



# Update of Nationally Determined Contribution of Maldives

# Introduction

Climate change presents unique challenges to Maldives. The small and low-lying nature of our islands, coupled with the dispersed geography, makes us highly susceptible to the impacts of climate change. Our islands are also regularly exposed to droughts, storms, monsoonal heavy rains, cyclones, storm swells and coastal erosion. Climate change exacerbates the intensity and frequency of many of these hazards. Maldives is also grappling with climate induced food and water security issues. When combined, these significantly threaten the livelihood and wellbeing of our people. Additionally, the economic vulnerability of our islands due to low diversification, limited availability to exploit economies of scale, high import and low export dependency and limited natural resources, further constraints our ability to tackle these.

Maldives is one amongst the smallest contributors to global greenhouse gas emissions with only 0.003% share. Hence, at a global scale, our contribution to global warming is negligible. Despite this, we are determined to show our leadership and continue to advocate for more effective climate action. In this regard, this NDC provides an update of our mitigation and adaptation targets presented in 2015.

Our mitigation target is revised as follows; if present conditions on financing, technology transfer and capacity building remain unchanged, Maldives will increase its climate ambition to reduce 26% of its emissions by 2030. However, if the aforementioned assistances are significantly increased, Maldives intends to achieve net zero emissions by 2030.

This NDC also places an equal importance on enhancing adaptation and building resilience. Our key adaptation areas addressed include, enhancing agriculture and food security, building infrastructure resilience, ensuring public health, enhancing water security, coastal protection, building resilience of tourism and fisheries sector and strengthening early warning and disaster risk reduction. Efforts are made to ensure that the strategies outlined in this NDC are in line with the Climate Smart Resilient Island Initiative, launched by the President H.E Ibrahim Mohamed Solih at the Climate Action Summit in 2019. This NDC would also facilitate actions to realize Government's visions towards promoting economic growth while safeguarding our oceans, ensuring citizen-led development that is inclusive and sustainable and also single use plastic phase out plan. However, achieving these would only be viable through adequate means for implementation and an effective and inclusive climate governance system.

This updated NDC is a result of nation-wide stakeholder consultations, where an economy wide, full spectrum of our current economic activities, projects and programmes in various in line sectors were considered. Efforts were also made to ensure that this NDC is in line with all relevant government policies, plans and visions.

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# Maldives update of the Nationally Determined Contribution

The decision 1/CP.21 articulates, “Also requests those Parties whose intended nationally determined contribution pursuant to decision 1/CP.20 contains a time frame up to 2030 to communicate or update by 2020 these contributions and to do so every five years thereafter pursuant to Article 4, paragraph 9, of the Agreement”.

Maldives submitted its first Nationally Determined Contribution in 2015. Since then, Maldives has always been ambitious and working towards achieving the goals specified in the NDC. As per the decision 1/CP.21, Maldives submits its updated NDC. Maldives made efforts as much as possible to enhance the NDC to follow the ICTU guidance which was adopted as a part of the Katowice Climate Package in December 2018 in the spirit of streamlining and harmonizing the NDCs synthesis process.

<b>1. Quantified information on the reference point (including, as appropriate, a base year)</b>	
(a) Reference year(s), base year(s), reference period(s) or other starting point(s)	Target is given relative to the projected emissions to 2030 under a BAU scenario with 2011 as the base year of emissions.
(b) Quantifiable information on the reference indicators, their values in the reference year(s), base year(s), reference period(s) or other starting point(s), and, as applicable, in the target year	Emissions in 2030 under a BAU is 3,284.92 Gg CO <sub>2</sub> e.

