

Land Acquisition and Resettlement Due Diligence Report

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Republic of the Maldives: Greater Malé Environmental Improvement and Waste Management Project

Due Diligence for Output 1 Subprojects: Transfer stations in Malé and Villamalé; Construction and Demolition Waste Processing Plant; End of Life Vehicle Dismantling Workshop, Waste Vessel Harbor at Thilafushi and Administrative Buildings for WAMCO

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CURRENCY EQUIVALENTS

(as of 15 March 2018)

Currency unit	=	Rufiyaa (Rf)
Rf1.00	=	\$0.065 USD
\$1.00	=	Rf15.449

ABBREVIATIONS

ADB	-	Asian Development Bank
C&D	-	construction and demolition
DDR	-	due diligence report
ELV	-	end-of-life
IWMC	-	Island Waste Management Centre
MEE	-	Ministry of Environment and Energy
O&M	-	operation and maintenance
PAM	-	program administration manual
SWM	-	solid waste management
tpd	-	tons per day
WAMCO	-	Waste Management Corporation Limited

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I. INTRODUCTION

A. Project Background

1. The Republic of Maldives has a total population of around 341,256 with 35 percent of the total population living in the capital city of Malé. The Government of Maldives is committed to improve the environmental conditions of the country and strengthen its solid waste management (SWM), and requested support from the Asian Development Bank (ADB) to implement the Greater Malé Environmental Improvement and Waste Management Project. The Project aims to improve the critical situation of Thilafushi dumpsite and strengthen SWM in Zone 3¹, which covers Greater Malé (Malé, Villingili and Hulhumalé including inhabited islands in Kaafu, AlifuAlifu, AlifuDhaalu and Vaavu atolls.

2. Zone 3 is distributed over 32 islands and is the most important region in terms of economic and social development in the Maldives. Solid waste remains the most visible environmental threat. With increasing population, developing industries and activities, waste management became a major challenge in the protection of the environment. Solid waste generation from domestic, institutional, commercial and industrial activities is 75,000 tons per year and projected to reach 115,000 tons per year by 2022. Malé's overburdened dumpsite on Thilafushi island is creating significant environmental and public health hazards with negative impacts on residents and surrounding resorts. So the Government and ADB agreed to prioritize and provide immediate actions to address the solid waste management on Thilafushi.

B. Project Description

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

4. The project area encompasses the inhabited islands in the North Ari Atoll (Alifu Alifu Atoll), South Atoll (Alifu Dhaalu Atoll), Malé Atoll (Kaafu Atoll) and Vaavu Atoll which are classified as Zone 3 in the national waste management system. The Greater Malé region consisting of seven islands (Thilafushi, Gulhifalhu, Villingili, Malé, Funadhoo, Hulhulé and Hulhumalé) is the most populated. The total population of the project area is 216,000 (nearly 51% of country) comprising the capital city Malé, 35 inhabited islands, 76 resorts (42 proposed), along with institutions and industry, and the country's largest international airport. Total population in the project area is expected to grow on average by 5.4% annually to reach 422,000 in 2030.

5. The Greater Malé capital region suffers from severe environmental pollution and deteriorating liveability from inadequate collection and haphazard disposal of solid waste. Open dumping and burning of garbage at the 30-year old 10-hectare dumpsite² on Thilafushi Island presents a daily nuisance to Malé's residents and tourists, with plumes of smoke visible from

¹ The Ministry of Environment divided the country into 7 zones for waste management. The project area is Zone 3 and the most populated.

² There are no leachate control systems at the dumpsite.

Malé's international airport and surrounding resorts. The region lacks an organized and sustainable waste management system for the 774 tons of mixed solid waste generated per day (tpd).³ With rapid urbanization and tourism development this amount is expected to grow to 924 tpd by 2022.⁴ Moreover, poor communities in the region's outer islands suffer from piling garbage heaps as a result of limited awareness and weak capacity for waste management. Considering Maldives reputation as a pristine high-end tourist destination and its heavy demand on sustainable fisheries for food and export,⁵ the pollution caused from improper waste management poses significant threats to the economy and day-to-day living in the capital region.

6. **Greater Malé development strategy.** As part of its national strategy to achieve efficient public spending on economic and social services, the Government of Maldives targeted 70% of its total population to reside in Greater Malé.⁶ The plan seeks to create spatial agglomeration and generate economic opportunities for faster growth and poverty reduction. Tourism accounts for 30% of gross domestic product and is expected to expand, particularly in the project area.⁷ The near doubling of Malé's population will significantly increase pressure on the already stressed solid waste services.

7. **Impact and Outcome.** The impact of the project will be a healthy living environment created in Greater Malé Region.⁸ The outcome will be climate and disaster resilient solid waste management services improved.

8. **Outputs.** Phase 1 will have three outputs.

9. **Output 1:** Waste collection, transfer, and disposal systems improved and made climate and disaster resilient. This will include (i) waste collection and transport equipment (trucks, bins, containers) for Malé, Hulhumalé and Villimalé delivered and efficient collection system designed in consultation with local community (equal representation from women); (ii) 2 transfer stations in Malé and Villamalé constructed, and 1 transfer station in Hulhumalé designed; (iii) one construction and demolition (C&D) processing plant; (iv) one end-of-life vehicle (ELV) dismantling workshop; (v) waste vessel harbor at Thilafushi rehabilitated; (vi) heavy equipment (bulldozers, excavators, roll trucks, etc.) for controlled dumpsite management at Thilafushi delivered; and (vii) construction of two administrative buildings for Waste Management Corporation Limited (WAMCO) at Malé transfer station and Thilafushi waste vessel harbor. All facilities designed will consider climate change and disaster risk.

10. **Output 2:** Community-based outer island waste management systems targeting poor and women enhanced. This will include (i) 32 community-based island waste management

³ Breakdown of solid waste by type: household = 149 tpd (19%), commercial = 27 tpd (3%), resort = 48 tpd (6%), C&D = 530 tpd (68%), market = 2.5 tpd (0.3%), airport = 9.3 tpd (0.3%), hazardous = 1.5 (0.2%), end of life vehicles = 0.65 tpd (0.1%), industrial = 6 tpd (0.8%). *Source: Project Feasibility Study final report (2017).*

⁴ Waste composition: organic (53%), paper and cardboard (12%), plastic (11%), hazardous (medical) waste (8%), metal (3%), glass (3%), and others (11%). *Source: Project Feasibility Study final report (2017).*

⁵ Tourism and fisheries account for a quarter of total employment in the country (2014 Census). Tourism being the most rapidly expanding industry and being the highest contributing sector to the Maldivian gross domestic product.

⁶ The government did not specify a timeframe for achieving this target but estimated over next 15-20 years.

⁷ To prepare for the increase in population, the government is embarking on major infrastructure projects including three mega transport and residential housing projects amounting to \$1.5 billion. The projects include the International Airport Expansion Project, the Malé-Hulhumalé Bridge Project, and the Hulhumalé Phase 2 development with 15,000 housing units. Other plans include redevelopment of Malé, and the development of Hulhumalé into a mixed-use modern city and special economic zone. ADB is supporting the government in preparing an integrated Greater Malé Region Development Concept Plan. ADB. 2012. *Strengthening Capacity for Operations Management*. Manila (TA 8070-MLD).

