

South Asia Co-operative Environment  
Programme (SACEP) Plastic free Rivers and Seas  
for South Asia (P171269)

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN  
FOR RECYCLING FACILITY

GRANTEE: CLEAN MALDIVES - MALDIVES

Implemented by:



Supported by:



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## Environmental and Social Management Plan (ESMP) Clean Maldives

### 1. Subproject Information

<b>Subproject Title:</b>	Setting Up a Plastic Recycling Facility for Sustainable Furniture Production from Waste Plastics"
<b>Estimated Cost:</b>	23,108 USD
<b>Start/Completion Date:</b>	15 February 2025 - 15 May 2025

### 2. Site/Location Description

Siyam World Maldives, an island resort operated by the Sun Siyam Group, generates significant plastic waste through its daily operations. To enhance sustainability and promote responsible waste management, Clean Maldives, in partnership with Sun Siyam Group, proposes to establish a plastic recycling and lumber-making facility at Siyam World. This initiative aims to convert post-consumer plastic waste into value-added products, reducing plastic pollution in the resort and supporting circular economy principles.

The subproject is located within the Siyam World Resort site in Noonu Atoll, Maldives. The resort boasts 18 restaurants and bars, a wide range of room categories, and the largest floating water park in the Maldives. It also features a house reef ideal for scuba diving, tennis and football courts, various water sports, and the luxurious Veyo Spa for relaxation. The unit will be located within the resort's 54-acre designated area, specifically positioned near the existing waste management facility. This site is strategically selected to ensure it is at a safe distance from both the guest villas and staff accommodations. The area is well-ventilated for worker safety and is designed to accommodate the recycling machinery and the required infrastructure for the sub-project.

According to the 2022 Census, Noonu Atoll has a population of 12,503, making up 2% of the national population. Siyam World Resort is situated on Dhigurah Island in Noonu Atoll, with a transfer time of 45 minutes by seaplane from Malé International Airport.

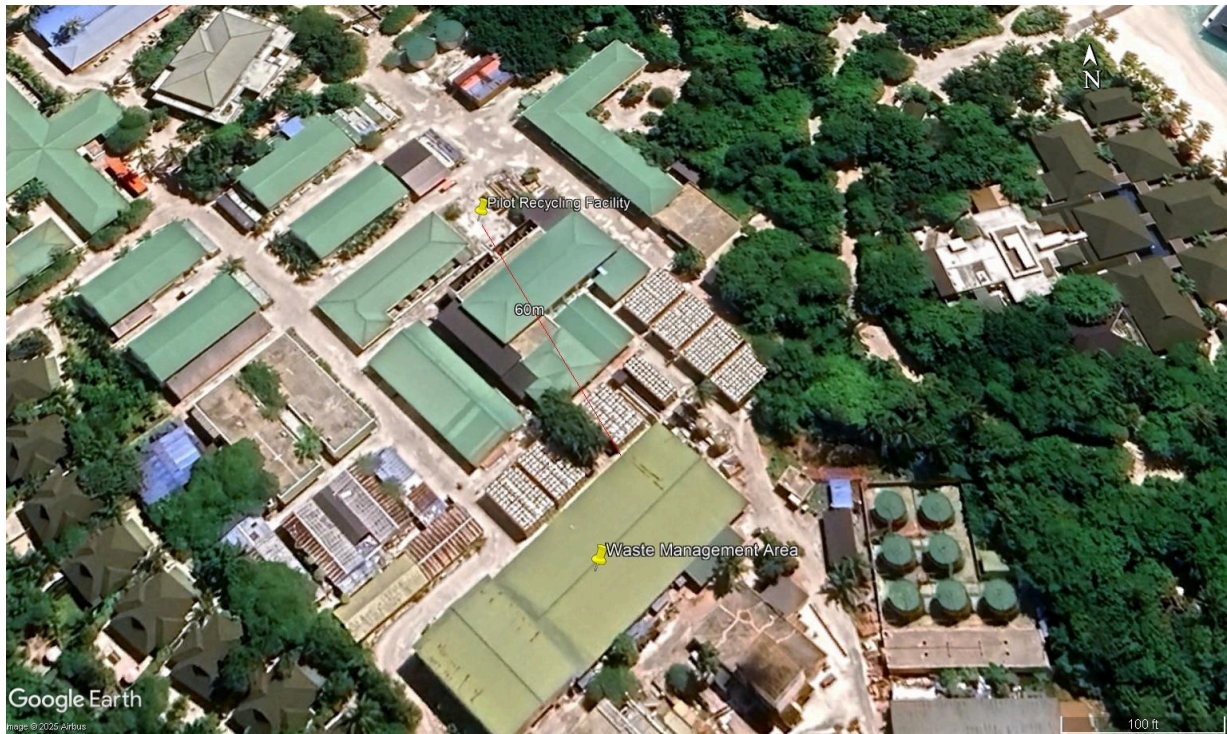
#### **Other Waste Management Infrastructure in the Resort**

As an already operational resort, Siyam World Resort is equipped with various waste management infrastructure, including waste bailers, glass crushers, and two incinerators, with one currently in operation. The designated area for managing waste generated from the resort is located 60 meters south of the proposed pilot recycling facility, as shown in the map below.

