United Nations Development Programme

Country: Maldives

PROJECT DOCUMENT[1]

Project Title: Integrating Climate Change Risks into Resilient Island Planning in the Maldives

UNDAF Outcome 2:

By 2010, communities enjoy improved access to environmental services and are more capable of protecting the environment and reducing vulnerability and disaster risks with enhanced disaster management capacity

UNDP Strategic Plan Environment and Sustainable Development Primary Outcome:

Promote climate change adaptation

UNDP Strategic Plan Secondary Outcome: Strengthened capacity of developing countries to mainstream climate change adaptation policies into national development plans.

Expected CP Outcome(s):

Communities enabled to manage impact of climate change and reduce disaster vulnerabilities

Expected CPAP Outputs

3.1 National, atoll, island and sectoral disaster management plans and climate change adaptation plans developed and implemented in pilot areas, and related capacity enhanced.

3.2 Increased knowledge base of communities of appropriate options and mechanisms for mitigation of, and adaptation to climate change and related disasters

4.1 Capacity for local governance increased through policy support for legal, institutional and decentralization reform

4.2 Improved availability, quality and use of data, especially disaggregated data, to inform policy development, planning and programme implementation

Executing Entity/Implementing Partner: **Ministry of Housing, Environment and Transport**

Implementing Entity/Responsible Partners: **United Nations Development Programme**

Brief Description

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Programme Period:	2008-10
Atlas Award ID:	00058332
Project ID:	00072423
PIMS #	4093
Start date:	01 January 2010
End Date	31 March 2014
Management Arrangements	NEX
PAC Meeting Date	24 September 2009

Total resources required	$9,336,211
Total allocated resources:	**$9,336,211**
a) LDCF	$4,485,000
Co-financing:	
b) Government of Maldives (in-kind & parallel)	$3,738,336
c) UNDP: TRAC (cash)	$ 100,000
TRAC (parallel)	$ 777,875
d) UNISDR (parallel)	$ 235,000
Total Co-financing:	$4,851,211

Hon. Mr. Mohamed Aslam, Minister 3 December 2009

Agreed by the Ministry of Housing, Transport & Environment (MHTE): Date/Month/Year

Dr. Arun Kashyap, Officer in Charge 3 December 2009

Agreed by UNDP: Date/Month/Year

[1] For UNDP supported GEF funded projects as this includes GEF-specific requirements

Brief Description

The small, low-lying atoll islands of Maldives are highly vulnerable to flooding and coastal erosion. More than 44% of settlements, including 42% of the population, and more than 70% of all critical infrastructure are located within 100 meters of shoreline. Intensive rainfall, storm surges and swell waves are expected to be aggravated through sea level rise and climate change effects on weather patterns. This will compound underlying trends of increasing coastal erosion and pressure on scarce land resources, and increase physical vulnerability of island populations, infrastructure and livelihood assets. The most serious underlying driver of increasing vulnerability to climate change in the Maldives is the absence of systematic adaptation planning and practice. Climate change risks and long-term resilience are not adequately integrated into island land use planning or into coastal development and protection policies and practice, and past autonomous risk reduction efforts have sometimes had mal-adaptive effects.

LDCF support will enable the Government of Maldives to systematically assess the costs and benefits of different adaptation options in the fields of land use planning and coastal protection, and to develop the necessary institutional and individual capacity at national, provincial, atoll and island levels to enable decentralized and well-informed decision-making. In order to strengthen the enabling environment for decentralized adaptation planning, climate risk reduction measures will be anchored in key environmental, land use, decentralization, privatization and disaster risk reduction policies. Detailed technical guidelines on adaptive coastal protection, coastal development and land-use planning relevant to the Maldivian context will be developed to assist planners, decision-makers and technical specialists evaluate climate risks when making development and investment decisions. Tangible research cooperations will be set up to address evident knowledge gaps on climate change effects on the Maldives, and a climate risk information system, linked to the national Geographic Information System, will be established to allow universal access to different datasets needed for adaptation planning. The project will demonstrate practical, locally prioritized adaptation options for flooding and erosion control on at least four islands in four different atolls. Lessons learned and adaptation knowledge generated through the project will be systematically analyzed and disseminated both nationally and internationally.

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List of Acronyms & Abbreviations

ADB	Asian Development Bank
AEC	Atoll Ecosystem Conservation
ALM	Adaptation Learning Mechanism
AOSIS	Association of Small Island States
APR	Annual Project Review
AWP	Annual Work Plan
CBD	Convention on Biological Diversity
CCA	Common Country Assessment
CCD	Climate Change Department
CO	Country Office
CZM	Coastal Zone Management
CP	Country Programme
CPAP	Country Programme Action Plan
DNP	Department of National Planning
DIRAM	Detailed Island Risk Assessment in Maldives
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
DRP	Decentralization and Regionalization Programme
EEG	Energy & Environment Group
EIA	Environmental Impact Assessment
EPA	Environment Protection Agency
EPZ	Environmental Protection Zone
FNC	First National Communications
GDP	Gross Domestic Product
GEF	Global Environment Facility
GIS	Geographic Information System
GOM	Government of Maldives
HACT	Harmonized Approach to Cash Transfer
HD	Housing Division
IPCC	Intergovernmental Panel on the Climate Change
LDC	Least Developed Country
LDCF	Least Developed Countries Fund
LEG	Least Developed Countries Expert Group
LUPS	Land Use Planning Section
MACI	Maldives Association of Construction Industries
MDG	Millennium Development Goal
MDP	Maldivian Democratic Party

MEEW	Ministry of Environment, Energy & Water
MEMP	Maldives Environment Management Programme
MFF	Mangroves for the Future
MFT	Ministry of Finance & Treasury
MHA	Ministry of Home Affairs
MHAHE	Ministry of Home Affairs, Housing & Environment
MHTE	Ministry of Housing, Transport & Environment (formerly MEEW & MHAHE)
MMCCP	Maldives Mapping Climate Change Project
MMS	Maldives Meteorological Services
MPND	Ministry of Planning & National Development
MRC	Marine Research Centre
MSL	Mean sea level
NAPA	National Adaptation Programme of Action
NC	National Communications (to UNFCCC)
NCSA	National Capacity Self Assessment
NDP	National Development Plan
NDMC	National Disaster Management Centre
NEAP	National Environment Action Plan
NGO	Non-Governmental Organization
NPC/MFT	National Planning Council/MFT
NPC	National Project Coordinator
NPD	National Project Director
NPM	National Project Manager
NSDS	National Sustainable Development Strategy
OFP	Operational Focal Point
PB	Project Board
PIF	Project Identification Form
PIR	Project Implementation Review
PMU	Project Management Unit
PPD	Programmes & Projects Department
PPG	Project Preparation Grant
RCU	Regional Coordination Unit
RTA	Regional Technical Advisor
SBAA	Standard Basic Assistance Agreement
SIDS	Small Island Developing State
SLM	Sustainable Land Management
SLR	Sea level rise
SNAP	Strategic National Action Plan for Disaster Risk Reduction and Climate Change Adaptation
SST	Sea surface temperature

TA	Thematic Area
TPR	Tripartite Review
UN	United Nations
UNCCD	United Nations Convention on Combating Desertification
UNFCCC	United Nations Framework Convention on Climate Change
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNISDR	United Nations International Strategy for Disaster Risk Reduction
WB	World Bank
WDC	Women's Development Committee

List of Annexes

1. Situation analysis

1.1. The Climate Change-induced Problem

1. The Republic of Maldives is an archipelago of 26 natural atolls and some 1,190 small, low-lying, coral islands distributed along an 860 km long chain, running north to south, in the Indian Ocean. The country has a combined land and sea area of 115,300 km^2 and an Exclusive Economic Zone of 859,000 km^2 (MPND 2008). The Maldivian atolls are the seventh largest reef system in the world and the largest in the Indian Ocean, with a total reef area of over 21,000 km^2. Administratively, the country is divided into 7 provinces, 20 atolls, 194 'inhabited' islands[2] and the capital Malé. The total population in 2008 was estimated at 309,575 (MPND 2008). Over a third of the population lives in Malé.

2. The Maldives has a tropical monsoon climate, dominated by two monsoon periods: the northeast monsoon from December to April and the southwest monsoon from May to November. The southwest monsoon is the wetter of the two monsoons and is typically the period when most severe weather events occur. Average annual rainfall is 2,124 mm, but with a rainfall gradient that varies from 1,786 mm in the north to 2,277 mm south. Daily temperature varies between 23°C and 31°C, with a mean daily minimum temperature of 25.7°C, and a mean daily maximum temperature of 30.4°C. Humidity ranges between 73% and 85% (MEEW 2007).

