



# Combined Project Information Documents / Integrated Safeguards Datasheet (PID/ISDS)

Appraisal Stage | Date Prepared/Updated: 12-Oct-2016 | Report No: PIDISDSA20280



**BASIC INFORMATION**

**A. Basic Project Data**

Country Maldives	Project ID P160739	Project Name Maldives Clean Environment Project	Parent Project ID (if any)
Region SOUTH ASIA	Estimated Appraisal Date 16-April-2017	Estimated Board Date 8 June 2017	Practice Area (Lead) Environment & Natural Resources
Lending Instrument Investment Project Financing	Borrower(s) Ministry of Finance and Treasury	Implementing Agency Ministry of Environment and Energy, MEE	

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Proposed Development Objective(s)

The project development objective is to improve solid waste management in selected zones.

Components	Cost (US\$, millions)
Component 1: Strengthening and streamlining National SWM Policy Framework and its Implementation	4.00
Component 2: Improving Regional Waste Management Systems in select Zones	6.50
Component 3: Improving Island Waste Management Systems in select Zones	5.00
Component 4: Project Management	2.00

**Financing (in USD Million)**

Financing Source	Amount
IDA Grant	17.50
<b>Total Project Cost</b>	<b>17.50</b>

Environmental Assessment Category

A - Full Assessment

Have the Safeguards oversight and clearance functions been transferred to the Practice Manager? (Will not be disclosed)

No

Decision

Track II-The review did authorize the preparation to continue



Other Decision (as needed)

## B. Introduction and Context

### Country Context

- 1. The Republic of Maldives despite its uniquely challenging geography, remote location and widely dispersed small population has achieved considerable economic success and is now an upper middle income country.** Maldives is comprised of 26 atolls of 1,190 small coral islands of which 188 are inhabited with a total population of 340,000 people. Maldives has successfully built on its extraordinary natural assets to promote growth and socio-economic development. It has benefited from rich marine fisheries resources and has developed a successful high-end tourism sector whose sizeable rents have been redistributed to the population to address its development challenges.
- 2. GDP per capita increased from US\$268 in 1980 to US\$7,681 in 2014, mainly driven by tourism and non-tradable tourism related activities.** The share of the population living with less than US\$1.25 a day was 4.9 percent in 2010, whereas the corresponding share using the US\$2 a day poverty line was 17 percent in 2010. Incidence of poverty is in line with that of an upper middle-income country. Maldives has successfully provided near universal access to basic services of electricity, clean water and sanitation, registering significant progress towards achieving the MDGs in these areas. Its human development index is second only to Sri Lanka among the countries in South Asia.
- 3. However, Maldives faces considerable economic, public management, and environmental challenges.** The development model is dominated by a volatile tourism industry, which is also the biggest source of GDP growth, and is inherently vulnerable. The country's unique geography, remoteness and small population result in extremely high cost of public service delivery across a widely dispersed population and creates significant fiscal challenges. Economic vulnerability is exacerbated by high costs of transportation, a small domestic market, and a shortage of local skilled labor. Public debt levels are already high, estimated at 83% in 2014 and forecasted to reach 109% in 2019.
- 4. A large-scale public infrastructure program is currently underway, including the development of the international airport, the construction of a bridge between the airport and Male (the capital city) and a port relocation and development that may boost growth in the longer-term but will likely add to significant fiscal and external risks in the short term.** Environmental management challenges are also increasing, including the impacts and risks arising from climate change, threats to corals reefs and fisheries resources, and the unresolved issues of how to manage an increasing amount of solid waste generated in the congested capital Malé, the tourism resorts that house well over 1.0 million guests a year, and the inhabited outer atolls and islands.



Sectoral and Institutional Context

- 5. **The generation and management of solid waste is one of the most pressing environmental challenges in Maldives.** It is estimated that nearly 365,000 tons of solid waste are generated annually. Most recent estimates of generation rates indicate that solid waste is generated at a rate of 1.8 kg per person per day in Male, 0.8 kg/p/d on the other inhabited islands, and 3.5 kg/p/d in resort islands. In other words, tourists on the country’s resort islands and the international airport generate waste at a rate of nearly six times the resident local population. Table 1 provides an overview of waste composition in the Maldives. Details including breakdown is provided in Annex 2.

**Table: 1. Composition of Waste streams from various sources in the Maldives**

Category	Islands	Resorts
Food, Garden/Yard Waste, Paper	70%	80%
Recyclables – Metals, Plastic	03%	05%
Residuals <sup>1</sup>	27%	15%
TOTAL	100%	100%

- 6. **Current practices of handling, transporting, and treatment of waste generated are insufficient and increasingly threaten the county’s prominence as a pristine marine environment and a premium tourist destination.** Plastics are washing up on the otherwise pristine beaches. Empirical evidence shows that years of sea dumping of plastics and other waste is destroying the coral reefs which are vital for the country’s fish stock and local livelihoods. The fisheries sector alone provides the economic livelihood of 26% of poor households and 11% of total employment nationally. The coral reefs also play a pivotal role for the tourism sector. Furthermore, the country’s physical existence is threatened as damaged corals have reduced the reefs protection of the atolls and islands against climate change impacts, particularly sea rise. The dumping of waste into the open sea and open burning of waste across the archipelago poses a significant public health risk as open burning of waste is leading to emissions of highly toxic gases and carcinogenic substances.
- 7. **The bulk of the waste generated in the Male region is transported by boat daily as mixed and untreated waste to Thilafushi, an island close to Male, and deposited on land, owned and managed by WAMCO where it is openly burned in an uncontrolled manner.** Other inhabited islands follow a similar practice of open burning and/or dumping into the sea. The resorts also send their waste to Thilafushi or practice their own treatment, such as local incineration and composting. While resorts are required by law to have on site incineration facilities, with the exception of some resorts that are handling their waste responsibly as a commitment to a clean environment and as responsible enterprises, the majority of resorts do not operate the incinerators that they have set up as part of the

<sup>1</sup> Residuals includes Construction Debris, organics like wood, leather, rubber, and inorganics like glass, as well as hazardous substances like batteries and electronic waste

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resort facilities. The large amounts of construction waste that is being generated by the large infrastructure projects at the airport and with the bridge construction linking the airport with Male is also transported to Thilafushi. The intended volume reduction and pest control through burning of solid waste in Thilafushi is minimal due to the relatively low temperatures achieved and anaerobic conditions sustained by this practice.