⁸ Progressive Party of the Maldives. *Manifesto of the Progressive Party of Maldives, 2013–2017*. Unpublished (Unofficial English Translation).

centers developed with waste processing equipment (balers, glass crushers, wood chippers, metal presses, etc.) in consultation with community targeting the poor and women, and (ii) awareness and skills strengthened in waste collection, segregation, composting, recycling, and operation and maintenance targeting the poor and women. This component will be partially funded by a grant from a Trust Fund focusing on poverty reduction.

11. Output 2 will follow a sector approach where each island will be required to meet minimum eligibility and selection criteria to receive support under the project. The criteria is outlined in the Project Administration Manual.⁹

12. **Output 3:** Institutional capacity and public awareness in sustainable waste management strengthened. This will include (i) institutional capacity support provided to WAMCO in waste collection, controlled dumpsite management, and strategic planning including participation of relevant women employees, (ii) recycling market study (plastics, C&D) conducted, (iii) capacity building and awareness raising on disaster risk management activities for WAMCO and first responders (police, fire fighters) on Thilafushi conducted targeting women, (iv) SWM risk action plan prepared outlining response, recovery and prevention tasks with consideration of specific risks for women, and (v) project management, design, and supervision consultant support provided.

C. Scope of this Report

13. This draft land acquisition and resettlement due diligence report is prepared for subproject components proposed under Phase I and Output 1 for the Greater Malé Environmental Improvement and Waste Management Project in Maldives. The scope of this report is limited to phase I and output 1 components involving civil work, for which all sites have been identified/finalized. This draft due diligence report (DDR) is prepared based on the preliminary information available from several documents (Feasibility Reports, Environmental Assessment and Review Frameworks, Project Administration Manual, etc.) and field visits. This draft DDR for Output 1 components will be updated and reconfirmed for final involuntary resettlement impacts during detailed design. Separate, package-wise updated social safeguards reports will be prepared for the Output I components based on detailed design and submitted to ADB for approval. The final documents will be reviewed and disclosed on implementing agency and ADB websites. No civil works contract package should be awarded or construction started before the approval of final social safeguards document for the said package by ADB. The implementing agency is responsible to hand over the project land/site to the contractor free of encumbrance.

14. A due diligence report is prepared for the proposed island waste management centre (IWMC) at Thulusdhoo, proposed under Output 2. Sites for the remaining island waste management centres proposed under Output 2 are yet to be finalized. The Environmental Assessment and Review Framework for the Greater Malé Environmental Improvement and Waste Management Project specifies the site selection criteria for selection of project sites. It must be noted that site selection criteria specify that no sites involving private land acquisition, physical displacement, livelihood loss, or temporary impacts can be selected. Separate, package-wise due diligence reports will be prepared for the Output 2 civil works components for which sites are under identification.

⁹ Project Administration Manual (accessible from the list of linked documents in Appendix 2 of the report and recommendation of the President).

II. SUBPROJECT DESCRIPTION

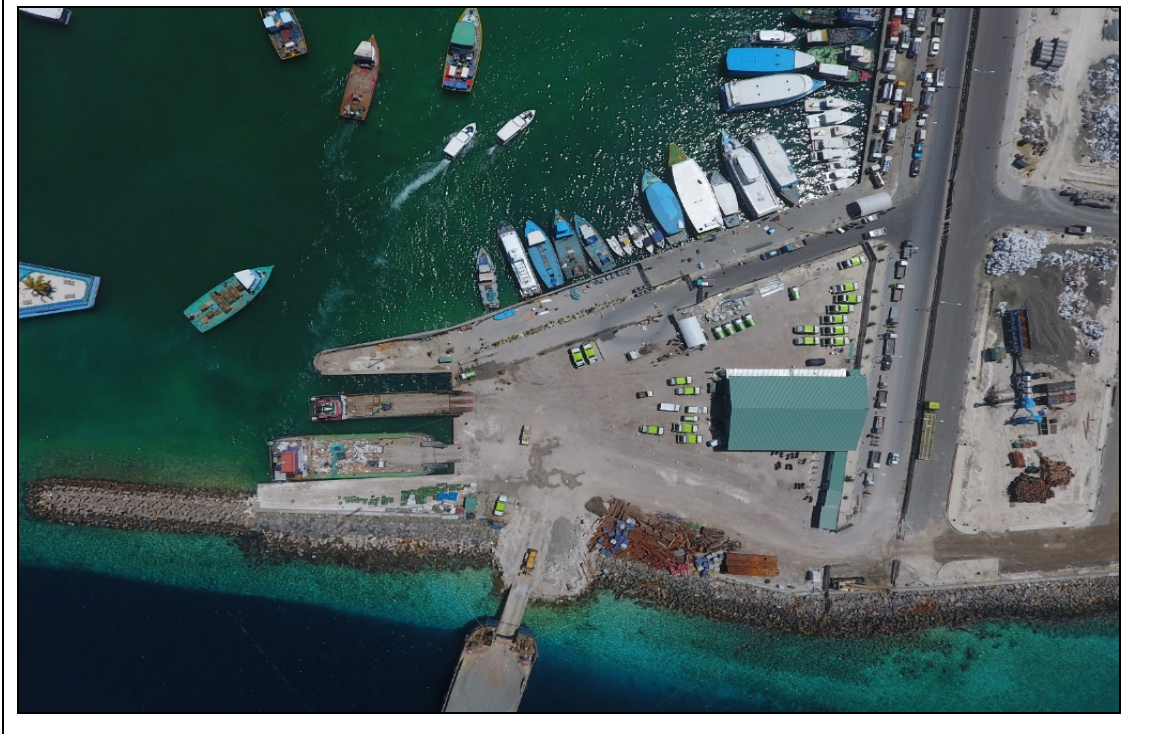
15. This draft DDR covers the following proposed subproject components under Phase I Output 1, where civil works are involved: (i) two transfer stations in Malé and Villamalé constructed; (ii) 1 C&D processing plant; (iii) one ELV dismantling workshop; (iv) waste vessel harbor at Thilafushi rehabilitated; and (v) construction of 2 administrative buildings for WAMCO at Malé transfer station and Thilafushi waste vessel harbor.

16. The remaining Output 1 components do not involve civil works and hence no land acquisition and involuntary resettlement due diligence is required: (i) design of one transfer station in Hulhulmalé; (ii) procurement of waste collection and transport equipment (trucks, bins, containers) for Malé, Hulhulmalé and Villimalé; (iii) design of efficient waste collection system in consultation with local community (equal representation from women); and (iv) procurement of heavy equipment (bulldozers, excavators, roll trucks, etc.) for controlled dumpsite management at Thilafushi.

17. Google Earth images for the proposed sites for (i) transfer station and administrative building at Malé; (ii) transfer station at Vilingili; (iii) transfer station at Hulhulmalé; and (iv) site for proposed works (C&D) processing plant, ELV dismantling workshop, harbor rehabilitation and administrative building) at Thilafushi harbor, are presented below.