3. The major climate hazards to which the Maldives is exposed regularly include windstorms, heavy rainfall, drought, sea swells, storm surges and *udha*[3]. Of these, the most serious are considered to be swell waves, heavy rainfall and windstorms, because of their high frequency and great potential for causing damage through flooding, erosion and other impacts. The combined effect of storm surges and tides, or storm tides, can be especially destructive. However, there is considerable variation in hazard patterns across the archipelago and even between islands in the same atoll, due to local variation in geophysical and climatic factors (MHAHE 2001; MEEW 2007; UNDP 2006 & 2007). For example, the northern atolls face a greater risk of cyclonic winds and storm surges than the southern atolls, where the risk is much lower because of proximity to the equator (UNDP 2006; see Annex 1 for a more detailed analysis of climate risks to the Maldives).

4. Current and future climate-related risks to the Maldives and key areas of vulnerability have been analyzed in the country's First National Communications (FNC, MHAHE 2001[4]) to the United Nations Framework Convention on Climate Change (UNFCCC) and the National

[2] An 'inhabited' island in the Maldives refers to an administrative category and does not necessarily correspond to a geographic island. For example, one 'inhabited island' may include two or more geographic islands, while one geographic island may constitute more than one 'inhabited' island. However, inhabited islands are where the main population lives and distinguished from islands used for tourism and other purposes, of which there are a further 168. The capital Malé is always treated separately and references to 'the islands' or 'the atolls' generally means outside Malé.

[3] *Udha* refers to the annual rise in the water surface on the coast during the Southwest monsoon which caues limited coastal flooding with a water depth of less than 0.6 m. Udhas are unique to the Maldives, but precisely how they originate remains unclear (Shaig 2006a; UNDP 2007).

[4] The Initial National Communications to the UNFCCC is published officially as the First National Communications of the Republic of Maldives.

Adaptation Programme of Action (MEEW 2007). Climate risks are also considered to some extent in recent assessments of disaster risks, poverty and vulnerability (MPND 2004, UNDP 2006, UNDP 2007, 2008 & 2009). Climate change is expected to increase the frequency and intensity of existing climate hazards and lead to long-term sea level rise (SLR) and increased sea surface temperatures (SST), with grave implications for the country's continued development. While there is some evidence that coral reefs will grow upwards along with SLR, it is unclear whether they will be able to keep pace with higher rates of SLR, which are projected to rise by 5 mm/year on average, with a range of 2-9 mm/year (IPCC 2001; see Annex 1). The reefs are also threatened by climate-change related increases in SST and concentrations of oceanic CO_2, which will further impair their ability to keep pace with SLR.

5. The low-lying coral islands of the Maldives are especially vulnerable to both rainfall and ocean-induced flooding, due to both short-term changes in sea level such as storm surges and swell waves, as well as the long term SLR projected by IPCC scenarios: 96% of islands are less than 1 km^2 and average altitude is only 1.5 m. Flooding can have very serious consequences as more than 44% of settlements, including 42% of the population, and more than 70% of all critical infrastructure are within 100m of the shoreline. Given the small size of most islands and the scarcity of land, setbacks are either not feasible or offer limited protection. Between 2000-2006, 45% of all inhabited islands were flooded at least once, with 19% of islands inundated regularly, or at least once a year. During the severe weather event of May 2004, at least 36% of inhabited islands were flooded. Significant investments have been made to develop the infrastructure of the Maldives, which includes several airports, commercial ports and numerous island harbours and piers, which are now threatened by climate change impacts. A flooding event in 1987 caused damages worth US$4.5 million to Malé International Airport alone (MHAHE 2001). Coastal access infrastructure is currently valued at US$200 million (Shaig 2006a).

6. Climate change is also likely to aggravate underlying coastal erosion problems, which are already damaging economic assets, exacerbating pressure on scarce land and beach resources, and increasing the vulnerability of island populations and settlements to strong winds, high waves, and flooding. Land is one of the scarcest resources in the Maldives, with recent estimates suggesting a total land area of just 235 km^2 for the entire country, or c. 1% of its total reef area. Beaches, which are extremely dynamic in the Maldives, covered an estimated total area of 11-13 km^2 in 2006, spread along some 2,000 km of coastline. In 2004, 97% of inhabited islands experienced coastal erosion, and 64% experienced severe erosion (Shaig 2006a). By 2009, this had increased to 85% of 194 inhabited islands reporting severe erosion (EPA data in DNP 2009). The implications of accelerated coastal erosion due to climate change is of particular concern given the limited beach and land area of the Maldives and the economic importance of beaches in an island nation with an economy driven by tourism and fishing.

7. The impact of the December 2004 Asian tsunami on the Maldives underscores the country's extreme vulnerability to natural hazards, and provides a good indication of the possible impacts of future climate change-induced natural disasters. The tsunami caused severe damage to physical infrastructure in many islands, setting back the high levels of economic progress and prosperity achieved by the country over recent years. Total damages were estimated at US$470 million or some 62% of GDP, including direct losses estimated at US$298 million (World Bank/ADB/UN 2005).

1.2. Root causes of physical vulnerability to climate risks

Inherent Physical Vulnerability and Natural Island Resilience

8. The Maldives is inherently vulnerable to climate and other natural hazards due to its geographic and geophysical characteristics including the small size, low elevation, narrow width and unconsolidated nature of its coral islands (Section 1.1). Historically, the islands have exhibited considerable natural resilience to fluctuating sea levels, varying climatic conditions, wave action, extreme weather events and other major hazard events. The coral reefs, in particular, play an important role in protecting the islands from the impacts of extreme weather events, along with coastal sand ridges, natural vegetation and other natural features. The economic and biological values of the reefs have long been recognized. Additionally, the natural protective functions of the reefs as the country's first line of defence against a range of natural hazards including climate risks, became more widely understood during the 2004 Indian Ocean tsunami, the impacts of which would have been far greater without the buffering role of the reefs and other natural features.

9. The Government of Maldives (GOM) has adopted several measures to protect the country's coral reefs, including a ban on coral mining, environmental safeguards on tourism development and, more recently, the establishment of marine protected areas.[5] There continues to be some local anthropogenic pressure on the reefs, which the government continues to try to address. However, the single largest source of coral destruction in recent history, particularly of soft corals, was due to the El Nino-related bleaching event of 1998, and the biggest threat to the country's coral reefs are climate-change induced impacts (Section 1.1).

Threats arising from current land use, coastal protection and development planning and practice

10. A major cause of increasing physical vulnerability to climate risks in the Maldives, is that these are not systematically and comprehensively taken into account in the development planning process, particularly in the areas of land use, coastal protection and development. Consequently, natural island resilience and local adaptive capacity are being reduced unintentionally in many inhabited islands. Many houses and considerable critical infrastructure are at risk due to their design or their siting; natural island resilience is being lost as sand ridges are levelled during land reclamation or mined for sand; coastal vegetation and inland wetlands are being converted to other forms of land use; island drainage systems are not being designed to withstand future heavier rainfall. Major physical modifications to islands that result from land reclamation, harbour and road construction are often especially damaging to natural island resilience, as these usually alter island topography and the patterns of coastal erosion and accretion. In many islands across the Maldives, such interventions have either created fresh problems of flooding and erosion or exacerbated existing ones (MFF 2009; Shaig 2006a & b). Most methods of controlling

[5] The GOM/GEF/UNDP supported Atoll Ecosystem Conservation (AEC) Project in Baa Atoll has contributed to the expansion of the country's marine protected areas network and is generally strengthening biodiversity conservation efforts in the Maldives (see Section 2.3).

erosion and flooding rely on coastal engineering and hard physical structures such as sea walls and groynes, which are very expensive and therefore difficult to maintain or replicate widely. For example, the total cost of building a 4.35 km sea wall around Malé was c. $54 million, or $12.4 million/km of wall (A. Shaig pers. comm.; MHTE 2009a) Other measures while solving the initial problem, may create other problems: for example, beach nourishment to combat erosion involves extracting sand from internal island lagoons and can extremely environmentally damaging if the sand is dredged rather than pumped from the lagoons.

11. As a result of direct experience, there is now far greater general understanding of how land use planning and coastal development can adversely impact islands and increase vulnerability to climate and other natural hazards, especially flooding and erosion. However, there are still a number of constraints to modifying existing approaches to land use planning, coastal protection and development in the Maldives due to gaps in the policy framework, weak intersectoral coordination, limited institutional and individual capacity for climate risk management and adaptation planning, including gaps in technical knowledge and know-how as well as major financial constraints. These are considered briefly below and discussed further under Section 1.3.

Weak Intersectoral Coordination

12. The Maldives has undergone a series of political changes in recent years, culminating in the country's first multiparty elections in November 2008. Since then, there has been major restructuring of government ministries and many policies are under development or review with insufficient inter-sectoral coordination to ensure overall policy coherence and ensure that climate risk planning principles and adaptation measures are systematically integrated into national policy and planning frameworks.