8. **On the non-resort inhabited islands, systematic waste management is rarely practiced.** Regular waste collection from waste generators, namely households, businesses, schools and other institutions does not exist on most islands. Consequently, the most frequent practice is for waste generating households and businesses to use their own means to dump their waste in the ocean, or on uncontrolled dumpsites where they are burned periodically. The prohibitive cost of transportation prevents shipment of the accumulated waste to Thilafushi. While organic materials constitute the largest segment of the waste generated on the islands, households generally don't practice composting due to smell and rodent problems in the hot climate. Water bottles, which inhabitants resort to due to mistrust in the quality of local water sources, are increasingly visible. Recycling and waste minimization efforts are often ad-hoc, driven by individuals rather than systematic support from the local councils or residents. However, the unsightly presence of waste dumps and littering on the beaches, including by waste washed up by the sea, present a major obstacle to tourism development in the inhabited islands where other economic activities have extremely limited potential.
9. **The Government's response to these challenges consists of policies and programs that seek to address these issues in an integrated and sustainable way.** The President of Maldives has made solid waste management a top priority of his administration. The Ministry of Finance and Treasury (MoFT) consistently makes significant budget allocations to the Ministry of Environment and Energy (MEE), whose responsibility it is to coordinate policy, and to manage and monitor implementation of operational measures to address these issues. Except for designated cities, including Male, Addu, and Fuvahmulah where MEE has direct responsibility, local islands councils are responsible and empowered to make decisions regarding waste management. WAMCO, a recently revived public corporation owned by the MoFT, is tasked with the operation of RWMCs and also recently been contracted the management of waste in the cities - Addu, Fuvahmulah, and Male'. EPA is the regulatory agency to enforce the provisions of the Waste Management Regulation 2014.
10. **The GoM has highlighted the importance and urgency of introducing a sustainable and integrated waste management system in the Greater Male Region (i.e. Zone III) to bring to an end the uncontrolled pollution and opening burning at the Thilafushi dump site for all of the environmental, public health and socio-economic reasons described earlier.** Given the complexity and scale of the problem at Thilafushi, cost estimates to successfully address Zone III range from US\$80m-\$120m, which is beyond the capacity of the GoM and any one development partner to finance in Maldives. In addition, there is currently no consensus yet on the technical and institutional approach for Thilafushi.
11. **In December 2016, the GoM convened a donor coordination meeting, at which the Bank was represented, to explain the Government's strategy, proposed implementation, and time line to address Zone III.** At the meeting, the GoM also confirmed that it will undertake a detailed feasibility study to inform decision making regarding the most suitable technical, engineering, financial, institutional and operational management options and to provide detailed costs estimates. There is currently no clarity when this feasibility study would be available for further consultation between GoM and their development partners.



12. **A key pillar of the Government’s policy is the establishment of Regional Waste Management Centers (RWMCs) in designated zones across the archipelago to provide treatment and disposal services for the inorganic and un-compostable organic waste that Island Waste Management Centers (IWMC) have collected from their island communities in each zone.** The IWMC’s role is to compost suitable organic waste and store other waste in a segregated manner until shipment to the RWMC. The MEE is currently working on a number of initiatives to roll out the RWMC and IWMC approach. The Government has also introduced a *Waste Management Regulation* in early 2014 with the objective to: (a) implement measures to minimize impacts on human health; (b) formulate and implement waste management standards; (c) implement an integrated framework for sustainable waste management; (d) encourage waste minimization, reuse and recycling; (e) implement the polluter-pays principle; and (f) introduce an approach of Extended Producer Responsibility. The regulation is enforced by the Environmental Protection Agency (EPA, a separate entity created by a presidential decree). **he Government is continuously evaluating its programs, policies and regulations to make course corrections where necessary.** With respect to policy changes, the MEE has drafted a bill for consideration of the Majlis, the Maldives parliament, which, if approved, will result in a separate enactment covering management of all waste in the country. This draft is currently under advanced review within the Advocate General’s office, and is expected to be presented to the Majlis for deliberations in 2017. The Government has also launched “Saaffu Raje” (Clean Maldives) initiative in 2015 and has started activities across all 7 Zones. The program has provided guidance to island councils to prepare Island Waste Management Plans and the process for getting them approved.
13. **Nevertheless, despite some successes and policy commitment, countrywide implementation of policy and regulations will require major strides in overcoming institutional, financial, and logistical constraints.** While there have been examples of success, such as at Ukhulhas in Ari Atoll, and emerging good practices in Zone II, supported by the World Bank financed Maldives Environmental Management Project (MEMP) that closed on June 30, 2016, much of the country does not have integrated waste management facilities. Of the 117 IWMCs constructed since the 2004 tsunami, most function only partially and some have become defunct. There are few systematically operating treatment facilities for solid waste, with the exception of some resorts who are handling their waste responsibly as a commitment to a clean environment and as responsible enterprises. Notably, island level waste management requires frequent, efficient and reliable waste collection from the waste generators; sufficient and sustainable funding both for waste collection and IWMC operations; strict enforcement of the ban on open or ocean-dumping of waste, and regular transfer of inorganic waste to RWMCs. Similarly, staff capacity at the island councils to plan and implement waste management is often weak.
14. **The operation of RWMCs, including transfer of waste from the resort islands, is also expensive and logistically challenging.** Experience from MEMP implementation indicates that most island councils will barely be able to raise funds to cover the costs of island operations; so, subsidies either from the government budget or resort islands will be needed for the transfer of waste to RWMCs. Transportation costs can account for between 30% to 50% of the operating costs due to the remoteness of and distances between islands, requiring large sea-worthy vessels to safely transport wastes across open seas from the islands to the waste management centers. A tariff system acceptable to the resort islands coupled with a strict enforcement mechanism will need to be



established to achieve the dual objective of ensuring that all waste is properly disposed (by transfer to RMWCs of inorganic waste and composting of organic waste) and incentivizing waste reduction.