Currently, only paper waste, predominantly cardboard, is being incinerated at the resort. Plastics and other baled waste are transported weekly to the regional waste management facility in Thliafushi, Greater Male' region.. Additionally, the resort operates its own glass bottling plant, which eliminates the need for single-use plastic PET bottles in the island. In

terms of sustainability, the resort has achieved Travel Life Gold certification, demonstrating its commitment to sustainable practices and environmental responsibility.

**The detailed waste management plan for the resort is provided in Annex 6 and fire safety plan in the annex 07.**



**Figure 1: Location of pilot recycling facility and location of other waste management area**

GPS coordinates of the location: 5°44'2.59"N, 73°21'33.05"E

Google Maps link - <https://maps.app.goo.gl/GiB7ev5yUTQwwqry9>

### **Institutional Arrangements**

Clean Maldives engaged multiple stakeholders to identify challenges and solutions for reducing single-use plastics (SUP) in the Maldivian hospitality sector. After evaluating potential partners, Sun Siyam World in Noonu Atoll was selected as the pilot resort due to its strategic location as a newly established property, allowing seamless integration of sustainability initiatives.

An agreement has been formalized between Clean Maldives and Sun Siyam World to implement the pilot project. Under this partnership, Clean Maldives will supply the machinery free of charge for a one-year pilot, cover shipping and logistics expenses, and facilitate installation and staff training through a dedicated technical solution provider.

Sun Siyam World will contribute by covering infrastructure costs for installation, assigning staff for operations, and bearing operational and maintenance costs under a separate contract with the solution provider. Clean Maldives will lead the project implementation,

with the pilot conducted at Sun Siyam Resorts. The resort's Sustainability and Engineering Teams will work together to manage daily operations, overseen by a designated supervisor who will ensure compliance with environmental and safety regulations. Clean Maldives will supply the recycling machinery and collaborate closely with Sun Siyam Group to develop and implement effective waste management solutions under mutually beneficial terms.

Econscious has been selected as the waste-to-value technical solution provider for the pilot project through a formal agreement with Clean Maldives. As part of this collaboration, Econscious will deploy two technical experts to the Maldives to conduct a 7-day on-site training program, equipping six resort employees with the necessary skills for the operation and maintenance of the recycling machinery. Additionally, Econscious will provide continuous virtual technical support and work closely with Siyam World Resort to address operational challenges, ensuring the long-term viability and scalability of the recycling initiative.

### 3. Subproject Description and Activities

The proposed project involves setting up a facility to convert plastic waste into high-quality plastic lumber, which will be further processed into durable and eco-friendly furniture, such as chairs, benches, and beachside loungers. The subproject will be executed in three phases: construction, machinery installation and setup, and operation and production.

#### 3.1 Construction

Site preparation will involve the following steps:

- **Site Preparation:** Level the ground.
- **Layout and Excavation:** Mark the foundation perimeter, and excavate to the desired depth for the concrete slab.
- **Formwork:** Construct wooden forms to define the slab's shape and thickness. Ensure they are level and securely braced.
- **Gravel Base:** Add and compact a gravel layer for drainage and stability.
- **Reinforcement:** Install rebar or wire mesh for concrete reinforcement
- **Pour Concrete:** Mix and pour concrete into the forms, level and smooth the surface.
- **Curing:** Allow the concrete to cure properly (typically several days).
- **Frame Construction:** Build the shed frame using lumber (walls, roof trusses, etc.) on the cured concrete foundation.
- **Roof Framing:** Install roof rafters or trusses, ensuring proper slope for drainage.
- **Purlins:** Attach horizontal purlins to the roof frame for securing the timber cement board cladding.
- **Wall Framing:** Add horizontal framing (nailing strips) to the wall frame to attach the timber cement boards.
- **Timber cement board cladding Installation:** Install timber cement board cladding for walls, overlapping correctly and securing with appropriate fasteners.
- **Roofing:** Install GI Metal, pipes, and sheets of roofing securing using appropriate fasteners.

- **Trim and Flashing:** Install trim and flashing to seal edges and prevent leaks.