Figure 1: Google Earth Image of Malé Transfer Station and Administrative Building Site

Site 1 : Malé Transfer Station Industrial Village	
Area	6.415 m ²
	Newly reclaimed area in Malé called industrial village
Actual situation	Temporary fence 1 big storage hall Some containers for site administration A shed for storage of materials Parking of collection vehicle and tricycle





Malé Transfer Station Site



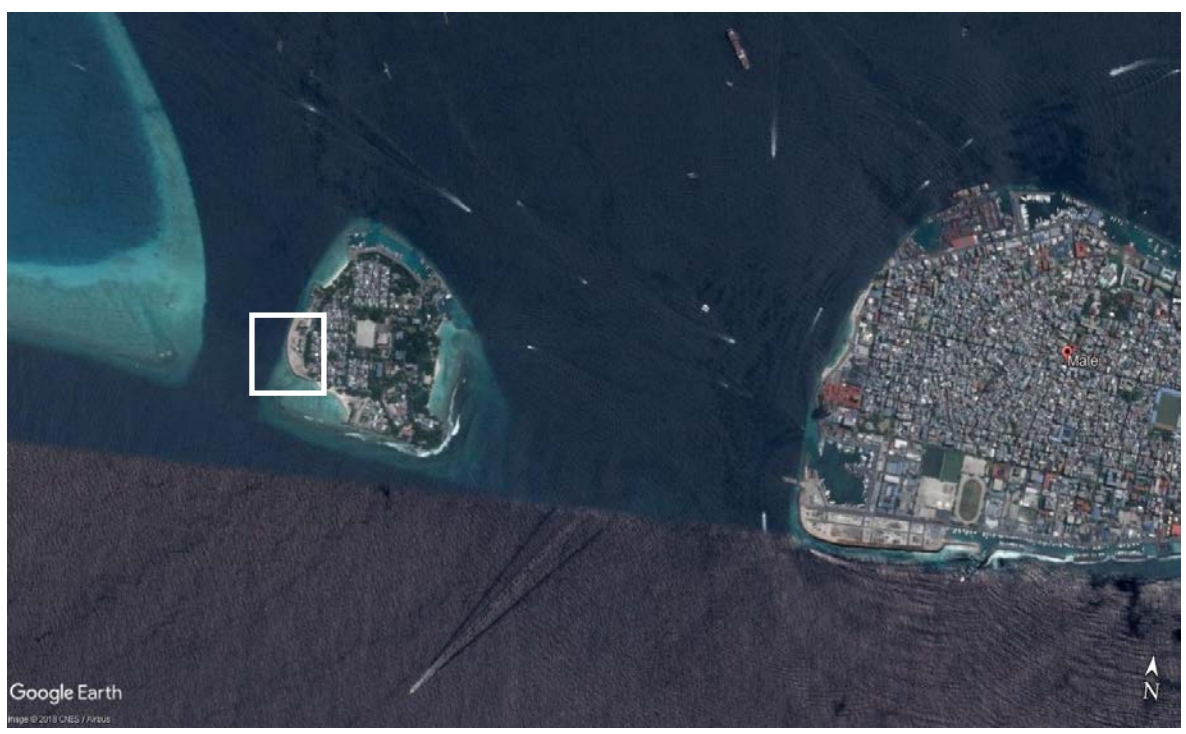
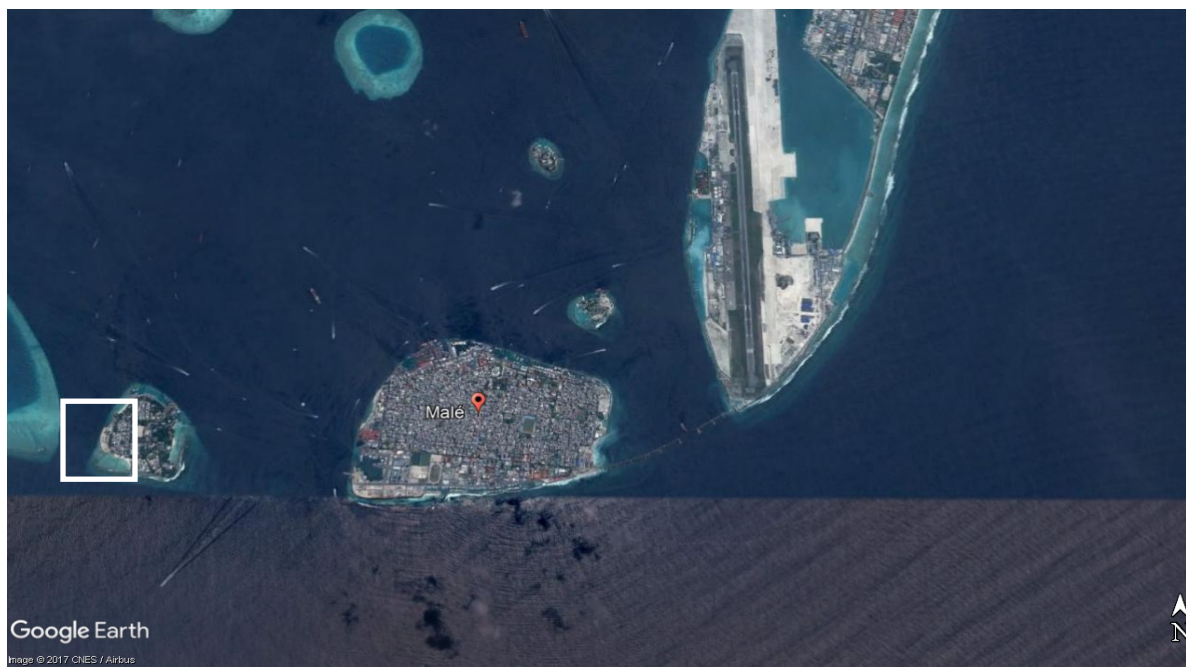
Vessel at transfer site in Malé

