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

Appraisal Stage | Date Prepared/Updated: 20-Dec-2019 | Report No: PIDISDSA24829
### BASIC INFORMATION

#### A. Basic Project Data

<table>
<thead>
<tr>
<th>Country</th>
<th>Project ID</th>
<th>Project Name</th>
<th>Parent Project ID (if any)</th>
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<tbody>
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<td>Maldives</td>
<td>P163957</td>
<td>Maldives Urban Development and Resilience Project</td>
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<td>Investment Project Financing</td>
<td>Ministry of Finance</td>
<td>Ministry of National Planning and Infrastructure</td>
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#### Proposed Development Objective(s)

To enhance resilient infrastructure and urban planning in selected cities in Maldives and strengthen the Government’s capacity to provide effective response to disasters.

#### Components

- Component 1: Resilient Infrastructure and Emergency Preparedness
- Component 2: Sustainable Urban Planning, Development, and Management
- Component 3: Project Implementation Management and Reporting
- Component 4: Contingent Emergency Response Component

### PROJECT FINANCING DATA (US$, Millions)

#### SUMMARY

<p>| | |</p>
<table>
<thead>
<tr>
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#### DETAILS

**World Bank Group Financing**
B. Introduction and Context

Country Context

1. **The Republic of Maldives is an archipelago comprised of 1,192 islands spread over 26 atolls, stretching over 800 km. north to south.** With an estimated population of 436,330 in 2018 and a total land area of less than 300 sq. km., Maldives is the smallest and the most densely populated country in South Asia. Population is heavily concentrated around Greater Male’, the capital, accounting for about one third of the total population.\(^1\) The rest is distributed across approximately 200 islands,\(^2\) many of them inhabited by less than 500 people. In 2018, GDP and GNI (Atlas method) per capita were USD 10,242 and USD 9,310, far above the regional mean.

2. **Despite its uniquely challenging geography and widely dispersed population, Maldives has become an upper-middle-income country by capitalizing on its extraordinary natural marine and coastal assets.** Maldives growth success has been mainly driven by the development of a resort-based high-end tourism sector that has helped sustain impressive growth and mobilize resources to improve development outcomes and has lifted the majority of the population out of poverty. In 1980, Maldives was among the poorest countries in the world with a GDP per capita of 268 USD (or just 0.02 percent of the US income). In less than 40 years, sustained and fast growth has allowed the country to close the gap with rich countries (16.3 percent of US income in 2018), reaching upper middle-income status and on pace to become a high-income country within the next lustrum. Annual real GDP growth, averaging 5.6 percent over 2000-18, has been comparable to that of middle-income countries and ahead of other island small states. Few Maldivians are poor according to national and international poverty lines. About 8.2 percent of Maldivians live below the national poverty line and 6.6 percent live below the international poverty line.

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\(^1\) Greater Malé is defined as Hulhumalé, Hulhulé, Malé, Funadhoo, Villingili, Gulhifalhu, and Thilafushi islands. In this PAD, Malé refers to Malé island.

\(^2\) Resort islands are not classified as inhabited by the Government of Maldives; Government of Maldives National Bureau of Statistics.
line for upper middle-income countries (US$5.5 per person per day).³

3. **Central to Maldives’ development agenda is how to sustain these remarkable gains, while addressing the tensions and threats emerging from its development trajectory.** The current development model and inherent characteristics of small island states present important economic, social, and environmental challenges that threaten long-term sustainability. Small size, geographical isolation and population dispersion limit agglomeration effects and economies of scale, resulting in a high cost of doing business. The dispersed islands lead to high cost of transport per unit due to the distance to markets. In addition, economic vulnerability is exacerbated by the dependence on several strategic imports, such as food and fuel, and concentration of economic activities around a few key sectors, notably fishing and tourism, with limited available opportunities for diversification.

4. **In recent years, the government has embarked upon an ambitious infrastructure program.** These investments—to address bottlenecks in the tourism sector, increase resilience to climate change, ease constraints in service delivery and support housing projects—have led to a rapid increase in public and publicly guaranteed external debt. Maldives’ total debt was estimated at about 75.3 percent of the GDP in June 2019. Debt-to-GDP ratio grew by 10.9 percentage points between end-2017 and June-2019, mainly on account of a large leap in guaranteed debt – which rose from 4.3 percent to 16.3 percent of GDP. Maldives’ risk of external debt distress remains high.⁴