<p>(c) For strategies, plans and actions referred to in Article 4, paragraph 6, of the Paris Agreement, or policies and measures as components of nationally determined contributions where paragraph 1(b) above is not applicable, Parties to provide other relevant information</p>	<p>Various actions need to be undertaken to achieve the NDC target. A brief description of the activities are provided below.</p> <ul style="list-style-type: none"><li>• Increase of electricity production by renewable energy (RE) with storage and grid stabilization. Efforts would be made to increase installed RE share to 15%, which includes the public and private sector.</li><li>• Increase supply and demand side efficiency. Increase of efficiency of generators and upgrading the grids to minimize grid loss would be essential. Significant upgrading of the existing power production infrastructure needs to be done via routine scheduled maintenance, synchronization and optimization of power production and reducing grid loss to at least 5% is required. In addition, demand side management would include implementation of standard labelling program and improvement of building standards for energy efficiency.</li><li>• Waste to energy. The planned installation of 8 MW in Thilafushi and 1.5 MW in Addu City will be completed. These systems will be optimized for grid connection and electricity production.</li><li>• Establishment of vehicle/vessels emissions standard and establishment of efficient transport management system and promotion of hybrid-vehicles.</li><li>• Use of Liquefied Natural Gas (LNG) for electricity generation within greater Malé region. The diesel used for power production could be replaced with LNG for the greater Malé region with the proposed LNG plant in Thilafushi and the interconnectivity bridge.</li><li>• Switch of Liquefied Petroleum Gas (LPG) gas to LNG. A significant reduction is also foreseen with this fuel switch.</li></ul>
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<p>(d) Target relative to the reference indicator, expressed numerically, for example in percentage or amount of reduction</p>	<p>26% reduction of emissions in 2030 (under a BAU) in a conditional manner, in the context of sustainable development, supported and enabled by availability of financial resources, technology transfer and capacity building</p>
<p>(e) Information on sources of data used in quantifying the reference point(s)</p>	<ul style="list-style-type: none"> <li>• The base year information was collected from Maldives Energy Supply and Demand Survey 2010-2012.</li> <li>• The emission projections are based on the modelling approach of the Maldives Energy Supply and Demand Survey 2010-2012.</li> <li>• The economic projections are based on the IMF World Economic Outlook Update (2017)</li> <li>• Population projections were obtained from Maldives Population Projections 2014-2054 available from the Maldives National Bureau of Statistics.</li> <li>• Detailed description of the methodology is included in the Annex of First BUR of Maldives</li> </ul>
<p>(f) Information on the circumstances under which the Party may update the values of the reference indicators</p>	<p>Changes of circumstance where underlying assumptions (e.g. fuel prices, technological feasibility etc.) may have to be reflected to update the indicators.</p>
<p><b>2. Time frames and/or periods for implementation</b></p>	
<p>(a) Time frame and/or period for implementation, including start and end date, consistent with any further relevant decision adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA)</p>	<p>Already under implementation and will continue to do so till the end of 2030.</p>
<p>(b) Whether it is a single-year or multi-year target, as applicable</p>	<p>Single – year target</p>

<b>3. Scope and coverage</b>	
(a) General description of the target	The target for 2030 is to reduce emissions under a BAU where the emissions reduction is mostly from the energy and waste sector
(b) Sectors, gases, categories and pools covered by the nationally determined contribution, including, as applicable, consistent with Intergovernmental Panel on Climate Change (IPCC) guidelines	As per the IPCC guidelines: key sectors covered: <ul style="list-style-type: none"> <li>• Energy</li> <li>• Waste</li> </ul> Gases covered: <ul style="list-style-type: none"> <li>• Carbon dioxide (CO<sub>2</sub>)</li> <li>• Methane (CH<sub>4</sub>)</li> <li>• Nitrous oxide (N<sub>2</sub>O)</li> </ul>
(c) How the Party has taken into consideration paragraph 31(c) and (d) of decision 1/CP.21	Maldives is committed to expand the inclusion of all categories of emissions and removals as much as possible. Inclusion of sources and sinks were considered based on the latest inventory (inventory of 2015) of the BUR and was decided that still more data gaps needs to be filled and this will be addressed overtime in subsequent inventory updates.
(d) Mitigation co-benefits resulting from Parties' adaptation actions and/or economic diversification plans, including description of specific projects, measures and initiatives of Parties' adaptation actions and/or economic diversification plans	Integration of RE sources in the provision of water and sewerage services to reduce emissions
<b>4. Planning Process</b>	
(a) Information on the planning processes that the Party undertook to prepare its nationally determined contribution and, if available, on the Party's implementation plans, including, as appropriate	