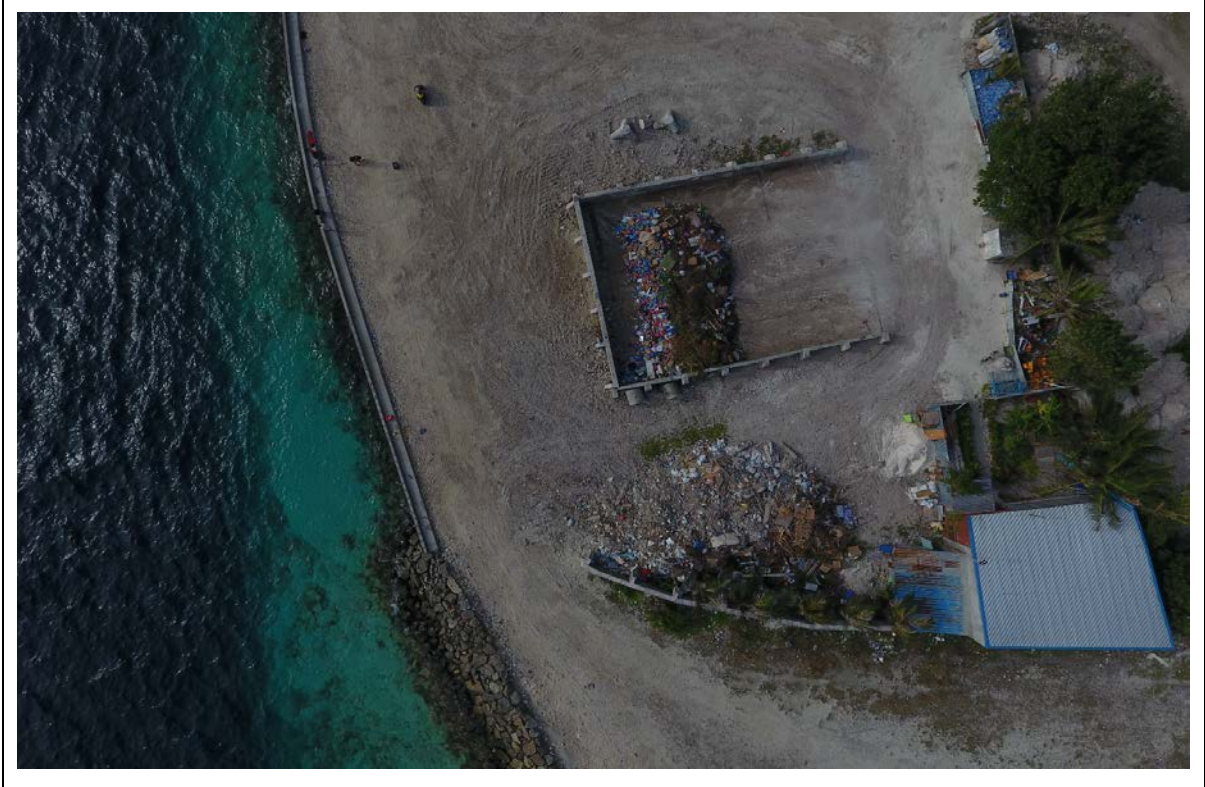


Industrial and C&D Waste Transport at Malé

Figure 2: Google Earth Image of Vilingili Transfer Station site

Site 3 : Vilingili TS	
Area	2.000 m ²
Actual situation	ISWMC







Vilingili Transfer Station site



Figure 3: Google Earth Image of Thilafushi Harbour site

Site 4 :Tilafushi/harbor	
Area	4.000 m ²
Actual situation	Under "improvement 5 small-scale incinerator Container + administration Waste acceptance area





Thilafushi Harbour



Thilafushi Dumpsite

III. STAKEHOLDER CONSULTATION

18. All major stakeholders within the government (most notably the Ministry of Finance and Treasury, the Ministry of Environment and Energy, Environment Protection Agency, Waste Management Corporation Limited, STELCO), the private sector (resorts and other businesses), development partners (World Bank, UNDP, UNICEF) and civil society (particularly civil society organizations such as Parley and Maldivian Red Crescent) were consulted, and their views and suggestions have informed the project design. Representatives of government ministries in Malé were met repeatedly to verify and validate findings and observations by the project design team. In the atolls, project plans were discussed with the local councils and Women Development Committees, and their views were taken into account.

19. Consultations have been held with several civil society organisations (CSOs) during project preparation. Learnings based on past work undertaken by some CSOs such as Maldivian Crescent and Parley have been considered during project preparation. The CSOs will continue to be engaged with as part of IEC activities to create greater outreach on SWM issues among the project beneficiaries. A consultancy package for public awareness and capacity building consultants (PACB) is proposed, and the PACB will support the PMU in continuing engagement and consultations with stakeholders. Appendix 1 provides a summary of stakeholder consultations held. Consultations held with stakeholders and communities around project sites are documented in Appendix 2.

IV. LAND AVAILABILITY AND RESETTLEMENT IMPACTS

20. The scope of the land acquisition and involuntary resettlement is identified based on the preliminary information received from several documents (Feasibility Reports, Environmental Assessment and Review Frameworks, Project Administration Manual, etc.), imagery study (Google Earth) of the site locations, certification of land ownership for Phase I Output 1 subproject components by the government, and field visits to identified sites by the project team.

21. **Transfer Stations (2 no.)** Two transfer stations are proposed under Output 1 of the project - one in Malé (which will be a major transfer station with an administrative building) and the other in Vilingili (this will be a smaller transfer station). Both are proposed on government lands already under use for solid waste management (SWM). An existing ISWM centre in Vilingili has been allotted for construction of transfer station. The proposed site in Malé is also being used to transfer waste. Both of these sites are owned by the government. It needs mentioning that for Hulhulmalé transfer station, in Phase I, only detailed design will be prepared, with implementation in Phase II. The DDR for Hulhulmalé transfer station will be prepared based on detailed design.

22. **Harbour rehabilitation, C&D Processing Plant, ELV Plant at Thilafushi.** The following facilities are proposed at Thilafushi under Phase I Output 1: (i) construction of 1 C&D processing plant, (ii) construction of 1 end of life vehicle (ELV) dismantling workshop, (iii) rehabilitation of waste vessel harbor at Thilafushi, and (iv) construction of administrative building for WAMCO at Thilafushi waste vessel harbor. Government land at Thilafushi is allotted for the construction of these facilities.

23. No private land acquisition is therefore envisaged for the implementation of the proposed Output 1 components of the project. **Table 5** provides land ownership details and potential involuntary resettlement impacts anticipated during implementation of the components under the project.

Table 5: Output 1 Component-wise Summary of IR Impacts

Location	Component	Land Ownership (Govt./ Private)	Potential IR Impact
Malé	Transfer Station Administrative building	Govt. land	The islands of Malé and Villingilli are densely populated, however project sites are situated in primarily industrial areas and on land already allocated for waste management. Malé site is situated in primarily industrial zone; Villingilli site is separated from nearest habitation by >400m including tree belt. No IR impact is anticipated.
Vilingili	Transfer Station	Govt. land	
Thilafushi	(i) construction of 1 construction and demolition processing plant (ii) construction of 1 end of life vehicle dismantling workshop (iii) rehabilitation of waste vessel harbor at Thilafushi (iv) construction of administrative building for Waste Management Corporation Limited at Thilafushi waste vessel harbor.	Govt. land	The island is situated within a large atoll (Kaafu Atoll) surrounded by adjoining lagoon waters. The island where the works are situated – Thilafushi – is exclusively used for waste management and industry. Land is government owned; no involuntary resettlement impact anticipated.

V. SCREENING OF SUBPROJECT

24. The proposed locations of Output 1 were screened using ADB's Involuntary Resettlement Impacts Checklist and the site selection criteria for the project. Screening and due diligence reveals that all locations identified are on government-owned land already used for waste management situated at primarily industrial areas; therefore, they meet the involuntary resettlement criteria for site selection - of no private land acquisition, no physical displacement, and no permanent livelihood loss or temporary impacts. Thus, Output 1 is Category C for involuntary resettlement impacts.

VI. CONCLUSIONS

A. Summary and Conclusion

25. No involuntary resettlement impacts are anticipated due to implementation of the proposed components of Phase I Output 1 components as per the due diligence review conducted, based on the feasibility study and technical reports, site visits by project team, study of Google Earth imagery and certification of land ownership by government. The civil works will be undertaken on land owned by government. The assessed subproject components of the project in this DDR are not anticipated to require acquisition of private land.