15. **Overcoming these obstacles requires a sustained planning effort over the medium to long term, with a larger emphasis on waste recycling and reduction.** Importantly, care must be taken not to design waste disposal facilities, such as incinerators, in a way that creates additional demand for waste. On the other hand, the remoteness of the island and small volumes of recyclables, complemented by the inherent cyclical behavior of the global recyclables market, make this a complicated planning problem, requiring creative solutions. The Maldives can learn from the experiences in countries around the world in this regard. For example, economic incentives for recycling and reuse, such as taxes on plastic bottles or plastic bags, or outright bans for such items may be considered. The existing, mostly one-way ocean-trade links with India, a major buyer of recyclables, may be explored for exporting recyclables accumulated at the RWMCs. Efforts should begin to translate into practice the principle of extended producer responsibility (EPR), which is already embedded in the current waste management regulation, recognizing that its successful application will require collaboration among multiple stakeholders, including those with entrenched interests in the current system.
16. **Participation of the private sector is difficult in the short to medium term because of minimal economies of scale benefits and the perceived and real risks in the areas of public financing and management capacity.** Significantly more work is required in the areas of regulatory improvements, as well as institutional capacity building and infrastructure investments before commercial participation with private capital can be considered. Recent failures in PPP transactions in other sectors have reduced private sector interest to get involved and are limiting the opportunity to leverage private capital for such improvements. Some areas would be inherently attractive to private investors putting in their own capital because of the presence of resorts and higher income potential due to larger resident population, such as in the vicinity of Greater Male. Therefore, in the absence of private capital, public funding is needed to ensure that Maldivians have access to sustainable solid waste management services, the country's economic assets and the environment are protected.

### C. Proposed Development Objective(s)

The Project Development Objective is to improve solid waste management in selected zones.

#### Key Results

17. The PDO will be measured through five project level indicators, which are; (i) Regional Waste Management Center (RWMC) operational under project (number), (ii) Share of total waste in selected zones collected by the IWMCs (disaggregated by inorganic and organic waste) (%), (iii) Share of the organic waste in selected zones treated in IWMCs (%), (iv) Share of inorganic waste in selected zones stored and transported to RWMCs (mt), (v) Share of target beneficiaries with rating 'satisfied' or above with application of the solid waste management approach (user fees, environmental benefits, reliability) (disaggregated by sex).



### D. Project Description

18. The proposed project has been designed to support the Maldives to introduce sustainable and integrated solid waste management systems across the country and enhance national waste management policies and programs. The proposed project will provide support to policy development and capacity building at the national, regional and island level, including through various analytical studies, training, project preparation documents, pilot programs, works contracts and operations and maintenance contracts. It will further help to turn policies and plans into sector reforms, investments and sustainable operations in select zones that meet international standards of good practice. See Figure 1.

**Figure 1: Illustration of the Project Design**



19. The project adopted a framework approach primarily for the following reasons: (i) the islands participating in the project will be selected on the basis of their proposals using a set of criteria, including demonstrated commitment, to increase ownership and likelihood of success; (ii) the location and type of the regional treatment facility will be determined during implementation through extensive feasibility and tariff studies; and (iii) the need for flexibility to respond to lessons learned and emerging priorities during project implementation. The framework approach allows for inclusion of any island across any participating zone that meets the criteria<sup>2</sup> specified in advance, in agreement with the GoM. The criteria for the selection of islands is listed in Annex 2.

<sup>2</sup> The criteria is described in Annex 2 Detailed project Description



20. **The Investment Project Financing (IPF) instrument is being used to provide an IDA grant to finance the project, for a period of six years.** This will allow sufficient time for the government, island councils and communities to achieve the PDO, through the successful implementation of the following four components which will be rolled – out in parallel, taking into account various lessons learned from previous experiences.
21. **Component 1: Strengthening and streamlining National SWM Policy Framework and its Implementation (US\$ 4.00 million).** This component would finance activities related to implementation of the SWM Policy 2015 at the national level. It will also set the scene for a review of the Policy beginning around 2019-2020 (mid-term of the proposed project). This component will be guided by constraints identified thus far, and priorities emerging from the current Solid Waste Bill, a draft for which is being processed in the MEE and AG office for deliberations in the Majlis in 2017. Candidate areas for support include reuse of construction debris, ocean plastics, Extended Producer Responsibility (EPR), etc. To this end, this component will be structured into the following two sub-components:

**Sub-component 1a** will support GoM efforts to address current challenges to effective solid waste management in the country. It will include technical assistance for: i) analyzing issues like quantum and collection of user-fee; reduction at source in select waste streams, recycling options for waste streams like plastic bottles; feasibility of a waste tracking system; development of an Extended Producer Responsibility strategy in the Maldives context, cost recovery and tariff studies; studies/design of economic incentives for recycling and reuse, such as taxes on plastics or plastic bags, or applicability of banning certain items ii) designing and implementing national or zone-specific Information, Education, and Communication campaigns targeting promotion of household waste segregation and minimization; increased uptake of piped water as an alternative to water in plastic bottles; and (iii) preparation of an Island wide waste management strategy. . Additional studies for any need identified during project implementation – either from findings of current studies or by GoM as it undertakes SWM across the country.

**Sub-component 1b** will help in building capacity of the local institutions and individuals in Solid Waste Management Sector. Beneficiaries will include the i) Maldivian National University – whose course curriculum for environmental management will be augmented, ii) WAMCO – whose staff will be trained on operational issues, iii) EPA – whose staff will be supported in acquisition and use of monitoring and analysis equipment including patrol vessel, and iv) WMD – whose staff will also be receiving training on policy matters, as well as urban SWM issues to address its mandate in designated cities. This sub component will also support the organization of and participation in national and international SWM related events to exchange knowledge, experience and lessons by WMD and other stakeholders. Currently identified events include: i) a national workshop after about 6 months of operation of the Vandhoo facility created under the MEMP, to inform the feasibility and design of facilities in other zones, where these are underway; ii) Maldives participation to showcase its leadership position in AOSIS on emerging issues like marine litter, more specifically – ocean plastics.

22. **Component 2: Improving Regional Waste Management Systems in select Zones (US\$ 6.50 million).** This will have two sub-components –focusing on the residual investments in Vandhoo, where the



RWMC has been constructed under MEMP and in making limited investments in new Zones IV and V.

**Sub-component 2a** would support investment activities in Zone II for operationalization of the facilities created under MEMP in Vandhoo. This would include provision of equipment, augmentation of storage facilities, and access roads on the site. Currently identified equipment include a Jib crane to life waste containers from vessels bring waste to the island, a solid waste sorting line, and excavator.

**Sub-component 2b** based on the outcome of the feasibility study for the integrated waste management system for the other zones included in the project (see details below), fund recommended select investments to support establishing the RWMC. Based on the overall costs, project funding envelope and co-financing options, this may also include waste transport vessels for the new Zones IV and V; ancillary facilities required for the operation of the RWMC – harbor and landing jetties, cranes and other equipment, storage areas, facilities for staff, and subject to the availability of space, a final disposal facility in line with the recommendations of the Feasibility Study. Among other possible activities, the component may also (i) finance an interim O&M international contractor to partner with WAMCO for a period of two years to ensure the RWMC receives the operational support it needs; and (ii) pilot two auctions, for 6 months bailed recyclables, to explore the potential for scaling up a recyclable program for key streams like metals – cans, roofing sheets, etc.