5. **With sea levels expected to rise and extreme weather events likely to increase in frequency and intensity,⁵ the low-lying Maldives is considered one of the world’s most vulnerable countries.** The country’s average elevation is 1.7 meters above sea level.⁶ The consequences of high frequency events such as monsoonal flooding, coastal erosion, saltwater intrusion and sea level rise, combined with the potential of tsunamis, thunderstorms, flash floods, prolonged dry periods and coral reef destruction, pose threats to lives, livelihoods and the economy. Sea level and temperature rise and changes to the frequency and intensity of tropical storms threaten coral reef ecosystems, which provide a buffer against waves, floods and erosion. The reefs are also the foundation of Maldives’ two main economic activities, namely fisheries and tourism. As coastal erosion and pressure on inhabitable land increase, the physical vulnerabilities of the islands’ populations, infrastructure and livelihoods will increase. The effects of climate change, if poorly managed, could cause annual economic losses of over 12 percent of Maldives’ GDP by 2100.⁷

**Sectoral and Institutional Context**

6. **Maldives’ urban development falls into two groups: Greater Malé and the outer atolls.** In Greater Malé, access to tertiary education, employment, housing and modern urban services attract people from throughout the country. Large-scale migration to the Malé region⁸—while most atolls has experienced a shrinkage due to outmigration⁹—has led to severe overcrowding that is aggravating social

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³ Household Income and Expenditure Survey (2016) and staff calculations.
⁴ IMF, 2019.
⁵ Fifth Assessment Report (AR5) of Intergovernmental Panel on Climate Change (IPCC) 2014.
⁶ UNDP, 2013.
⁷ Economics of Climate Change in South Asia, Asian Development Bank, 2015.
⁸ Approximately 53 percent of the resident population of Malé is made up of migrants from other atolls, and Malé has seen an increase in its total Maldivian population share between the 2006 and 2014 Census (from 34.7 percent to 38.8 percent).
and environmental vulnerabilities of inhabitants. Malé is among the densest cities in the world, with 177,500 residents housed on a 1.95 km$^2$ island\textsuperscript{10}. In the outer atolls, small size of population and distance to markets are significant barriers to sustainable service delivery. Many people living in the outer atolls do not have piped water supply or sewer networks, while employment and educational opportunities are limited.

7. **To address demographic pressures in Greater Malé, the Government of Maldives (GoM) has pursued a two-pronged approach:**

i. **A focus on the sustainable development of the Greater Malé region considering existing migration trends.** In parallel to strengthening urban services in Malé, the creation of a reclaimed island, Hulhumalé, was planned with the objective of reducing congestion in Malé and meeting development demands. Hulhumalé is the first planned city in the country. Its planning and design incorporate climate adaptation considerations and the 400-hectare landmass sits approximately two meters above mean sea level. Reclamation of Hulhumalé Phase 1 (160 hectares) was completed in 2002. Its primary physical and social infrastructure and residential development have been completed, and about 50,000 people are currently housed there, with a final target population of 80,000. Phase 2 reclamation (244 hectares) was completed in 2015, and construction is underway. Phase 2 has a target population of about 100,000 people.

ii. **A parallel regional development strategy is looking to reduce migration pressures through the provision of needed economic, cultural and social assets in other parts of the country.** The Government has identified 21 urban centers in five designated regions, which are planned to service clusters of atolls and offer social, economic and cultural alternatives to Greater Malé.

8. **Of critical concern is that Maldives’ vulnerability to natural hazards and climate variability increasingly impacts basic infrastructure and livelihoods, pointing to the need to ensure that resilience is incorporated in the urban development efforts of both Greater Malé and outer atolls.** Today, 44 percent of all settlements\textsuperscript{11} are within 100 meters of the shoreline. Additionally, approximately 70 percent of the country’s total land area is about one meter above the mean sea level.\textsuperscript{12} As a result, there occurs recurrent floods (several times a year), particularly in Malé. The country’s urban infrastructure assets are under threat of submergence and/or damage. Increasing rainfall intensities have exacerbated the problem. Sea level records for the past 20 years indicate a rise of about 3.75 mm/year, and sea surface heights are projected to increase between 0.40 and 0.48 meters by 2100.\textsuperscript{12} Despite these vulnerabilities, there has been limited attention to address these risks and strengthen urban infrastructure’s resilience to climate change impacts, until recently.