### 3.2 Setup and Installation Phase

During this phase, the designated site will be prepared for manufacturing by installing the required machinery. The facility will be equipped with the following components:

- Plastic Waste Shredder: 200 kg/hour capacity (HDPE, PVC, PP, LDPE), 415V, 3-phase power
- High-Speed Mixer Machine: 80 kg/hour capacity, 240V, 3-phase power
- Extrusion Machine: 60-80 kg/hour capacity (HDPE, PP, LDPE), 415V, 3-phase power
- Carpentry Tools: Cutting saw, drill machine, sanding machine

The total power requirement for the facility will be 45 kW, and the total plastic recycling capacity is estimated at 60-70 kg/hour. A workforce of 5-6 individuals will be required to operate the machinery and manage the setup. The site will be equipped with necessary utilities, including electricity and proper ventilation, to ensure safe and efficient operations. Siyam World Maldives resort will be responsible for site maintenance and will oversee the initial setup procedures, ensuring that the infrastructure is ready for the installation and operation of the machinery.

### 3.3 Operational Phase

The recycling facility will follow a structured workflow to process plastic waste efficiently. The operational workflow includes:

#### Stage 1: Collection of plastic waste

- Plastic waste (HDPE, PVC, PP, LDPE) generated from resort operations and guest areas will be collected and transported to the recycling facility.
- Additional plastic waste will be sourced from the guesthouses in Kudafari Island.

#### Stage 2: Sorting of plastic waste

- The collected waste will be sorted into recyclable and non-recyclable categories to ensure effective processing.

#### Stage 3: Recycling and production

- The sorted plastic will be shredded, mixed, and processed using the extrusion machine to create lumber-like materials and other value-added products.
- Carpentry tools will be utilized to craft furniture and construction materials from the recycled plastic.

#### Stage 4: Monitoring and reporting

- Regular monitoring of waste processing data will be conducted to evaluate efficiency and environmental impact

#### 4. ESMP Matrix:

##### 4.1 ESMP matrix for construction phase of the sub project

Anticipated E&S Risks & Impacts	Risk Mitigation & Management Measures	Impact Mitigation		Impact/Mitigation Monitoring			Mitigation & Monitoring cost in USD
		Location/Timing/Frequency	Responsibility	Parameter to be monitored	Methodology, including Location and Frequency	Responsibility	
Air pollution during ground preparation, use of construction equipment, and emissions from the vehicles may disturb guests at the resort and pose health risks to workers, and result in complaints.	<ol style="list-style-type: none"> <li>1. Use machinery with proper exhaust systems and ensure regular maintenance to minimize emissions.</li> <li>2. Service equipment as needed during the construction period to minimize emissions and maintain record</li> <li>3. Take precautions to reduce the level of dust from the earthworks by sprinkling water and controlling the source of dust</li> <li>4. Cover construction materials to reduce dust at the source and prevent its spread during transportation.</li> <li>5. Adopt precautionary measures during construction, such as using</li> </ol>	At the construction site, throughout the construction period	Siyam World facility management	Measure dust levels with air quality monitors  Machine maintenance and service records  Record of water sprinkling  Availability of GRM and reported grievances  Use of PPEs  Construction	Weekly/monthly site visit, visual inspection, and document review	PM, Clean maldives  Technical Expert from UNOPS Country Team	1000

Anticipated E&S Risks & Impacts	Risk Mitigation & Management Measures	Impact Mitigation		Impact/Mitigation Monitoring			Mitigation & Monitoring cost in USD
		Location/Timing/Frequency	Responsibility	Parameter to be monitored	Methodology, including Location and Frequency	Responsibility	
	<p>nets for dust reduction.</p> <p>6. Establish a Grievance Redress Mechanism (GRM) to allow affected residents or guests to report concerns and seek resolutions.</p> <p>7. Ensure workers use appropriate Personal Protective Equipment</p> <p>8. Restrict construction activities to daytime hours to minimize disturbances to resort guests and staff.</p> <p>9. Provide advance notification about the construction schedule to guests and staff for better awareness and preparedness.</p> <p>10. Clearly demarcate the construction site with barriers and signage to prevent unauthorized entry.</p> <p>11. Allow entry only to authorized</p>			<p>schedule and signage and barriers</p>			

Anticipated E&S Risks & Impacts	Risk Mitigation & Management Measures	Impact Mitigation		Impact/Mitigation Monitoring			Mitigation & Monitoring cost in USD
		Location/Timing/Frequency	Responsibility	Parameter to be monitored	Methodology, including Location and Frequency	Responsibility	
	personnel with proper permits and required PPE to ensure safety compliance.						
Excessive noise and vibration from machinery can lead to hearing loss, increased stress levels, and other health issues for workers. This can also cause disturbances for resort guests, creating a public nuisance.	<ol style="list-style-type: none"> <li>1. Use of appropriate PPEs during work</li> <li>2. Selection of less noisy equipment for construction</li> <li>3. Maintenance of machinery at optimum conditions</li> <li>4. Establish a Grievance Redress Mechanism (GRM) to allow affected residents or guests to report concerns and seek resolutions.</li> <li>5. Restrict construction activities to daytime hours to minimize disturbances to resort guests and staff.</li> <li>6. Provide advance notification about</li> </ol>	During the construction at the construction site	Siyam World facility manager, Contractor	Noise level  Use of PPEs  Machine maintenance records  Number of grievances received regarding noise	Weekly/Monthly site visits during the construction	PM, Clean maldives  Technical Expert from UNOPS Country Team	500