B. Next Steps

26. This draft DDR to be updated during detailed design, and ADB approval obtained prior to start of construction work. The Due Diligence Report needs to be updated with the following information:

- (i) Minutes of stakeholder meetings and community consultations conducted at and around subproject sites (with adjacent landowners/users and surrounding communities, industries etc.) under Output 1 to be prepared and appended to the DDR.
- (ii) Re-assessment and confirmation of IR impacts during detailed design, to reflect any site/design changes.
- (iii) Land records will be appended to the updated DDR, prior to start of construction work.

27. Separate due diligence reports will be prepared for Output 2 (IWMC) packages.

INVOLUNTARY RESETTLEMENT IMPACT SCREENING CHECKLIST

Probable Involuntary Resettlement Effects	Yes	No	Not Known	Remarks
Involuntary Acquisition of Land				
1. Will there be land acquisition?		√		Only government-owned land will be utilized
2. Is the site for land acquisition known?				Not applicable
3. Is the ownership status and current usage of land to be acquired known?				Not applicable
4. Will easement be utilized within an existing Right of Way (ROW)?				Not applicable
5. Will there be loss of shelter and residential land due to land acquisition?				Not applicable
6. Will there be loss of agricultural and other productive assets due to land acquisition?				Not applicable
7. Will there be losses of crops, trees, and fixed assets due to land acquisition?				Not applicable
8. Will there be loss of businesses or enterprises due to land acquisition?				Not applicable

9. Will there be loss of income sources and means of livelihoods due to land acquisition?				Not applicable
Involuntary restrictions on land use or on access to legally designated parks and protected areas				
10. Will people lose access to natural resources, communal facilities and services?		√		
11. If land use is changed, will it have an adverse impact on social and economic activities?		√		
12. Will access to land and resources owned communally or by the state be restricted?		√		
Information on Displaced Persons:				
<p>Any estimate of the likely number of persons that will be displaced by the Project? <input type="checkbox"/> No <input type="checkbox"/> Yes If yes, approximately how many? _____ Not applicable</p>				
<p>Are any of them poor, female-heads of households, or vulnerable to poverty risks? <input type="checkbox"/> No <input type="checkbox"/> Yes Not applicable</p>				
<p>Are any displaced persons from indigenous or ethnic minority groups? <input type="checkbox"/> No <input type="checkbox"/> Yes Not applicable</p>				

SUMMARY OF STAKEHOLDER CONSULTATIONS

S. No.	Date / Place	Organizations met	Number of participants	Concerns/Issues discussed
1.	10 July 2017; Malé	UNDP, International Federation of Red Cross, Maldivian Red Crescent, <i>Saafu Raajje</i> Initiative, WAMCO, MEE	Male: 5 Female: 2 Total: 7	<p>Work being undertaken by UNDP, UNICEF, MRC and other agencies on SWM, Disaster Management & Climate Resilience on the islands</p> <p>Good examples of SWM such as Ukulhas and Faresmaathoda islands</p> <p>Social outreach work being undertaken as part of these initiatives</p> <p>Role of NGOs and community-based organizations in supporting SWM initiatives but lack of capacity among them</p> <p>Two-pronged approach for SWM:</p> <p>Urban: Efficient, effective collection; safe transportation; 3R communication; segregation into construction & demolition waste, plastic bottles, rest.</p> <p>Rural: community-based; composting; recycling; transfer left-overs to regional waste management center; focus on gender concerns.</p>
2.	10 July 2017; Malé	World Bank SWM Project Team, MEE	Male: 2 Total: 2	<p>Role of community consultations in the design of island waste management facilities</p> <p>Role played by women in managing solid waste on the islands</p>
3.	05 November 2017; Fenfushi Island	Island Council, Women Development Council	Male: 6 Female: 2 Total: 8	<p>Public consultation campaign carried out to encourage waste segregation at source</p> <p>Key role of women in managing solid waste</p> <p>Potential key role to be played by Women Development Council in training women</p> <p>Impact of waste on local health and environment; groundwater contaminated leading to higher use of bottled water, thus increasing solid waste quantity</p> <p>How to make the SWM operations on the island financially and environmentally sustainable; how to market compost being produced</p>
4.	06 November	Island Council,	Male: 2	Food waste dumped into the sea in a cage enabling fish & other creatures to

S. No.	Date / Place	Organizations met	Number of participants	Concerns/Issues discussed
	2017; Thulushdoo Island	Women Development Council	Female: 1 Total: 4	eat the same All waste, except C&D waste, is burned Potential key role to be played by Women Development Council in training women Impact of waste on local health and environment How to make the SWM operations on the island financially and environmentally sustainable Land issues around new Island Waste Management Centre Use of large recyclable plastic containers by households for drinking water that are refilled at the local Coca-Cola factory
5.	06 November 2017; Sun Island Resort	Resort Management	Male: 4 Total: 4	Staff of more than 30 responsible for waste management Plastic bottles transported to Male' and handed over to Parley NGO for recycling Compost production higher than the demand Plans to set up a desalination and water bottling plant
6.	07 November 2017: Kurumba Resort	Resort Management, Sanitation workers	Male: 4 Total: 4	Good composting facility Incinerator used sparingly as resulting smoke causes inconvenience to guests Most waste shipped to Thilafushi island
7.	08 November 2017: Centara Ras Fushi Resort	Resort Management	Male: 3 Female: 1 Total: 4	Complained of the steady nuisance from Thilafushi due to smoke, smell and flies Concern about the utility of Green Tax as situation at Thilafushi has not improved Operates desalination and further demineralisation plant to produce high quality drinking water which is served in recyclable glass bottles

S. No.	Date / Place	Organizations met	Number of participants	Concerns/Issues discussed
				All waste shipped to Thilafushi
8.	12 November 2017: Malé	Chairwoman, PARLEY (NGO)	Female: 1 Total: 1	<p>Need to recycle plastic bottles as quantity of such waste is growing at an alarming rate</p> <p>Need to introduce good practices such as use of recyclable glass bottles or plastic containers for drinking water</p> <p>Parley is unable to meet its target of recycling plastic bottles as little waste segregation in Greater Malé region</p> <p>Parley working with a couple of resorts to have them help the nearby islands manage and transport solid waste</p>

MINUTES OF MEETINGS AND CONSULTATIONS WITH STAKEHOLDERS AND COMMUNITIES AROUND PROJECT SITES

Malé Waste Transfer Facility
Water Solutions Pvt Ltd
February 2018

Introduction

Stakeholder consultations had been carried regarding the proposed waste transfer station in Malé. The stakeholders who have a role in the planning, designing, construction and operation of the waste transfer station in Malé had been consulted through meetings and surveys that been carried out by the consultant team.

Outcomes from consultations with Ministry of Environment and Energy (MEE)

The Ministry of Environment and Energy had been consulted regarding this project on various occasion since January 2016.

