Summary report on National Adaptation Plan Process in the Maldives

1. Introduction

Due to the geographical features and vulnerabilities of the economy, Maldives is considered to be one of the most vulnerable countries for the climate change impacts. Maldives recognized the urgency to address the climate change impacts and has considered adaptation to climate change as a top priority in national planning process.

Maldives is currently in the process of initiating the National Adaptation Plan (NAP) formulation. This report is aimed to provide summary of the climate change adaption and also the status of NAP process in the Maldives.

2. Regulatory Framework

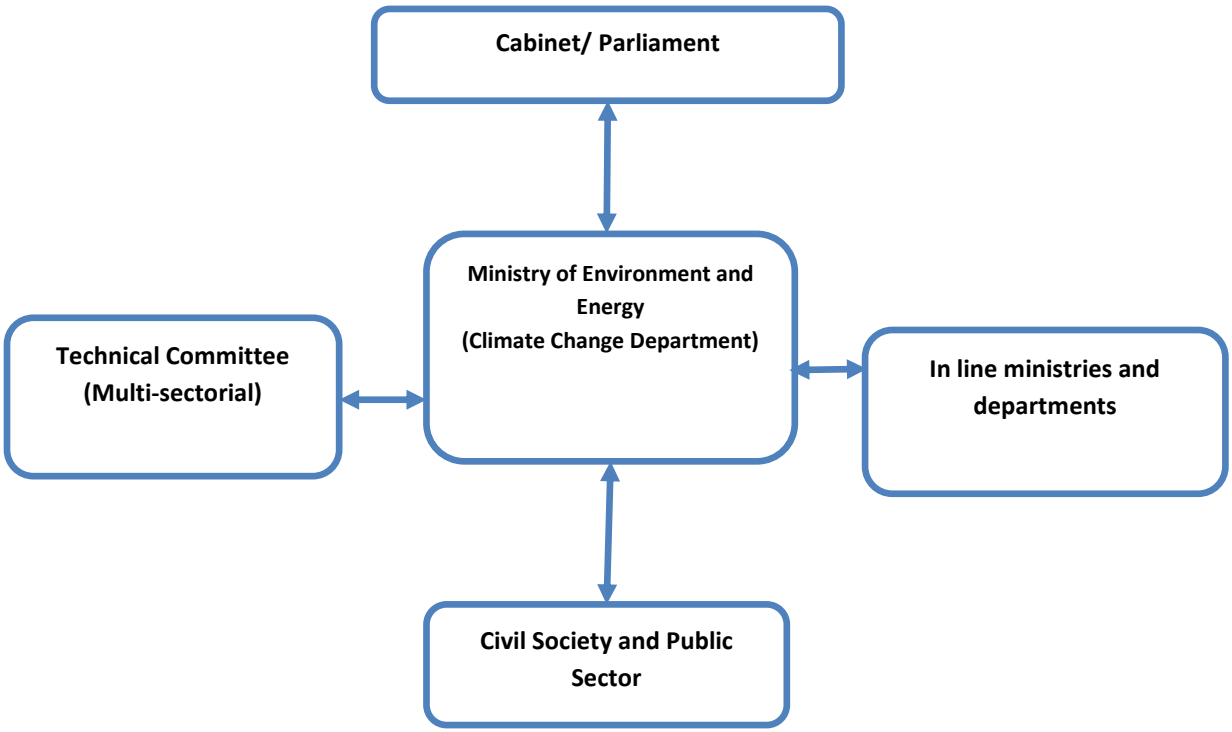
Currently, there is no regulatory framework as such which deals with climate change adaptation in the Maldives. However, there are existing legislations which indirectly influence the climate change adaptation and other national development planning processes in the Maldives.