<p>(i) Domestic institutional arrangements, public participation and engagement with local communities and indigenous peoples, in a gender-responsive manner</p>	<p>As the mandated ministry for climate change portfolio, the ministry has updated the NDC in consultation with all relevant stakeholders including public and private sector. In addition to this the NDC was shared with the general public for their feedback. During the updating process, various development plans and ongoing activities within the sectors were considered.</p>
<p>(ii) Contextual matters, including, inter alia, as appropriate:</p>	
<p>a. National circumstances, such as geography, climate, economy, sustainable development and poverty eradication</p>	<p>Please refer to the Maldives latest national communication (Second National Communication) and the First BUR.</p>
<p>b. Best practices and experience related to the preparation of the nationally determined contribution</p>	<ul style="list-style-type: none"> <li>• Taking into consideration the financial and technical capabilities of the country</li> <li>• Conducting socio-economic analysis of the mitigation actions to ensure no undue burden due to climate actions.</li> <li>• Engaging stakeholders to confirm their roles and responsibilities to achieve the target.</li> <li>• Briefing policy makers on the technical and financial implications in achieving the NDC target</li> </ul>
<p>c. Other contextual aspirations and priorities acknowledged when joining the Paris Agreement</p>	<p>Not Applicable</p>

<p>(b) Specific information applicable to Parties, including regional economic integration organizations and their member States, that have reached an agreement to act jointly under Article 4, paragraph 2, of the Paris Agreement, including the Parties that agreed to act jointly and the terms of the agreement, in accordance with Article 4, paragraphs 16–18, of the Paris Agreement</p>	<p>Not Applicable</p>
<p>(c) How the Party’s preparation of its nationally determined contribution has been informed by the outcomes of the global stocktake, in accordance with Article 4, paragraph 9, of the Paris Agreement</p>	<p>Not Applicable for this round of NDC</p>
<p>(d) Each Party with a nationally determined contribution under Article 4 of the Paris Agreement that consists of adaptation action and/or economic diversification plans resulting in mitigation co-benefits consistent with Article 4, paragraph 7, of the Paris Agreement to submit information on:</p>	
<p>(i) How the economic and social consequences of response measures have been considered in developing the nationally determined contribution</p>	<p>Cost benefit analysis were assessed for all the interventions considered while taking into consideration the financial and technical capacity of the country.</p>



<p>(ii) Specific projects, measures and activities to be implemented to contribute to mitigation co-benefits, including information on adaptation plans that also yield mitigation co-benefits, which may cover, but are not limited to, key sectors, such as energy, resources, water resources, coastal resources, human settlements and urban planning, agriculture and forestry; and economic diversification actions, which may cover, but are not limited to, sectors such as manufacturing and industry, energy and mining, transport and communication, construction, tourism, real estate, agriculture and fisheries</p>	<p>Enhancement of the existing economic diversification plan</p>
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**5. Assumptions and methodological approaches, including those for estimating and accounting for anthropogenic greenhouse gas emissions and, as appropriate, removals**

<p>(a) Assumptions and methodological approaches used for accounting for anthropogenic greenhouse gas emissions and removals corresponding to the Party's nationally determined contribution, consistent with decision 1/CP.21, paragraph 31, and accounting guidance adopted by the CMA;</p>	<p>Maldives will account for its anthropogenic GHG emissions and removals using the 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories, IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories. The models applied projects amount of energy used for every national sector based on population and economic growth. Default emission values from IPCC 2006 Guidelines are used to derive the emission.</p>
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<p>(b) Assumptions and methodological approaches used for accounting for the implementation of policies and measures or strategies in the nationally determined contribution;</p>	<p>See 5(a) above. Maldives will also apply specific assumptions and methodologies, where relevant, when accounting for progress of various policies and measures in its future reporting.</p>
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<p>(c) If applicable, information on how the Party will take into account existing methods and guidance under the Convention to account for anthropogenic emissions and removals, in accordance with Article 4, paragraph 14, of the Paris Agreement, as appropriate</p>	<p>See 5(a) above</p>
<p>(d) IPCC methodologies and metrics used for estimating anthropogenic greenhouse gas emissions and removals;</p>	<p>Maldives emissions for CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O will be derived using the 2006 IPCC Guidelines, via the Reference and Sectoral approach. The Tier 1 methodology will be used for emission estimates.</p> <p>The aggregation of GHG emissions will be estimated, and will be reported, using the 100-year time-horizon global warming potential (GWP) values from the IPCC Fifth Assessment Report.</p>
<p>(e) Sector-, category- or activity-specific assumptions, methodologies and approaches consistent with IPCC guidance, as appropriate, including, as applicable</p>	
<p>(i) Approach to addressing emissions and subsequent removals from natural disturbances on managed lands;</p>	<p>Not applicable</p>
<p>(ii) Approach used to account for emissions and removals from harvested wood products;</p>	<p>Not applicable</p>
<p>(iii) Approach used to address the effects of age-class structure in forests;</p>	<p>Not applicable</p>