Anticipated E&S Risks & Impacts	Risk Mitigation & Management Measures	Impact Mitigation		Impact/Mitigation Monitoring			Mitigation & Monitoring cost in USD
		Location/Timing/Frequency	Responsibility	Parameter to be monitored	Methodology, including Location and Frequency	Responsibility	
	the construction schedule to guests and staff for better awareness and preparedness.						
Soil and water contamination due to the construction waste wastewater	<ol style="list-style-type: none"> <li>1. Installation of proper flooring in the project site to prevent wastewater from contact with the ground.</li> <li>2. Install sedimentation tanks or filtration systems to treat wastewater before discharge.</li> <li>3. Adhere to national environmental guidelines for wastewater disposal.</li> </ol>	During the construction at the site	Siyam World facility manager,  Contractor	Water quality Quarterly testing via water sampling, sent for testing at qualified laboratory	Weekly/ Monthly site visit during the construction	PM, Clean maldives  Technical Expert from UNOPS Country Team	Already exists, no additional cost is required
Solid waste Accumulation	<ol style="list-style-type: none"> <li>1. Segregation of solid waste into hazardous, non-hazardous, and reusable waste</li> <li>2. Any remaining waste will be removed and disposed of according to the national standards from the site by the building contractor</li> </ol>	At the site throughout the construction	Siyam World facility manager,  Contractor	Waste segregation and disposal records	Monthly site visit during the construction	PM, Clean maldives  Technical Expert from UNOPS Country Team	500

Anticipated E&S Risks & Impacts	Risk Mitigation & Management Measures	Impact Mitigation		Impact/Mitigation Monitoring			Mitigation & Monitoring cost in USD
		Location/Timing/Frequency	Responsibility	Parameter to be monitored	Methodology, including Location and Frequency	Responsibility	
Occupational Health and Safety (OHS) Risks for workers during construction	<ol style="list-style-type: none"> <li>Equip all workers with necessary personal protective equipment (PPE), including helmets, gloves, safety boots, goggles, and high-visibility vests to reduce the risk of physical injuries.</li> <li>Conduct training on safety and proper use of PPE and daily safety briefings (toolbox talks)</li> <li>Implement strict safety protocols for all electrical wiring activities.</li> <li>Proper use of ladders and scaffolds by trained employees</li> <li>Use of fall prevention devices, including safety belts, or fall protection devices</li> <li>Ensure accessible first aid kits are available on-site</li> <li>Maintain Incident and Accident register</li> </ol>	During the construction activities at the site	Siyam World facility manager, Contractor	<p>Use of PPEs</p> <p>Availability of the First Aid box, Accident Register</p> <p>Training records</p> <p>Use of fall prevention devices</p> <p>Availability of clean eating areas, and separate sleeping areas</p> <p>Use of barricades and availability of clean eating areas and sleeping areas</p>	Weekly/Monthly site visit during the construction	PM, Clean maldives Technical Expert from UNOPS Country Team	2500

Anticipated E&S Risks & Impacts	Risk Mitigation & Management Measures	Impact Mitigation		Impact/Mitigation Monitoring			Mitigation & Monitoring cost in USD
		Location/Timing/Frequency	Responsibility	Parameter to be monitored	Methodology, including Location and Frequency	Responsibility	
	<p>8. Install barricade tape to prevent workers from entering risk areas without attention</p> <p>9. Provide proper sanitary facilities and access to safe drinking water.</p> <p>10. Offer adequate, well-ventilated workspaces, clean eating areas, and separate sleeping areas (if necessary) for workers' comfort and well-being.</p> <p>11. Providing Workers GRM</p>						
Health risks and fire hazards for construction workers due to the proximity of the nearby incineration facility	<p>1. Limit operations of the incinerator only during the designation time frame.</p> <p>2. Establish disconnection between the two facilities.</p> <p>3. Ensure proper maintenance of fire extinguishers and fire alarms at the construction site.</p> <p>4. Implement an emergency</p>	<p>System installations prior to commencement of work</p> <p>Throughout the construction period at</p>	<p>Siyam World facility manager, Contractor</p>	<p>Availability of fire extinguishers and emergency evacuation plan</p> <p>Records of training</p>	<p>Monthly /weekly site visits during the construction</p>	<p>PM, Clean maldives</p> <p>Technical Expert from UNOPS Country Team</p>	3000