23. **Component 3: Improving Island Waste Management Systems in select Zones (US\$ 5.0 million).** This component will support development/completion of island level facilities for managing collection, segregation, on-site treatment and storage of residual waste, until its eventual transfer to the RWMC. The candidate zones for the project are currently IV and V, in addition to residual activities in Zone II.

**Sub-component 3a** will support a suite of activities to establish the integrated waste management system in Zones IV and V. The most important of these would be the feasibility study for determination of the most suitable integrated solid waste management system for the islands included in Zone IV and V. The study will identify any additional criteria that islands need to satisfy before a particular system – for collection, transportation, segregation and treatment of biodegradables, and storage of the more recalcitrant material to the RWMC – can be implemented. Particularly, the study will include a detailed and comprehensive transport logistics analysis to provide the most important determinant in selecting the location and financial viability of the RWMC. This study will also help choose the most appropriate technology for the treatment and disposal in the RWMC. This component will also fund the ESIA for IWMCs as these get chosen, as well as the Best Practical Environmental Option study for the selected RWMC configuration.

**Sub-component 3b** will support a pilot to promote use of bulk water in place of water bottles – through use of water dispensers will be supported on two different islands – one small with population of several hundred, and one large with population of several thousand. The study undertaken under component 1a will inform this study with a view to determine the feasibility of wider use of such schemes.



**Sub-component 3c** will fund the preparation and implementation of Island Waste Management Plans (IWMPs) across the atolls in Zones IV and V. To be eligible for funding support, each island council would need to have IWMP approved by the EPA, be subject EA and SA in line with the ESAMF, and have fixed a tariff from each generator of solid waste (whether household or other commercial/industrial establishment) to support the implementation of the IWMP. Currently, it is expected that there is sufficient funding to cover all the potentially eligible islands in these two zones (as some islands in zone V are already supported to a limited extent under another GoM program – LECReD<sup>3</sup>). The support will include investments to operationalize one of the two or three different possible models of integrated waste management systems depending on population, waste generator profile, land availability, and other relevant parameters. It will also support the supply of vehicles for collection of waste on the islands, and shredders for islands in Zone II to facilitate that full capacity utilization of the RWMC already constructed under the MEMP.

24. **Component 4: Project Management** (US\$ 2.00 million)

This component will finance equipment, technical assistance, training and incremental operating costs to strengthen the dedicated PMU established within the MEE. The PMU will assist the GoM in managing, monitoring, and evaluating project activities. Specifically, it will support staffing and operation of the PMU, establishment and operation of adequate fiduciary and safeguards management system, communication and outreach as well grievance redress. Headed by the Director General of Waste Management Department, the PMU will have the responsibility for ensuring that the Financial Management, Procurement, and Safeguards management for the project preparation and implementation are in conformity with the legal agreements with the Bank. In addition, a communication specialist, and a monitoring and evaluation specialist will also be part of the PMU. A Civil Engineer will also be inducted into the PMU as and when appropriate. In addition, support staff including project coordinators, assistant procurement officer, and assistant financial management officer would also be drafted into the PMU as per need.

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## E. Implementation

### Institutional and Implementation Arrangements

**The overall responsibility for project implementation rests with the Ministry of Energy and Environment. A dedicated Project Management Unit (PMU) with requisite staffing is being created under the leadership of the Director General of the Waste Management Department (WMD) to undertake day-to-day implementation activities under the project.** The PMU will support the Island councils in the preparation and implementation of Island Waste Management Plans with help from the Atoll councils. It will also interact with other Ministries – Fisheries and Agriculture for identifying suitable uninhabited island, Housing for identifying sites for Waste Management Centers on islands where needed, Finance and Treasury who own WAMCO, the company to be responsible for operating

<sup>3</sup> The Low Emission Carbon Resilient Development (LECReD) program is a Government of Denmark funded, UNDP supported initiative started in October 2013 to assist Laamu Atoll and its islands by mainstreaming LECReD into local level development planning and service delivery.



the regional facility (mandated to operate waste management facilities across the Maldives), and Tourism for ensuring that resorts give preference to the use of the regional facility within Zones IV and V. PMU will also interact with EPA to ensure that the funding for the islands conforms to the regulatory requirements. A Project Board under the Chairpersonship of the Minister, Environment and Energy will be established with participation from other government entities including MoFT, MoT, LGA and EPA in order to ensure that there is sufficient high-level coordination to avoid/minimize delays. The PMU will also act as the Secretariat to this Board.

**The PMU staff will include all required technical and managerial staff, including the project manager/coordinator, and specialists to provide inputs on Financial Management, Procurement and Safeguards.** In addition, a technical advisor/specialist with solid waste management experience in similar conditions will also be mobilized. Other expertise that the PMU will employ include communication specialist and a Monitoring and Evaluation (M&E) specialist. The Director General, WMD, will be the ex-officio project director of the PMU and the key counterpart for the Bank. The Project Management Unit (PMU) to be set up in the MEE will be responsible for the day-to-day functions of oversight of the project. It will carry out project monitoring and evaluation (M&E) as an integral part of the project management function.

**The proposed project follows a framework approach to implementation as the final locations of the waste management facilities will not be decided by the time of appraisal.** However, a clear criteria has been established for the same. WMD has also prepared guidelines for the development of island waste management plans and shared these with the island councils to ensure streamlined treatment of each aspect of waste management. The process of identification of the location for the Regional Waste Management Center (RWMC) will be guided by the Best Practical Environmental Option (BPEO) study (see below). While the PMU will be responsible for the implementation of all project activities (including those for other stakeholders like the EPA), the island councils and WAMCO will operate IWMCs and RWMC respectively.

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## F. Project location and Salient physical characteristics relevant to the safeguard analysis (if known)

Maldives is an island nation in the Indian Ocean oriented north-south off India's Lakshadweep Islands. The Maldives consists of 1,192 coral islands grouped in a double chain of 26 atolls. The country's atolls encompass a territory spread over roughly 90,000 km<sup>2</sup>, making it one of the world's most geographically dispersed countries. Over 200 of its 1,192 islands are habituated by the country's population, with an average of 5-10 islands in each atoll being inhabited islands that have infrastructure such as housing, roads and other facilities built in. A significant number of uninhabited islands in each atoll have also been converted to resorts and tourism facilities as well as house infrastructure such as industrial facilities and airports.

