid-19 conditions during the survey period. A total of 12 responses were received. The questionnaire focuses on finding an estimate of waste generated from households on a daily basis, waste handling methods at individual levels and public opinions about the proposed waste management center.

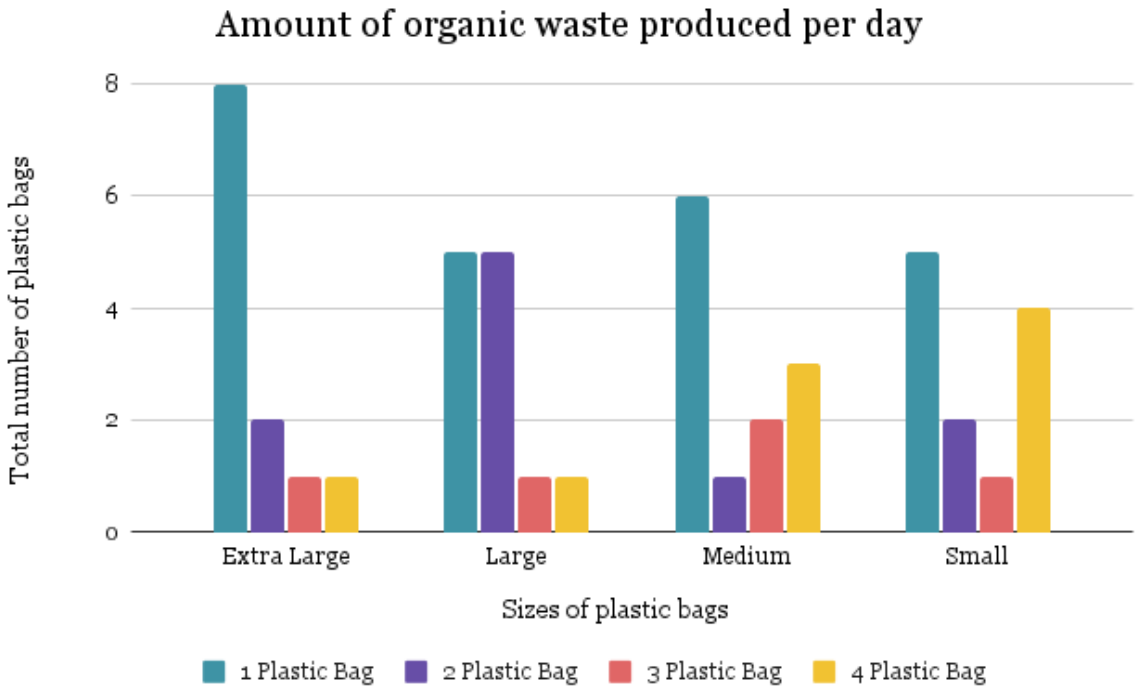

Figure 19: Amount of organic waste produced per day

The figure shows the amount of organic waste produced in terms of the number of plastic bags discarded. High percentage of respondents stated that one extra-large bag is discarded. The second highest percentage stated that they discard only one medium sized bag daily. This answer may differ depending on the number of people living at the house.

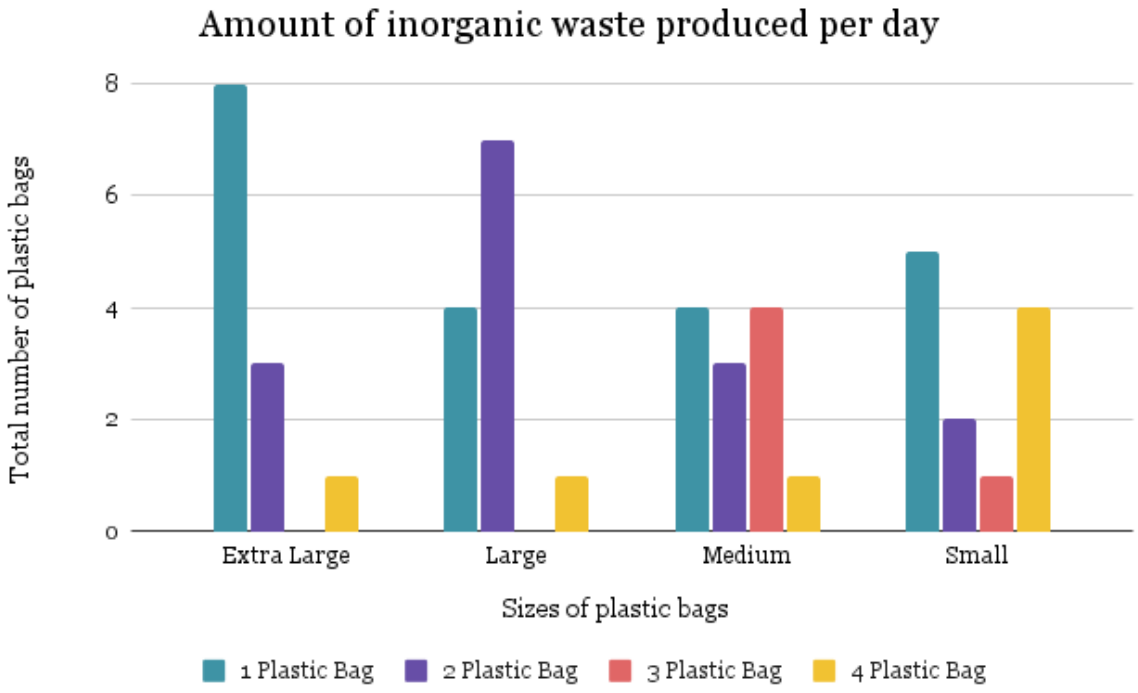

Figure 20: Amount of inorganic waste produced per day

The figure shows the amount of inorganic waste produced in terms of the number of plastic bags discarded. High percentage of respondents stated that one extra-large bag is discarded daily. The second highest percentage stated that they discard two large sized bags daily. As mentioned above this answer may differ depending on the number of people living at the house.