<p>(f) Other assumptions and methodological approaches used for understanding the nationally determined contribution and, if applicable, estimating corresponding emissions and removals, including</p>	
<p>(i) How the reference indicators, baseline(s) and/or reference level(s), including, where applicable, sector-, category- or activity-specific reference levels, are constructed, including, for example, key parameters, assumptions, definitions, methodologies, data sources and models used;</p>	<p>For the purpose of projections:</p> <ul style="list-style-type: none"> <li>• Energy use per capita and waste generated per capita is used to assess the domestic use of energy and waste generation</li> <li>• For tourism sector energy use per tourist bednight and waste generated per tourist bed night is used</li> <li>• For other industrial and commercial activities, energy use is normalized to GDP dollar.</li> </ul>
<p>(ii) For Parties with nationally determined contributions that contain non-greenhouse-gas components, information on assumptions and methodological approaches used in relation to those components, as applicable</p>	<p>Not applicable</p>
<p>(iii) For climate forcers included in nationally determined contributions not covered by IPCC guidelines, information on how the climate forcers are estimated;</p>	<p>Not applicable</p>
<p>(iv) Further technical information, as necessary;</p>	<p>Not applicable</p>

<p>(g) The intention to use voluntary cooperation under Article 6 of the Paris</p>	<p>Maldives intends to participate in the mechanisms under the Article 6 of the Paris agreement. However, due to lack of agreed rules at the time of this submission, the level of participation for achievement of the NDC target is not determined.</p>
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**6. How the Party considers that its nationally determined contribution is fair and ambitious in the light of its national circumstances**

<p>(a) How the Party considers that its nationally determined contribution is fair and ambitious in the light of its national circumstances;</p> <p>(b) Fairness considerations, including reflecting on equity;</p>	<p>Maldives being a highly indebted Small Island Developing State at the frontlines of climate impact, it should be considered ambitious to undertake any mitigation efforts using domestic resources. Thus, it is fair for a country like Maldives, to put forward a practical target while aspiring to increase that target on the basis of available finance, technology and capacity.</p> <p>Though the emission from Maldives is negligible at the global scale and given the extreme vulnerability to the climate impacts, emission reduction can contribute to increasing resilience and achieving sustainable development.</p> <p>However, achieving our targets are constrained by the limited land area, geographic isolation of islands and geographic dispersion of population. In addition, limited capacity and challenges associated with transformation of the already established power generation systems remains as barriers to increase the share of RE in the energy mix. Although ocean currents and the waves surrounding each island might be the perfect renewable energy resource for the Maldives and other SIDS, the technologies to harness them are still at pilot stages around the world and commercially not available. This has resulted in Maldives being heavily dependent on imported fossil fuels.</p> <p>As Maldives is already facing the consequences of extreme and slow onset events, there is a need for</p>
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	<p>urgent and immediate adaptation actions. Maldives is undertaking a number of adaptation actions through the use of domestic and international resources most of which addresses immediate needs of the country. The COVID19 pandemic has further exacerbated these vulnerabilities making Maldives one of the hardest hit countries in the world in terms of its impact on GDP.</p> <p>Considering these constraints, challenges and the increasing vulnerabilities to the adverse impacts of climate change and the insignificant share of global GHG emissions, while allowing the country to pursue sustainable development without overburdening the population, the Maldives' NDC is highly equitable and ambitious</p>
(c) How the Party has addressed Article 4, paragraph 3, of the Paris Agreement;	The target given is higher than the target submitted in 2015 with more information regarding the actions to be taken.
(d) How the Party has addressed Article 4, paragraph 4, of the Paris Agreement;	Not applicable
(e) How the Party has addressed Article 4, paragraph 6, of the Paris Agreement	The target takes into account the national circumstances.
<b>7. How the nationally determined contribution contributes towards achieving the objective of the Convention as set out in its Article 2:</b>	
(a) How the nationally determined contribution contributes towards achieving the objective of the Convention as set out in its Article 2;	The target set and the activities identified are meant to contribute the overall objective of the convention to limit the dangerous anthropogenic interference with climate system. The NDC does take into consideration that any mitigation action taken does not adversely impacts ecosystems ability to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

<p>(b) How the nationally determined contribution contributes towards Article 2, paragraph 1(a), and Article 4, paragraph 1, of the Paris Agreement</p>	<p>The NDC target given will contribute to achieving the target of limiting the warming to below 1.5°C, while keeping in consideration that it contributes to sustainable development while eradicating poverty by reducing dependency of imported energy and switching to more cost-effective, reliable and sustainable energy source.</p>
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## Enhancement on the adaptation efforts

Maldives as among the most vulnerable countries to climate change, strengthening adaptation actions and building climate resilience is considered as the nation's highest priority. Similar to the mitigation efforts, increasing the adaptation resilience is also considered economy wide, targeting all the sectors.