#### 4.2 ESMP matrix for machine installation and operation phase of the sub-project

Anticipated E&S risks & Impact	Risk mitigation & management measures	Impact mitigation		Impact/mitigation monitoring			Mitigation & monitoring cost in USD
		Location/timing/frequency	Responsibility	Parameter to be monitored	Methodology including location & frequency	Responsibility	
Exposure to dust during machine transportation, loading, and unloading activities in the PET collection process.	<ol style="list-style-type: none"> <li>1. Providing required PPEs</li> <li>2. Preparation of SOPs with the guidelines on safety.</li> <li>3. Daily safety briefing to the workers</li> <li>4. Conducting frequent medical check-ups for employees</li> <li>5. Operations in a confined area / designated area.</li> </ol>	During loading and unloading activities	HS officer, Engineering department, Siyam World	Use of PPEs Availability of guidelines/ SOP records of medical check-ups	Monthly visit Throughout the project period	PM, Clean maldives  Technical Expert from UNOPS Country Team	1200
Scattering of waste during transportation can lead to pollution, create a public nuisance and affect the visual appeal or overall appearance of the resort	<ol style="list-style-type: none"> <li>1. Using covered and enclosed transport vehicles</li> <li>2. Ensure proper loading and securing of waste to avoid displacement</li> <li>3. Train transport personnel</li> <li>4. Manage waste transportation during off-peak hours</li> </ol>	During transportation activities	HS officer, Engineering department, Siyam world	Complaint recorded in GRM  Training records	Monthly visit Throughout the project period	PM, Clean maldives  Technical Expert from UNOPS Country Team	400
Worker discomfort and health issues due to	<ol style="list-style-type: none"> <li>1. Implementing vibration control measures, including properly</li> </ol>	During the machine	HS officer, Engineering	Noise level inside the facility	Monthly site visit	PM, Clean maldives	300



Anticipated E&S risks & Impact	Risk mitigation & management measures	Impact mitigation		Impact/mitigation monitoring			Mitigation & monitoring cost in USD
		Location/timing/frequency	Responsibility	Parameter to be monitored	Methodology including location & frequency	Responsibility	
prolonged exposure to noise and vibrations of the machines	<ul style="list-style-type: none"> <li>fixing machines onto foundations, tightening joints and holders, and setting up chamber enclosures with appropriate mufflers for crushers</li> <li>2. Providing required PPE, such as earplugs or earmuffs, to workers.</li> <li>3. Maintaining noise levels at 45dB(A) during daytime</li> <li>4. Provide the worker's GRM</li> </ul>	<ul style="list-style-type: none"> <li>installations and</li> <li>Throughout the operations of the facility</li> </ul>	g department, Siyam World	<ul style="list-style-type: none"> <li>Use of PPEs</li> <li>Number of related grievances filed in workers' GRM</li> </ul>	Throughout the project period	Technical Expert from UNOPS Country Team	
Improper waste management can result in water and soil pollution, as well as negatively impact the visual appeal and overall environment of the resort.	<ul style="list-style-type: none"> <li>1. Aligning with the Resort's Waste Management Plan of the resort</li> <li>2. Segregation of waste generated at the operations</li> <li>3. Disposing of non-recyclable and organic waste through the waste management facility at the resort, and local authorities and ensuring cleanliness of the site.</li> <li>4. Redirecting defective or rejected products to the recycling process.</li> <li>5. Conduct monthly audits for waste management practices and the surrounding environment to</li> </ul>	Throughout the operations of the facility	HS officer, Engineering department, Siyam World	<ul style="list-style-type: none"> <li>Waste generation and disposal report.</li> <li>Audit report</li> </ul>	<ul style="list-style-type: none"> <li>Monthly site visit</li> <li>Throughout the project period</li> </ul>	<ul style="list-style-type: none"> <li>PM, Clean maldives</li> <li>Technical Expert from UNOPS Country Team</li> </ul>	200

Anticipated E&S risks & Impact	Risk mitigation & management measures	Impact mitigation		Impact/mitigation monitoring			Mitigation & monitoring cost in USD
		Location/timing/frequency	Responsibility	Parameter to be monitored	Methodology including location & frequency	Responsibility	
	ensure proper handling and cleanliness.						
Exposure to vapors/fumes may pose inhalation and skin contact hazards.	<ol style="list-style-type: none"> <li>1. Install exhaust ventilation</li> <li>2. Providing required PPE</li> <li>3. Preparation of Guidelines on safety in SOPs</li> <li>4. Conducting frequent medical check-ups for employees</li> </ol>	During the installations and throughout the operations of the facility	HS officer / Engineering Department, Siyam World	Installed ventilation system  Use of PPEs  Records of medical check-ups	Monthly site visit Throughout the project period	PM, Clean maldives  Technical Expert from UNOPS Country Team	500
Oil spillage from transport vehicles may lead to soil contamination and environmental damage.	<ol style="list-style-type: none"> <li>1. Ensuring transport vehicles are regularly inspected and maintained to prevent leaks or spills.</li> <li>2. Use spill containment measures such as absorbent mats or trays during transport to capture any potential leaks.</li> <li>3. Keep spill kits readily available on-site for immediate response in case of a spill.</li> </ol>	Throughout the operations at the facility	HS Officer, Engineering Department, Siyam World	Vehicle maintenance records  Availability of spill kits	Monthly site visit Throughout the project period	PM, Clean maldives  Technical Expert from UNOPS Country Team	500

