

# Land Acquisition and Resettlement Due Diligence Report

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## Republic of the Maldives: Greater Malé Environmental Improvement and Waste Management Project - Thulusdhoo Island Waste Management Improvements Subproject

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CURRENCY EQUIVALENTS  
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Rf1.00 = \$0.065 USD  
USD 1.00 = Rf15.449

**ABBREVIATIONS**

ADB	- Asian Development Bank
DDR	- due diligence report
IWMC	- Island Waste Management Centre
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 3,<sup>1</sup> 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. along with construction of a new regional waste management facility including a waste to energy plant on the island of Thulusdhoo.

### 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. 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 dumpsite<sup>2</sup> on Thilafushi Island presents a daily nuisance to Malé's residents and tourists, with plumes of smoke visible from 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).<sup>3</sup> With rapid urbanization and tourism development this amount is expected to grow to 924 tpd by 2022.<sup>4</sup> 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

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

<sup>2</sup> There are no leachate control systems at the dumpsite.

<sup>3</sup> 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).*

<sup>4</sup> 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).*

on sustainable fisheries for food and export,<sup>5</sup> 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.<sup>6</sup> 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.<sup>7</sup> The near doubling of Malé's population will significantly increase pressure on the already stressed solid waste services.

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

8. The project 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) two transfer stations in Malé and Villimalé constructed, and one transfer station in Hulhumalé designed; (iii) one C&D processing plant; (iv) one end of life vehicle 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 centers (IWMCs) 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.<sup>9</sup>

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.

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<sup>5</sup> 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.

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

<sup>7</sup> 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).

<sup>8</sup> Progressive Party of the Maldives. Manifesto of the Progressive Party of Maldives, 2013–2017. Unpublished (Unofficial English Translation).

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

### C. Scope of this Report

13. This draft land acquisition and resettlement due diligence report is prepared for one of the 32 integrated waste management centres (IWMC) proposed under Output 2 of the Greater Malé Environmental Improvement and Waste Management Project in Maldives. The scope of this report is limited to the proposed civil works for construction of IWMC on the island of Thulusdhoo. This draft due diligence report (DDR) is prepared based on the preliminary information available from several documents and field visit to Thuslosdhoo island. This draft DDR will be updated during detailed design, when the exact design footprint is known, and the assessment of involuntary resettlement impacts confirmed. The updated DDR will be submitted to ADB for review and approval and the final document disclosed on IA and ADB websites. No civil works contract package will be awarded or construction started before the approval of final social safeguards document for the said package by ADB. The IA is responsible to hand over the project land/site to the contractor free of any encumbrance.

14. The Environmental Assessment and Review Framework for the Greater Malé Environmental Improvement and Waste Management Project specify 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.

## II. SUBPROJECT DESCRIPTION

15. This draft due diligence report is prepared for the proposed community-based island waste management centre (IWMC) at Thulusdhoo. Due diligence reports will have to be prepared for each of the 32 proposed IWMCs under Output 2.<sup>10</sup>

16. The island of Thulusdhoo has a population of 1408 as per Census 2014, which is likely to increase to 2000 people by 2035. Thulusdhoo island currently has an arrangement of island waste management centre (IWMC), built with support from the Australian and Canadian Red Cross<sup>11</sup> which is currently disused. At present, waste is brought by islanders to an area adjacent to the IWMC and set alight. Construction and demolition waste is separated and piled nearby. In late 2017, the Island Council started promoting separation of food waste, which is placed in the sea in a cage to contain floating waste as it decomposes or is eaten by fish. There is at present a limited waste collection system, primarily for food waste. The IWMC has facilities for composting but is not used, nor is composting practiced on a community scale at any other location, although the council has intentions to commence this. Two workers employed by the council have been sent to Fenfushi to gain experience in composting. The council has identified a site for a new IWMC at the edge of a 33 Ha area of newly reclaimed land.

17. The proposed subproject has a hardware component that involves construction of IWMC along with procurement of waste processing equipment, and soft components that will involve awareness and skills building of poor women and men on issues related waste handling, recycling, and operation and maintenance. The aerial view of Thulusdhoo indicating the location of the existing open dump site and the approximate location of the proposed new IWMC is provided in **Figure 1** and layout design in **Figure 2**.