Limitations in Institutional and Individual Capacity

13. There is a severe shortage of skilled and professional staff within the environment 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 (MHTE 2009b). Historically, the Maldives had not been prone to frequent or major natural disasters (UNDP 2006). There has therefore been little need or occasion to develop expertise in disaster risk reduction. A National Disaster Management Centre (NDMC) was established in 2004 following the tsunami, but NDMC has only six staff, including two senior professional staff. A Department of Climate Change, Sustainable Development and Energy was established in 2009 within the Ministry of Housing Transport & Environment (MHTE). The Climate Change Department is the lead government agency representing the Maldives in the international climate change negotiations. It is also responsible for implementing the NAPA, as well as for developing climate change policy and additional adaptation strategies and plans (see Table 1, Section 1.4). However, the actual Climate Change Division (CCD) within the department has only five professional staff, including three junior staff, and limited budget, and its primary focus to date has been to support the government in the international negotiations.

14. Capacity for climate change adaptation planning at the atoll and island level is even lower as

historically, development planning in the Maldives has been undertaken at the national level. Poor local understanding of climate change-related risks and particularly of the different options to manage these, have also contributed to local development choices and individual actions that have unwittingly increased the vulnerability of the population and economic assets to current and future climate risks. For example, there has been increased flooding in some islands following land reclamation carried out to insufficient heights or where former natural inland wetlands have been reclaimed. In many islands, sand is removed from the oceanward ridge system, or simply levelled for aesthetic reasons, as the function of these ridges in protecting islands from flooding is still not widely appreciated.

15. The new constitution of the Maldives requires the government to devolve many of its planning and decision-making functions to the atolls and islands as a response to the challenges of administering, financing and distributing public services, critical infrastructure and other development benefits equitably across nearly 200 geographically dispersed, inhabited islands. Once the new Decentralization Bill becomes law, atoll and island councils will be elected, and local civil servants will work together with the councillors to prepare Atoll and Island Development Plans, which will be guided by sector policies and plans, but will also better reflect local needs and aspirations as a result of greater local empowerment and engagement. However, technical, professional and administrative capacity constraints, constitute a serious barrier to effective decentralization, which the government hopes to overcome through a concerted drive to build basic capacity for development planning and budgeting under its Decentralization and Regionalization Programme (DRP), which is discussed further in Section 2.

Financial Constraints

16. The Government of Maldives is acutely aware that urgent action is needed to address the threats posed by climate change to the country's population and continued sustianable development.[6] However, like other Least Developed Countries (LDCs) and Small Island Developing States (SIDs), the Maldives, has high adaptation costs relative to GDP. Adaptation costs are especially high, because of the geography of the country and the scattered distribution of the population across many far-flung islands. There are numerous islands with populations of less than 500, while others are densely populated and face overcrowding. Although the country has overcome many of the economic impacts of the December 2004 tsunami, which delayed its graduation from an LDC to a Middle-Income Country, the Maldives is still striving to achieve some of its basic development goals (see MPND 2007a). The government's development plan for the next five years is centred around its five election pledges, namely to develop a nation-wide transport system, provide affordable housing and quality health care for all, reduce living costs, and address the problems of narcotics abuse and trafficking. In particular, the government seeks to ensure a more equitable distribution of development benefits across the population (GOM 2008). Currently, the country is facing a range of economic problems including accumulated debt and the impacts of the global recession on the tourism industry, the mainstay of the national economy. Budgetary resources for the country's development plan for the next five years are already severely constrained and limited resources are available to meet the additional costs of developing and implementing climate change adaptation measures (UN 2009).

[6] E.g. see http://www.time.com/time/specials/packages/article/0,28804,1924149_1924152_1924195,00.html

1.3. Long-term solution and barriers to achieving the solution

17. The Government of Maldives fully recognizes that in order to effectively manage climate change risks, it is necessary to integrate climate risk planning and climate change adaptation into the country's development policy and planning frameworks across all sectors and levels of government (i.e. from the national to the island level). Mainstreaming of environmental protection and climate change adaptation into all sectoral policies is included as a short-term goal under the environment policies of the Maldivian Democratic Party (MDP) Alliance Manifesto "*Aneh Dhivehi Raajje*"[7] (Short-term Goal 5, GOM 2008), which, together with the Manifesto Action Plan that is being finalized, is the key guiding policy for all development planning for 2008-2013 (see Section 2.1). Integrating climate risk considerations into island land use planning, coastal protection and coastal development is especially critical given the high degree of physical exposure of island populations and economic assets to climate-change induced wind and wave damage and short- and long-term flooding. Addressing these issues is identified as an urgent and immediate priority in the country's NAPA. Thus, Priority Project 1 of the NAPA is the "*Integration of Future Climate Change Scenarios in the Safer Island Strategy to Adapt to Sea Level Rise and Extreme Weather Risks Associated with Climate Change*" and Priority Project 2 is "*Coastal Protection of Safer Islands to Reduce the Risk from Sea Induced Flooding and Predicted Sea Level Rise*" (MEEW 2007). There are, however, several barriers to the effective mainstreaming of climate risk planning into land use planning, coastal proteciton and coastal development in the Maldives, corresponding to the barriers identified in the hazards, policy and adaptive capacity-based approaches of the Adaptation Policy Framework (APF, UNDP 2005). These barriers, which were introduced briefly in Section 1.2, are discussed further below.

<u>Intersectoral Coordination and Policy Barriers</u>

18. The MDP Alliance government instituted a process of major institutional and policy reform after winning the elections in November 2008. Many government ministries and departments, including the earlier Ministry of Energy, Environment and Water (MEEW), have been restructured and had their mandates revised, while others are undergoing restructuring. Such periods of transition inevitably involve some confusion and uncertainty about roles and responsibilities until the process is fully completed. Invariably, this also affects the coordinated implementation of sector policies and programmes in the short-term. There has also been a flurry of policy development and revision (see Section 2.1), including changes that are particularly pertinent to coastal zone management and coastal development and disaster risk management (DRM). Both the Environment Protection and Preservation Act and the Environmental Impact Assessment (EIA) guidelines are under revision. MHTE is also planning a review of the 3rd National Environment Action Plan (NEAP3). A National Sustainable Development Strategy (NSDS) has been developed. A Strategic National Plan for Disaster Risk Reduction and Climate Change Adaptation (SNAP) is under development with support from UNISDR and an earlier draft DRM Act is under review. Climate change adaptation may be included along with DRM in the revised Act. A Land Use Planning Bill, a Decentralization Bill and a Privatization Bill are also at various stages of drafting and approval by parliament.

[7] *Aneh Dhivehi Raajje or* "The Other Maldives"

19. These policy development and revision processes offer an opportunity for mainstreaming climate risk planning. However, greater intersectoral coordination and oversight are needed to ensure that climate risks are addressed systematically in all sectors and to ensure overall policy coherence on climate change adaptation across all sectors. For example, one short-term environmental goal of the Manifesto is to formulate and implement guidelines on coastal modification such as dredging and reclamation primarily to minimise erosion, although the need to include climate change adaptation measures in the guidelines is also mentioned (GOM 2008). However, in the same section, the Manifesto's policy guidance on strengthening EIA guidelines only refers to the need to minimize pollution and environmental destruction, and makes no reference to assessing the potential impacts of new developments on climate change resilience. Similarly, the existing guidelines for land use planning do not take climate change or adaptation into account and there are currently no plans for amending these.[8] The new Decentralization Bill and the Privatization Bill also do not address climate risks despite their inherent potential to adversely impact local resilience, vulnerability and adaptive capacity if climate risks are not comprehensively taken into account while making decisions about development and investment. Currently, environmental risks associated with coastal development, including land reclamation and harbour development, are only formally considered during the EIA process, which is guided by the EIA regulations and overseen by the recently formed Environment Protection Agency (EPA) of MHTE. The EIA regulations, however, are very generic and inadequate for evaluating climate risks. Current climate variability and other natural hazards are considered to some extent during community consultations for a particular development project, but there is no formal process or technical guidance specific to local conditions to ensure that both current and future climate risks are systematically considered when making decisions about coastal development projects or land use planning.

20. Greater intersectoral coordination and action are also needed to share existing data and convert these into useful information for adaptation planning. Currently, different data are available in different formats with different agencies such as the Maldives Meteorological Services (MMS), different sections of MHTE, the National Planning Department of the Ministry of Finance and in other agencies and institutions.

Institutional Capacity Barriers

21. The Maldives has a shortage of professional capacity in all sectors and at all levels, but especially within the atolls and islands outside the capital Malé. Capacity within the environment sector is especially limited (MHTE 2009b; MHTE/World Bank 2008). As noted above, the CCD has limited staff and budget and its main role to date has been to develop climate change policies and engage in the international climate change negotiations, in which the Maldives is actively engaged. The EPA, which is mandated to oversee the EIA process amongst other functions, has greater human resources than the CCD, but also suffers from severe technical capacity constraints. The EPA has few staff who can evaluate the implications of a proposed land reclamation or harbour development project in the context of future climate risks or identify locally appropriate adaptation options. Generally,

[8] Further changes may be included in the individual sector action plans that are being finalized for the Manifesto Action Plan but these were not available for review during the finalization of the project document.

there is little knowledge available about the possible range of locally appropriate adaptation options for climate resilient land use planning and coastal protection in the Maldives, including the costs and benefits of different "soft" and "hard" options. NDMC also has very limited capacity and has therefore struggled to fulfill its mandate on disaster risk reduction.