Anticipated E&S risks & Impact	Risk mitigation & management measures	Impact mitigation		Impact/mitigation monitoring			Mitigation & monitoring cost in USD
		Location/timing/frequency	Responsibility	Parameter to be monitored	Methodology including location & frequency	Responsibility	
Potential breakdowns and failures of machinery, leading to operational disruptions and delays.	<ol style="list-style-type: none"> <li>1. Routine equipment inspections and preventive maintenance.</li> <li>2. Creating and implementing SOPs for machine operations</li> <li>3. Ensuring only trained personnel operate equipment through regular training</li> </ol>	Throughout the operations at the facility	Facility Manager, Siyam World	Preventive maintenance record  SOPs and training records	Monthly site visit Throughout the project period	PM, Clean maldives  Technical Expert from UNOPS Country Team	1200
Lack of OHS measures at the worksite	<ol style="list-style-type: none"> <li>1. Providing required PPE, Preparation of SOPs, and Daily safety briefing to the workers</li> <li>2. Providing all the suitable and necessary equipment for the operations</li> <li>3. Conducting frequent medical check-ups for employees</li> <li>4. Training on Safeguard</li> <li>5. Accident reporting mechanism</li> <li>6. Training on First aid and necessary First aid materials are readily available to ensure prompt response to any medical needs.</li> </ol>	Throughout the operations at the facility	HS Officer, Engineering Department, Siyam world	Workers wearing PPE during operational activities and sign boards  Training records  Accident registry  Availability of First Aid box and training records  Fire extinguishers within their	Monthly site visit Throughout the project period	PM, Clean maldives  Technical Expert from UNOPS Country Team	100

Anticipated E&S risks & Impact	Risk mitigation & management measures	Impact mitigation		Impact/mitigation monitoring			Mitigation & monitoring cost in USD
		Location/timing/frequency	Responsibility	Parameter to be monitored	Methodology including location & frequency	Responsibility	
	<ul style="list-style-type: none"> <li>7. Training on combating fire and installation of appropriate fire extinguishers, Fire Hydrant, and fire alarm system</li> <li>8. Emergency Preparedness plan and necessary training</li> <li>9. Providing sanitary facilities, providing separate washing facilities for male and female workers, and access to safe drinking water</li> <li>10. Following good housekeeping and cleaning practice</li> <li>11. Display Instruction boards</li> </ul>			<ul style="list-style-type: none"> <li>validity period, and hydrants</li> <li>Emergency Preparedness plan and training records</li> <li>Availability of adequate sanitary facilities and safe drinking water,</li> <li>House keeping and cleaning checklist</li> </ul>			
Health risks and fire hazards for the facility workers due to the proximity of the nearby incineration facility	<ul style="list-style-type: none"> <li>1. Limit operations of the incinerator only during the designation time frame.</li> <li>2. Establish disconnection between the two facilities.</li> <li>3. Ensure proper maintenance of fire extinguishers, sprinklers, and</li> </ul>	Throughout the construction period at the construction site	HS officer, Health and Safety Department, SWM,	Availability of fire extinguishers and emergency evacuation plan	Monthly site visit Throughout the project period	PM, Clean maldives Technical Expert from UNOPS Country	500

Anticipated E&S risks & Impact	Risk mitigation & management measures	Impact mitigation		Impact/mitigation monitoring			Mitigation & monitoring cost in USD
		Location/timing/frequency	Responsibility	Parameter to be monitored	Methodology including location & frequency	Responsibility	
	<p>fire alarms at the facility.</p> <p>4. Implement an emergency evacuation plan and provide regular training for all workers.</p> <p>5. Conduct medical check-ups for construction workers to monitor their health and ensure safety.</p> <p>6. Use the personnel protective equipment</p>		Siyam World	Number of trainings conducted		Team	
Risks of Sexual Exploitation and Abuse (SEA) and Sexual Harassment (SH) between Project workers; and between Project workers and local community members.	<p>1. Appoint a PSEA Focal Point at the site.</p> <p>2. Provide awareness training on recognizing, preventing SEA/SH for</p> <p style="padding-left: 20px;">a) Project workers, and</p> <p style="padding-left: 20px;">b)affected communities.</p> <p>3. Provide training on the GRM, including for SEA/SH related grievances to</p> <p style="padding-left: 20px;">a) Project workers</p> <p style="padding-left: 20px;">b)affected communities.</p> <p>4. Request all Project workers to sign a Code of Conduct (CoC)</p>	Training and awareness will be conducted prior to commencement of work Implementation of Focal	PM, CLEAN Maldives	<p>Availability of workers' GRM and SEA/SH Focal Points</p> <p>Availability of the reporting system</p> <p>Number of SEA/SH awareness sessions for a) workers, and</p>	Monthly site visit Throughout the project period	<p>PM, Clean maldives</p> <p>Technical Expert from UNOPS Country Team</p>	125

