Policy Note 3

Building Resilient Infrastructure, Enhancing Connectivity

Maldives Partnership Forum 2019

Investing in a Resilient & Sustainable Maldives

Maldives, an island state, with an island economy is largely dependent on just two industries. Although the Maldives has graduated from its status as a Least Developed Country to a Middle Income Country, the Maldives can never graduate from its inherent vulnerabilities and challenges that are often associated with Small Island Developing States. A mere glance at our GDP does not reflect the multifaceted nature of development challenges that the country faces. Development cooperation in the form of investments in infrastructure is therefore critical for economic development, growth and to make the country more resilient against exogenous shocks.

Investment in critical infrastructure is necessary to advance sustainable development and resilience. Substantial public investment has been made over the past years in infrastructure and public utilities, however, significant gaps still remain. Some of the recent mega infrastructure projects, concentrated in the Greater Male Area have left limited resources for the development of the rest of the country.

Future infrastructure investments will be guided by a more holistic vision to transform the Maldives into a prosperous, and connected island nation in an inclusive manner.

Recognizing the dispersed nature of the country and the inherent high costs of service delivery, the Government is looking to drive investments in economic as well as social infrastructure through a strategic, comprehensive spatial development plan. Investment in physical infrastructure is critical to strengthening human capital and to foster the development of growth hubs and island clusters which in turn will attract new investment and economic opportunities.

This paper will look into infrastructure requirements in the areas of water and sanitation, waste management and transportation together with the Government's policy directions in these areas.

Challenges

Water, Sanitation and Sewerage:

Being an island state, the Maldives has a very limited availability of freshwater. There are no surface water sources for potable use.

Water degradation due to high salinity and/or polluted water are serious challenges for the water sector in the Maldives. The country is highly vulnerable to climate related hazards such as flooding, heavy precipitation, sea level rise and drought. There are reports indicating contamination of water sources by salt water and poor sewage systems. In this respect, the country faces significant challenges in ensuring sustainability and resilience of these services.

Maldives depends heavily on desalinated water, via reverse osmosis from seawater or bore well water. Among the 187 inhabited islands, only 34 islands have full water supply networks while in 17 islands, projects are currently ongoing. The remaining islands covering 27.9% of the population do not have access to piped water network facilities.

With respect to sewerage networks, only 66 islands have complete proper effluent collection from onsite household sewage collection tanks and piping. While 35 projects are ongoing and in the pipeline, 13.89% of the population do not have access to safe sewage disposal facilities.

Out of the established 66 sewer systems, 23 of these systems include sewage treatment plants (STP) with secondary treatment before release to the deep sea. However, due to operational constraints related to technical expertise and expensive operational costs, the STPs installed in almost all these islands remain unused. The resulting wastewater produced is bypassed untreated directly to the sea through the marine outfall, after being cleared through Environmental Impact Assessment studies, which will affect the marine ecosystems.

There have been reports of negative environmental impacts on the coral reef ecosystems due to such raw sewage discharge and sustainable solutions are needed. Furthermore, lack of these services is a public health problem, which needs urgent attention.

Solid Waste Management:

With the dispersed nature of the country and limited available land, Maldives is faced with unique challenges for solid waste management. The Greater Malé capital region, the most populated area in Maldives, is affected by severe environmental pollution and deteriorating living conditions due to inadequate collection and haphazard disposal of solid waste.

Garbage is dumped and burnt openly at Thilafushi, a dumpsite approximately 6 kilometers away from Male', creating significant environmental and public health hazards. Similarly, in the outer atolls, communities suffer from accumulated garbage with limited awareness and capacity to manage solid waste effectively. It is estimated that 365,000 tons of solid waste are generated annually.

The Ministry of Environment and Energy is mandated to ensure safe and cost effective waste disposal mechanisms, ensure environmentally sound waste management and pollution control measures in all inhabited islands. Waste Management Corporation Limited (WAMCO), a state owned company established in 2015 is charged with providing sustainable solid waste collection and transfer across Maldives. WAMCO's core business is the collection and transport of waste as well as management of regional waste management facilities throughout the country, including in the Greater Male' region. Under the Local Government Act, local councils have a significant role in waste management in the islands.

