

# Policy Note 1

## Sustainable Management of the Environment



Maldives  
Partnership  
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Investing in a Resilient & Sustainable Maldives

The geography of the Maldives makes the country highly susceptible to environmental issues including impacts from extreme weather events and rising sea levels. Additional anthropogenic impacts have exacerbated environmental degradation, increasing existing vulnerabilities.

Large-scale dredging and reclamation projects over the past couple of years have increased pressure on the Maldivian reefs, which is the seventh largest coral reef system in the world. Forested areas and mangroves have also come under pressure due to the increase in large-scale infrastructure projects. Additionally, there is a need to further decentralise environmental governance, allowing local communities a more substantive role in environmental decision-making.

The Environmental Protection Agency (EPA) is the regulatory authority for all environment related issues. In the previous administration, a 7th Amendment was made to the Maldives Tourism Act in April 2015, providing the Ministry of Tourism with the mandate to review and clear Environmental Impact Assessments (EIAs) for tourism projects. This mandate was previously under the purview of the EPA, and this process weakened and affected the EIA process. Upon assuming office, the current administration reversed this amendment, granting back EPA the authority to review EIAs. This immediate change in policy reflects the current administration's focus on strengthening environmental governance, and efforts to anchor sustainable development as the key guiding principle of all government policy directions.

This brief highlights challenges the country faces with management of air pollution, marine resources and coastal protection, and climate change. Additionally, this brief provides the policy direction of the Government in these areas.

### Challenges / Issues

#### Air Quality Management

In general, the largest sources of air pollutants in the Maldives emanate from the transport and waste sectors. Similarly, electricity generation emits some specific pollutants such as Sulphurdioxide and Nitrous oxides, and greenhouse gases like Carbondioxide. Several air pollutants and climate pollutants have common sources, therefore, designing mitigation policies has the potential of addressing both simultaneously.

There has been significant growth in the transport sector over the last decade which has further exacerbated air quality issues. The registered number of motor vehicles increased by 259.72% between 2006 and 2017.<sup>1</sup> With the establishment of the bridge between Male' and Hulhumale', this is likely to keep increasing without introduction of vehicle control measures in the greater Male' region. Similarly, with the rapid trajectory in the growth of the aviation sector, its contribution to air pollution is also expected to increase.

Currently, there is a lack of a legal and regulatory framework to manage air quality in the Maldives. In this regard, the country has not yet established a national ambient air quality policy, and national air quality standards. Emissions are currently mapped against the European Union's emission standards and the same applies for industries and waste incinerators. While transboundary air pollution has been monitored well in the Maldives, there are limited studies done on urban air quality with an absence of long-term monitoring.

#### Integrated Coastal Zone Management

With average elevations of the islands approximately 1.5 meters above the mean sea level, the Maldives is highly vulnerable to sea swells and storm generated waves, resulting in severe coastal erosion and flooding. Causes of erosion vary greatly from one location to the other. These include: i) loss of sand sources; ii) increased exposure due to sand mining; iii) changes in the near shore current patterns due to natural causes and man-made changes such as construction of coastal infrastructure; iv) changes in the natural sediment balance; and v) updrift impoundment of sand behind coastal structures built without pre-filling.

Construction of groynes and similar structures has helped sand deposition and beach consolidation to some extent. However, lack of proper safeguards prior to construction has often led to complications. Additionally, lack of investigation of local sediment budgets, and current and wave regimes in the engineering designs prior to construction activities, has at times led to the damage of a number of breakwaters and defense structures by normal wave and current action, resulting in expensive repair and redesign. This has been magnified by lack of cluster enforcement protection measures.

#### Ecosystem and Biodiversity Management

The main threats to biodiversity in the Maldives are habitat destruction, overexploitation, climate change and pollution. Habitat destruction arises from coastal development activities such as harbour development and land reclamation. Overexploitation of highly valued marine resources such as sea cucumber and grouper have become a major concern in recent years. Timber harvesting also presents a threat to island vegetation. Additionally, the increased use of pesticides and fertilisers poses a major threat to the ground water quality in the islands, and coral reef ecosystems, through runoff.

The Environmental Protection and Preservation Act (Law no. 4/93) provides the overarching legal framework for environmental protection and preservation in the country. Through this Act, a network of 50 protected areas have been established. These include both marine and terrestrial areas.