22. There is even less technical capacity for environmental management and climate risk planning among the authorities at the atoll and island levels, as historically all development planning was done at the national level. Such capacity is increasingly critical given that many national planning and decision-making functions will be devolved to the atolls and islands through the DRP (see Section 1.2).

Individual Capacity Barriers

23. Although people in the islands, i.e. outside Malé, are generally aware of climate change and its potential consequences for the Maldives, most people do not know how to assess future climate risks or what can be done about them. Stakeholder consultations with island communities and authorities during the PPG revealed a sense of helplessness about climate change (Annex 2). There is growing understanding that prevailing patterns of land use and island development, particularly major developments such as harbours and land reclamation, can increase the vulnerability of island populations and economic assets to coastal erosion and flooding. Beach erosion and associated land loss has become a pressing issue in many islands, while others are facing severe flooding problems after land reclamation (e.g. see UNDP 2007b-e).

24. There is less understanding, however, of the full implications of current land use and coastal development patterns in the context of a changing climate. For example, while people are now generally aware of the importance of coral reefs and becoming more aware of the role of coastal vegetation and beaches in buffering the islands, there is less awareness about other sources of island resilience, such as the natural protective functions of ocean ridges and inland wetlands. In many islands, much of the natural vegetation has been cleared, while ridges are being destroyed through removal of sand and island modification. Neither island communities nor the concerned government authorities have the necessary knowledge, tools or skills, to assess climate risks or identify suitable adaptation options. In particular there is a need to identify more cost-effective and locally appropriate adaptation measures, given the high costs entailed by the more conventional "hard" engineering solutions to coastal erosion and flooding.

The Project Approach to Barriers Removal

25. The project combines three of the four major approaches to barriers removal of the Adaptation Policy Framework (UNDP 2005) to address the main barriers to the effective integration of climate change risks into policy and planning on land use, coastal protection and coastal development in the Maldives discussed above. Thus, the project uses a combination of the hazards-based, policy-based and adaptive capacity-based methods and strategies to remove a range of policy and capacity barriers, including gaps in technical knowledge and know-how.

1.4. Stakeholder baseline analysis

26. Key stakeholders with a major direct role in the project were identified and consulted at different stages during the Project Preparation Grant (PPG) phase to obtain their inputs and feedback for designing the project. The majority of key stakeholders at the national level are from various departments and divisions of MHTE[9], which were formed in 2008. The Climate Change Division (CCD) of the Department of Climate Change, Sustainable Development and Energy of MHTE will take the lead in coordinating with other stakeholders and overseeing the implementation of the project. The decentralized governance structure for the country is currently being debated in parliament. It remains to be seen whether the country will retain the current administrative structure, which includes provinces, atolls and islands, or replace it with a new structure, which may not include provinces. Currently, there are appointed State Ministers within the Ministry of Home Affairs (MHA) for each of the seven provinces and Provincial Offices. The other major stakeholders outside Malé are the Atoll and Island authorities, both the civil servants and the soon to be elected officials, as well as the local communities in the 4 target demonstration islands and their respective atolls. The criteria for selecting demonstration atolls and islands were identified and agreed through a series of consultations with national stakeholders, including MHA and State Ministers (see Annexes 2 & 4). Consultations were also held with island communities and local authorities in three of the four proposed demonstration islands. Consultations in the fourth island, which is the most difficult to travel to, were delayed because of inclement weather and could not be rescheduled before finalizing the project document.

27. A number of other stakeholders who are likely to have an interest in the project's results but may not have an active or direct role in the project were also identified during the PPG phase. Both primary and secondary stakeholders are shown in Table 1 below along with details of those parts of their mandate most relevant to the project's objective as well as, where applicable, a brief summary of their proposed role in the project. Details of stakeholder consultations during the PPG are provided in Annex 2, while the role of different stakeholders in project design and their proposed role in implementing the full project is described in the Stakeholder Involvement Plan in Annex 3. The importance of strong engagement by NGOs and island communities in the project was flagged at the last national stakeholder consultation, including the need to ensure that consultations capture the full range of perspectives, including those of minorities, less vocal groups and island residents who may not be present at the time of the consultation, particularly those who work in other islands.

[9] Prior to the formation of MHTE, Environment was within the Ministry of Energy, Environment and Water (MEEW).

Table 1: Primary and Secondary Stakeholders of the Project

Stakeholders	Interests/Role in Project
Climate Change Division, Department of Climate Change, Sustainable Development and Energy, MHTE	The Climate Change Division works on developing climate change policy, adaptation strategies and plans, and implementing NAPA priorities. The climate change department is the lead government agency for climate change negotiations and takes the lead in mobilizing resources for adaptation. *The Climate Change department will coordinate all activities of the project in partnership with other project stakeholders. It will take the lead in ensuring that climate risks are integrated in different government policies.*
Land Use Planning Section, Housing Division, MHTE	The Land Use Planning Section (LUPS) is responsible for developing land use planning policies and regulations and supporting the preparation of land use plans for all inhabited islands. (LUPS) works with island authorities and island communities to develop Land Use Plans and seeks inputs from other sections of MHTE as required, notably on environmental aspects of proposed zonation and allocation of land for different purposes. *The project will work with this section and relevant island authorities to integrate climate change scenarios within island land use planning, particularly in the design and management of Environment Protection Zones as well as siting of critical infrastructure*
Environment Protection Agency (EPA), MHTE	EPA is a regulatory body within the MHTE mandated to formulate and implement laws and regulations to conserve the environment (including the Environment Act). It is responsible for formulating and implementing the Environmental Impact Assessment Regulation, which includes evaluating and monitoring the environment impacts of specific investment projects. EPA is also mandated to undertake research on and monitor beach erosion, to provide guidance on combating erosion, and to implement environmentally sound coastal infrastructure. EPA has the responsibility to implement activities under the Environment Act, to formulate guidelines on waste management as well as sewage treatment and monitor these activities. The EPA is working on a comprehensive monitoring framework for coastal zone monitoring in partnership with MEMP. A database is being planned for all erosion data and some coastal protection projects are underway. A study soft engineering options for coastal protection is underway. *The project will work with the EPA to development coastal protection guidelines and integrate climate risk management considerations into environment policies and regulations, especially the EIA process, as well as into Environment Protection Zone design and management.*
MHTE: Programmes and Projects Dept., MHTE	The Programmes and Projects Department overseas planning, design and monitoring of coastal infrastructure projects such as harbours, reclamation and breakwaters. Currently harbour development and reclamation work on several islands are at different stages of implementation. *The project will work with this department to ensure that climate change impacts are considered when designing and implementing new infrastructure projects.*
Maldives Meteorological Services, MHTE	MMS is the responsible agency for the collection and management of meteorological information for the Maldives. They have the mandate to collect meteorological data to increase the relevant knowledge base and to impart this information to those that require the data. They provide

	information on weather conditions and collect data on air temperature, rainfall, wind and some tide data. They have a National Meteorological Centre at Hulhule, Malé' Atoll and 4 Meteorological Offices in HDh. Hanimaadhoo, L. Kaddhoo, GDh. Kaadeddhoo and S. Gan which collects climate data regularly. *The project will work with MMS to strengthen the systematic collection and communication of climate risk data and to strengthen climate change modelling capacity.*
National Disaster Management Centre (NDMC), MHTE	The NDMC was established in December 2004 following the tsunami and made permanent in December 2005. It has the responsibility to coordinate activities related to natural disaster events by formulating policies and conducting programmes to increase preparedness of the community and by increasing awareness among the government institutions and the public. The Disaster Management Act is being finalised for submission to parliament and a Strategic National Action Plan for Disaster Risk Reduction and Climate Change Adaptation (SNAP) is being developed (see Section 1.3). The NDMC coordinates all Tsunami Recovery Programmes and carries out capacity building programmes for Disaster Management. *The project will work with NDMC to integrate climate risk scenarios into disaster risk reduction policies and strategies.*
Ministry of Home Affairs (MHA)	The Decentralization and Regionalization Programme is led by the MHA. MHA deals with the administrative issues of all Province, Atoll and Island Offices and has the mandate to formulate policies to develop the Provinces and monitor the Province Offices, ensuring that they are operating according to the decentralization plan. The Decentralization Act has been submitted to parliament and a project concept has been developed on decentralization and regionalization for the purposes of resource mobilization. *The role of the MHA in the project will be to integrate climate change adaptation into the resilient island concept and the Decentralization and Regionalization programmes.*
Atoll and Island Authorities (including civil servants and elected officials, i.e. Island and Atoll Councillors)	The Atoll and Island Authorities are crucial stakeholders for the project. As envisaged in the draft Decentralization Bill, it will be the Atoll and island elected bodies that will make major decisions on development and resource allocation for each province/atoll or island respectively. The civil servants will be responsible for subsequent planning and implementation of the development programmes. *The project will develop the capacity of these officials to ensure that their development planning decisions and subsequent planning and implementation to take climate change risks into consideration.*
Community Representatives (Women's Development Committees (WDC) / Youth NGOs / National NGOs)	Local WDC and NGOs are increasingly having a larger role in the day to day development activities of the islands. Traditionally WDCs took the responsibility to manage waste at the island level and more recently youth groups have joined their efforts to contribute to the development of the island level services. WDCs and youth NGOs raise resources and implement small community projects such as preschools, awareness raising on local issues and training courses. *The project will raise awareness on climate change in WDCs and NGOs and build their capacity to advocate for and support climate change adaptation planning.*
Climate Change Council under the President's Office	The Climate Change Council advises the President of Maldives directly on matters related to climate change mitigation and adaptation,