9. **The development of disaster preparedness systems including early warning systems, a critical aspect of resilience, has only recently been prioritized.** Early warning systems were largely absent at the time of the 2004 tsunami, which led to the loss of 77 lives, economic losses of US$470 million and the internal displacement of over 12,000 people from eighteen atolls.\textsuperscript{12} Since then, the country has adopted

\textsuperscript{10} Government of Maldives National Bureau of Statistics, 2019 Population Projection  
\textsuperscript{11} Including 47 percent of houses, 80 percent of powerhouses, 75 percent of communications infrastructure, and 90 percent of waste disposal sites  
early warning systems and has developed the concept of a “Safer Island Strategy” to safeguard people and critical infrastructure. Nonetheless, Maldives remains vulnerable, and more emphasis on disaster preparedness is needed.

**Sustainable, Resilient Development of the Greater Malé Region**

10. **Within Greater Malé, urban planning has supported efficient provision and delivery of urban infrastructure services.** The Master Plan for Hulhumalé was completed in 2001 and defines the island’s long-term land use and development strategy. The Housing Development Corporation (HDC), a state-owned enterprise (SOE), plans, develops and manages the island. The Asian Development Bank (ADB) published a draft *Strategy for Development of the Greater Malé Region* in December 2017, which presented 15 to 20-year urban planning and economic strategies for the Region. The implementation of these plans is helping to bring some level of physical resilience to the development of Hulhumalé in particular.

11. **Stormwater drainage systems are obsolete in Malé and do not exist in Hulhumalé.** On the south and southwest side of Malé, several land reclamation projects have been carried out over the past decade. The reclaimed land is at a lower elevation and at risk of severe flooding as stormwater moves from more elevated areas towards the sea via the reclaimed land and cannot be discharged quickly enough. Recent flooding depths are on average 0.4 meters and have resulted in large-scale traffic and business disruptions as well as property losses. The bulk of Malé’s existing drainage system\(^\text{13}\) is over forty years old and has not been functional over the past decade. Clogged grids and gutters and broken pipes are common. Widespread flooding was reported in December 2018 when the city received record rainfall in a short six-hour period in one day, equivalent to about half its yearly rainfall average. Hulhumalé has not been designed with a stormwater drainage system\(^\text{14}\) and is at risk of drainage problems and flashfloods in the future.

12. **Lack of suitable surface water has aggravated Maldives’ heavy dependence on desalinated groundwater to meet its water needs.** Groundwater is susceptible to pollution and salt water intrusion. Lack of treatment, improper disposal of sewage and leaking septic tanks pose significant threats to groundwater, safety and public health. Over-extraction of groundwater has resulted in salt intrusion. Reverse osmosis treated brackish groundwater extracted approximately 70 meters below ground (which is expensive and requires significant energy) is supplied to most of Greater Malé’s households (>97 percent) by Malé Water and Sewerage Company (MWSC). This water is used for household needs, firefighting and irrigation/watering of green public spaces while most households depend on bottled water for drinking. A fire at a desalination plant in 2014 led to a 10-day suspension of all water supply to Malé, declaration of a state of disaster and US$20 million in relief operations, highlighting the vulnerabilities of the water supply to shocks. To address these vulnerabilities and increase water security,

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\(^{13}\) Malé’s drainage system consists of gutters on paved roads, installed in 6m intervals. Between 2014-2018, 15 pumping stations were installed, pump collection chambers were built, and street gutters in the reclaimed neighborhoods were connected. The streets have mostly been constructed with interlocking paving blocks to allow direct infiltration of rainwater to help recharge the aquifer and replenish the water table; however, the system has not been functioning or performing as expected due to cementation in between and underneath the paving blocks, lack of regular maintenance and higher volumes of precipitation as a result of climate change.

\(^{14}\) The assumption in the design of reclaimed land at Hulhumalé is that all stormwater will percolate into the ground via the side verges of the streets. While this can be true for newly reclaimed land, percolation rates reduce over time due largely to the increase in organic matter between the sand particles and settlement of silt particles in the lower layers of soil.
GoM embarked on a program in 2015 to upgrade community rainwater harvesting facilities. Rainwater harvesting facilities have been completed on 29 islands, and work is progressing in 61 more islands; as a result, the number of islands supplied with desalinated water from Malé has reduced from 70 to 31, and the quantities requested from 4600 tons to 1400 tons. Both Malé and Hulhumalé have potential for rainwater harvesting and storage which can make water supply in Greater Malé more sustainable.

13. **A sewage network has been built in Malé and is operational but there is no sewage treatment capacity.** Malé and Hulhumalé Phase 1 are connected to sewer networks, and the design of the network for Hulhumalé Phase 2 is currently underway. However, in the absence of sewage treatment, the collected sewage is discharged untreated into the sea via two outfalls, endangering the marine environment and putting fisheries and tourism at risk. This is particularly critical in Hulhumalé, which was reclaimed at high cost and is increasingly dependent on high-end tourism, international business and commercial operations for financial sustainability.