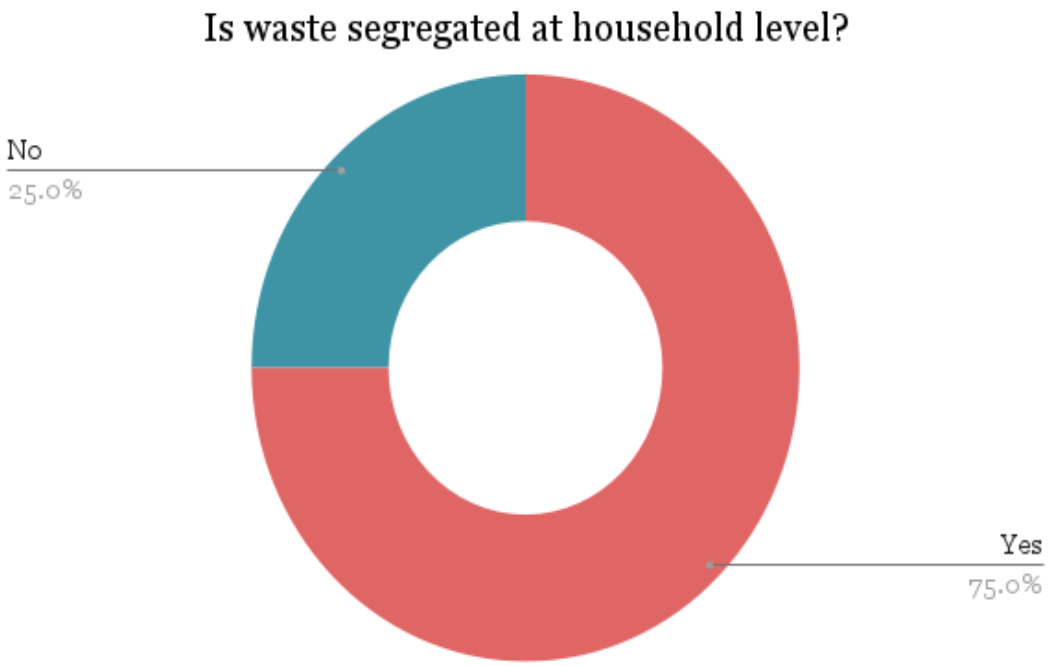

Figure 21: Percentage of waste segregation done at household level

The figure shows the percentage of individuals who segregate waste at household level. A high percentage of people agreed that they segregate waste before the council collects waste from households.

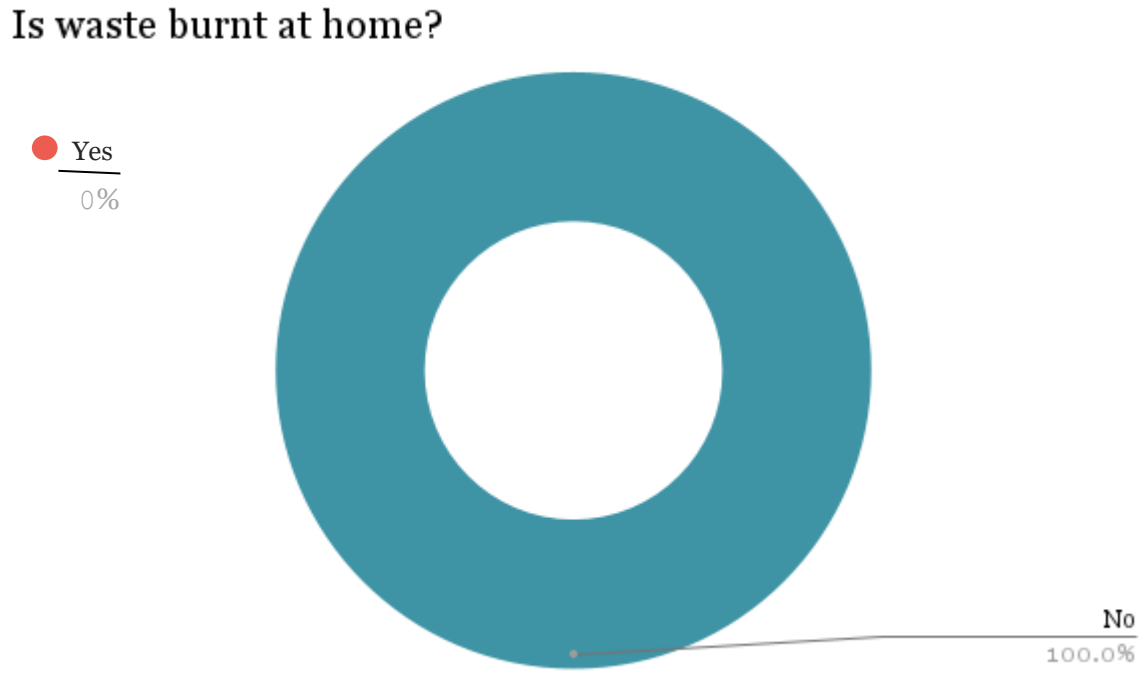

Figure 22: Percentage of waste burning practices at household level

The figure shows the percentage of individuals who burn waste at home. All of the people said that they do not burn waste at their homes.