Law/Regulation	How to influence climate change adaptation
The Environmental Protection and Preservation Act of the Maldives, EPPA (Law No. 4/93)	This law is the main environmental management legal framework which deals with various aspects including environmental conservation, planning and also climate change is taken into consideration.
Environmental Impact Assessment (EIA) Regulation (2012)	This regulation requires all the infrastructure projects to undergo EIA process in which climate change risks and vulnerabilities are assessed and taken into consideration during the decision making process.
Regulation on Uprooting, Cutting and Transportation of Palms and Trees, 2006	This regulation prohibits removal of trees including coastal vegetation and mangrove plants which is essential in minimization of the sea level rise impacts.
Regulation on Dredging and Reclamation (2013/ R-15)	This regulation prevents dredging or land reclamation on environmentally sensitive areas hence preventing anthropogenic stress on the coastal dynamics of vulnerable areas.
Waste Management Regulation (No. 2013/R-58)	This regulation protects climate sensitive reef systems from being exposed to waste.
Tourism Law (no. 2/99) and Regulations	Tourism Law deals with various aspects of construction/operation of a tourist facility in the Maldives. These include; • Carrying Capacity • Architectural and design control

	• Biodiversity conservation • Food, Water and Sanitation • Waste Disposal • Dredging, Reclamation and construction practices These aspects are highly regulated under this regulation hence it would enhance the climate change adaptation of the tourism sector of the Maldives.
General Electricity Regulation & General Standards Required for Using Standby Generators	This regulation is essential for providing energy security to the Maldivian communities.
Desalination Plant Regulations (2002)	This regulation is essential for the water security and regulation of desalinated plants in the Maldives.

3. Institutional Arrangements

Currently, the government of the Maldives is in the process of establishing an institutional arrangement for the NAPs process in the Maldives. The following institutional arrangement is a provisional arrangement and is in discussion stage with the stakeholders.



Institution	Key roles and responsibilities
Cabinet/Parliament	• Create national mandate for the NAP process in the Maldives • Endorsement of the NAP
Climate change department, Ministry of Environment and Energy	• Develop the framework/strategy document for executing the NAP process in the Maldives. • Conduct and arrange stakeholder consultations. • Finalize the NAP for endorsement • Prepare briefs on UNFCCC NAPs process
Technical Committee	• Draft technical approach papers for components of the NAP. • Integrate sectorial adaptation plans into a consolidated NAP.
In line ministries and departments	• Conduct activities to develop sectorial adaptation plans.
Civil society and Public sector	• Provide feedback on the sectorial adaptation plans and NAP.

3. National Development Plans

The Maldives is currently in the process of developing a National Development Strategy (NDS) in which climate change is a key sector. The national development plans often change with change in the government. The most recent development strategy include climate change sector as the following;

Vision

To recognize the status of Maldives as a nation suffering from the adverse impacts of climate change and to build its capacity to ensure a safe, sustainable, resilient and prosperous future.

Context

Maldives asserts that adverse effects of climate change are apparent and is the greatest challenge which will gravely undermine our efforts to achieve sustainable development. Climate change threatens our very survival, our sovereignty and the basic rights of all inhabitants, especially those in low-lying island states such as the Maldives.

The increasing intensity of extreme weather events and the seriousness of their adverse consequences has necessitated the Maldives to consider climate change and in all aspects of its future development. Longer-term impacts such as sea level rise may result in the unavoidable out-migration of some of our people. To address these concerns, Maldives needs to explore various ways of ensuring that climate change is addressed in all sectors across the nation. Addressing the impacts of climate change needs to consider as a holistic approach.

Climate change is a cross-cutting development issue. The dispersed geographic nature of the islands further exacerbates the development challenges further aggravating the issues of economies of scale and environmental challenges. Maldives must collectively build and strengthen the resilience to combat climate change. Cooperation with the regional and global efforts is imperative to put Maldives on a pathway to building a climate-resilient economy in order to mitigate and adapt to climate change.

Maldives corroborates the latest scientific findings and discussions on climate change impacts in formulation of and the policies and strategies. According to the Intergovernmental Panel on Climate Change (IPCC), Small Island Developing States (SIDS) like the Maldives are the ones who will be hit first and hardest by global climate change. Although Maldives is among the least contributors to climate change, it will be at the forefront of the adverse impacts and among the least equipped to respond and adapt to climate change impacts. This increases the high risk of being inundated as sea level rise, land loss and beach erosion continues to increase and threatens food and water security.

In reduction of the impacts due to climate change, international assistance is vital. Failing to reach an agreement to significantly reduce greenhouse gas emissions by the international community would jeopardize our development and survivability. Recognizing the importance of this, the international community is actively engaged in minimizing the current effects and likely future adverse impacts through effective implementation of the provisions of the United Nations Framework Convention on Climate Change (UNFCCC). Maldives have and will be a leader in these international processes in addressing the issues on climate change.