### Regional Development

14. **The Maldives National Spatial Plan (NSP) 2020-2040, currently under preparation, outlines a decentralized approach to urban development to relieve population and development pressures on Malé, produce a more spatially balanced, resilient distribution of economic opportunities, and bolster overall national economic growth.** The NSP presents a typology of Regional Centers—Central Region (Greater Malé) upper tier Urban Center, lower tier Urban Center, and Satellite Center. A list of services has been developed for each region to prioritize development initiatives and greater accessibility. A central part of this strategy is to concentrate development around economic activities including tourism, fishing, agriculture and aquaculture.

15. **Considering the ongoing development of Greater Malé and the planned development of regional urban centers, the construction sector will continue to be a key driver of growth.** The rapid urban development and unregulated construction sector, however, poses higher risk to the built environment. Recently, there have been injuries and fatalities due to lack of safe construction practices. The Construction Act of 2017 has given the Ministry of National Planning and Infrastructure (MNPI) responsibility for the enforcement and implementation of construction sector policies. Translating the Act into practice requires the creation of an enabling environment for effective enforcement, including the preparation of relevant regulations on safety standards and compliance documents, setting up operating procedures for the construction sector, promoting essential training for actors in the sector, and raising awareness of citizen on building safety.

16. **Overcrowding in urban areas has also contributed to Maldives facing a crisis in affordable housing, driven by limited land, low earnings and savings capacity of the population, limited supply of affordable housing, and an under-developed mortgage market.** Home ownership in the Greater Malé Region is shrinking, and the rental rate is high at ~72 percent. Rental expenditures in the Greater Malé Region doubled between 2003 and 2010 to approximately 3.6 times that of the other atolls. Home ownership is out of reach for likely 80 percent of the population because of the inability to pay the 20 percent down-payment and the constrained capacity to service mortgage payments. Construction costs are high due to imported construction materials and expensive labor; alternative construction

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15 HEIS 2016
technologies to enhance housing resilience and reduce construction costs have yet to be explored to. GoM’s affordable housing finance schemes appear to be ineffective in obtaining buy-in from the banks, while the social housing programs are not adequate to meet growing needs.

**Preparedness for Disasters and Emergencies**

17. **Disaster and emergency response mechanism are underdeveloped in Maldives and require significant improvements.** On September 20, 2019, a fire at a chemical store in Malé caused MVR 35 million (US$22.6 million) in damage and evacuation of 400 people. Early interventions are vital to saving lives, resources and improving development outcomes for those living in the most vulnerable and challenging places in Maldives. Interventions which address the vulnerabilities of women and children in a post-disaster setting are essential to reduce the risk experienced by these groups. The Maldives Fire and Rescue Service, until recently, lacked capacity in both physical and human resources. The Japanese Government has provided a significant amount of physical resources, including high-rise firefighting platforms, fire engines, and water pumps, etc. However, fire and rescue personnel need extensive and continuous training, especially on fire rescue operations. Lack of enforcement of building regulations and inadequate fire hydrants compound the fire risks in Maldives.

18. **As per the Disaster Management Act (DM Act) of 2015, the Government created the National Disaster Management Authority (NDMA) in December 2018.** The NDMA has the mandate to coordinate all disaster management related activities in Maldives and is in the process of establishing the National Disaster Management Steering Committee, which will provide guidance on the country’s disaster management. The NDMA currently lacks an Emergency Operations Center (EOCC) and the necessary tools to efficiently coordinate emergencies and implement the National Emergency Operations Plan (NEOP).

C. **Proposed Development Objective(s)**

Development Objective(s) (From PAD)
To enhance resilient infrastructure and urban planning in selected cities in Maldives and strengthen the Government’s capacity to provide effective response to disasters.

**Key Results**
- People provided with improved urban living conditions (disaggregated by gender)\(^\text{16}\)
- Reduction in area in Malé city that is flooded from annual flooding events (percentage)
- Urban planning tools are operational
- Emergency response system simulations/drills conducted per year using EOCC

D. **Project Description**

19. **The Project attempts to balance the short, medium, and long-term needs of Maldives in the context of the country’s urban and resilience vision.** The Project will fund a sewage treatment plant (STP), stormwater drainage and rainwater storage systems in Hulhumalé and Malé, which will address pressing infrastructure needs of Greater Malé. Investments in Hulhumalé are an opportunity to support the provision of resilient urban services to the new island that will provide possible best practices/blueprints for the development of other Regional Centers. The STP will help improve sanitation, environmental

\(^{16}\) This is a Corporate Results Indicator for SURR Urban projects; “improved” will be defined to include “more resilient”; services to include sanitation, stormwater capture/storage etc.
quality of the seawater around the island and increase the resilience of the region’s population to possible negative health outcomes. Improvements to stormwater drainage and rainwater capture have great potential to advance water self-sufficiency and resilience for firefighting. These will be complemented by improvements to emergency preparedness. In parallel, the Project will work with the Government to support its new regional development policy and address institutional change through key studies in critical areas, including affordable housing and building codes and regulations.