### Enhancing agriculture and Food Security

Agriculture and food production is very limited in the Maldives due to small size of the islands, land scarcity, poor soil conditions and limited water resources. However, the sector has strived to sustain its contribution to the national economy and food security. The sector's contribution remained as a significant source of income for many women especially smallholder farmers and island communities.

Maldives has a highly import oriented economy with respect to its staple food requirements. Moreover, the extensively scattered and geographically dispersed nature of islands results in tremendous barriers and challenges, adding risks towards maintaining adequate storage and distribution facilities and systems especially during severe and extreme events and unexpected market irregularities.

- Strengthen existing climate risk insurance mechanisms for building resilience against the loss of assets, livelihoods due to extreme events and enhancing relief efforts in the post disaster period taking into account national food and nutrition security
- Scale-up investments in building public food reserves and stocks and expanding regional distribution mechanisms across the country as an adaptive measure to increase accessibility and availability to reduce risks of food shortages during extreme events and market irregularities.
- Promote research and development focusing on climate smart technologies and practices to address challenges facing the sector due to climate variabilities, seasonal changes and extreme events.
- Enhance capacity to implement climate smart and Integrated Pest Management (IPM) strategies and practices towards reducing pest damages and pest induced crop losses to increase resilience on crop yields and food security.
- Facilitate and enhance access to finance via available national funds and other mechanisms including access to micro-credit, grants etc., to increase farmer's capacity to enhance food security and to increase investments on production systems.

## Infrastructure Resilience

Given the small and low lying geographic nature of the islands, our critical infrastructure is in close proximity to the coast. The infrastructure are exposed to coastal hazards such as sea swells, storm surges and associated coastal flooding. These infrastructure needs protection from the potential adverse impacts of climate change. As part of increasing the infrastructure resiliency, Maldives will consider to undertake the following actions.

- Enhancing the resilience and climate proofing of critical infrastructure such as airports, ports, powerhouses and other utilities etc.
- Enhancing the National Building Code to incorporate climate resilience including coastal infrastructure
- Increase the resiliency through better spatial planning and increased connectivity between the islands.
- Strengthen the legislative framework by establishment of a National Planning Act and Physical Planning Act. The legislation will facilitate integration of climate change into the development planning while considering the economies of scale for public services, land use planning and population consolidation.

## Public Health

Climate Change has both direct and indirect health impacts. Warmer temperatures and wetter monsoon seasons could increase the prevalence of vector borne diseases. Extreme weather such as storm surges and flooding cause significant damage to health care facilities and the delivery of health services during emergencies. These impacts are not limited to physical diseases, but also affects the mental and social well-being. This often has a disproportionate burden on women, elderly persons, persons with disabilities and children.

Food and water borne diseases are not common in the Maldives. However, heavy rainfall and flooding promotes the transmission of such pathogens when there are no proper mechanisms to ensure adequate food safety and disposal measures. Poor Sanitation and groundwater contamination also increase the chance of spreading water borne diseases.

- Facilitate integration of climate change into the national health systems to ensure sustainable and climate resilient adaptation measures
- Enhance the institutional and human capacity to implement the existing vector surveillance programs covering all islands to address the emergence and re-emergence of such diseases and in implementing adequate food safety measures



- Strengthen the existing legal frameworks to address national vector control and implementation of food safety policies and standards
- Enhance the resilience of health infrastructure through increased climate proofing and incorporating green and energy efficiency measures.
- Enhance public health advocacy and awareness activities to reduce vector borne and other non-communicable diseases including those driven by heat stress and poor air quality
- Promote research to understand the nexus between climate change and health such as its impacts on vector borne diseases, mental health, air quality etc.