Anticipated E&S risks & Impact	Risk mitigation & management measures	Impact mitigation		Impact/mitigation monitoring			Mitigation & monitoring cost in USD
		Location/timing/frequency	Responsibility	Parameter to be monitored	Methodology including location & frequency	Responsibility	
	<p>including instructions of SEA/SH prevention.</p> <p>5. Provide specific SEA/SH response mechanism as part</p> <p>6. The Project GRM, including referral to SEA/SH services, Worker.</p>	Points and signing of CoC at site during the construction period.		<p>b) surrounding communities</p> <p>Availability of CoC</p> <p>Number of workers that have signed the CoC</p>			
Risk of child labor and forced Labor	<p>1. Comply with minimum age requirements of the Project (in Compliance with national laws and ESS2) and document age of workers upon hiring.</p> <p>2. Verify age of workers with communities where required.</p> <p>3. Providing a worker's GRM.</p>	<p>During the recruitment process</p> <p>Throughout operation of facility</p>	facility manager, Siyam World	Number of workers' grievances filed	Monthly site visit Throughout the project period	<p>PM, Clean maldives</p> <p>Technical Expert from UNOPS Country Team</p>	Measures that do not need additional cost
Lack of awareness on a Grievance Redress Mechanism	<p>1. Raise awareness about the Grievance Redress Mechanism (GRM) among workers, the local community, and resort guests and staff</p>	Throughout the operation of the facility	Facility manager, Siyam world	<p>Number of awareness sessions held</p> <p>Number of complaint</p>	Monthly site visit Throughout the project period	<p>PM, Clean maldives</p> <p>Technical Expert from</p>	250

Anticipated E&S risks & Impact	Risk mitigation & management measures	Impact mitigation		Impact/mitigation monitoring			Mitigation & monitoring cost in USD
		Location/timing/frequency	Responsibility	Parameter to be monitored	Methodology including location & frequency	Responsibility	
	<ol style="list-style-type: none"> <li>2. Create awareness of the Project GRM and its reporting channels, implemented by the PIU.</li> <li>3. Provide an additional reporting channel through complaint boxes installed at the sub-project site.</li> <li>4. Ensure that the contact details of the SEA/SH Focal Point are placed on notice boards in the project location.</li> <li>5. Ensure that complaints received through the complaint boxes at the site are handled appropriately or transferred to the Project GRM.</li> </ol>			<p>boxes installed</p> <p>Number and list of grievances received</p> <p>Status of grievance resolution</p>		UNOPS Country Team	
Noncompliance with the local regulatory requirements	<ol style="list-style-type: none"> <li>1. Development and implementation of a code of conduct in line with national labor laws and ESF of the PLEASE Project</li> <li>2. Pay wages in accordance with national laws</li> <li>3. Prevents the use of all forms of forced labor and child labor</li> </ol>	Throughout the operation of the facility	Facility manager, Siyam World, PM, CLEAN Maldives	Number of workers' grievances filed	Monthly site visit Throughout the project period	Technical Expert from UNOPS Country Team	Measures that do not need additional cost

Anticipated E&S risks & Impact	Risk mitigation & management measures	Impact mitigation		Impact/mitigation monitoring			Mitigation & monitoring cost in USD
		Location/timing/frequency	Responsibility	Parameter to be monitored	Methodology including location & frequency	Responsibility	
Lack of stakeholder engagement	<ol style="list-style-type: none"> <li>1. Establish a site-specific stakeholder map that includes vulnerable groups, project-affected parties, and other interested parties</li> <li>2. Define information dissemination channels for the identified stakeholders and provide sub-project related information</li> <li>3. Define consultation channels of the mapped stakeholders and conduct consultations of all stakeholders, including on environmental and social risks and mitigation measures</li> </ol>	Throughout the operation of the facility	Facility manager, Siyam World	Availability of stakeholder mapping  Number of project information dissemination events  Number of consultations with identified stakeholders  Number of consultations with identified members of vulnerable groups	Monthly site visit Throughout the project period	PM, Clean maldives  Technical Expert from UNOPS Country Team	100
Emissions from machinery can have negative environmental impacts,	<ol style="list-style-type: none"> <li>1- Install and maintain emission control measures</li> <li>2- Installation of ventilation system in the facility</li> </ol>	Throughout the operation	Facility manager, Siyam World	Dust levels on-site. Air quality (PM 2.5 and PM 10)	Measure dust levels with air quality monitors-on-site	PM, Clean maldives  Technical	1500