- (i) A proper waste management and transfer facility is urgently needed for the City of Malé to remove the waste collected from Malé to transport to Thilafushi. The Ministry is working hard to initiate the project to develop a waste transfer station in Malé.
- (ii) Ministry of Housing and Infrastructure allocated the site for the proposed waste transfer facility from the newly developed Industrial Village of Malé. MEE noted that the allocated site from Industrial Village for the waste transfer facility is not adequate. However the Minister noted that the land in Malé is a premium commodity and hence need to best use the available land. The Minister requested to “think out of the box” and design the waste transfer facility vertically to address the land shortage issue. A terrace floor has been included in the waste transfer building to allow the parking of the small waste collection trucks. Parking of the waste collection trucks and vehicles has been considered in the design of the facility as there is no available land parking of the WAMCO’s vehicles
- (iii) MEE requested the waste transfer area need to be protected from rain and the facility need to be protected waves as the site is located on the periphery of the building.
- (iv) The MEE requested to have the administrative building multistory to allow office space for MEE, EPA and WAMCO.
- (v) The Ministry informed that the western strip of the land that has been allocated for the waste transfer facility is presently used by the contractor constructing the bridge between Malé and Hulhulhe. The Ministry is unsure when the bridge contractors using the Western edge of the site will stop their operations and hand back that strip of land back to MEE
- (vi) MEE noted that the existing site for waste management is very small area and would be challenging during the construction phase of the waste transfer facility as the site need to be used for the transferring of waste even during the construction phase of the project.
- (vii) MEE is concerned regarding the issue of higher traffic on the main road when the Malé-Villigili bridge is completed, and how this may impact the ease of access to the facility for waste collection trucks and individuals wishing to dispose of their waste
- (viii) MEE wanted to maximum use the allocated land for the waste transfer facility in Malé and also use the allocated area for the parking of the waste collection vehicles.

- (ix) MEE noted that waste collection tricycles will not be part of the waste collection fleet of Malé. The tricycles had been moved to Villingili and it will be used for the waste collection in Villingili.
- (x) MEE noted that the landing crafts will not be able to operate on a limited number of days of a year when the wind is on north westerly direction. During this period, the landing crafts need to be placed on eastern quay wall of the area. A crane need to be

Outcomes from the consultations with Ministry of Housing and Infrastructure

Ministry of Housing and Infrastructure was consulted on 19th April 2017 at their Ministry.

- (i) The site to develop waste transfer facility has been allocated from the newly developed Industrial Village on south western side of Male'.
- (ii) The Ministry informed that the western strip of the land that has been allocated for the waste transfer facility is currently used by the contractor constructing the bridge between Malé and Hulhulhe. This site would be used by the contractor till the end of the construction of the bridge.
- (iii) The Ministry noted that the multistory building at the site need to be design in accordance with the building regulation issued by the Ministry. They noted that no windows would be located on a side that can have a clear view of the Ministry of Defense building.
- (iv) The Ministry noted that the government have plans to build a bridge to west connecting Male' to Villingili. In the future, the allocated land for the waste transfer facility would high traffic, when the bridge is completed. However they noted, currently there is no project to start a bridge between Male' and Villingili.

Outcomes from the consultations with Health Protection Agency HPA

Health Protection Agency (HPA) was consulted on 19th April 2017 at their agency.

- (v) HPA highlighted the importance of using proper personal protective items for all laborers working during the construction and operation phases of the facility, and the responsibility that the proponent, contractor and operators need to take to ensure that all workers are provided with the proper safety equipment.
- (vi) During the construction period, it will be vital to prevent mosquito breeding on site. For this to be done, all materials that may collect water and allow it to stagnate should be cleared of water regularly or removed.
- (vii) HPA representatives highlighted the importance of the safety of people who use the main road in the industrial village during the construction period. If the construction can produce and hazardous particles or cause any health hazard, the area will need to be closed off to prevent any injury to people.
- (viii) There is a need for a storage or transfer mechanism for hospital waste in the facility.

Consultation with Environmental Protection Agency (EPA)

Environmental Protection Agency had been consulted on various occasion regarding this project. They were consulted on 19th April 2017 at their office.

- (xi) EPA noted that the waste management site need to be have a boundary wall to ensure security and unauthorized access to the area. EPA noted the site need to be completely fenced as this is a requirement of the Waste Management Regulations

- (xii) EPA highlighted that proposed project is the development of a waste transfer facility at Male' Industrial Site. Since odour is an important element in waste transfer facility, EPA noted that the proposed administrative building as part of the waste transfer facility development might be impacted due to the odour during the handling of waste at the waste transfer area. EPA cautioned that regarding the issue of the smell of waste and how it could affect the administrative building on site
- (xiii) EPA noted that the waste transfer facility and its operation need to have an contingency for the event of an system failure or overflow of waste to the site.
- (xiv) EPA highlighted that the importance of developing the Waste Transfer Facility in Male' giving consideration to the Thilafushi Regional Waste Management Facility that would be established in Thilfaushi to carter the waste management issue for the Greater Male' area

Outcomes from the consultations with WAMCO

WAMCO had been consulted on various occasion regarding this project. They were consulted on 19th April 2017, 29th September 2017, 4th October 2017, and 4th February 2018 at their office and MEE.

- (i) WAMCO noted that they have a large fleet of waste collection trucks and these vehicles need to be parked at the waste transfer facility. The facility should be have basic servicing facility as to wash the vehicles after it returns from waste collection rounds
- (ii) WAMCO noted Construction & Demolition waste is a large waste stream that they had to handle at the waste management site. Currently this is loaded onto landing craft directly from vehicles. WAMCO noted not all construction and demolition waste can be dump into a container. Compaction would be need to increase the efficiency of the waste transferred at the facility.
- (iii) It will be important for the containers to be able to be stacked on site supposing that there are problems with the landing crafts, or if bad weather doesn't permit transport to Thilafushi.
- (iv) WAMCO highlighted the importance of finding a solution to the traffic issue that may come from the Male'-Villigili bridge development in the future.
- (v) The waste transfer area need to be covered to reduce the interruption of the operation at the site during rain and high wind. The area is located on the south western side and the area would have high wind during south west monsoon.

Outcomes from consultations with the Maldives Ports Limited

The operations office of the Maldives Ports Limited at the Malé South West Harbour was consulted on 13th February 2018.

- (vi) Maldives Ports Limited operates the Male' South West Harbour. The harbour handles the cargo which arrives to Male' from the atolls and Greater Male' region. The harbour receives large amount of cargo and construction materials from warehouses and business at Thilafushi.
- (vii) Development and operation of the waste transfer facility at the proposed site will not have impact on the operation of the Male' South West Harbour.
- (viii) Male' South West Harbour could be an alternative option to load certain waste streams onto landing craft during the construction of the waste transfer facility.

Outcomes from consultations with the Ministry of Defense and National Security

Ministry of Defense and National Security was consulted as part of the project. The Ministry of Defense and National Security provided their views on 8th November 2018 regarding the proposed project.

- (ix) The Ministry of Defense and National Security has expressed their views on the development and has no issues of developing a waste transfer station at the Industrial Village except that administration building proposed at the site. The Ministry has requested that the windows and doors facing the Kalhuthukalaa Koshi, which is a Maldives National Defense Force (MNDF)'s facility, from 7th floor to have forested glass as to a security measure
- (x) The Ministry of Defense and National Security also requested to have a 6 feet terrace wall on the eastern side of the building terrace.