## Enhancing Water Security

Ground and rainwater are the main sources of fresh water in Maldives. In most of the islands, groundwater is not suitable for potable use due to saltwater intrusion and poor water quality. Future climate projections show that Maldives would experience issues with adequate availability of rain water which increases risk to accessibility and quality of water sources.

- Implementation of cost-effective Integrated Water Resource Management (IWRM) systems to cater water needs for the entire population to reduce the risk of water shortage during dry seasons.
- Enhance decentralized water security and safety plans to be implemented in all islands, considering the nuanced differences of the available water resources and minimize the detrimental impacts on the water resources.
- Integrate stormwater management into infrastructure development projects
- Improve the overall understanding of impacts from climate change on the natural water resources based on the latest science and implement policies, standards, regulations to pre-emptively protect the natural water resources from future impacts
- Strengthen the policies, programmes and campaigns to increase the efficiency of water use to reduce human pressure on the existing water resources

## Coastal Protection

The geographical nature of our islands results in communities having to live in very close proximity to the shoreline. Communities are highly exposed to risks associated with coastal hazards such as sea swells, sea level rise and these impacts have increased many folds over the past few decades. Hence, investments to coastal resilience is a critical need and priority for Maldives. Given the characteristics of the country, coastal management is essential to increase resilience in other vulnerable sectors.

- Promote use of evidence-based decision making on coastal adaptation planning and management of coastal zones.
- Facilitate mobilization of financing to reduce exposure of communities to coastal hazards.
- Mainstream climate change risks into coastal development policies.
- Continue to facilitate investments in coastal protection of inhabited islands, industrial islands and resorts

## **Safeguarding Coral Reef and its biodiversity**

Maldives is very rich in its marine flora and fauna. The coral reefs are a significant biodiversity for the Maldives. The formation and protection of islands, livelihoods of the people and economy of the country depends on our marine environment in particular the coral reefs contributing to tourism and fisheries industries immensely. The reefs support rich biodiversity providing food and livelihoods to island communities.

This vital ecosystem is highly sensitive to changing sea surface temperature and other climatic factors. Evidence from the reefs of the Maldives supports that warming of the ocean surface leads to significant coral bleaching and mortality has been observed in the Maldives due to El-Nino phenomenon during the past two decades. In some instances, coral reefs surrounding the islands are also stressed due to land-based sources of pollution.

- Facilitate research to address knowledge gaps and climate change impacts on coral reefs and marine ecosystems in order to promote sustainable and resilience-based management of coral reefs and marine ecosystems
- Strengthen existing coral reef monitoring program by engaging partners and stakeholders and developing tools (such as remote sensing, projections) for predicting, measuring and monitoring effects of climate variabilities and changes on reefs, marine ecosystems and vulnerable species.
- Strengthen national conservation programs considering different categories of protection, local and community management, ecosystem-based approach to contribute to the conservation of marine and coastal biodiversity and increase their resilience to climate change impacts while taking the livelihoods of the resource users into account.
- Enhance resilience of coral reefs and ecosystems by developing policy tools, incorporating into development plans, promoting best practices, increasing advocacy and through management actions.
- Implement measures to reduce sources of pollution on coral reefs and ecosystems especially marine life through appropriate policies, development of appropriate treatment facilities, management and safe disposal of solid waste taking into account the timely phasing-out of single use plastics.

## Tourism

Tourism is the largest contributor to GDP. Maldivian tourism industry is very dependent on its limited environmental resources. A slight modification on its resources will have cascading impacts to the national GDP.

- Mainstream climate change risks into tourism sector policies to enhance resiliency and sustainability of the sector.
- Facilitate access to finance to increase the resilience and sustainable environmental management of the sector.
- Mainstream and promote clean energy and energy efficiency technologies to reduce the overall emission
- Establish an insurance mechanism to reduce the impacts on the tourism sector through risk sharing and risk management

## Fisheries

Fisheries remains the main primary industry for many island communities occupying men and women alike. Fish products are the main exports of the country and is one of the key sources of foreign exchange. Fisheries is also a key primary productivity sector and contributes to approximately 20% of the domestic employment.

Climate change is expected to have profound impacts on oceans and marine life and Maldives is no exception. The changing and distribution of fish stocks and their food due to climate variability and accelerating effects of climate change is expected to have significant impacts on Maldives fisheries, fisheries dependent livelihood activities and food and nutrition security. Further, the increasing trend of frequency and magnitude of extreme events and anomalies could be devastating to the fishing communities nutritionally and economically.