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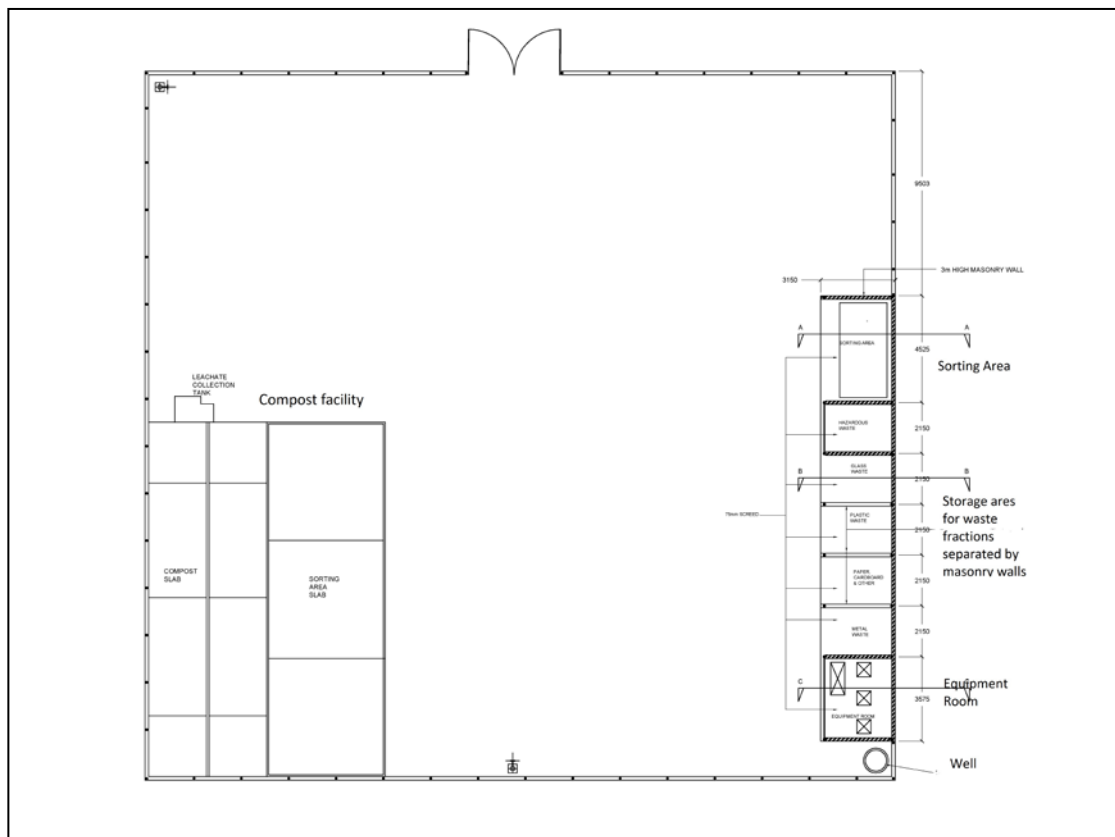
<sup>10</sup> Each IWMC will be a fenced area of 900 to 2000 sqm, with a concrete slab and some housed facilities.

<sup>11</sup> The Australian and Canadian Red Cross Clean-up and Sustainable Waste Management Program took place following the 2004 Tsunami and included the construction of 79 IWMCs across the Maldives.

**Figure 1: Aerial View of Proposed Location of New IWMC**



**Figure 2: Outline Layout Plan for IWMC**



Source: Ministry of Environment and Energy

### III. SITE VISIT AND STAKEHOLDER CONSULTATION

#### A. Site Visit

18. At Thulusdhoo, site visit was undertaken by the project team along with island council members to the existing dumpsite. At present the waste is taken to a location near an existing disused IWMC and it is burned. The proposed IWMC site is located at the eastern side of the island that has been recently reclaimed.

#### B. Stakeholder Consultation

19. Consultations were undertaken between the transaction technical assistance consultants, representatives of the Ministry of Environment and Energy and representatives of the Island Council. These consultations enabled the transaction technical assistance consultants and the Ministry of Environment and Energy to understand the existing situation



with respect to waste management at Thulusdhoo, proposals and actions of the Island Council to improve waste management and to gauge the capacity development needs.

20. Consultations with the Island Council indicated that they are not aware of what is involved in establishing (or re-establishing) and running an IWMC and were planning to continue burning waste at the new site. At present, the proposed site is bare, on newly reclaimed land that is yet to be developed with infrastructure such as roads or buildings. Vegetation cover is sparse. Vegetation on the border of the newly reclaimed area consists of shrubs, young trees and heavy vine growth. The newly reclaimed area adjoins the existing beach. The summary of discussions is given in the table below.

**Table 1: Summary of Stakeholder Consultation**

<b>Date</b>	<b>Location</b>	<b>Participants</b>	<b>Issues Discussed</b>
6 November 2017	Thulusdhoo island	Mr. Anees, Council Chairman and Vice Chairman, Island Council	<ul style="list-style-type: none"> <li>• At present, waste is taken to a location near an existing disused IWMC and burned. The smoke is a nuisance, drawing complaints from the public and in particular from guesthouse operators.</li> <li>• Widespread littering and dumping takes place and is a concern to the public and to the council, both because of the accumulation of rubbish on the beach and release of floating waste which is perceived to affect the appeal of the island for tourism.</li> <li>• The island council are not aware of the role of an IWMC in improved handling and transfer of waste, or of the importance of avoiding the burning of waste.</li> <li>• An existing initiative is to encourage separation of food waste, and to dispose of this in a metal cage in seawater, newly installed and accessed by a jetty.</li> <li>• The council has held a ten day information campaign to encourage separation of waste.</li> <li>• Construction and demolition waste is treated separately from general household waste, and dumped nearby. It is accumulating and also of concern to the public.</li> </ul>

21. Further consultations with island communities, particularly those living around the site will be conducted to ensure that their concerns and issues are factored into project design. The updated DDR will include details of such consultations and proposed solutions.