Opportunities and Challenges

The Maldives is inherently vulnerable to climate and other natural hazards due to its geographic and geophysical characteristics. However, it is argued that the very nature of the island distribution has made our islands very resilient and has survived in most of the global climate shifts including fluctuating sea level rise, varying climatic conditions, wave action, extreme weather events and other major hazard events. Additionally, the coastal defense mechanism including larger surf zone (lagoon area), healthier coral ecosystems, wide natural beaches and coastal vegetation belt have protected the islands from the coastal climate risks such as storm surges, which is a frequent visitor. Even though the Maldives have shown extraordinary level of resiliency in history, ongoing climate change shifts questions the adaptive capacity of islands. Additionally, the financial constraints, adequate technology transfer is identified as major challenge in addressing climate change. In this regard, several NAPA projects has not being realized due to factors such as lack of financial, technology transfer and capacity building.

In terms of capacity building, there is a severe shortage of skilled and professional staff within the climate change sector, and limited knowledge and technical know-how about climate risk management and climate change adaptation more generally across all sectors, particularly about specific adaptation options suitable for the Maldives. Similarly, poor coordination among key stakeholders and lack of effective collaborations especially during policy framing have led to difficulty in implementing such policies in the Maldives.

As climate change would be the main hurdle for future sustainable development, Maldives will address climate change holistically among all the sectors of development. The climate policies underpin sustainable development in the Maldives and the need to urgently scale up the financial resources, use of climate-friendly technology and the capacity to adapt and mitigate climate change and integrate climate change into sector and/or thematic policies, plans and budgetary processes to build low carbon development and climate-resilient development in the Maldives. The main policies are:

1. Ensure and integrate sustainable financing into climate change adaptation opportunities and low emission development measures;

2. Strengthen a low emission development future and ensure energy security for the Maldives;
3. Strengthen adaptation actions and opportunities and build climate-resilient infrastructure and communities to address current and future vulnerabilities;
4. Inculcate national, regional and international climate change advocacy role in leading international negotiations and awareness in cross-sectorial areas in favour of the most vulnerable and small island developing states.
5. Foster sustainable development while ensuring security, economic sustainability and sovereignty from the negative consequences of the changing climate.

Please kindly note that NDS has not been endorsed yet. It is scheduled to be endorsed on 20th August 2015.

4. Climate change risks and vulnerabilities

According to National Adaptation Programme of Action (2005), the key vulnerable sectors include the following;

Sector	Vulnerability
Coastal Zone Management	• Over 80% of the total land area of the Maldives is less than 1 m above MSL (mean sea level) • Approximately 44% of the settlement footprints of all islands are within 100 m of the coastline • More than 50% of the housing structures in 121 islands are within 100 m of the coastline • More than 67% of inhabited islands reported beach erosion in 2013 at different scales and of different severity. • The adaptation measures to mitigate erosion in the islands, due to its lack of planning and poor design have lead to increased maladaptation countrywide.
Critical Infrastructure	• The infrastructure of the two international airports is within 50 m of the coastline. About 30% of the infrastructure of *Ibrahim Nasir International Airport* lies within this range. • More than 90% of all resort infrastructure and 99% of all tourist accommodation are within 100 m of the coastline • Approximately 70% of all fisheries infrastructure is within 100 m of the coastline • Utility facilities including most powerhouse and waste facilities are located within 100 m of the coastline. • More than 75% of communications infrastructures are located within 100 m of the coastline
Tourism	• Nearly 45% of tourist resorts have reported varying degrees of beach erosion • The additional risks to tourism are indirect in many cases, with the initial impacts being imposed on the infrastructure, fisheries, water resources, agriculture and human health