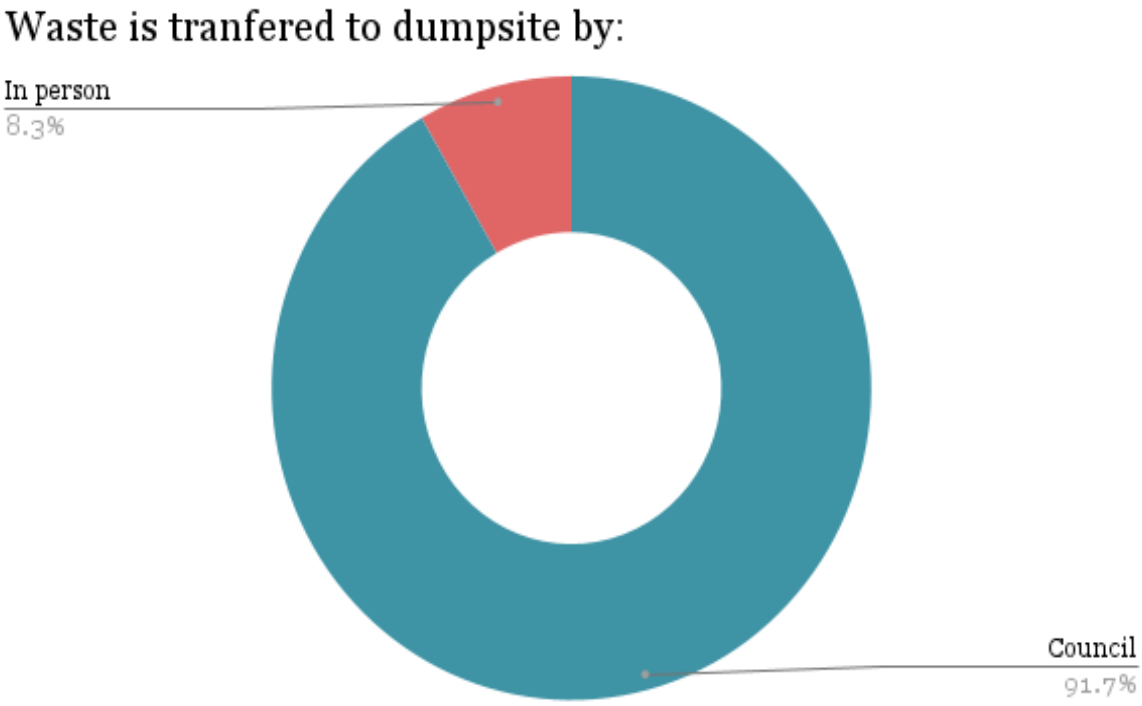

Figure 23: Percentage of ways waste is transferred to dumpsite

The figure shows how waste is transferred to the dumpsite. A high percentage responded that the council collects waste and transfers to the site.

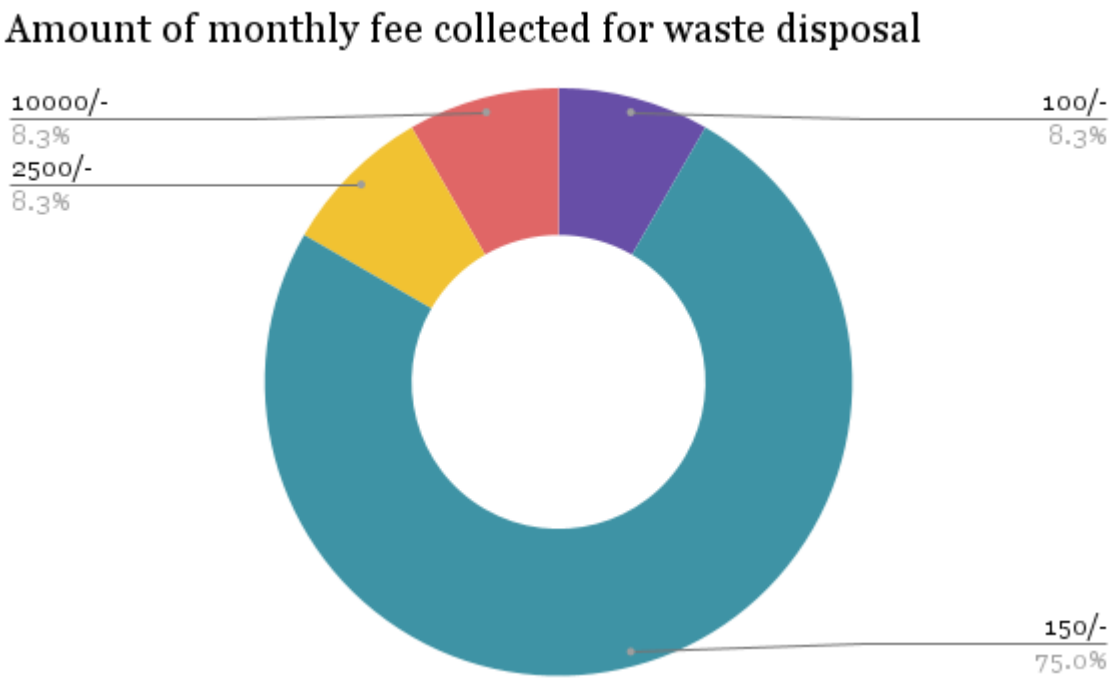

Figure 24: Amount of monthly fee collected

Figure 25: Percentage of people satisfied with the fee amount

The figure shows the percentage of individuals who are satisfied with the amount of fee taken for waste disposal by the council. Most of the people agreed that they are satisfied with the amount however, few are not happy with the fee amount.