The atolls are composed of live coral reefs and sand bars, situated atop a submerged ridge 960 km long



that rises abruptly from the depths of the Indian Ocean. Maldives is noted as the country placed at the lowest elevation in the world, with maximum and average natural ground levels of only 2.4 m and 1.5 m above sea level, respectively. More than 80 per cent of the country's land is composed of coral islands which rise less than one meter above sea level. The islands consist of coral, sea grass, seaweed, mangrove and sand dune ecosystems which are of great ecological and socio-economic significance. Maldives is home to a number ecologically sensitive marine habitats in shallow and intertidal zones which have been designated as protected areas by the Ministry of Environment and Energy (MEE) and these regions and any activities in their vicinity are stringently monitored and managed.

The project focuses on three regions in the Maldives. The Southern region or Zone IV and Zone V, which includes the Atolls of Dhaalu, Faafu, Meemu, Laamu and Thaa and the formal MEMP Project area, Zone II in the North Central Region, which included the Atolls of Raa, Baa, Noon and Lhaviyani. Island level waste management activities will be conducted in inhabited Islands in the project Atolls. The generic topographic, ecological and climatic conditions across the atolls and regions do not vary on great scale.

The project is expected to bring overall positive environmental benefits through ensuring a sound system for solid waste management. While the project activities themselves will facilitate in curtailing the major impacts associated with improper management of solid waste, there still remains the risk associated with the operation of solid waste management facilities and final disposal of solid waste that need to be managed accordingly. In addition, there is also the uncertainty regarding the exact locations of activities to be carried out under the project and project interventions that will involve physical alterations to the environment, such as those that fall within the activities of Components 2 and 3. Detailed feasibility studies and options analyses will determine the nature of the investments. Potentially the most serious impacts are likely to occur in the construction and operation of the RWMC under Sub-Component 2b. Based on past experience in the Maldives, it is not possible to build an RWMC on an inhabited islands due to high population densities, coupled with community opposition. The only available alternative is to construct the RWMC on uninhabited islands or in islands with compatible land use such as industrial islands. The nature, magnitude and scale of potential environmental impacts of the regional solid waste management component under Sub-Component 2b will only be known once the feasibility studies have been conducted under Sub-Component 3a and the technology for final disposal and site are known post the Best Practicable Environmental Option Study (BPEOS) that will be conducted prior to the feasibility study and is built into the project design.

The key impacts that can be envisioned at this stage will be the need for land for the establishment of the RWMC. In the context of the limited land availability due to the geographic setting of the Maldives it is unlikely that there will be uninhabited islands with adequate land area to construct a regional solid waste landfill for waste disposal for a 20+year period. Reclamation of a shallow lagoons surrounding islands is an option widely used for expanding the land area of islands. Considering the fragile ecosystems in the Maldives, this could result in loss of some areas of coral reef, with potentially irreversible impacts of the marine ecosystem. Considering the environmental damage and the cost incurred for reclamation, the project will not support this option. In order to minimize the adverse impacts on the coral reef system in an uninhabited island, site selection is critical and will be addressed in the BPEO study. Priority will be given to the condition of the reef surrounding the island. Every attempt would be made to select a degraded reef ecosystem, preferably beyond rehabilitation, where the impacts of excavation for a navigation channel for accessing the island, if needed, will be less significant.



By reducing the volume of waste that is currently dumped in the ocean, the project will have long term beneficial environmental impacts. There is potential for adverse impacts on the environment during the construction and operation of the Island’s Waste Management Centers such as those highlighted below but these can easily be managed. Any adverse impacts that may arise from these activities will be identified and addressed through the EA process.

Typical impacts of IWMC establishment and operations will depend on the types of final disposal of organic waste which will be proposed in the feasibility studies. Initial technical assessments indicate that the technical methodologies such as passive composting, windrow composting, in-vessel composting or small scale anaerobic digesters will pose moderate risks and manageable impacts.

**G. Environmental and Social Safeguards Specialists on the Team**

Susrutha Pradeep Goonesekera, Mokshana Nerandika Wijeyeratne

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**SAFEGUARD POLICIES THAT MIGHT APPLY**

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	<p>The project is categorized as an Environmental Category A. The categorization is predominantly due to project activities including the construction of new/upgrading of SWM facilities, addressing management of existing disposal sites and onsite treatment, management and the final disposal of solid waste in proposed facilities, including final disposal facilities for more that 10tons/day of residual solid waste at an the RWMC, under Components 2 and 3, that would have significant environmental implications.</p> <p>While the overall project is environmentally beneficial, physical interventions to establish a sound SWM system will lead to significant environmental impacts and need to be stringently mitigated and managed within the context of the project.</p> <p>Component 3 will include the establishment of IWMCs and/or upgrading of existing IWMCs that will undertake intermediate treatment of SWM at the Island level. Sub-component 2b will involve the establishment of a RWMC in the Zone IV and V Region. The locations for the new RWMC facilities will be identified during project implementation as</p>



part of the Best Practicable Environmental Options Study (BPEOS). An Environmental and Social Assessment Management Framework (ESAMF) has been prepared by GoM which will serve as a roadmap outlining the prerequisite environmental and social screening and assessments that will need to be undertaken for all project activities, as per the national environmental legislations of the Maldives and the Bank's Operational Policies on Environmental Assessment (OP4.01) and other triggered safeguards policies.

Due diligence measures focusing on the RWMC will include a standalone Environmental and Social Assessment (ESIA) for the proposed site and technologies, as per a detailed ToR which has been presented in the ESAMF. The ESIA will be conducted once the location and design for the facility have been finalized via the feasibility studies and BPEO study which are inbuilt in to the project design.

In addition, the ESAMF also outlines a framework for due diligence measures to be taken at all steps of project implementation, including a stringent procedure for environmental management and monitoring of the IWMCs and RWMC at the operational phase. Operations are required to be in line with both national guidelines as well as the World Bank General and Solid Waste Management Sectoral Environmental and Health Guidelines which have been stipulated in the ESAMF.

Sites for the establishment of IWMCs will be selected post the island level preparation of IWMPs and respective feasibility studies, which will stipulate the appropriate technology and exact location and design of the IWMCs. These will then proceed with environmental screening and the preparation of either an ESIA or ESMP as per the screening criteria.