Anticipated E&S risks & Impact	Risk mitigation & management measures	Impact mitigation		Impact/mitigation monitoring			Mitigation & monitoring cost in USD
		Location/timing/frequency	Responsibility	Parameter to be monitored	Methodology including location & frequency	Responsibility	
including adverse effects on air quality.	3- Establish a Grievance Redress Mechanism for affected individuals to communicate their concerns (attached in annex)	of the facility		Number and list of grievances  Status of grievance resolution	te(bi-bi-annual ly).	Expert from UNOPS Country Team	

## **5. Capacity Development & Training**

This section outlines the comprehensive training plan by Clean Maldives during the installation and operational phases in close collaboration with Siyam World Maldives. The aim is to strengthen the capacity of facility workers to minimize environmental and social risks, promote occupational health and safety (OHS), and foster social inclusion in the operationalization of the plastic recycling and lumber-making facility. The training will ensure compliance with environmental standards, safe handling of equipment, and effective waste management to mitigate plastic pollution while supporting sustainable development.

### **5.1 Installation Phase**

Before operations commence, all workers involved in site setup and equipment installation will undergo training on essential environmental, health, and safety measures, including:

- Workplace safety protocols and hazard prevention (OHS training and use of PPEs)
- Workers' rights and labor conditions
- Code of Conduct compliance
- Grievance Redress Mechanism (GRM) for staff, contracted workers and communities
- Prevention of Sexual Exploitation and Abuse (SEA) / Sexual Harassment (SH) and response mechanisms
- Waste disposal and waste management protocols, including safe handling of plastic waste and chemical substances
- Safe operation of machinery such as shredders, extrusion machines, and carpentry tools
- Fire safety measures, including emergency evacuation procedures and fire extinguisher use

### **5.2 Operational Phase**

During the operational phase, a structured training program will be implemented to ensure the efficient and safe functioning of the facility. The training will cover the following key areas:

- Provide training to all relevant staff on workplace safety, OHS, and the proper use of PPEs.
- Conduct training on the Grievance Redress Mechanism (GRM) for facility staff and surrounding communities to ensure transparency and accountability.
- Conduct training on recognizing, preventing, and responding to Sexual Exploitation and Abuse (SEA) / Sexual Harassment (SH) for both workers and communities, along with mechanisms to report incidents confidentially.
- Organize capacity-building workshops on plastic sorting, recycling procedures, and production efficiency to ensure quality and sustainability.
- Conduct training on equipment operations by the supplier, including troubleshooting and maintenance.
- Train workers on safety protocols for handling chemical residues from lubricants and cleaning agents used in machinery.

- Guidance on maintaining hygiene standards and proper facility sanitation to prevent contamination and health hazards.
- Environmental awareness training, emphasizing sustainable waste management including waste segregation, pollution control, and the importance of plastic recycling.
- Regular refresher training and drills to ensure ongoing compliance with safety and operational protocols.
- Fire safety measures, including emergency evacuation procedures and fire extinguisher use

Key considerations:

- Training sessions will be conducted through a mix of theoretical learning, practical demonstrations, and hands-on experience.
- Posters and safety guidelines will be displayed at the facility to reinforce training content.
- A monitoring system will be established to track attendance, evaluate training effectiveness, and address gaps through additional refresher courses.
- External experts may be invited for specialized training on advanced recycling techniques and environmental compliance.

## 6. Implementation Schedule and Cost Estimates

### Cost Table for Mitigation Measures and ESMP Schedule

Item	Schedule	Cost in USD
Air pollution control during construction	March- April -2025	1000
Noise and vibration control measures during construction	March- April -2025	500
Waste management during construction	March- April -2025	500
OHS cost	March- April -2025	2500
Stakeholder management	March- April -2025	200
Transport management and mitigations	March- May -2025	2100
Noise, vibration management	April- May	2300
Waste management	April- May	200
Machinery maintenance	April- May	1200
OHS, SEA/ SH. GRM	April- May	600
fire safety system	March - May	3500

Total Cost		14600
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NB: Apart from equipment training other activities were not budgeted in the proposal. Clean Maldives doesn't have a surplus budget remaining.

## 7. Attachments

1. [Environmental and Social screening report](#)
2. [Photos of the locations](#)
3. [PSEA Policy](#)
4. [Signed agreement between Clean Maldives and Sun Shiyam](#)
5. [Local Environment Clearance](#)
6. [Waste management plan - Sun siyam resort](#)
7. [Fire risk mitigation plan - Sun Siyam resort](#)