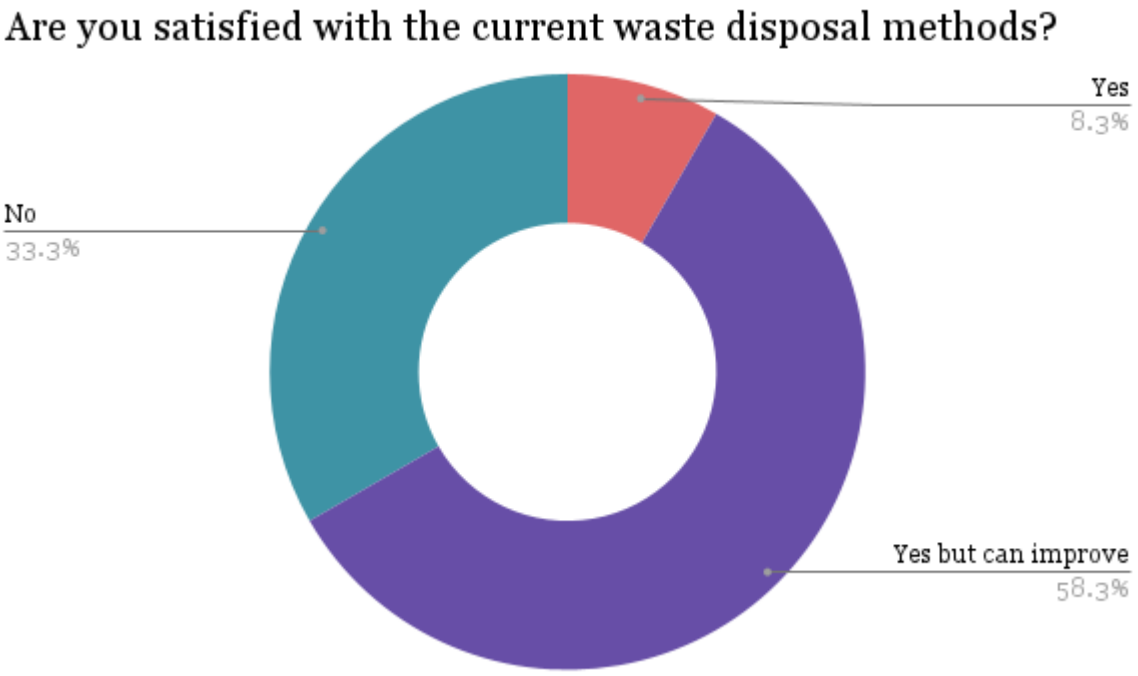

Figure 26: Percentage of people satisfied with the waste disposal methods

The figure shows the percentage of individuals who are satisfied with the waste management method by the council. Most of the people agreed that they are satisfied but can still improve. 33.3% of the people are not satisfied with the method while 8.3% of the people are really satisfied with the method of management.

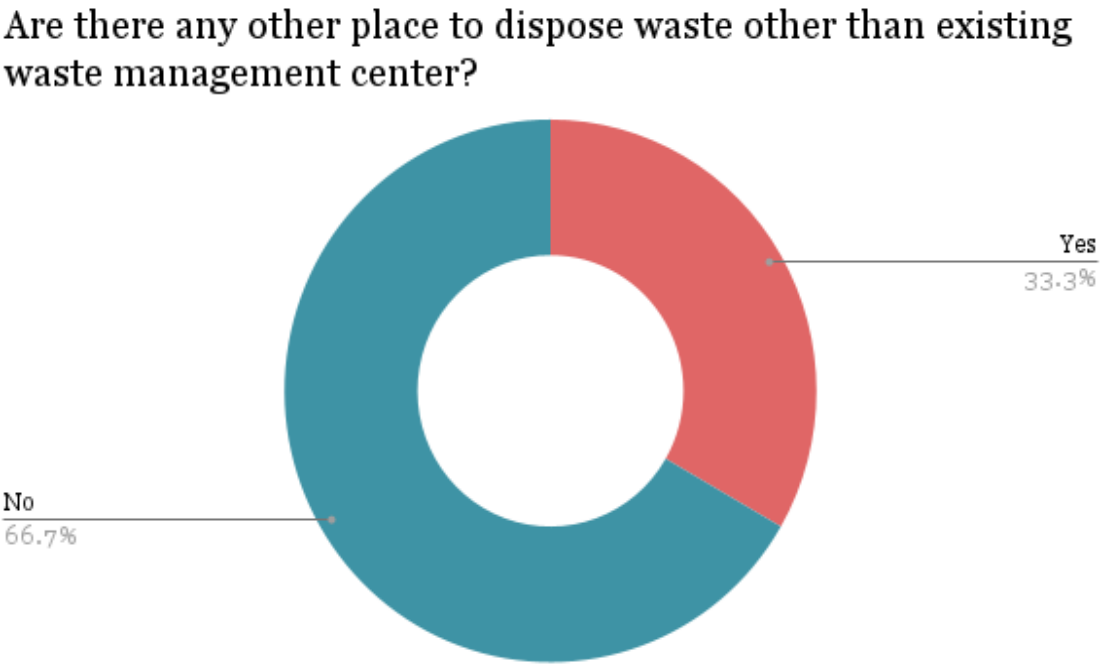

Figure 27: Highlighting other waste disposal sites

The figure shows the percentage of individuals who agreed that there are other places to dispose waste other than the existing waste management center. Most of them answered there is no other disposal site. However, 33.3% said otherwise.