Under Sub-component 2a, activities in the Zone II would include provision of equipment, augmentation of storage facilities, and access roads on the site at the RWMC. A site specific full Environmental and Social Assessment has already been completed for the RWMC facility and has been



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cleared by IDA. This Environmental and Social Impact Assessment (ESIA) and Environment and Social Management Plan (ESMP) for the RWMC will be still valid as it takes in to account all these provisions.

For the IWMCs in the MEMP region Environmental and Social Assessments have already been completed taking to account the IWMPs. Over the project period of the original project the key environmental impacts have been mitigated and well-managed, thus the same safeguard instruments, which include ESMPs for each respective IWMC. These will also remain valid as the project will only be providing vehicles and equipment, which were included in the original design.

The ESAMF has been consulted, cleared and disclosed to the public as per the National Environmental Act of the Maldives and World Bank Safeguard policies.

Natural Habitats OP/BP 4.04

Yes

This policy is triggered because all of the country’s islands are surrounded by coral reefs which are significant natural habitats. The overall project will not conduct any activities within designated protected areas and project interventions will facilitate in mitigating pollution and degradation of such ecosystems due to inappropriate SWM. Adequate measure to screen, identify and mitigate any potential impacts to coral reefs, island vegetation and associated fauna and flora have been included in the ESAMF.

Forests OP/BP 4.36

No

There are no areas classified as forests in Maldives. Any potential impacts on island vegetation are covered through OP/BP 4.04.

Pest Management OP 4.09

No

In Health care services and the Island Councils in inhabited islands take stringent measures such as spraying of waste accumulated areas in the Islands with public health pesticides as a part of routine control against mosquitoes for dengue control programs implemented by the relevant governmental authorities as per WHO standards.

The ESAMF includes reference to monitoring and



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		mitigating any vector outbreaks using the national processes.
		The project will not finance the purchasing of any pesticides, herbicides or other chemical poisons. Thus, the policy is not triggered.
Physical Cultural Resources OP/BP 4.11	No	No project-supported activities are expected in the vicinity of or will affect physical cultural resources, as defined by OP/BP4.11. However, The project environmental screening format does include screening for PCRs specifically and chance find procedures have been included as part of mitigation measures defined in the ESMF and OP/BP 4.01.
Indigenous Peoples OP/BP 4.10	No	There are no identifiable indigenous communities in the Maldives.
Involuntary Resettlement OP/BP 4.12	Yes	The interventions leading to the construction and expansion of IWMCs could lead to future involuntary loss of crop and/or land taking as a small percentage of the communities rely on surrounding land for agriculture and livelihood. As a result, a resettlement policy framework (RPF) has been prepared as part of the ESAMF in line with the Bank’s policy on Involuntary Resettlement.
		Waste picking and waste scavenging have not been currently identified within the project area as it not culturally practiced in the Maldives.
Safety of Dams OP/BP 4.37	No	This policy is not triggered as there will be no activities that invest on dams or water retention structures. The project does not depend on any existing dams or water retaining structures.
Projects on International Waterways OP/BP 7.50	No	The proposed project activities do not have any impacts on international waterways and therefore this policy is not triggered
Projects in Disputed Areas OP/BP 7.60	No	There are no disputed areas in the Maldives therefore this policy is not triggered.

**KEY SAFEGUARD POLICY ISSUES AND THEIR MANAGEMENT**

**A. Summary of Key Safeguard Issues**

1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

The project is expected to bring overall positive environmental benefits to the project areas through ensuring a sound system for solid waste management is established in the project regions. While the project activities



themselves will facilitate in curtailing the major impacts associated with improper management of solid waste there still remain the risks associated with the operation of solid waste management facilities and final disposal of solid waste that need to be managed accordingly. In addition there is also the uncertainty regarding the exact locations of activities to be carried out under the project and project interventions that will involve physical alterations to the environment, such as those that fall within the activities of Components 2 and 3 which will be fueled by feasibility studies that will determine the nature of the investments.

## **Component Specific Environmental Impacts**

### **Component-1**

This component would channel Bank support to finance activities related to implementation of the SWM Policy 2015 at the national level. It will also set the scene for a review of the Policy beginning around 2019-2020 (mid-term of the proposed project). This component will be guided by constraints identified thus far, and priorities emerging from the current Solid Waste Bill, a draft for which is being processed in the MEE and AG office for deliberations in the Majlis in 2017. Candidate areas for support include reuse of construction debris, ocean plastics, Extended Producer Responsibility (EPR), etc.

Interventions under Component 1 will not involve any physical interventions and will bring about strong positive environmental impacts in the long term, by strengthening the implementation of national level sound waste management activities via policy directives, awareness and education which will help promote sound solid waste management throughout the country. It will also build local technical capacity within the sector which will help maintain the sustainability of sound waste management in the country.

### **Component-2**

Sub-Component 2a will support Activities in the Zone II which will include the following investment activities in Zone II for operationalization of the facilities created under MEMP at the RWMC in Vandhoo. Site specific full Environmental and Social Assessments have already been completed for the RWMC facility and Vandhoo and has been cleared by IDA. Over the project period of the original project the key environmental impacts have been mitigated and well-managed, thus the same safeguard instruments, which include the Environmental and Social Impact Assessment (ESIA) and Environment and Social Management Plan (ESMP) for the RWMC will be valid for the continuity of these projects. All environmental and social impacts identified during the implementation of MEMP have been well implemented and operational phase impacts are continuously monitored to ensure good compliance at the RWMC and at Island level.

In terms of operational aspects, an Operation Manual for operating the RWMC is in place and staff training on sound management of the incinerator and operation of the system in a manner that will manage environmental impacts has also been conducted. The Installation of emission controls/monitoring system to monitor compliance with standards as per the ESMP of the RWMC has been completed as well. The RWMC will maintain air emission standards as per the EU standards which have been set in the National Waste Incineration Guidelines. Routine monitoring of the ESMP is conducted by the relevant agencies of the Ministry of Environment and Energy.

Potentially the most serious impacts are likely to occur in the construction and operation of the RWMC under Sub-Component 2b. Based on past experience in the Maldives, it is not possible to build an RWMC on an inhabited islands due to high population densities, coupled with community opposition. The only available



alternative is to construct the RWMC on uninhabited islands or in islands with compatible land use such as Industrial Island. The nature, magnitude and scale of potential environmental impacts of the regional solid waste management component under Sub-Component 2b will only be known once the feasibility studies have been conducted under Sub-Component 3a and the technology for final disposal and site are known post the Best Practicable Environmental Option Study (BPEOS) that will be conducted prior to the feasibility study and is inbuilt in to the project design.