	especially on ways to operationalize the president's strategy to become a carbon neutral nation. *The Climate Change Council has no direct role in the project but will be important for advocacy and advice.*
Privatization Committee under the President's Office	A Privatization Committee has been constituted to implement a Privatization Programme. The programme is directed by the President's Office with 'Invest Maldives' in close collaboration with sectoral ministries in Malé'. Invest Maldives is a section within the Ministry of Finance that implements the Public Private Partnership Programme. Invest Maldives is responsible for advertizing and soliciting new investment opportunities in the Maldives. This programme aims to set up a Privatization Unit within one of the Ministries, possibly Ministry of Finance and the role of Invest Maldives will be to advertise and promote investment opportunities and encourage public private partnership *The committee evaluates proposals for new investments under the Public-Private Partnership Programme. After accepting an expression of interest, investors are required to submit a more detailed proposal, which is evaluated by the Committee. The project will seek to introduce climate change risk reduction criteria into the review process by incorporating appropriate criteria within the proposal format.*
Department of National Planning, Ministry of Finance	This department is engaged in the formulation of policies on socio-economic development and the formulation and implementation of development consolidation strategies. Previously the Ministry of Planning and National Development, it has directed the development of earlier Safer Island Development Programme. Currently the department is coordinating national level spatial planning and is in the process of developing a national GIS strategy. *The role of this department in the project will be to consolidate climate change – related information into the national GIS system*.
National Planning Council, Ministry of Finance & Treasury	The National Planning Council (NPC/MFT) was formed in February 2009 to ensure coordination of planning functions of different sectors and to determine national development priorities. They have the mandate to provide advice on long-term development policies and strategies and to ensure sustainable development of the nation while ensuring balanced and equitable development at the provincial level. *The NPC/MFT reviews and approves all development plans and projects in the Maldives including donor-assisted projects. The project will communicate all major findings and policy recommendations on appropriate climate change risk reduction and adaptation measures for the Maldives to the NPC.*
Ministry of Tourism, Arts and Culture	MTAC is the responsible agency for development and implementation of tourism development policy in the country. They also have a role to monitor tourism facilities to ensure that services are provided to a standard set by the government. One of their main functions it to ensure that sound environmental principles are incorporated into tourism development and operation. *The project will learn from the pilot experiences from different resort islands on coastal adaptation options and also share lessons from this project.*
Ministry of Fisheries & Agriculture	MoFA is responsible for formulating and implementing policy on sustainable use and development of marine resources as well as agriculture and forestry in the country. They play a lead role in

	management of these resources and collaborate with the fishing and agriculture industries to develop these sectors. The Marine Research Centre is a semi-autonomous institution within MoFA (see below.) *MoFA do not have a direct role in the project, but they are critical partners in building island resilience more generally and a will therefore be engaged in consultations as appropriate, e.g. Agriculture will have information on suitable indigenous species for coastal afforestation.*
Maldives Association of Construction Industry (MACI)	Private sector companies associated with MACI implement coastal infrastructure projects. *MACI can be a body through which the project works to introduce new guidelines on coastal infrastructure to member private companies. The project will get input from private sector companies working in coastal infrastructure when developing guidelines.*
The College of Higher Education	The College of Higher Education provides undergraduate courses in different fields including management, nursing, teaching. One of the outputs of the Maldives Environment Management Project funded by World Bank and implemented by MHTE is to develop and implement under graduate and graduate academic programs in environmental management through the Maldives College of Higher Education (MCHE). This involves curriculum development for the courses. *The project will work with the College of Higher Education to support their undergraduate degree programme on environment by providing teaching materials on climate change risk and adaptation relevant to the Maldives.*
MRC	The Marine Research Centre was founded in 1984 and is the research arm of the Ministry of Fisheries, Agriculture and Marine Resources. It has the mandate to undertake research to provide the information needed for management of fisheries and the marine environment of the Maldives. It is also responsible for disseminating knowledge to the public and the fisheries industry, collaborating with other institutions, and assisting in the development of national marine resource policy. The MRC has a ongoing reef health monitoring Programme and is currently developing a comprehensive reef monitoring protocol. *MRC will collaborate with the project by sharing knowledge on marine ecosystems and ecology, including the new ecosystem health monitoring protocols that have been developed by MRC and provide relevant data needed for decision-making on individual adaptation options. The project will also work with MRC and EPA to pilot and test additional protocols for monitoring the natural resilience of terrestrial and coastal ecosystems against climate change impacts in selected demonstration islands.*

2. Strategy

28. The project will contribute to the government's goal of mainstreaming climate risk planning and climate change adaptation into the country's development policy and planning frameworks across all sectors. The project will achieve this by overcoming the key barriers to such mainstreaming (Section 1.3) in the areas of land use planning, coastal protection and coastal development, which have been identified as areas needing urgent and immediate attention in the country's NAPA (Section 2.2). Thus, under Outcome 1, the project will will strengthen institutional and individual capacity for climate risk planning at the national, atoll and island levels. Outcome 2 addresses key policy and intersectoral coordination gaps, and seeks to strengthen the enabling environment for future decentralized planning, by integrating climate risk reduction measures into key national policies on environment, land use, decentralization, privatization and disaster risk reduction. Additionally, detailed technical guidelines on climate resilient coastal protection, coastal development and land-use planning relevant to the Maldivian context will be developed to assist planners, decision-makers and technical specialists evaluate climate risks when making development and investment decisions. Outcome 3 focuses on developing the adaptation capacity of island communities and local authorities. Under this Outcome, the project will demonstrate practical, locally prioritized adaptation options for flooding and erosion control on at least four islands in four different atolls, focusing on "soft" adaptation measures. Under Outcome 4, lessons learned and adaptation knowledge generated through the project will be systematically compiled, analyzed and disseminated nationally and internationally, thereby supporting further up-scaling and replication.

2.1. Project rationale and policy conformity

29. Consistent with the guidance from the Conference of the Parties to the UNFCCC (COP-9), the project will implement priority interventions in the Maldives' NAPA and therefore satisfies the criteria outlined in UNFCCC Decision 7/CP.7 and GEF/C.28/18 (GEF 2006). The Government of Maldives requests the Least Developed Countries Fund (LDCF) to finance the additional costs of achieving its national sustainable development goals in the context of a changing climate change. The project is exclusively country-driven and will integrate climate change risk considerations into island land use planning and coastal development and protection. This has been identified as an urgent and immediate adaptation priority in the country's NAPA, which was developed through extensive multistakeholder consultations (MEEW 2007). The project's focus of expanding the resilience of natural and social systems against climate change hazards by integrating climate risk planning into the policy frameworks for land use planning and coastal development and protection at national, atoll and islands levels; developing institutional and individual capacity at national and local levels for adaptation planning; and increasing adaptation knowledge and experience, particularly on locally appropriate "soft" adpatation measures, are within the scope of expected interventions of LDCF-supported projects, as articulated in the LDCF programming paper and decision 5/CP.9. Through alignment with the key national policies, including the MDP Alliance Manifesto, NSDS, and NEAP3, the project will improve the resilience and adaptive value of ongoing government investments and provide a case for the leveraging of additional bilateral and multilateral resources for development. The project thus satisfies the various eligibility criteria for LDCF support outlined in GEF/C.28/18 (GEF 2006).

2.2. Country ownership: country eligibility and country drivenness

30. The Maldives ratified the United Nations Framework Convention on Climate Change (UNFCCC) on 9 November 1992. The country is eligible for technical assistance from UNDP and this project has been endorsed by the national GEF operational focal point.