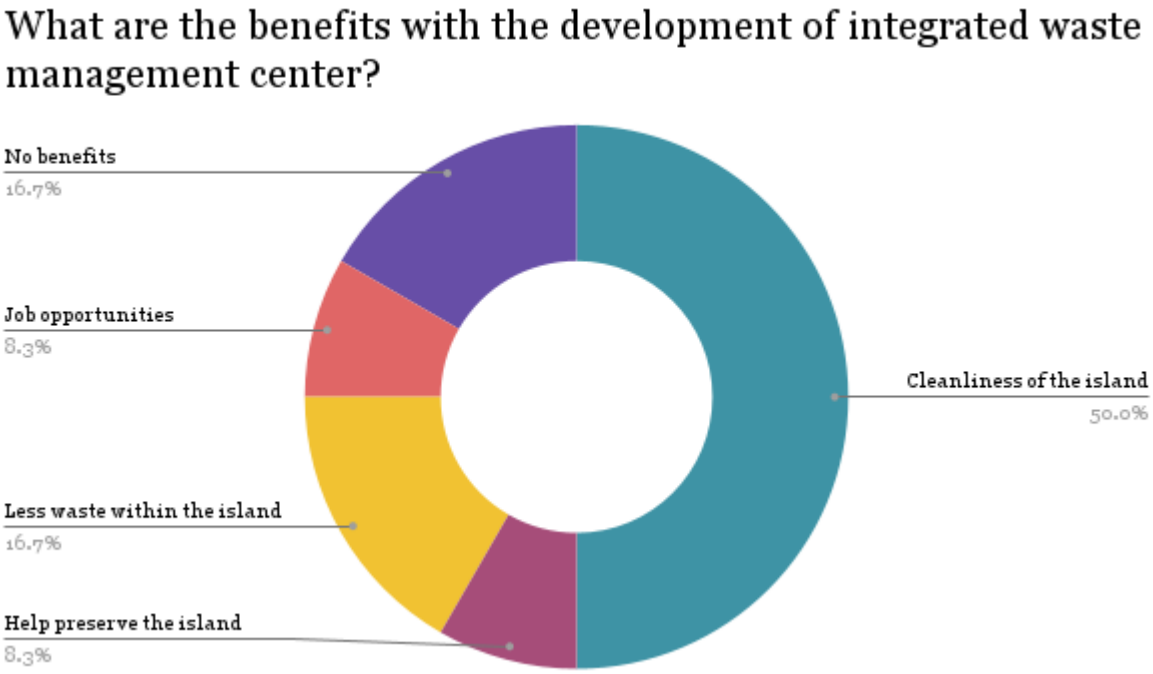

Figure 28: Benefits associated with the proposed project

The figure shows benefits associated with the development of integrated island waste management center. Highest percentage of people agreed that this will help keep the island clean. 16.7% people agreed that this will help to lessen the dumping of waste to other places within island. While 16.7% of people says there are no benefits with this project. Some also agrees that this project will help preserve the island also will produce more job opportunities.