The key impacts that can be envisioned at this stage will be the need for land for the establishment of the RWMC. In the context of the limited land availability due to the geographic setting of the Maldives it is unlikely that there will be uninhabited islands with adequate land area to construct a regional solid waste landfill for waste disposal for a 20+year period. Reclamation of a shallow lagoons surrounding islands is an option widely used for expanding the land area of islands. Considering the fragile ecosystems in the Maldives, this could result in loss of some areas of coral reef, with potentially irreversible impacts of the marine ecosystem. Considering the environmental damage and the cost incurred for reclamation, the project will not support this option. In order to minimize the adverse impacts on the coral reef system in an uninhabited island, site selection is critical and will be addressed in the BPEO study. Priority should be given to the condition of the reef surrounding the island. Every attempt would be made to select a degraded reef ecosystem, preferably beyond rehabilitation, where the impacts of excavation for a navigation channel for accessing the island, if needed, will be less significant.

### **Component-3**

All parts of this component will support the development and completion of island level facilities for managing collection, segregation, on-site treatment of waste and storage of residual waste, until its eventual transfer to the RWMC. The candidate zones for the project are currently IV and V.

The sub-component will fund the preparation, feasibility and implementation of Island Waste Management Plans and the establishment of Island Waste Management Centers (IWMCs) on inhabited islands. It is unlikely to cause any irreversible environmental impacts, they will be subject to screening criteria in order to determine their reference to the EA processes. Environmental impacts arising from the construction and operation at IWMC's are not likely to be significant. Approximately 130 IWMC's have been constructed across the Maldives under previous projects and none have progressed beyond an ESMP in terms of environmental assessment requirements. This is predominantly as the facilities often deal with less than 10 tons of waste per day.

By reducing the volume of waste that is currently dumped in the ocean Sub-component 3c will have long term beneficial environmental impacts. There is potential for impacts on the environment during the construction and operation of IWMC's such as those highlighted below but these can easily be managed. Any adverse impacts that may arise from these activities will be identified and addressed through the EA process.

Typical impacts of IWMC establishment and operations will depend on the types of final disposal of organic waste which will be proposed in the feasibility studies. Initial technical assessments indicate that the following forms technical methodologies such as passive composting, windrow composting, in-vessel composting or small scale anaerobic digesters will mostly leader to construction phase impacts and operational impacts such as emissions to air, leachate, odors, minor risk of fire and pose moderate risks. With prior experience in the Maldives, it can be deduced that impacts from IWMCs are minimal and can be managed in a sound manner.



## Overall Social Impacts

The project does not envisage any significant adverse social impacts. However, the interventions leading to the construction and expansion of IWMCs could lead to future cases of involuntary loss of crop, land taking as a small percentage of communities rely on surrounding land for agriculture and livelihood. As a result, a resettlement policy framework (RPF) has been prepared as part of the ESAMF in line with the Bank's OP4.12 on Involuntary Resettlement. Potential positive impacts during construction phase include increased employment opportunity in the construction sector. While the construction of IWMCs are likely to be sourced locally, the construction of the RWMC - requiring skilled labor - may involve the use of expatriate/migrant/non-local labor but no influx is expected as the works are small and phased. It is also likely that the construction of the RWMC will be in an uninhabited island where there is no host community. Positive socio-economic impacts can also be expected during operational phase including creation of new employment opportunities in relation to operation of the RWMC, IWMC and waste transport vessels.

The investments under Component 2 and 3, will be preceded by a Best Practice Environmental Options (BPEO) study embedded in the Feasibility Study (FS). This will assist the Atoll and the Island Councils, as well as its communities, in identifying the scope of the current issues related to SWM and identify potential options of addressing the issues that will be environmentally and socially beneficial to the communities and the best option taking the environment in to key consideration.

### 2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:

The social and environmental impacts of the proposed project is deemed to be positive and sustainable in the long term. The project is also expected to improve the overall socio-economic status of the communities, including women, as a result of the potential opportunities vis a vis the recyclables.

### 3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.

Several alternatives will be considered under the BPEO / FS for the selection of the regional waste management option and selection of the final disposal method and location of the RWMC would be based on a detailed analysis guided by the ESAMF and the BPEO study. The feasibility studies for individual Island Waste Management Centers will also consider alternative means of island level treatment for organic waste to deduce the best alternative to treat municipal solid waste at the island level that will have the best suitability and minimal impacts.

### 4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.

An Environmental and Social Assessment and Management Framework (ESAMF) in lieu of an overall project-specific Environmental Assessment (EA) and Social Assessment (SA) has been prepared as details of specific sites and design of the IWMCs, RWMC and other project physical interventions in the project Zones are not known. These will be deduced post technical and financial feasibility studies which will be conducted in the case of IWMCs for each respective Island and in the case of the RWMC for the technology and location selected via a Best Practicable Environmental Option (BPEO) study. The ESAMF primarily includes an assessment of generic impacts that are typically associated with anticipated interventions, under the project, which are similar to the World Bank funded MEMP project which closed in early 2016. It provides guidance on the management of environmental and social safeguards in line with project interventions to ensure stringent due diligence and has been informed by the lessons learned during the implementation of safeguards within the context of the MEMP Project. The ESAMF outlines detailed guidelines of measures for environmental and social risk mitigation and institutional arrangements for conducting environmental and social assessment, instruction to the preparation of



Environmental and Social Assessments (ESIAs), Environmental and Social Management Plans (ESMPs), the BPEO study and other such measures as well as implementation and monitoring.

All interventions will be subject to an environmental and social screening with the objective to: (a) determine the anticipated environmental and social impacts, risks and opportunities of sub-project; and (ii) determine if the anticipated impacts and public concerns warrant further environmental analysis, and if so to recommend the appropriate type and extent of Environmental Assessment needed as per the set criteria in the ESAMF.