- Facilitate fisheries research and development initiatives taking into consideration resilience building of the sector towards managing the changing of fish stocks and its migration patterns, adapting to efficient technologies and investing on national capacity needs.
- Enhance diversification of the fisheries sector including promotion of multi-functionality to respond to the emerging challenges and uncertainties due to climate variabilities and extreme events whilst protecting the health and sustainability of the marine resources and ecosystems
- Promote sustainable fisheries by increasing efficiency of fishing vessels, promoting technologies that have potential for reducing GHGs and by developing and upgrading land based fisheries infrastructures and facilities for a low carbon foot- print.
- Facilitate access to finance to empower the industry towards meeting the vulnerability challenges and increase its contribution to sustainable blue growth considering vulnerable small-

scale fishers and fishing communities and their productive role in maintaining food and nutrition security, livelihood and sustaining a successful blue economy.

- Strengthen insurance schemes to enhance resilience of small-scale fishers and fishing industry to cover against losses due to extreme events and anomalies, ensuring a minimum monthly income for lost fishing days especially for small-scale fishers.

## **Early Warning and Systematic Observation**

Information and data availability on climatology, hydrology and geophysics is scarce in Maldives. Wide geographic spread of the islands complemented with capacity constraints and inadequate resources have challenged to expand the observation networks. Improvement of data collection, management and forecast remains as critical areas for early warning dissemination.

- Promote research to understand the past and future climate trends and their associated impacts
- Continue strengthening and expansion of the meteorological network and early warning systems to cover the entire archipelago.
- Improve the climate and weather forecasting tools for decision making
- Strengthen the early warning systems and risk management tools

## **Disaster risk reduction and management**

Maldives is highly vulnerable to natural disasters and extreme climate events due to the fragile ecological profile and low elevation. Extensive damages have been experienced by the communities in recent times, due to strong wind and frequent flooding. Future climate projections indicate that extreme events are likely to be more severe and frequent. The respective authorities and the communities need to be better prepared to address and manage the natural disasters.

- Strengthen the existing databases on disaster risk management
- Strengthen collaboration with the island communities to understand and obtain information on local impacts.
- Enhance mechanisms for collection of information on losses and damages
- Facilitate the promotion and participation of the public and private sector in the disaster insurance scheme

## Cross-cutting Issues

### Finance

The government of Maldives will actively seek ways to increase both public and private resources for climate action. To this end, Maldives will continue to forge partnerships with individuals, private sector, civil society and local governments to mobilize climate finance. The government has been increasing its budgetary allocations for climate action annually in recent years. These include allocations under the Public Sector Investment Programme, recurring budgetary contributions, local contributions for donor supported projects, and loan repayments. In addition, the government continues to spearhead efforts to mobilize additional climate finance through innovative financing mechanisms, direct investments in projects, and provision of loans and guarantees to attract private finance to achieve its climate goals. Maldives will continue to enhance its enabling environments to attract climate finance.

- Review and update the National Strategic Framework to Mobilize International Climate Finance every five years, outlining priority areas for donor support.
- Improve government's capacity to tap into international climate finance mechanisms
- Establish and operationalize a system for tracking public and private climate finance flows.
- Scale up annual budgetary allocations for climate adaptation and mitigation through the Public Sector Investment programme
- Establish a National Climate Change Trust Fund to attract investments and to implement a range of alternative financing mechanisms for increasing resilience and low emission development programmes
- Continue allocations from the Maldives Green Fund to finance investments on climate action
- Introduce incentives for private sector including SMEs to invest in green development

### Climate governance and capacity building

Implementation of NDC and other climate related policies requires the necessary capacity and good governance mechanism. Addressing climate change adaptation and mitigation needs transformational changes. These changes need proper knowledge transfer, human resource capacity building, and increasing public awareness in addition to the financial and technological enhancements.

- Mainstream climate considerations into national development planning processes
- With support from the international community, develop the National Adaptation Plan (NAP) with short, medium and long-term adaptation programs to address adaptation needs nationwide.
- Strengthen the climate governance through enactment of the Climate Change legislation
- Continue the national capacity building programs with assistance from the international community.

- Develop and promote appropriate technologies to address climate change impacts with support from the international community.
- Implement appropriate policies and strategies to address the impacts of climate change on vulnerable groups

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