31. The proposed project has been designed to address the most urgent and immediate adaptation priorities identified in the FNC and the NAPA, which have analyzed the multiple climate risks and vulnerabilities of the Maldives (MHAHE 2001; MEEW 2007). Both these reports have identified "*Land, Beach and Human Settlements*" as a particularly high-risk, vulnerable system. The NAPA also includes eight specific adaptation needs for this system. These were identified through broad-based stakeholder consultations and are as follows:

    1. Consolidate population and development
    2. Acquire support for the speedy and efficient implementation of Safer Islands Strategy
    3. Strengthen land use planning as a tool for protection of human settlements
    4. Build capacity for coastal protection, coastal zone management and flood control
    5. Protect beaches through soft and hard-engineering solutions
    6. Protect house reef to maintain natural defense of islands
    7. Improve building design and regulations to increase resilience
    8. Integrate climate change adaptation into national disaster management framework

32. The project, which will address four of the above adaptation needs (3, 4, 5 and 8), was designed specifically to meet the objectives of Priority Project 1 of the NAPA ("*Integration of Future Climate Change Scenarios in the Safer Island Strategy to Adapt to Sea Level Rise and Extreme Weather Risks Associated with Climate Change*") and Priority Project 2 ("*Coastal Protection of Safer Islands to Reduce the Risk from Sea Induced Flooding and Predicted Sea Level Rise*"). The project will also contribute to achieving some of the objectives of Priority Projects 10 "*Protection of human settlement by coastal protection measures on safe islands"* and 12 "*Flood control measures for vulnerable islands"*. By addressing these urgent priorities, the project will contribute to the long-term planning solutions that the country urgently requires to prepare for the inevitable impacts of climate change.

33. Stakeholder consultations during the PPG phase revealed that government thinking on the Safer Islands Programme has evolved since the Project Identification Form (PIF) was developed. The government's focus has shifted to strengthening the resilience of inhabited islands more generally, rather than concentrating exclusively on a few Safe Islands (see Annex 2). While the term 'Safer Islands' is still sometimes used, current thinking within government favors 'resilient islands', with a focus on 'softer' adaptation measures and strengthening social resilience rather than relying primarily on a limited number of fortified 'Safe Islands' that are protected through a series of expensive 'hard' structural measures. In parallel, the government has also abandoned the earlier Population and Development Consolidation Programme. Instead, the government proposes to use a range of economic

incentives to encourage voluntary migration from smaller, less resilient island, to islands with greater potential for economic development and climate change adaptation.

34. The project is fully in line with the MDP Alliance Manifesto (GOM 2008), which has replaced the 7th National Development Plan (MPND 2007) as the main policy guiding all development for 2008-13, along with the National Sustainable Development Strategy (NSDS, GOM 2008). The project will especially contribute to the following short (1-3 year) and long-term (1-5 year) goals of the Manifesto's environmental policies:

    - formulation of guidelines on coastal modification that incorporate erosion reduction and climate change adaptation measures (short-term goal 2);
    - mainstreaming of climate change adaptation into key sector development policies including land use (short-term goal 5);
    - capacity development of island communities to address land erosion (long-term goal 4); and
    - facilitation of research on environmental issues that affect the Maldives (long-term goal 9)

35. Adaptation to climate change is the first of the NSDS's seven goals and the proposed project is aligned with most of the objectives under this first goal, which include the following:

    - Make the inhabited islands resilient against the threats posed by global climate change
    - Protect critical infrastructure such as international airports from sea induced hazards and predicted climate change impacts
    - Provide innovative coastal protection for selected islands and tourist resorts
    - Strengthen human, technical, regulatory and institutional capacity for coastal zone management

36. The project will also contribute to the delivery of the planned strategic results of NEAP3, which sets out the agenda for national environmental planning, protection and management in the Maldives for 2009 – 2013.

37. The six planned strategic results if NEAP3 are:

    Result 1. Resilient Islands
    Result 2. Rich Ecosystems
    Result 3. Healthy Communities
    Result 4. Safe Water
    Result 5. Environmental Stewardship
    Result 6. A Carbon Neutral Nation

38. The project will especially contribute to specific objectives and targets proposed under Results 1 and 5 as follows:

    - Result 1, Goal 2: *Protect human settlements*"

- Result 5, Goal 24: "*Strengthen Environmental Impact Assessment to ensure that all significant impacts associated with new developments is understood and accounted for*" and
- Result 5: Goal 27 "*Environmental Information*".

39. Project design and development were led by the Government of Maldives through MHTE. The Minister and the Deputy Minister for MHTE, who is the primary focal point for the UNCCD and the CBD, participated actively in the first PPG stakeholder consultation and project formulation workshop and provided strong direction to the project (see Annex 2). The CCD has coordinated the project preparation activities under the supervision of the UNFCCC focal point.

40. The project is also consistent with the UNDP's Country Programme (CP) for the Maldives for 2008-10, which was developed in consultation with GOM and other development partners, and is aligned with the priorities of the Maldives United Nations Development Assistance Framework (UNDAF) for 2008-10. The project also contributes directly to UNDP's portfolio-level goals for climate change adaptation within the thematic areas of Disaster Risk Management (Thematic Area 4) and Coastal Zone Development (Thematic Area 5). Although the CP and the UNDAF were developed during the earlier 7th NDP, both remain relevant under the government's new development plan.

41. The Maldives CP covers three major areas 1) Poverty Reduction 2) Democratic Governance and 3) Disaster Management and Environment for Sustainable Development. (Prior to the 2004 Tsunami, UNDP Maldives had no disaster management programme.) Under the third componen, UNDPs Programme focus is on: (a) developing national, atoll, island and sectoral disaster management plans and climate change adaptation plans developed and implementing in pilot areas, and building related capacity; (b) increasing knowledge base of communities of appropriate options and mechanisms for mitigation of, and adaptation to climate change and related disasters. This project will contribute directly towards achieving both these outputs, which in turn are related to UNDAF Outcome 2, which focuses on improving community access to environmental services and building capacity for sustainable environmental management and reducing vulnerability to disaster risks. The project will also contribute to UNDAF Outcome 3 and UNDP CP Outcome 4, on strengthening democratic governance, which also directly reinforces the national MDGs. The project will particularly contribute to the achievement of national targets on environmental sustainability under MDG 7, which was identified as the area of with weakest progress in the 2nd MDG Progress Report (MPND 2007a). In addition, the project will also support the empowerment of women and youth and capacity development for informed decision-making, which are mainstreamed into all three UNDAF programme components. The project will remain relevant under the next UNDAF for 2011-2013, which is under formulation as this will build closely on the earlier UNDAF. Further details of linkages with UNDP's CP are given below under the section on UNDP's comparative advantage.

2.3. Design principles and strategic considerations

42. The project has been designed through a process of close stakeholder consultation and engagement led by GOM through MHTE (see Annex 2). The project builds on the existing development baseline and seeks to secure on-going interventions against current and future

climate risks, particularly in the fields of land use planning, coastal protection and development, as described in detail under each separate project outcome in Section 2.4 below. Sustainability and replication considerations have also been integrated into the project design by ensuring that the project is closely aligned with key national policies and priorities that are most relevant to integrating climate change adaptation into development planning and investment decisions. The most important policy directions of the present government are decentralization and privatization, the two processes through which GOM aims to deliver development programmes and projects, including more effective and efficient delivery of public services. GOM priorities also include strengthening good governance and democracy across the country. With the government's broader development agenda in mind, the project has chosen to build the capacity of planners and decision-makers in the provinces, atolls and islands to enable decision-making based on appropriate information and knowledge about climate change risks and adaptation options in the Maldives. The project will further strengthen the enabling environment for decentralized planning and investment decisions by anchoring climate risk reduction measures in key national policies on environment, disaster risk reduction, land use, coastal development and privatization (also see Sections 2.7 & 2.8).

43. Additionally, locally prioritized adaptation measures for flooding and erosion control will be demonstrated in at least 4 islands in 4 different atolls, which have a total population of c. 14,200 and 42,000, respectively (Annex 5). By the end of the project, at least 50% of households in the 4 islands and 10% of the population in each of the 4 atolls will be better protected from climate change impacts as a result of the adaptation measures implemented through the project. Selected critical infrastructure in demonstration islands, worth many millions of dollars will be better protected as a result of the project. Additional benefits that will be generated by the project are summarized in the indicator targets column of the Project Results Framework in Section 3.

44. As the project builds on the existing development baseline, its major sources of co-financing are in-kind and parallel co-financing from the Government of Maldives, from its on-going programmes, particularly in the areas of sustainable environmental management and capacity development, including other donor-assisted projects, notably the Maldives Environment Management Programme (MEMP), which was launched in 2008 with a loan from the World Bank (see Section 4 & Annex 10). MEMP has three main components, two of which are directly relevant to this project: capacity building for environmental management and technical assistance for strengthened environmental management and monitoring, including a pilot regional strategic environmental assessment. EPA and MRC are the major stakeholders of MEMP and are also key stakeholders in this project, particularly EPA (see Table 1 & Annex 3). The present project will build significantly on MEMP's work as detailed further in Section 2.4.