The ESAMF takes in to account the applicable safeguard policies as well as national legislative environmental requirements and the World Bank Group General Environmental Health and Safety Guidelines and the Guidelines for the Solid Waste Management Sector. It serves as a guide to the level of environmental analysis and mitigation required for all interventions supported by the project which will have the potential to trigger negative environmental impacts and thereby ensure compliance with the World Bank's environmental safeguard policies and the relevant national Environmental regulations during implementation. As a category A project, all physical activities financed under the project in general will be subject to Environmental Assessment, however from the experience of the MEMP project the following can be concluded. While it is envisioned that many of the Island level activities financed under the project may not require full ESIs and ESMPs will be sufficient, as per the scale of the interventions which will focus on redesign, rehabilitation and upgrading to fit new designs post the feasibility studies, all new construction of IWMCs will require ESIs, once deemed necessary post the screening procedures. The establishment of the RWMC in Zone IV and V will warrant a full-scale ESIs to be carried out as per the national EIA regulation. All physical sub-projects/activities will prepare ESMPs that will describe and prioritize the actions needed to implement mitigation measures, corrective actions and monitoring measures necessary to manage the impacts and risks identified in the screening assessments, ESIs. Measures and actions that address identified impacts and risks will favor the avoidance and prevention of impacts over minimization, mitigation wherever technically and financially feasible. Where risks and impacts cannot be avoided or prevented, mitigation measures and actions will be identified so that the activities operates in compliance with applicable national laws and regulations and meets the requirements of relevant World Bank EHS standards which draw from international best practice.

The experience of the MEMP has shown that social safeguards issues are non-existent during similar project modalities. However, the interventions leading to the construction and expansion of IWMCs could lead to future cases of involuntary loss of crop, land taking as a small percentage of communities rely on surrounding land for agriculture and livelihood. There are no indigenous communities living in the Maldives.

The MEE has good capacity in terms of technical aspects as well as management and implementation of safeguards drawing from both the MEMP experience and a host of other Bank and donor funded projects within the ministry. The MEE has seconded an environmental specialists from the EPA to focus on the tasks and responsibilities outlined in the ESAMF in the role of an Environmental and Social Coordinator (E&S Coordinator) within the PMU. A team of Environmental and Social officers will be posted in each of the project Atolls and report to the E&S Coordinator. He/She will report to the Project Manager and will work closely with the assigned team, Island Councils, Environmental Protection Agency. The E&S Coordinator and team will be responsible for ensuring the overall implementation of the ESAMF and will also liaise with other agencies, contractors and engineering supervisors at the island level to implement safeguards mitigation measures. The E&S Coordinator will be responsible for monitoring and evaluation of safeguards implementation and will report on compliance and status of performance indicators. A team of Environmental and Social officers assigned to the Atolls in Zone IV will



be responsible for covering the project sites and will work closely with the consultants, contractors and staff at the sites and with the E&S Coordinator centrally. The E&S Officer at the Atoll level will also be the first level of contact for any grievance/feedback for the community. The E&S Coordinator will take the leadership to orient staff and implementing partners of the ESAMF and on how to operationalize it on the ground. The EPA, as the main environmental regular or, will work closely with the PMU, providing clearance and guidance on technical requirements for respective safeguard assessments by issuing specific TORs, conducting review of safeguard documents that will require their clearance and also ensure the needs for operational monitoring are well incorporated in to the project.

The project will provide training in environmental management and on environmental and social management to the MEE PMU staff, WMD, EPA, IC and contractors to improve institutional capacity. The cost for monitoring and supervising the implementation of environmental and social project regulations have been integrated into the overall project investment cost.

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5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

Even within the MEE, there are several Departments and Agencies that will be closely linked with the implementation of the MCEP. These include the Waste Management Department (WMD), Environment Protection Agency (EPA), MEMP PMU to name but a few. Among the Ministries, the Ministry of Finance, Ministry of Housing, Ministry of Health and the Ministry of Tourism will take center stage. WAMCO, the tourist resorts, and the respective Atoll Councils and Island Councils, including its community members, will be key to a successful implementation of the project.

Public consultations were held with affected stakeholders at Island and Atoll Council levels during the preparation of ESAMF in November 2016. In addition the draft ESAMF has been disclosed online in the MEE website since 18, November 2016. Further consultations will be undertaken as part of the feasibility studies and assessments. These should be duly documented in the respective outputs of the consultancies. In addition, the technical coordinators, E&S Coordinator and the island level officials will be required to undertake continuous consultations with stakeholders and report as part of safeguards monitoring. As part of the ESAMF, guidance on preparing an entitlement framework has been provided. All safeguards related documents were disclosed in-country through the MEE website on 01, February 2017 and in World Bank’s InfoShop on 01, February 2017. No sooner the project commences implementation, the project is expected to have regular consultations with local stakeholders on issues related to environmental and social issues.

**B. Disclosure Requirements (N.B. The sections below appear only if corresponding safeguard policy is triggered)**

**Environmental Assessment/Audit/Management Plan/Other**

Date of receipt by the Bank	Date of submission to InfoShop	For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors
<b>19 November 2016</b>	<b>01 February 2017</b>	<b>02 February 2017</b>



**"In country" Disclosure**

The Ministry of Environment Website : <http://www.environment.gov.mv/v1/download/1415>

**C. Compliance Monitoring Indicators at the Corporate Level (to be filled in when the ISDS is finalized by the project decision meeting) (N.B. The sections below appear only if corresponding safeguard policy is triggered)**

**OP/BP/GP 4.01 - Environment Assessment**

Does the project require a stand-alone EA (including EMP) report? YES

If yes, then did the Regional Environment Unit or Practice Manager (PM) review and approve the EA report? YES

Are the cost and the accountabilities for the EMP incorporated in the credit/loan? YES

**OP/BP 4.04 - Natural Habitats**

Would the project result in any significant conversion or degradation of critical natural habitats? NO

If the project would result in significant conversion or degradation of other (non-critical) natural habitats, does the project include mitigation measures acceptable to the Bank? YES

**The World Bank Policy on Disclosure of Information**

Have relevant safeguard policies documents been sent to the World Bank's Infoshop? YES

Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs? YES

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### All Safeguard Policies

Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies? YES

Have costs related to safeguard policy measures been included in the project cost? YES

Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies? YES

Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents? YES

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### CONTACT POINT

#### World Bank

James Orehmie Monday  
Senior Environmental Engineer

Gaurav D. Joshi  
Senior Environmental Specialist

#### Borrower/Client/Recipient

Ministry of Finance and Treasury

#### Implementing Agencies

Ministry of Environment and Energy, MEE  
Ahmed Murthaza  
Director General  
ahmed.murthaza@environment.gov.mv



**FOR MORE INFORMATION CONTACT**

The World Bank  
1818 H Street, NW  
Washington, D.C. 20433  
Telephone: (202) 473-1000  
Web: <http://www.worldbank.org/projects>

**APPROVAL**

Task Team Leader(s):	James Orehmie Monday Gaurav D. Joshi
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**Approved By**

Safeguards Advisor:	Maged Mahmoud Hamed	
Practice Manager/Manager:	Kseniya Lvovsky	
Country Director:	Idah Z. Pswarayi-Riddihough	

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