20. **Component 1: Resilient Infrastructure and Emergency Preparedness (US$12.5 million).**
   a. **Component 1.1 Resilient Infrastructure (US$11.0 million).**
      i. **Sewage Treatment Plant (STP) in Hulhumalé Phase 1 and feasibility study of an STP in Malé and Hulhumalé Phase 2 (US$6.0 million).** The Project will finance design, construction, management, and operations and maintenance of an STP in Hulhumalé Phase 1.
      
      ii. **Stormwater Drainage and Rainwater Harvesting and Storage Systems in Malé and Hulhumalé (US$5.0 million).** The Project will support a stormwater drainage masterplan and the upgrading of the primary drainage network in selected wards in Malé to be connected to underground storage tanks constructed under the Project. Captured rainwater will be stored in the underground storage tanks to reduce flooding and to feed existing fire hydrants, irrigating landscapes and greening of neighborhoods.
   
   b. **Sub-Component 1.2: Strengthening emergency response systems (US$1.5 million).**
      i. **Establishment of Emergency Operation Coordination Center (US$1.0 million).** The Project will establish an Emergency Operations Coordination Center (EOCC) within the NDMA. The Center will perform the following functions: information and communication management, including public information and media management; coordination with stakeholders; resource management; and liaison with external stakeholders.
      
      ii. **Strengthening of fire rescue system, Malé (US$0.5 million).** The Project will support training for fire and rescue personnel in urban search and rescue operations and provide specialized small equipment that will assist fire and rescue personnel to better access buildings and narrow alleys within Malé.

21. **Component 2: Sustainable Urban Planning, Development and Management (US$2.5 million).**
   a. **Sub-Component 2.1: Analytical studies on sustainable urban infrastructure and services (US$2.2 million):** This sub-component will finance analytical and feasibility studies for urban infrastructure and services, including regional development and affordable housing. In selected regional centers, the Project will support integrated urban development plans and provide an overall assessment of the National Spatial Plan. An analytical study will develop a strategic roadmap for affordable housing, including interventions to address low female home ownership.
   
   b. **Sub-Component 2.2: Strengthening enforcement mechanism of building code and regulations (US$0.3 million):** This sub-component will finance the development of a building permit procedure and online building approval system as well as a capacity enhancement program for officials in charge of building permit and code-compliance operations.
22. **Component 3: Project implementation, management and reporting (US$1.5 million).** The component will finance incremental operating costs, project implementation staff and consultants, monitoring and evaluation, communications, and relevant trainings. This component will also finance the equipment and furniture required for the PMU and Implementation cells.

23. **Component 4: Contingent Emergency Response Component (CERC) (US$0 million).** In the event of an eligible crisis or emergency, GoM may request the Bank to re-allocate project funds to support emergency response and reconstruction. This component would draw from the uncommitted credit/grant resources under the project from other project components to cover emergency response and reconstruction.

**E. Implementation**

**Institutional and Implementation Arrangements**

24. **Overall, the Project will depend on strong coordination between the agencies that make up the integral pieces for implementation.** The Government has vested overall responsibility for project implementation in MNPI. MNPI shall be responsible for the implementation of the technical details of the Project. MNPI, as the implementing agency, coordinate between the various agencies/institutions. The PMU located within the MNPI will be central to keeping simple rules and regulations regarding meetings, attendance, decisions and Government actions as needed to streamline the implementation process. The PMU will play the role of bringing all parties to the implementation into line behind Government decisions and ensuring that actions (and non-actions) of implementing cells, and technical committees are fully reported to the Inter-ministerial steering committee (chaired by the MNPI Minister) for decision and action.

25. **Steering Committee.** MNPI has established an Inter-ministerial Steering Committee (SC), chaired by the Minister of MNPI, which provides overall strategic oversight and operational guidance for all development projects under its leadership, including MUDRP.

26. **MUDRP will be implemented by MNPI.** A dedicated PMU has overall responsibility for implementing the Project, including all technical, operational, environmental, and social safeguards, procurement, financial management and communication activities. The PMU is headed by a Project Director (PD) and staffed with technical experts and specialists.