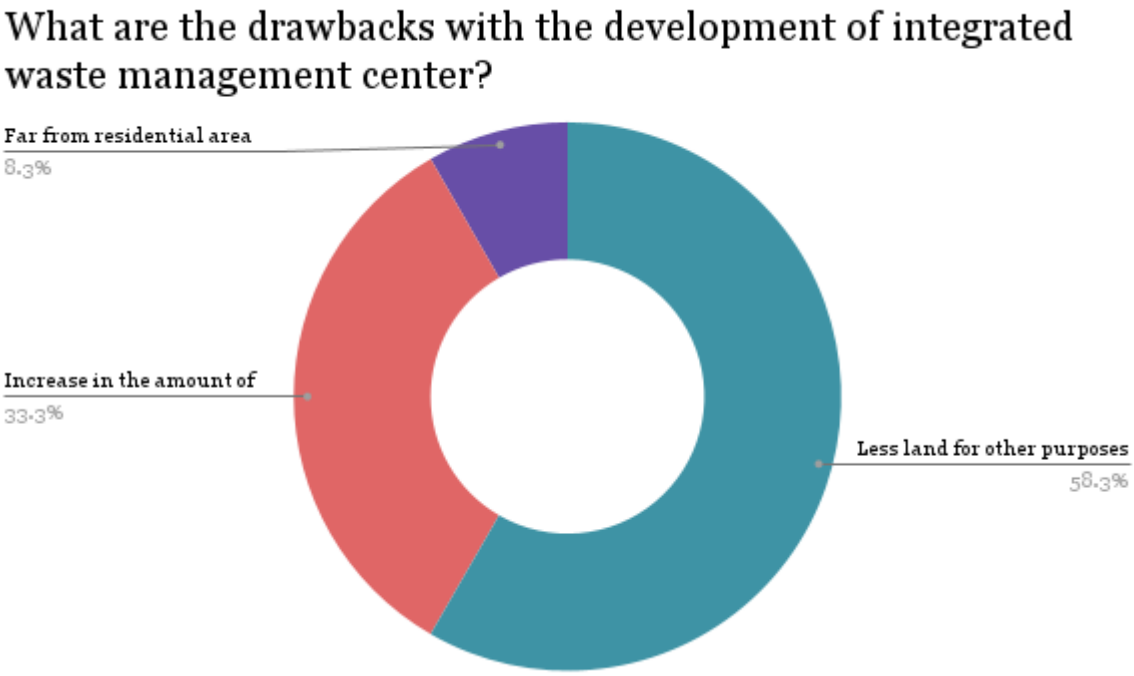

Figure 29: Drawbacks associated with the proposed project

The figure shows drawbacks associated with the development of integrated island waste management center. 58.3 percentage of people says due to this project, less land will be allocated for other purposes. 33.3% people says this will increase the amount of fee taken from each household. Another drawback is the proposed location is far away from the residential area making it difficult to transfer waste in person.

It was noted that, most of the individuals dispose kitchen waste into the council assigned dustbins. Nevertheless, there are few individuals that still dispose kitchen waste into the sea. The general feedback given on ways that can improve current waste management methods include, to increase the service level, a way to compost waste, organic waste dustbins to be kept away from residentials areas, to assign different dustbins for different types of waste, to increase the amount of waste disposal rounds on a daily basis particularly during the Ramadan period and to allocate fee amount based on the waste generated.

7. ENVIRONMENTAL MONITORING

This section deals with the Environmental Management and Monitoring plan for the development of IWMC in HDh.Hanimaadhoo. The proposed monitoring plan is for the construction and operation phase of the project. The data collected for this assessment will be used as baseline data while undertaking the monitoring plan. Undertaking environmental monitoring is essential for several reasons including:

- To ensure that potential impacts are minimized and to mitigate unanticipated impacts.
- To aid in impact management,
- To improve impact prediction and mitigation methods.
- To gather long term data to minimise uncertainty for this project as well as other similar projects.
- To ensure sustainable development

The proposed monitoring programme will yield beneficial results if it is undertaken for a long period. The monitoring is proposed to take place during the construction phase once every 3 months until construction is completed, and then on an annual basis during operations.

The proponent expressed their full commitment to carry out the monitoring program outlined in this report. The proponent's commitment to undertake the environmental monitoring and mitigation measures is given in the Annex.

7.1 Monitoring Methodology and Costs

The methodology used for monitoring will be those methods prescribed by EPA in EIA TORs.

Ground water monitoring will be required to be undertaken before the commencement of the physical works at site. Minimum 3 locations are to be tested. Groundwater has to be collected at the WMC site and at 2 set locations in the island (council office area and harbour area) using a 1000ml glass water bottle. After collection, sample is to be sent Male' within 12 hours of collection and tested at either the National Health Laboratory or MWSC laboratory. Samples for microbiology can be collected in either 100ml sterilised bags or 200ml+ sterilised glass water bottles.

Noise pollution can be measures using Science Journal or Sound Meter app on any Android based phone after calibration. Noise is to be measured at the WMC site, 30m away from site, and 60m away from site. Measure noise outside council office as control.

Air pollution to be measured using Wolf sensing toxic gas probe or similar product to test air pollution at site. Measurements to be taken at WMC site, 30m away from site, and 60m away from site. Measure air pollution outside council office as control.

Visual observations. Terrestrial environment should be observed visually at set intervals. Report status of vegetation at the green area surrounding the WMC. Take logs of Pests and/or foreign species at the WMC site. Use council office area as control.

The parameters that are most relevant for monitoring the impacts that may arise from the project are included in the monitoring plan. Therefore, the monitoring programme will cover the following aspects of the project at the WMC location:

- Ground water quality
- Noise Pollution
- Air Pollution
- Terrestrial flora and fauna impacts.

7.2 Responsible Party

The Monitoring responsibility will be taken by the developer, Ministry of Environment. The Ministry is required to hire an environmental consultant to undertake periodic monitoring as given in the Monitoring program. This can be done through Island Council.

7.3 Recommended Monitoring Programme

As instructed in the TOR, the monitoring programme will be divided into 2 stages.

STAGE 1: Quarterly until construction completes

STAGE 2: Biannually during operation

Stage 1

- Ground water quality for pH, temperature, EC, Total Hydrocarbon, Nitrate, Sulphate, Phosphate, Ammonia, Dissolved Oxygen, Total Hydrocarbon
- Determine number, type and respective quantity of waste collected at construction site
- Noise measurement at the construction site, 30m away, and 60m away
- Air pollution measurement using probe at the construction site, 30m away, and 60m away.
- Record logs of visual inspection of impacts to surrounding vegetation, and observation of pests and any foreign species

Stage 2

- Ground water quality for pH, temperature, EC, Total Hydrocarbon, Nitrate, Sulphate, Phosphate, Ammonia, Dissolved Oxygen, Total Hydrocarbon, Total Coliform, Faecal Coliform.
- Noise measurement at the WMC, 30m away, and 60m away
- Air pollution measurement using probe at the WMC, 30m away, and 60m away.
- Record logs of visual inspection of impacts to surrounding vegetation, and observation of pests and any foreign species
- Record logs of odour issues

7.4 Cost monitoring

The following tables outline the cost estimate for each stage of the monitoring plan given. The costs are calculated assuming the monitoring will be undertaken by hiring environmental consultants on a project basis. Since this monitoring is in the island and does not involve expensive surveying equipment, and most are based on visual observation and consultation, the overall cost is low relative to most monitoring programs. Higher costs are incurred for water quality testing, which includes sampling, transporting and laboratory fees.