Outcomes from consultations with the Parley Maldives

Parley Maldives is the local chapter of an International NGO, Parley addressing global waste issues. They are mostly engaged in recycling pet bottles and managing them. As such, the local representatives were met on 18th July 2017 to discuss about this project and the following are the summary outcomes.

- (i) Currently Parley collects PET bottles with the help of WAMCO door to door waste collection carried out in Male'. Parley is working with the schools in Male' to collect recyclable materials generated from the school and the homes of students and teachers.
- (ii) Parley has been actively involved in reducing and recycling the plastic bottles in Thilafushi. In 16 months, they have exported 34 containers, 40 feet each.
- (iii) Each container costs US\$ 5000 for logistics and export charges.
- (iv) Establishment of the waste transfer facility would help to improve the collection of the recyclable materials. Parley insist the waste need to segregated and collected.

Outcomes from the survey of the public living in the vicinity of the proposed project site.

Field visits were made on 13th February 2018 to consult the local public who were in the proximity of the Waste Transfer Station. The public consultations were conducted through individual interviews after giving an introduction of the project; the following is a brief of the introduction to the project. Although the TS is not located in the residential area, the houses, business and commercial establishments near the proposed were in the area. The local stakeholders include the regular users of the South West Commercial Harbour located near the industrial village, the Male' South West Harbor (MSWH), Maldives Transport and Contracting Company (MTCC) who runs the Villingili Ferry terminal.

The interviewees were briefed on the regional waste management project of zone 3 and the necessity of a transfer station in each island. As part of the consultation, public was informed of the impacts and difficulties that may occur from the TS during the construction and operational stage and the consultants are therefore seeking community's views and concerns on various aspects of the project concept designs shared with them. Several concerns were raised with regard to various aspects of the TS location, design, and operation. The participants of the

consultations included 75% male of the 12 persons interviewed. They were of different age groups, from student to the elderly.

Findings of stakeholder consultations

There was a general consensus among all survey participants that the location of the waste transfer facility in Male', is located far away from the residential area. The location would not have any direct impact on the community, and business due to smell, dust or noise were to reach this area. Male' South West Harbor is located closer to the waste transfer area and stakeholders who work in the commercial harbour area noted that odour from the waste transfer area could be an issue during the days when the wind is blowing over the waste transfer site.

Some participants noted that currently Industrial Village has the operation of the waste site. When fuel sheds, warehouse and industries are moved to the Industrial Village, traffic would become an issue.

All 3 fuel sheds proposed to be moved to the industrial site in 6 months from December 2017. Traffic, construction noise, smell and dust may cause difficulty when the shed are relocated. Current too far away to experience difficulty from TS.

Establishment and operation of the waste management site at the new locations by WAMCO had improved the waste handling operations. Most of the participants noted that WAMCO frequently takeaway the collected waste which are accumulated on the landing craft to Thilafushi. Some participants noted that they should be allowed to take their waste and throw it to the collection bin when new facility is developed. Most of the participants noted, WAMCO's operation had created a lot of good job opportunities and large number of women are being employed in the waste collection operations.

In general the stakeholders, including public are happy about the current location of the waste transfer site. Especially the people from the community consulted shared their views on moving two waste dumpsites inside Male' to the current single location at the Industrial Village was a wise and good decision by the Government. As the previous two sites sitting inside Male' had been a public nuisance because of set of fire at both sites from time to time especially for school kids as they were located at close proximity to the schools. In fact, the current location has been decided due to the continuous complain from the public on the said two sites.

However participants noted, although, the current location is far away from the community that no burning of waste should be done in Male' and if it is allowed it would create a lot of issues and risk of fire would become a high.

List of stakeholders consulted

No.	Name	Gender	Age group	Address/ Designation
1	Shiyama Ibrahim	F	Elderly	M. Fesco
2	Ahmed Nazooh Nazim	M	Youth	FSM Easyfill, Sales and Marketing
3	Mariyam Nazha	F	Middle age	V. Kokamanzil, Regular travel from Villingili ferry terminal
4	Ibrahim Ashraf	M	Middle aged	MNDF
5	Naajee	M	Youth	Banyan Tree Crew, T Jetty user
6	Shirumeena	F	Middle aged	Mamma Gaadiya
7	Abdullah Shimau	M	Elderly	MTCC, Manager
8	Hishaam Hoodh	M	Youth	Villa college (Student)
9	Ibrahim Rasheed	M	Elderly	Teacher
10	Nafiz	M	Youth	Ali Mathaa Boat Captain, T Jetty User
11	Mohamed Thuthu Didi	M	Elderly	Villa Boat Captain, T jetty user
12	Zadhy Ibrahim	M	Elderly	Male' South West Harbor, Assistant Manager
13	Hussain Ibrahim	M		Assistant Environment Officer, EPA
14	Aminath Mohamed	F		Assistant Project Officer, EPA
15	Ali Mishal	M		Engineer, EPA
16	Aminath Shaufa	F		Director, Public Health, HPA
17	Moosa Haneef	M		Senior Public Health Programem Officer, HPA
18	Ahmed Shafiu	M		Facilities Manager, WAMCO
19	Ismail Ubaidh	M		Facilities Manager, Male', WAMCO
20	Nafha Aujaz	F		Environment Analyst, MHI
21	Anoosha Hashim	F		Assistant Project Officer, MHI
22	Thoriq Ibrahim	M		Minister of Environment and Energy, MEE
23	Ali Amir	M		Deputy Minister, MEE
24	Ahmed Murthaza	M		Director General, MEE
25	Easa Hamdhan Rasheed	M		FO, MEE
26	Mohamed Hamdhan	M		Assistant Project Coordinator, MEE
27	Zadhy Ibrahim	M	Elderly	Male' South West Harbor, Assistant Manager
28	Mohamed Zuhair	M		Minister of State, Ministry of Defense and National Security
29	Ms. Shahina Ali	F		Executive Director, Parley Maldives

Stakeholder Consultations at Villingili Waste Transfer Facility

Water Solutions Pvt Ltd

February 2018

Stakeholder consultations had been carried regarding the proposed waste transfer station in Villingili. The stakeholders who have a role in the planning, designing, construction and operation of the waste transfer station in Villingili' had been consulted through meetings and surveys that been carried out by the consultant team.

Outcomes from consultations with Ministry of Environment and Energy (MEE)

The Ministry of Environment and Energy had been consulted regarding this project on various occasion since October 2017. Initial concepts for the Villingili waste transfer station was shared and discussed with the Ministry on 6th February 2018 at the Ministry of Environment and Energy.

- The Ministry noted that the tricycles which was part of Male' waste collection had been shifted to Villingili and waste collection at Villingili will be carried out using the tricycles and small waste compacting trucks.
- The waste transfer facility developed at Villingili should be able to accommodate the waste collectors working for the waste collection operation at the island.
- MEE wanted to maximum use the allocated land for the waste transfer facility in Villingili. The waste transfer center should have parking space to park the tricycles and waste collection vehicles.
- The waste transfer center should have to two gates. One gates should have an access to the quay area
- The waste management center should have a storm water management system to prevent the area getting flooded during heavy rain
- The area should be protected from swell and high wave action related flooding.