27. **Implementation Cells (IC).** Implementation of specific activities will be led by two respective ICs. An IC housed within MWSC will lead on the STP, stormwater drainage, rainwater capture, and underground storage tank activities, working closely with the PMU, HDC and Malé City Council. MWSC will designate a dedicated team to work on project activities, and consultants hired by the Project will be seconded to MWSC to fill any gaps in MWSC’s capacity related to project activities and to work with the dedicated team in order to build MWSC’s longer-term capacity. NDMA will lead on the EOCC and strengthening of fire rescue services. The ICs will be responsible for the implementation of the respective investments, including the technical facilitation and management and supervision of relevant contracts. They will provide technical inputs to the procurement process including preparation of ToRs, Technical Specifications, contract management, review of deliverables, facilitation of contractors and consultants, and certification of payment claims by contractors and consultants.
28. **Technical Committees**: Four respective inter-agency technical committees will provide necessary guidance on: (i) STP (feasibility studies for Malé and Hulhumalé STPs; construction, operation and maintenance of Hulhumalé STP); (ii) housing finance study; (iii) regional master plans; and (iv) rainwater harvesting, storm water drainage masterplans and underground storage of Malé and Hulhumalé. The existing technical committee on building regulations will provide technical guidance for the activities related to the building code. The Committees will ensure an efficient mechanism for providing necessary technical guidance and inputs for the technical studies under the Project. They will be led by the representative from the agency with the largest stake and expertise in the subject area (e.g. the Housing Committee will be led by the Deputy Minister of Housing and Urban Development.) The Committees will review and provide inputs to ToRs, inception reports, and deliverables and facilitate necessary data and information for the studies. A Memorandum of Understanding between GoM and the ICs and Technical Committees shall be executed to the satisfaction of the Association.

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

The project will focus mainly on the islands of Male and Hulhumale, which is a part of the Greater Male Region. The Greater Male Region consists of three inhabited islands (Malé, Hulhumalé and Vilimale), airport island (Hulhulé), Industrial island (Gulhi Falhu), and an island with mixed developments (Thilafushi). The majority of these islands have been reclaimed through time and some continue to be reclaimed to make space for the growing population and other developments. There are also number of resorts with dedicated islands in this region. In 2018, the GoM opened the 1.39km-long and 20.3m-wide China-Maldives Friendship Bridge which provides a road connection between Hulhulé Island and Malé. There is also a plan to connect the rest of the main islands through bridges. The region has a tropical monsoon climate, it features a mix of both wet and dry seasons, with the wet season lasting from May through December and the dry season covering the remaining four months. The region experiences relatively consistent temperatures throughout the course of the year, with an average high of 30 °C and an average low of 26.5 °C averages slightly more than 1,600 mm of precipitation annually. Two seasons dominate Maldives' weather: the dry season associated with the winter northeastern monsoon and the rainy season which brings strong winds and storms. Major environmental challenges with serious consequences on the social and economic well-being of the region, and include environmentally unsustainable solid waste and sewage disposal, inadequate storm water drainage along with increased flood risk due to climate change, poor drinking water security, increased vulnerability to natural disasters such as tsunamis and storm surges, anticipated traffic congestion in Greater Male with future road connections between island and other urban issues relating to population consolidation and economic growth. Currently, ADB is developing an operation for the solid waste issues in this region. Coral reefs around the main inhabited and industrial islands are no longer present due to reclamation up to the reef edge. As the region is part of the main shipping port and due to ocean dumping of waste and other contaminations, the reefs around resorts and other uninhabited islands are relatively degraded. Additionally, the project will support studies towards a comprehensive regional development plan for Addu. Addu is the southern most atoll of the archipelago.
**G. Environmental and Social Safeguards Specialists on the Team**

Nadeera Rajapakse, Environmental Specialist  
Bandita Sijapati, Social Specialist