45. The project is closely aligned with UNDP's on-going work in the areas of disaster risk management, capacity development and support to GOM's decentralization programme. UNDP has been supporting a range of assessments of disaster risks and of physical and socio-economic vulnerability to natural hazards in the Maldives. Major studies include the Disaster Risk Profile of the Maldives (UNDP 2006), the Detailed Island Risk Assessment in the Maldives (DIRAM) for ten proposed Safe Islands (UNDP 2007, 2008), and the cost-benefit analysis of different adaptation options in three islands (UNDP 2009). These assessments, some of which are still on-going, have provided the foundation for the present

project and are an important source of cofinancing (see Section 4 & Annex 10). Additionally, UNDP is providing preparatory assistance to GOM through the Ministry of Home Affairs (MHA) for raising additional finance for the DRP, particularly the capacity development that is needed to operationalize the programme. UNDP is also supporting a programme for strengthening civil society engagement on development matters in the Maldives through MHA. Additionally, UNDP is providing some cash cofinancing towards baseline or other activities that are not eligible for LDCF support (see Section 4 & Annex 10).

UNDP's Comparative Advantage

46. Globally, UNDP plays a primary role in ensuring the development and management of capacity building programmes and technical assistance projects, drawing on its experience in human resources development, integrated policy design and implementation, institutional strengthening, and non-governmental and community participation, as well as on its network of country offices and its inter-country programming experience. The proposed project is aligned with UNDP's comparative advantage, as articulated in the GEF Council Paper C.31.5 "*Comparative Advantages of GEF Agencies*", in the area of capacity building, providing technical and policy support as well as expertise in project design and implementation. At the national level, UNDP has focused on developing and supporting projects intended to assist the country to develop its own capacity for environmental management for sustainable development and poverty alleviation. UNDP's comparative advantage for the proposed project lies in its continuous in-country presence and its strong track record of working with GOM on complex environmental and disaster management projects, including the mainstreaming of global environmental issues into broader sustainable development programmes. With the phasing out of the Maldives Tsunami recovery Programme, UNDP's new programme has focused on bringing together its disaster management programme with the climate change component of its environment programme. UNDP supported preparation of the Maldives NAPA and has been requested by GOM to support the implementation of this NAPA follow-up project as well.

47. UNDP has been, or still is, the Implementing Agency for a number of other Global Environment Facility (GEF) projects, all of which are relevant to the present project. UNDP supported the GEF cofinanced National Capacity Self-Assessment (NCSA, MHTE 2009) as well as the preparation of the earlier FNC (MHAHE 2001). The project has strong linkages with two on-going GEF cofinanced projects under implementation in the Maldives: the full-size project, *"Atoll Ecosystem-based Conservation of Globally Significant Biological Diversity in the Maldives*" in Baa Atoll (the AEC project), and the medium-size project *"Building Capacity and Mainstreaming Sustainable Land Management (SLM) in the Maldives"*. The project is directly linked to some of the planned outputs under the SLM project, including proposed revisions to land-related laws and regulations, integrating SLM within broader environmental policy, developing a national land use map and a GIS-based land management system for monitoring and evaluating land use in the Maldives. The project will also build on the knowledge and experiences of the AEC project, which has been under implementation for several years. The AEC project has amongst other things supported the establishment of terrestrial protected areas and the development of ecosystem management plans, which will be particularly relevant to the proposed strengthening of Environment Protection Zones under Outcome 2 of this project (see Section 2.4). The project will also benefit from the lessons learned by the AEC project on bringing about policy change,

capacity development and stakeholder engagement. Synergies with these projects are ensured as both these GEF projects are executed by MHTE, who are also the executing agency for this project. Additionally, the National Project Manager of the SLM project is from the Land Use Planning Section of MHTE, who are a key stakeholder of this project (see Table 1). There may also be potential synergies with the work of Mangroves for the Future (MFF) in the Maldives (MFF 2009). UNDP is one of the lead partners of this initiative and is supporting GOM with the implementation of a small grants programme under MFF.

2.4. Project Objective, Outcomes and Outputs/activities

48. There have been some minor changes to the wording of the project goal, objective and outcomes since the PIF approval based on feedback from stakeholders during the PPG phase (Annex 2). However, there is no fundamental change to the main project components, objective or outcomes described in the approved PIF. The main change relates to the policy anchor under Outcome 2, which had to be revisited because of the evolution of the earlier Safer Islands Strategy (see Section 2.2 & Annex 2).

49. The overall goal to which the project will contribute is: *"To increase the resilience of the Maldives in the face of climate change and improve country capacity to respond effectively to climate related hazards".*

50. The project's objective is *"To ensure that climate change risks are integrated into resilient island planning and that national, provincial, atoll and island authorities[10] and communities are able to prioritize and implement climate change adaptation measures"*

Outcome 1: Enhanced capacity of national, provincial, atoll and island authorities and civil society leaders to integrate climate risk information into policy, planning and investment decisions

Co-financing amounts for Outcome 1: $2,110,115

LDCF Project Grant requested: $328,360

Without LDCF intervention (baseline)

51. As discussed in Section 1.3, the Maldives faces a range of institutional and individual capacity constraints. Although capacity development for environmental management is a major component of the MEMP, there are no plans for in-depth technical training on climate risk management and climate change adaptation. Instead, MEMP will only include climate change adaptation as a general module in the curriculum for the new Environmental Management certificate and degree course that is being developed. The MEMP is also

[10] As noted earlier, the decentralized governance structure for the country is currently being debated in parliament. It remains to be seen whether the country will retain the current administrative structure, which includes provinces, atolls and islands, or replace it with a new structure, which may not include provinces. The project will work with all levels of formal governance and administrative structures that are in place.

offering support for graduate training abroad, but again, capacity gaps in climate change risk planning are not targeted. There are also plans to strengthen the pre-disaster planning capacity of the NDMC under the SNAP. However, without LDCF support, the key departments (see Table 1 in Section 1.4) that have a critical role to play in integrating climate risk planning into the resilient island concept will continue to be constrained by insufficient technical knowledge and know-how on how best to incorporate different climate risk reduction strategies and adaptation options into their core work. This includes the Climate Change Division (CCD), the Environment Protection Agency (EPA), Land Use Planning Section (LUPS) of the Housing Division and the Programmes & Projects Department (PPD). The CCD will not have sufficient technical expertise to support the implementation of NAPA priorities including the mainstreaming of climate change risks into key government policies that guide coastal planning and investment decisions. The EPA will not be able to effectively integrate climate change considerations into the EIA process or have the capacity to advise other sectors on how best to avoid practices that reduce climate risk resilience and increase vulnerability. LUPS will continue to use the existing *Guidelines for Land Use Planning 2005* and not know how to introduce adaptation measures into existing or new land use plans. The PPD will not be able to ensure that land reclamation, harbour and other coastal infrastructure development are in line with the principles of maintaining and strengthening climate change resilience.

52. Without LDCF support, authorities at the provincial/atoll and island levels and local communities will continue not to take climate change risks into account in their land use and development planning. The government will be supporting capacity development, particularly at the provincial/atoll level, to operationalize the DRP (see Sections 1.2 & 1.3). However, GOM's plans do not include developing capacity specifically for climate risk planning. Instead, MHA, with support from UNDP, proposes to establish a local government training institute to support technical capacity development tailored to the local context, with a focus on developing basic skills in general management and administration, accounting and financial management, project planning, monitoring and evaluation other areas that have historically been managed directly by national agencies.

53. Furthemore, the work that is being undertaken through MEMP, such as erosion control modelling and the development of a national GIS strategy and database for development planning, will not ensure that critical additional data required for climate risk planning are collected. Similarly, while the proposed Maldives Mapping Climate Change Project (MMCCP) would produce marine spacemaps and detailed cartographic maps of pilot areas in the Maldives with bathymetric data, which is currently lacking, these data will not be effectively used for climate risk analysis without the climate risk information system that will be established with LDCF funds.

With LDCF intervention (adaptation alternative)

54. With LDCF support, GOM will be able to overcome capacity barriers that are preventing the mainstreaming of climate risk planning into development planning frameworks at the national, provincial/atoll and islands levels. The project will focus on developing the capacity of those sectors and actors with greatest responsibility for, and most direct influence over, island land use planning, coastal protection and development, and disaster risk reduction, in order to reduce the vulnerability of island populations and economic assets to the impacts of current climate variability and future climate change. This will help to ensure that climate

variability and future climate change risks are systematically taken into account in future land use planning and coastal development in the Maldives. The project will complement on-going or proposed capacity development efforts by MEMP, DRP and NDMC. Specifically, LDCF support will be used to build institutional and individual capacity for understanding and prioritizing current and future climate risks faced by the Maldives as well as to evaluate and plan locally appropriate adaptation measures, particularly in relation to climate resilient land use planning and coastal protection. Capacity development efforts will target planners and decision-makers, as well as technical specialists, at different levels of government (i.e. civil servants and elected officials at national, provincial/atoll and island level) and will be tailored according to the needs and roles of different target groups. The project will also develop the capacity of civil society leaders and community representatives, such as leaders of youth NGOs and women's development committees as a means of ensuring that marginalized or vulnerable groups are not exclude and to generally increase community understanding of climate change risks and adaptation options and ability to make informed choices about land use planning and coastal protection and development in a changing climate. Given the imminent decentralization of development planning, greater local understanding and engagement is critically important to ensure that future development does not further undermine island resilience and increase the population's vulnerability to climate change impacts.