Fisheries	• During the 1997/1998 El Niño event the Indian Ocean purse seine fishery shifted to the east, unlike other years, owing to the elevated depth of the 20°C isotherm • Over the last few year ocean temperature changes has lead to the transformation of the biophysical conditions of the pelagic environment, resulting in decreased tuna catch in the islands.
Human Health	• Changes in temperature and rainfall regimes are causing higher incidence of vector-borne diseases. There is evidence that dengue outbreaks are becoming more frequent and it appears that there is an association with ENSO events. • The vulnerability to climate change-related health risks is further compounded by local characteristics such as the high level of malnutrition in children, accessibility and quality of healthcare, high population congestion and low income levels • Climate change-related impacts on fisheries and agriculture threaten food security in the Maldives. Such impacts will have a direct effect on the nutrition status of children and overall health of the population.
Water Resources	• Rainwater harvesting is widely practiced in the Maldivian islands, which is primarily used as a source of drinking water. • After the 2004 Indian Ocean Tsunami, there is observed increased demand of bottled water as drinking water, mainly associated with groundwater contamination and reduced precipitation. • In *Malé*, 100% of the population has access to piped desalinated water
Agriculture and Food security	• The total cultivable land area is estimated at 27 km^2, including 18 km^2 on inhabited islands and 9 km^2 on uninhabited islands • The agriculture sector is constrained by the limited availability of cultivable land, poor quality of soil and the abundance of cheap imports of vegetables and fruits • Due to the high import dependency, the food security of Maldives is vulnerable to climate change-related impacts on the agriculture of other countries • Heavy import dependency, limited food storage and ad hoc distribution also pose severe food security risk to the population. The Maldives imports almost all food items except fresh tuna and coconut. • Long-term and emergency food storage is virtually absent except for warehousing in *Male'* and nine other islands

5. Climate change projects and programmes

Ministry of Environment and Energy (MEE) is the key government institution which is manages climate change adaptation projects and programmes. The following are list of the ongoing and planned projects and their funding source.

On-going project

Project Name	Funding source
Integrating climate change risk to resilient island planning	Global Environment Facility (GEF)
Increasing resilience to climate change through integrated water resource management	Adaptation Fund
Development of desalinated and rainwater piped water network in island intensive agriculture.	Global Environment Facility (GEF)
Development of desalinated piped water network in two islands	US AID
Climate change adaptation project	Climate change trust Fund (European Union)
Development of Sanitation Facility (Piped sewerage network in 3 islands	Private sector finance (Corporate Social Responsibility)

Planned project

Project Name	Funding source
Development of Sanitation Facility (Piped sewerage network in 15 islands	Islamic development bank loans, Kuwait fund for Arab Economic Development Loans, Opec Fund International Development Loans.
Development of desalinated piped water network in 14 islands	Islamic development bank loans, Kuwait fund for Arab Economic Development Loans, Opec Fund International Development Loan
Coastal protection infrastructure development in 10 islands	Government Budget, ORIO, Kuwait Fund Loan

6. Monitoring and Evaluation Strategies for adaptation

In the Maldives there is no existing monitoring and evaluation framework or strategy for adaptation actions. The Maldives Climate change Policy which is to be endorsed on 10th August 2015 has highlighted monitoring and evaluation framework for climate change adaptation actions like formulation of sectorial adaptation plans.

The framework includes the following and it is in line with the NDS (see section 3).

A strong institutional and legal framework on climate change will be essential to the successful implementation of the Maldives Climate Change Policy Framework (MCCPF): the main responsibilities will come under the institution assigned by the Government of Maldives to undertake the climate change portfolio. However, climate change is a cross-cutting issue affecting many ministries and functions (e.g. service providers). It is therefore essential that mechanisms be put in place to ensure that climate change is taken into account in all the various development policies in the Maldives.

Strengthening institutions will involve ensuring that roles and responsibilities are clarified and agreed between ministries and other stakeholders, including at national, atoll and island levels. At a senior level, a working or advisory committee (if necessary) will be formed to decide high-level policy directions on climate change and sustainable development. The most relevant ministries will represent this committee. At a day-to-day working level, task forces will be formed as needed to address different issues through the joint planning and implementation of actions.

The Government will adopt and execute relevant legislation to support the implementation of the MCCPF. Monitoring and enforcement mechanisms need to be developed and in place for proper implementation of the legislation and regulations.

The Climate Change and Sustainable Development Office will be the primary institution responsible for implementing the MCCPF. Climate change and sustainable development will facilitate the preparation of sectoral adaptation and opportunities in addition to low emission development action plans. These action plans will map out expected outcomes, outputs and means of achieving the outputs. Additionally, indicators should be identified such that they are Specific, Measurable, Achieving, Relevant and Time-bound (SMART). This aids in effective monitoring and reviewing of policies and sectoral action plans.

7. Roadmap for NAP process in the Maldives

Maldives is currently in the process of developing a roadmap for the NAP process. The following is a basic idea which will be further scrutinized by the stakeholders.