Item No.	Details	Unit cost (US$)	Frequency	Total (US$)
1	Field allowance for 1 consultant for 1 day	75.00	4	300.00
2	Surveying and monitoring equipment depreciation	50.00	4	200.00

3	Laboratory Charges	300.00	4	1200.00
4	Compliance reporting (annual report)	2000.00	1	2000.00
	Total			**3700.00**

Table 10: Monitoring cost for 1-year period

The monitoring is for a period of 1 year, where data is collected quarterly. The total cost is 57,054.00 MVR. If the construction completes earlier, which is likely the case, the costs will be significantly less.

Item No.	Details	Unit cost (US$)	Frequency	Total (US$)
1	Field allowance for 1 consultant for 1 day	75.00	10	750.00
2	Surveying and monitoring equipment depreciation	50.00	10	500.00
3	Laboratory Charges	300.00	10	3000.00
4	Compliance reporting (annual report)	2000.00	5	10,000.00
	Total for 5 years			**14,250.00**

Table 11: Monitoring cost for 5-year period

This monitoring costs is given for a period of 5 years, where a data is collected biannually. The total costs for 10 years are 219,735.00 MVR. For each year, costs are expected to be 21,973.5 MVR. However, this cost is subject to change within this period due to inflation and changes to consultancy and surveying charges.

7.5 Monitoring Report

Monitoring report should be compiled based on the baseline data collected. This report should be submitted to the EPA annexed to the WMC annual report. The report structure may include but not limited to;

- Introduction
- Details of the site at the time of investigation,
- Data collection and analysis,
- Details of methodologies and protocols followed
- Quality control measures,
- Sampling frequency and monitoring analysis

- Conclusion and recommendations

8. REPORTING

8.1 Reporting during Construction Phase

8.1.1. Wind

The contractor's staff should provide the developer, within 10 days at the end of each month, a monthly report that includes information on the following:

- The quantity and type of waste collected at the construction site
- No. of health and safety incidents at construction site
- Daily log record of fumigation
- Volume of water dewatered each day if any.
- Type of vegetation that was removed or transplanted if any

The developer shall keep records for annual report.

8.1.2. Annual or after completion reporting

An annual report is to be prepared by the developer and submitted to the EPA for the required reporting period, i.e. three months from the project completion date. Developer must submit the annual report to the EPA no later than 60 days after the expiry of the reporting period with a signed statement of compliance and monitoring and complaints summary.

The monitoring and complaints summary will generally include information such as:

- A summary report on total waste produced at site
- Summary report on health and safety issues
- Summary of accidents occurred at site
- Summary of total quantity of groundwater dewatered if any
- Summary of all vegetation that was removed or transplanted
- Quarterly water quality tests.

8.2 Reporting during operation phase

Environmental monitoring reports can be annexed to the annual report produced during the operation phase. Annual reports are summary of the monthly reports that will be produced by the WMC operators each month.

8.2.1 Monthly Reporting

The MWC operational staff must collect the following data, compile monthly monitoring report and submit to the council before the 10th of each month.

- Compilation of the quantity, source and type of waste received at the WMC
- daily
- Compilation of the quantity, source and type of waste transported from the
- WMC daily
- Quantity of waste that are stocked at the WMC at the end of the month
- Quantity of waste that were burned at the WMC by the end of the month
- Quantity of waste used for compost at the site and quantity of compost
- produced at the end of the month
- Quantity of hazardous waste that were collected including all forms of
- batteries and medical wastes
- Record of all public complaints to the WMC operators

The council is required to keep hard copy records of the reports collected for at least 5 years. Monthly reports may be submitted to EPA upon request.

8.2.2 Incident Reporting

The developer must report to EPA immediately if any of the following occurs

- Accident causing harm to nearby structure, large vegetation or individuals
- Oil spill from machinery
- Fire incidents
- Any form of direct groundwater contamination
- Structural failure of the facility
- Excessive odours being emitted from the facility
- Excessive smoke being emitted from the facility

Should these occur, contractor and operator should inform the island council and the developer immediately by telephone. The contractor shall also log the incident and provide a brief report

within 1 day. The developer shall notify the EPA initially by telephone as soon as they are informed. Further investigations should take place at the site and subsequently a written brief must be submitted within seven (7) days of the date on which the incident occurred with a brief on actions that were taken or are to be taken at that stage.

Such incidents should be recorded in the site daily logbook, which will form the basis of the report that will be formulated subsequently for submission. The log should include; incident type, incident details, date, time, name of individual reporting, and signature.

The incident report will include the following:

- The cause, time and duration of the event
- The type, volume and concentration of pollutant discharged due to the event
- The name, and title of personnel at the site during the incident
- Actions taken on site during the event
- Mitigation measures proposed to prevent such future events

8.2.3 Annual Reporting

An annual report is to be prepared by the WMC operator. Report has to be submitted annually, within 60 days after the end of each 12th month in operation to the island council. The council shall in turn submit the report to the developer and EPA within 2 weeks of receiving the report. The report will be in a preapproved format with a statement of compliance and monitoring and complaints summary signed by the WMC operator. The Annual report should include summary of data collected on a monthly basis including and in addition to the following:

- Total waste moving in and out of the WMC
- Changes to the quantity of waste accumulated at site by type and quantities.
- Quantity of by products produced at the site
- Summary of all the incidents that had been reported within the year. Incident reports should be annexed to the annual report.
- Summary of all complaints that were received at the site throughout the year including incidents of odour, litter and flies.
- Environmental monitoring report should be annexed to the annual report

9. GRIEVANCE MECHANISM

Grievance mechanism will be based on 3 tiers of institutional levels.