Outcomes from the consultations with WAMCO

WAMCO had been consulted on various occasion regarding waste management project for the greater Male' area. Villingili waste management center is part of the waste management system that is being developed for the greater Male' region

- Waste is collected from the households, business and commercial establishment in Villingili
- Waste collected from the households are
- The waste collection area need to be covered from rain
- A proper waste management and transfer facility is urgently needed for the City of Malé to remove the waste collected from Male' to transport to Thilafushi. The Ministry is working hard to initiate the project to develop a waste transfer station in Malé.

Meeting with Public

Field visits were made on 13th February 2018 to consult the local public who are in the proximity of the Waste Transfer Station (TS). Although the transfer station is secluded, it is in close proximity to the residential area. The transfer station area has a perimeter wall and trees that would act as a buffer.

The public consultations were conducted through individual interviews after giving an introduction of the project. The interviewees were briefed on the regional waste management project for zone 3 and the necessity of a transfer station in each island. As part of the consultation, public was informed of the impacts and difficulties that may occur from the TS during the construction and operational stage and the consultants are therefore seeking community's views and concerns on various aspects of the project concept designs shared with them. Several concerns were raised with regard to various aspects of the TS location, design, and operation. The participants of the consultations included 75% of women of the total consulted of different age groups that were interviewed.

Findings of stakeholder consultations

There was a general consensus among all participants that there is bad smell to houses that are two to three blocks away from the waste management site and it is especially pungent on days that waste is transferred to Thilafushi. Some participants noted that they had observed that the smell that used to get from the waste site has improved. They believe the improvement is due to the frequent removal of waste that is accumulated at the waste site to Thilafushi after WAMCO started their operation at the island.

Participants noted that improving the condition of the waste transfer area at Villingili is needed. The proposed project would help improve the management of waste at the island. Some participant noted that during the construction of the waste transfer area on the island would have a noise and dust issue for the residents living close to the area.


Despite the difficulties that may arise due to the waste transfer facilities, most of them believe that an upgrade to the waste transfer facilities is required in Villingili; especially proper operation and management which would limit the smell. In general the stakeholders, including public are happy about the current location of the waste transfer site.

List of stakeholders consulted

No	Name	Gender	Age group	Address/ Designation
1	Ali Amir	M		Deputy Minister, MEE
2	Ahmed Murthaza	M		Director General, MEE
3	Easa Hamdhan Rasheed	M		FO, MEE
4	Mohamed Hamdhan	M		Assistant Project Coordinator, MEE
5	Hawwa Ali	F	Elderly	V.Hulheli
6	Rasheedh	M	Elderly	V.Xiphius
7	Azeema	F	Youth	V.Symophylia
8	Aiminath	F	Middle Aged	V.Hanhaara
9	Waheedha	F	Elderly	
10	Raneen	F	Youth	Diver's Lodge Maldives
11	Nasha	F	Youth	V. Basmala
12	Aisha	F	Middle Aged	
13	Ismail	M	Elderly	V.Elam, from a construction site
14	Ameena Ahmed	F	Elderly	V. Lhasandhu
15	Sofiyya Moosa	F		V.Furathama Hiya
16	Firaashaa	F		V.Furaveli
17	Neesha	F		V. Naaraa Iru, Shop keeper
18	Ibrahim Mueen	M		V. Beach Coral, Fisherman
19	Shimla	F		V.Vilishi
20	Ali siraj	M	Youth	V. Happy sle
21	Thoriq Ibrahim	M		Minister of Environment and Energy, MEE
22	Ali Amir	M		Deputy Minister, MEE
23	Ahmed Murthaza	M		Director General, MEE
24	Easa Hamdhan Rasheed	M		FO, MEE
25	Mohamed Hamdhan	M		Assistant Project Coordinator, MEE
26	Ahmed Shafiu	M		Facilities Manager, WAMCO
27	Ismail Ubaidh	M		Facilities Manager, Male', WAMCO
28	Ms. Shahina Ali	F		Executive Director, Parley Maldives

APPENDIX 3: CERTIFICATION OF LAND OWNERSHIP

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ





Ministry of Environment and Energy
Male', Republic of Maldives.

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CERTIFICATE

This is to certify the following sites identified for facilities to be developed under the proposed ADB funded Greater Male Environmental Improvement and Waste Management Project (the Project) belong to The Government of the Republic of Maldives. It is further certified none of these sites listed below were acquired in anticipation of the Project, and there are no pending litigation or disputes pertaining to ownership of these sites.

Yours Sincerely

Ajwad Musthafa
Permanent Secretary
13 February 2018



Ministry of Environment and Energy
Male, Republic of Maldives.

ދިވެހިރާއްޖޭގެ ޖުމްހޫރިއްޔާ ގުޅިގެން
މިނިސްޓްރީ އޮފް ޕްލާނިންގ ޕްރޮޖެކްޓް ޕްރޮމޯޝަން ޕްރޮގްރާމް

S. NO.	PROPOSED FACILITY	LOCATION OF SITE	PLOT NO. (AS PER OFFICIAL LAND RECORDS)	AREA (SPECIFY UNIT)	PRESENT OWNERSHIP	YEAR OF ACQUISITION / POSSESSION / TRANSFER	ALL COMPENSATION PAID (YES/NO, NOT APPLICABLE)	STATUS OF LAND RECORDS (AVAILABLE / NOT AVAILABLE)	REMARKS
1.	Male transfer station and admin building	K.Male, Kaafu Atoll, Maldives	MNV Plot No.13	5791 sqm	Government	2016	NOT APPLICABLE	NOT APPLICABLE	
2.	Villamale transfer station	K.Villingili, Kaafu Atoll, Maldives	Block No. 55	2705.5 sqm	Government	Not known*	NOT APPLICABLE	NOT APPLICABLE	*The TS is the same location as the old dump site which has been used for this purpose from a very long time.
3.	Hulhumale transfer station	Hulhumale, Kaafu Atoll, Maldives	To be confirmed	To be confirmed	Government	To be confirmed	NOT APPLICABLE	NOT APPLICABLE	*Hulhumale Land to be finalized
4.	Harbor, admin building	K.Thiathushi, Kaafu Atoll, Maldives					NOT APPLICABLE	NOT APPLICABLE	
5.	C&D plant, ELV plant, recycling yard	K.Thiathushi, Kaafu Atoll, Maldives	Plot: SG-14 Plot: S7-01 Plot: S7-02	25 hectare (10ha existing + 15ha new)	Government	2017	NOT APPLICABLE	NOT APPLICABLE	
6.	Thiathushi dumpsite	K.Thiathushi, Kaafu Atoll, Maldives					NOT APPLICABLE	NOT APPLICABLE	
7.	Thiathushi RWMF	K.Thiathushi, Kaafu Atoll, Maldives				2017	NOT APPLICABLE	NOT APPLICABLE	
8.	32 IWMCs	4 Atolls (Kaafu, Aifu Aifu, Aifu Dhaalu, Vaavu)	4 Atolls (Kaafu, Aifu Aifu, Aifu Dhaalu, Vaavu)		Government	Not Applicable	NOT APPLICABLE	NOT APPLICABLE	*The locations in each island will be finalized in consultation with the EPA/Island Councils and Ministry of Housing
9.									