<table>
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<th>SAFEGUARD POLICIES THAT MIGHT APPLY</th>
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<tr>
<td><strong>Safeguard Policies</strong></td>
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<tr>
<td>Environmental Assessment OP/BP 4.01</td>
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<tr>
<td>Performance Standards for Private Sector Activities OP/BP 4.03</td>
</tr>
<tr>
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<td>Although the STP will be a DBOT contract, OP 4.03 will not be triggered as the identification, management and the eventual operation and ownership of the STP will be within the control of the Government of Maldives. The feasibility study that will determine the design criteria and parameters (in terms of family of technologies, siting, sizing, operation and maintenance modality/costs) is fully in the hands of the Government. It is expected that the GoM will be closely involved with the contractor for operational capacity building prior to the STP being transferred to the MWSC after 2-3 years. Therefore, safeguard policies will be applied to all project activities.</td>
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<th>Natural Habitats OP/BP 4.04</th>
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<td>This policy is triggered due to presence of coral reefs around the Male Atoll. However it is noted that the Greater Male Region, particularly in Hulhumale, where investments will be made, do not have significant natural habitats and the coral reefs in the region are mostly degraded. The project includes adequate measures to screen, identify and mitigate any potential impacts to coastal waters within the region which are outlined in the ESAMF.</td>
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<td>There are no areas classified as forests in Maldives. Any potential impacts on island vegetation will be covered through OP/BP 4.01 and 4.04.</td>
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<td>Under the recently concluded SWM projects by the Bank, it was confirmed that Maldives does not face the problems of pests (e.g. rodents) at waste sites. Also, the project will not fund any SWM activities. Therefore, the policy is not triggered. However, as part of drainage improvements and rainwater harvesting, possible invasions of vectors such as fly’s and mosquitoes will be monitored and managed as per set guidelines. The project will not finance the purchasing of any pesticides, vectorcides or weedicides. Nor will the project substantially increase the use of such substances.</td>
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<th>Physical Cultural Resources OP/BP 4.11</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the project activities are expected to take place in the vicinity of or affect physical cultural resources, as defined by OP/BP.4.11. All known PCRs within the Maldives are pre-designated and protected under the land use plans prepared for inhabited Islands. Measures on safeguard chance</td>
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</table>
finds has been included as part of mitigation measures defined in the ESAMF and OP/BP 4.01.

<table>
<thead>
<tr>
<th>Indigenous Peoples OP/BP 4.10</th>
<th>No</th>
<th>There are no evidence suggesting the presence of indigenous peoples in the Maldives, therefore, this policy will not be triggered.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involuntary Resettlement OP/BP 4.12</td>
<td>No</td>
<td>The location of urban services in Hulhumalé has been identified based on the 2001 Hulhumalé Master Plan and will be integrated with the existing infrastructure. This land has been set aside for utilities and urban services, and is currently vacant. There are no residents or squatters on the site or in the nearby vicinity - adjacent land uses include a fisheries harbor and other utilities. Therefore, OP 4.12 is not triggered under the project.</td>
</tr>
<tr>
<td>Safety of Dams OP/BP 4.37</td>
<td>No</td>
<td>This policy is not triggered as there will be no activities that invest on dams or water retention structures.</td>
</tr>
<tr>
<td>Projects on International Waterways OP/BP 7.50</td>
<td>No</td>
<td>The proposed project activities do not have any impacts on international waterways and therefore this policy is not triggered.</td>
</tr>
<tr>
<td>Projects in Disputed Areas OP/BP 7.60</td>
<td>No</td>
<td>There are no disputed areas in the Maldives therefore this policy is not triggered.</td>
</tr>
</tbody>
</table>

**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 aims to strengthen urban resilience and improve service provision through investments in selected critical urban infrastructure and feasibility studies that aim provide a foundation for future strategic investments in Male and Huhumale. Specifically, it will support the GoM by establishing a STP for Hulhumalé Phase I (with possible conveyance of waste water from Phase II subject to feasibility), explore technologies to harvest rainwater to improve water security in Malé and Hulhumalé including implementation of selected technologies subject to fund availability, strengthen disaster preparedness in the Malé region and carry out feasibility studies to promote sustainable urban infrastructure and services including analytical studies focused on flood and storm water management in Malé, sustainable transport, housing finance and regional urban planning.