Transport and Traffic:

Air and Maritime Transport

Connectivity is critical for socio-economic development in an island nation such as the Maldives - the distance from the northernmost Thuraakunu island in north Thiladhunmathi Atoll to southernmost Gan in Addu City is over 800 km.

While infrastructure for air transport is gradually developing, linkages and connectivity via maritime transport remains weak. Although there are 14 existing and 8 more planned regional airports spread across the archipelago, maritime connectivity through a regular, reliable, efficient, and affordable marine transport network is unavailable. The potential contribution of civil aviation to the domestic transport system is yet to be fully explored.

An efficient maritime transport network is critical to sustain the economic development of the country.
Currently, there is a mix of public and private service providers in the maritime transportation sector. Services between Male' and the atolls are run on demand without a fixed schedule and is serviced mostly by private operators. Public ferry service within the atolls are provided primarily through the Maldives Transport and Contracting Company (MTCC), which operates ferry services in 5 out of the 7 key regions of the country. However, reliability and level of service provision is not satisfactory and is subject to a number of public complaints. Furthermore, given that public ferry rates are fixed without any supporting mechanisms to fund the viability gaps, MTCC is faced with questions of long term sustainability.

The Government policy is to establish regular, scheduled inter-atoll ferry services at affordable rates and is seeking viable business models for service provision; be it government funded services or through Public Private Partnership models.

Land transport in Malé, Hulhumale'
The rapid increase in vehicles in Male' and Hulhumale' has contributed to heavy traffic congestion within the cities, in addition to posing growing threats to passenger safety and the environment. This situation was further exacerbated following the opening of the China-Maldives Friendship Bridge, which connects Male', the Hulhule' airport, and Hulhumale'. Lack of an effective public transport system contributes to the problem.

Policy Priorities

Water, Sanitation and Sewerage:

Ensuring access to clean water and proper sewerage systems to all islands is a key priority of the Government. The existing gaps in water provision and sewerage systems will be met through targeted investments to those islands where proper services are absent, with a focus on adoption of climate resilient and cost effective technologies. Priority will be given to establish rain water harvesting mechanisms and proper storage facilities through the use of new and emerging technology.

On the regulatory front, the Government intends to formulate a Water and Sewerage Act covering the standards and an institutional framework for provision of water supply and sewerage services as well as water resources management.

Waste Management:

Government policy on waste is to manage solid waste in the country with a key focus on reducing, reusing, recycling and repurposing. With the implementation of these policies, waste will become a valuable resource that will be managed at all levels. Management of waste starts at household levels with a focus on reducing.

The Government's policy on waste management will encompass measures covering the full spectrum of waste management - planning, recycling and enforcement. Focus will be given to ensure that all islands are provided proper equipment and facilities to manage their waste at an island level. These facilities will be complemented by proper transport mechanisms to facilitate recycling and export of recyclables to regional centers. Regional waste centers will also focus on waste to energy initiatives. Through review of the regulatory and governance framework for waste management, Government seeks potential public private partnership ventures to improve the sector.

Government will adopt reduction, reuse, and recovery measures at all levels of waste management and special measures and mechanisms will be introduced to ensure safe management and disposal of hazardous waste. Minimising the use of plastic products, and a ban on the use and sale of single-use plastic will be pursued as a nation-wide program.

Air and Maritime Transport

Establishment of a sustainable, accessible, safe and well-connected nation-wide transport system is a priority. Focus will be given to both air and maritime connectivity as well as to improve the linkages between the two modes. Connectivity analysis for the ferry and aviation sub-sectors to assess the current ability of the ferry and aviation networks to move people around in a timely and efficient manner will be carried out.

Ensuring affordability and reliability of the existing national ferry system is given utmost importance and the Government intends to explore feasible and sustainable models for the sector, including the possibility for private sector participation in service provision.

Land Transport:

Reducing congestion and easing accessibility to roads in Male is a policy priority. Key initiatives under this goal include; traffic impact analysis of the new bridges onto the existing road system as well as on-the-ground interventions in parking management and walkability (especially disability access), introduction of public transportation in Male', introduction of vehicle control measures in the Greater Male' Region, promotion of the use of electric vehicles as well as measures to control air pollution through interventions on the age of vehicles that are allowed into the country.