#### **IV. LAND AVAILABILITY AND RESETTLEMENT IMPACTS**

22. The scope of the land acquisition and involuntary resettlement is identified based on the site visit reports, consultations and imagery study (Google Earth) of the site locations. It was reported that the council has applied to the Ministry of Housing for the proposed plot of land identified for IWMC.

23. The IWMC will be constructed on a vacant and unused parcel of newly reclaimed land owned by the Ministry of Housing, Government of Maldives. No private land acquisition is therefore envisaged for the implementation of the proposed sub-project component. The total government land available is 33 hectares and the required land area for the proposed IWMC at Thulusdhoo is about 2000 square metres. The proposed site is close to the shore line. No non-titled users are reported at the site. The selected piece of land conforms to the site selection criteria specified in the Project Administration Manual (footnote 9), of no private land acquisition,

no physical displacement, and no livelihood loss or temporary impacts. Hence, the project is not anticipated to entail any involuntary resettlement or land acquisition related impacts.

24. **Table 2** provides an assessment of potential involuntary resettlement impact of the proposed IWMC at Thulusdhoo.

**Table 2: Island Waste Management Center at Thulusdhoo: Summary of Involuntary Resettlement Impacts**

Location	Component	Land Ownership (Govt./ Private)	Potential Involuntary Resettlement Impact
Thulusdhoo	Island Waste Management Centers	Govt. land (Housing Department)	The facility is proposed on recently reclaimed, vacant and unused government land. No involuntary resettlement or land acquisition related impact is envisaged. The exact location of the facility within the large area of reclaimed land will be known during detailed design. Adherence to the site selection criteria on no land acquisition and involuntary resettlement impacts and minimum 100 m distance from the nearest habitation/school/hospital, will be ensured.

## V. SCREENING OF SUBPROJECT

25. The proposed location of IWMC Thulusdhoo was screened using ADB's Involuntary Resettlement Impacts Checklist and the site selection criteria for IWMCs. Even though the exact location and footprint of the proposed facility will be known during detailed design, the screening and due diligence reveals that the entire available newly reclaimed, vacant government site meets the following involuntary resettlement related criteria for site selection – of no private land acquisition, no physical displacement, and no permanent livelihood loss or temporary impacts. The proposed IWMC at Thulusdhoo is therefore Category C for involuntary resettlement impacts.

## VI. CONCLUSIONS

### A. Summary and Conclusions

26. No involuntary resettlement impacts are anticipated due to the proposed civil works for IWMC Thulusdhoo as per the due diligence review conducted, based on the feasibility study and IEE report, field visits and study of Google Earth imagery. The civil works will be undertaken on land owned by government (Housing Department). The assessed subproject components in this DDR are not anticipated to require acquisition of private land or involuntary resettlement impacts, permanent or temporary. Meaningful consultations with surrounding communities and their involvement in the project from the design stage will be key to its successful implementation.

### B. Next Steps

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

- (i) Application of island council to the Ministry of Housing and their approval letter for the proposed plot of land for IWMC to be appended to this report.
- (ii) Re-assessment and confirmation of IR impacts during detailed design, to reflect the exact location, footprint and any site/design changes.
- (iii) Photographs of the exact location where IWMC is proposed, to be included in the updated DDR.
- (iv) Land records for the proposed IWMC site will be appended to the updated DDR.
- (v) Minutes of meetings and consultations with surrounding communities, with sex-disaggregated data on participants, concerns expressed by community members if any, solutions discussed, with photographs of consultations and signature sheets.

**PHOTOGRAPHS**



**Existing dump site, disused IWMC**



**Existing IWMC location where the waste is burned**

### INVOLUNTARY RESETTLEMENT IMPACT SCREENING CHECKLIST

Probable Involuntary Resettlement Effects	Yes	No	Not Known	Remarks
<b>Involuntary Acquisition of Land</b>				
1. Will there be land acquisition?		√		Facility will be built on vacant and unused parcel of newly reclaimed land owned by the Ministry of Housing, Government of Maldives
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
<b>Involuntary restrictions on land use or on access to legally designated parks and protected areas</b>				
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?		√		
<b>Information on Displaced Persons:</b>				
<p><b>Any estimate of the likely number of persons that will be displaced by the Project?</b>  <input type="checkbox"/> No    <input type="checkbox"/> Yes  If yes, approximately how many? _____</p> <p style="text-align: center;">Not applicable</p>				
<p><b>Are any of them poor, female-heads of households, or vulnerable to poverty risks?</b>  <input type="checkbox"/> No    <input type="checkbox"/> Yes</p> <p style="text-align: center;">Not applicable</p>				
<p><b>Are any displaced persons from indigenous or ethnic minority groups?</b>  <input type="checkbox"/> No    <input type="checkbox"/> Yes</p> <p style="text-align: center;">Not applicable</p>				