There are no significant irreversible adverse impacts envisaged under the project. Instead, the project will have net positive environmental and social impacts with long term environmental and social benefits from project implementation far outweighing potential adverse impacts. The proposed STP in Hulhumalé under Component 1 will address a long-standing issue of marine pollution caused by the disposal of raw sewage and wastewater directly into the sea causing much damage to marine habitats. The STP will treat sewage and wastewater from Hulhumalé to Maldivian national standards, and the treated wastewater will be either discharged to the sea or reused for non-
portable purposes. This is expected to lead to an improvement in the marine environment quality around Hulhumalé in the long-term. The stormwater drainage master plan and the implementation of a drain network with underground rainwater harvesting tanks, will not only bring about flood risk mitigation and with its many related benefits but also help replenish ground water and build water storage that can be used for non-potable usage in water-stressed Malé. The main negative environmental impacts from the project would relate to: (i) construction related impacts such as the generation of dust, noise, vibration and sediment laden stormwater, increased vehicular movement due to material haulage (ii) material burrowing such as sand, (iii) excavation and dewatering, (iv) disposal of excavated material and construction debris and (v) occupational and public health and safety, etc. It is expected that the activities proposed under the project will not cause any adverse social impact on the community in terms of land acquisition and resettlement. Potentially, adverse social impacts may include: (i) damages to private and public properties and assets, especially during the construction of underground rainwater harvesting systems in built-up places; (ii) inconveniences/ disturbances during construction (e.g., noise, dust, vibration, etc); (iii) impacts on fairness and equity of decision making process; (iv) impacts from labor influx; and (v) issues of exclusion and accountability in emergency preparedness and response systems, water-harvesting mechanisms, etc. Addressing such issues will be vital to enhance sustainability of project outcomes and would require the project to adopt an integrated approach in which environmental and social planning and management is mainstreamed into the project design from the earliest stages.

2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:
The GoM has been focusing on integrated and sustainable development of the Greater Male Region, which encompasses the main islands of Male, Hulhumale, Villingili and Thilafushi, in order to address economic and demographic pressures on the Male city. Land reclamation in Hulhumale (which is a completely man-made island) began in October 1997 and was completed for both phases in 2017. Hulhumalé was developed incorporating climate adaptation considerations, and its 244 hectares sit approximately 2m above mean sea level. The Master Plan for Hulhumale was completed in 2001 by a Singaporean consortium which defines the island’s long-term land use and development strategy. The Asian Development Bank (ADB) published a draft of the Strategy for Development of the Greater Region in December 2017, which details 15-20-year urban planning and economic strategies for the Greater Male region. Primary physical and social infrastructure and residential development have been completed in Phase 1 of Hulhumalé’s development, with approximately 60,000 residents already living on the island. Phase 2’s land reclamation is also complete, and construction of trunk infrastructure is underway. The development of Hulhumalé builds on existing migration trends, and demand for housing in Hulhumalé is high. While the earlier government was focused on population consolidation in the Greater Male Region, the current government is pursuing a regional development strategy looking to reducing footlooseness of the population, stemming migration, providing needed economic, cultural and social assets at regional urban centers that are planned to service clusters of atolls and bring development closer to the population where they live. Given that development in the Greater Male Region is guided by development strategy and land use plans, unanticipated future activities in the project area that will result in potential indirect long term impacts is unlikely.

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.
The construction of the Sewage Treatment Plant (STP) is an absolute necessity as at present raw sewage flows into the open sea. Treatment technology will be selected based on the feasibility study. Similarly, exact method and technology of rain water harvesting will be determined based on a feasibility study. Both investments will seek to optimize environmental and social benefits while minimizing adverse impacts. The exact nature of both the positive as well as adverse impacts will be known while carrying out the environmental and social impact assessment during the preparation of the ESMPs for these sub-projects.
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.

The GoM has completed and disclosed an Environment and Social Assessment and Management Framework (ESAMF) for the entire project. The ESAMF will be applied to the STP and as per its guidelines an Environment and Social Impact Assessment (ESIA) and Environment and Social Management Plan (ESMP) for the proposed STP in Hulhumalé will be completed. The PMU will be established under MNPI and will be staffed with a full-time environment and social safeguards specialist who will be responsible for implementing the ESMF and ensuring compliance with the WB’s safeguards policies under MUDRP.

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

During the preparation of the ESAMF for the entire project, extensive consultations were carried out with the relevant stakeholders, including the potentially affected population. The ESAMF has followed all due clearance procedures and has been disclosed in GoM’s website as well as the World Bank’s external website since 8th December 2019.

B. Disclosure Requirements

<table>
<thead>
<tr>
<th>Environmental Assessment/Audit/Management Plan/Other</th>
<th>Date of receipt by the Bank</th>
<th>Date of submission for disclosure</th>
<th>For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors</th>
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<td>04-Dec-2019</td>
<td>09-Dec-2019</td>
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"In country" Disclosure

Maldives

07-Dec-2019

Comments

C. Compliance Monitoring Indicators at the Corporate Level (to be filled in when the ISDS is finalized by the project decision meeting)

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?
NA

The World Bank Policy on Disclosure of Information

Have relevant safeguard policies documents been sent to the World Bank for disclosure?
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

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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APPROVAL

| Task Team Leader(s): | Kwabena Amankwah-Ayeh
|                      | Suranga Sooriya Kumara Kahandawa |

Approved By

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<th>Safeguards Advisor:</th>
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