- First Tier: The island Council
- Second Tier: Environmental Protection Agency and the Ministry of Environment
- Third Tier: Judiciary

9.1 First Tier: Island Council

The first tier is the most important tier as it is the closest to the island community. Every effort needs to be made to ensure that grievances can be made seamlessly with minimum friction.

Designated contact would need to be established by the island council. The focal point can either be an elected council member or a council civil servant.

The council can be reached by the following:

Telephone	7440028 and (focal points mobile number)
Email	hanimaadhoooffice@gmail.com
Letter	Addressed to council president
In person	Report incident at office after filling form

Table 12: Island Council contact details for grievance mechanism

A complaint form should be formulated and a box is recommended to be placed by the council at the reception area to encourage anonymous reporting. Complaint forms should be readily available at the council desk.

The form shall include the following:

- Date and time
- The details of the complaint
- Weather at the time of the incident which is the cause of the complaint
- The date and time the incident took place
- The occurrence of similar complaints in the past
- Actions taken in the past to overcome similar complaints if known

Complaints with respect to the WMC should be titled 'WMC' at the top of complain form. The complaints box should be checked each day and any forms with 'WMC' labelled at the top should be directed towards the focal point. For people who have difficulty writing, council reception staff should assist to fill in the complaint form.

Grievances can be submitted either formally or informally to encourage people to submit grievances as much as possible. Formal grievances should be submitted via official letters or email or via complaint forms only.

The focal point would need to record the complaints and maintain the data which would be presented to the relevant authority and would be annexed to the annual report as well.

The complaints should be discussed internally within the council and if the matter is an issue that cannot be resolved at the island level, the Ministry and EPA shall be informed immediately. A response to the complaint should be provided within 7 days of receiving complaint. A template response document should be made and maintained at the council. The response document should state whether a solution has been reached or not, providing a brief justification.

A copy of the response document shall be provided to the personal who submitted the original complaint if the complaint is not anonymous and the person should be required to sign the document to acknowledge the response. The aggrieved party should fill in whether he has accepted the response or not. If the aggrieved party has not signed, it will be considered as accepted within 14 days of issuing response document.

9.2 Second Tier: EPA and Ministry of Environment

If the grievances raised at the first tier remains unresolved, the aggrieved party can submit the grievance directly to the Environmental Protection Agency (EPA) and/or the Ministry of Environment (ME)

Focal points shall be established at both EPA and ME

Submission to the government authority can be via the complaint form attached to a cover letter or written in a letter directly. Grievance can also be submitted via emails. In any documentation, the subject or title shall be 'WMC Grievance' to ensure it is routed to the focal point.

All grievances received by the Ministry would be forwarded to EPA. EPA will screen the grievance and determine its relevance. If unrelated to WMC, a response shall still be provided to the party via a letter within 5 working days providing direction on the way forward for the grievance or providing explanation on how the grievance is unrelated.

If the grievance is related, the authorities shall discuss internally and either address the grievance publicly or directly to the aggrieved party. Response shall be made within 14 days of receiving grievance unless it is an exceptionally major issue that requires feedback from other agencies or at a policy level.

The aggrieved party shall acknowledge the response from the authority within 5 days of receiving the response. If not responded positively or negatively, it will be regarded as a positive response and the grievance have been resolved. If responded negatively, tier 3 will need to be activated.

9.3 Third Tier: Judiciary

The aggrieved party shall submit the grievance directly the courts if the issue has not been resolved with the first two Tiers. The courts will pursue the matter further as per the established judicial procedures and timeline established in the Maldives.

10. REFERENCES

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ANNEX 1- ATTENDANCE SHEETS

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Attendance Sheet (ލިޔުން ސޮއްޕ)

Project Title: Environmental and Social Management Plan for Hanimaadhoo Waste Management Center
Date: 01/12/2021
Stakeholder Consultation with Hdh.Hanimaadhoo Council

Name ނަން	Designation ޒިންމާދާރީ	Contact Number ގުޅޭ ނަންބަރ	Signature ސޮއި
Abdul Sattar Hassan	President		
Mohamed Asif	Secretary General	7967223	
[illegible]	[illegible]	7956007	
Haaris a Mohamed	council member	7676450	
Ilhan Hassan	colenel member	7998223	
Fazeela Jaufar	Environment Analyst	9760669	
Ibrahim Anoof	Environment Analyst	9176895	
Adam Saaneez	EIA Consultant	7890384	

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Attendance Sheet (ލިޔުން ސޮއްޕ)

Project Title: EMP for Hanimaadhoo Waste Management Center
Date: 30th November 2021

Stakeholder consultation meeting with Ministry of Environment climate change and Technology

Name ނަން	Designation ޒިންމާދާރީ	Contact Number ގުޅޭ ނަންބަރ	Signature ސޮއި
Ismail Ajmal MEECT	/ Senior Environment Analyst	3018300	
Fazeela Jaufar ESIS	/ Environment Analyst	9760669	
Irthisham Hassan Zareer ESIS	/ Environment Analyst	7734092	
Adam Saaneez ESIS	/ EIA Consultant	7890384	

ANNEX 2- LAND USE APPROVAL

ANNEX 3- WORK SCHEDULE

ANNEX 4- DETAILS OF THE DRAWING