Institutionalising appropriate governance modalities and enforcement remains a key challenge in ecosystems and biodiversity management. Additional resources are also required to establish long term monitoring of ecosystems and biodiversity resources. Currently, the management infrastructure and governance modalities have

<sup>1</sup> Statistical Pocketbook 2018, National Statistics Bureau (2018)

been established in Baa Atoll UNESCO Biosphere Reserve, Addu City and Fuvamulah Nature Parks. There is a need to replicate similar mechanisms across the protected area network. The Government's policy to protect more areas in each atoll also calls for skills in park management.

### **Climate Change**

Without serious attention to the impacts of climate change and other environmental issues, the country's development will face severe risks both in the short and long term. In addition to rising sea levels, impacts of increased temperatures, rise in intensity of extreme weather events and changes in the monsoon patterns are already occurring and are anticipated to worsen. Rising temperatures will lead to bleaching of corals, destroying the integrity of the reef system. According to the IPCC Special Report on the Impacts of Global Warming of 1.5°C, mass coral bleaching and mortality are projected to increase because of interactions between rising ocean temperatures, ocean acidification, and destructive waves due to intensifying storms.<sup>2</sup> Additionally, impacts on populations and infrastructure are projected to increase with higher levels of warming. Data from the World Meteorological Organisation indicates a shift in rainfall towards a drier pattern and a more inter-annual rainfall regime variability over the next twenty years, as well as an expected increase in average temperature of about 3°C by 2100. This will increase water demand impacting water security in the Maldives.

## **Policy Initiatives**

### **Strengthen Climate Resilience of the Maldives:**

As outlined above, the geography of the Maldives makes us extremely vulnerable to the effects of changing climate and extreme weather conditions. As a staunch advocate for climate change and a leading voice for Small Island Developing States (SIDS), enhancing climate resiliency is a key priority of the Government.

Key initiatives under this goal are targeted at retaining, maintaining, and protecting existing natural flood protection features of islands such as mangroves and coastal ridges. The Government will aim to promote climate smart and integrated agriculture to help improve food production and security, while also strengthening the implementation of Nationally Determined Contributors (NDC) as per the Paris Agreement.

### **Strengthen Emergency Preparedness and Emergency Response:**

The size, limited land areas, and remoteness of our islands make us extremely vulnerable to small tidal surges, water shortages, and coastal erosion.

As such, key initiatives under this goal include, establishing flood mitigation mechanisms and infrastructure in the islands identified as most vulnerable to climate change and establishing emergency water supply mechanisms to ensure access to safe water during the dry season and natural disasters. In addition, food storage centers with appropriate design and sufficient capacity will also be established to ensure the availability of food during disaster situations. Reef restoration and reconstruction programs will be promoted for existing large-scale reclamation projects to mitigate loss of biodiversity.

### **Improve Conservation Efforts to Preserve Biodiversity of Maldives:**

Although a SIDS, the Maldives is also a large ocean state. The rich and unique marine biodiversity of the Maldives is a significant part of our tradition, livelihood and is the bedrock of the Maldivian economy.

Under this goal, conservation of at least one island, one reef, and one wetland in each atoll in accordance with international standards is a priority. Focus will be given to formulate resource management plans for protected areas so that communities may reap the socioeconomic benefits of ecosystem preservation. Targeted strategies to improve conservation will also include efforts to increase investment in nurseries to foster green spaces, provision of fiscal and non-fiscal incentives to relevant stakeholders to restore ecosystems (eg: reefs, mangroves and natural forests) and promotion of sustainable use of biological resources.

The Government aims to introduce a comprehensive reef restoration and protection mechanism under the name "Jazeera Island Reef", which will ensure that reef protection projects are carried out sustainably and in a way that preserves and protects the natural state of the islands.

### **Strengthen Research Capacity and Evidence-Based Policy Making in Environmental Protection and Conservation:**

Currently, an overall challenge across all areas of environment management is the lack of data available to make evidence-based policy decisions. Under this goal, efforts will be made to establish a data system on the status of key ecosystems, species, and genetic diversity, as well as protected areas and species that can be found in the Maldives. Additionally, mechanisms will be put in place to monitor the progress and effectiveness of conservation efforts through surveys, audits, studies, and interviews.

<sup>2</sup> Global Warming of 1.5°C, Intergovernmental Panel on Climate Change, (2018)