Outputs and Indicative Activities

Output 1.1 Regional climate change scenarios for the Maldives analyzed and updated to provide more accurate climate change projections for national and local planning

55. Climate change scenarios for the Maldives developed for the NCs and the NAPA will be reviewed, refined and strengthened to generate more accurate information for local adaptation planning and climate risk management.

Indicative activities under Output 1.1:

- Review climate change modeling information for Maldives (including work undertaken through the national communications to the UNFCCC) and identify evident gaps
- Statistical and dynamic downscaling of global climate change models to produce a more accurate regional climate change model for the Maldives
- Communicate the findings from the revised regional climate change model to national and local planners and decision-makers
- Expand and strengthen the composite disaster risk profiles of at least 10 islands based on the revised regional climate change model
- Use the more accurate climate change projections from the revised regional climate change model as an input to the development of the guidelines on climate resilient land

use planning and coastal protection proposed under Outcome 2.

Output 1.2 Provincial/atoll[11] and island authorities and civil society leaders for at least 4 islands understand climate change related risks and are able to prioritize appropriate land use planning and coastal protection measures

56. Atoll and island authorities and island communities do not have the necessary knowledge or skills to integrate anticipatory climate risk management into land use planning or coastal protection (see Sections 1.2 & 1.3). Land use plans at best reflect local knowledge about historical conditions. Local authorities and communities have a good understanding of the historical direction of seasonal currents, wave height and intensities and which areas are prone to erosion. There also a few traditional methods of erosion control and coastal protection appropriate to local conditions, based on historical patterns of climate variability and erosion. The EPA conducts assessments and provides advice based on demand, which to date has primarily been on erosion control under current conditions. Thus, existing land use plans and coastal protection measures do not take into account future climate change impacts. Furthermore, local practices, such as removing sand from coastal ridges or siting of roads and buildings, as well as development choices, for example over harbour design and land reclamation, may also unwittingly serve to reduce island resilience and increase vulnerability to climate change (e.g. see UNDP 2007, 2008 & 2009*)*. There is need for greater local understanding of climate change projections, climate-induced disaster risks and adaptation options, including the factors that reduce or strengthen island resilience and vulnerability is becoming increasingly essential, particularly given the proposed decentralization of development planning. The project will work in at least four provinces/atolls and on four demonstration islands to increase regional and local capacity for climate resilient land use planning and coastal protection.

Indicative activities under Output 1.2:

- Communicate the disaster and climate risk profiles of at least 4 islands to the relevant atoll and island authorities and civil society leaders;

- Train atoll and island authorities, civil society leaders and Community Disaster Focal Points to analyze current land use planning and coastal protection practices in the context of emerging climate change risks;

Additionally, with the support of the technical specialists trained under Output 1.3:

- Train atoll and island authorities on the costs and benefits of different adaptation options and facilitate the selection of locally appropriate adaptation measures to address major climate change risks based on the guidelines developed under Outputs 2.1 and 2.2.

- Facilitate the integration of climate change risks into the land use and island development plans of at least 4 target islands by island authorities and local communities and into the Atoll Development Plans of at lesat two demonstration atolls.

[11] The term 'Atoll Authorities' is used hereafter to cover both Provincial and Atoll Authorities as it is expected that the new authorities will be referred to as 'Atoll Authorities' in line with the country's new Constitution, regardless of whether the present provincial governance and administrative structure is retained, or whether the new governance structure is aligned with the earlier atoll adminstrative structure.

Output 1.3 Technical specialists in government departments responsible for land use planning, coastal zone management, coastal infrastructure development and land reclamation trained in the application of the guidelines developed under Outputs 2.1 and 2.2

57. Once the technical guidelines proposed under Outcome 2 are developed (Outputs 2.1 & 2.2), the project will conduct training workshops for different target groups as follows.

Indicative activities under Output 1.3:

- Conduct one training workshop to provide a general understanding of climate change risks and resilient island planning in the Maldivian context. Target groups for the training include: MHTE's LUPS, EPA, NDMC, Programmes & Projects Department; Environment Sector Specialists within Atoll Offices; MFT's National Planning Department; the Ministry of Construction; and selected private contractors who undertake the major infrastructure and land reclamation projects in the Maldives.

- Conduct separate training workshops on the application of the guidelines developed under Outputs 2.1 & 2.2. on climate change resilient land use planning, land reclamation, harbour development, and coastal erosion control and protection targeting the relevant technical specialists within government departments and private sector companies

Output 1.4 A climate risk information system established that enables universal access to meteorological and oceanographic data for adaptation planning purposes

58. The project will support the development of a practical climate risk information system. Ideally, this will comprise an information layer for inclusion in the proposed national GIS system rather than a stand-alone system. However, the GIS strategy is still under development and funds are yet to be obtained for its implementation, including the establishment of a GIS database. The project will first locate all relevant data for climate risk analysis scattered across different departments and agencies in the Maldives and then establish how best to collate and convert existing data into useful information that can be easily communicated to different user groups.

Indicative activities under Output 1.4:

- Identify the climate risk information needs for anticipatory adaptation planning in the Maldives and verify which data are available, with which agency, in which format and how the data are currently being used to serve different information needs.
- Identify the major data gaps for climate risk reduction planning and how these could be filled
- Conduct stakeholder consultations to develop consensus on the objectives, design and institutional base for a climate risk information system
- Develop agreements with the key national agencies including MMS, EPA, MRC,

NPD/MFT to ensure that climate risk related data is collected and made available in the formats required by the climate risk information system

Outcome 2: Integration of climate risk planning into key national policies that govern or impact land use planning, coastal protection and development

Co-financing amounts for Outcome 2: $582,051

LDCF Project Grant requested: $940,000

Without LDCF intervention (baseline)

59. The many national policy changes that are currently underway are unlikely to incorporate climate risk planning in a comprehensive and consistent fashion without LDCF support. In addition to the earlier mentioned capacity constraints of key government agecies (Sections 1.2 & 1.3), gaps in technical information and insufficient intersectoral are hindering the effective integration of climate risk considerations into key existing and new policies that impact the coastal zone. Thus, without LDCF support, climate risk considerations will not be incorporated during the proposed revision of the EIA regulation or the development erosion control guidelines. There are also no resources available to examine how actual land use and coastal development practices in the Maldives are affecting island resilience and capacity to adapt to the impacts of climate change. There are also no concrete plans to strengthen the environmental standards in the *Guidelines for Land Use Planning* of 2005 or to integrate climate risk planning into coastal development planning and practice or into the decentralization and privatization programmes. There is also a risk that DRM and climate change adaptation will not be effectively integrated under SNAP and that NDMC, CCD and other MHTE departments do not coordinate effectively to manage climate risks in an integrated fashion.

With LDCF intervention (adaptation alternative)

60. LDCF support will ensure that climate risk planning is systematically integrated into national policies and sector programmes on land use planning, coastal zone development and management, decentralization, privatization and disaster risk management and that there is overall policy coherence and consistency both at the national and the atoll and island levels. The project will be based within the Climate Change Department and will provide the necessary additional support to strengthen coordination of on-going and additional policy changes to ensure that climate change risks are effectively mainstreamed into key sectors. LDCF support will help to ensure that climate change adaptation and disaster risk reduction become fully integrated under the SNAP, which currently has a stronger emphasis on DRM. It will also help promote stronger collaboration between NDMC and other sections of MHTE. Additionally, LDCF support will be used to supply the locally relevant technical guidance needed for identifying risk reduction measures and adaptation options. Thus, the project will produce comprehensive technical manuals on climate resilient land use planning and coastal protection, in the Maldives. These will include separate guidelines for climate resilient harbour development, land reclamation and coastal erosion control. The project will build on existing information on climate risks and adaptation options generated by past assessments and studies as well as on updated and strengthened regional climate change scenarios (Output 1.1) and additional studies. Guidelines will be prepared in different

formats for different audiences, ranging from comprehensive technical manuals for application by specialists to simpler document and notes to disseminate important information to policy and decision-makers, as well to other key actors and stakeholders.

Output 2.1 Guidelines developed for climate risk resilient land use planning in the Maldives

61. The project will work closely with the Land Use Planning Section of the Housing Division to address current gaps on environmental standards in the *Guidelines for Land Use Planning 2005*[12] to help ensure that future land use planning on inhabited islands in the Maldives takes current and future climate risks into account. A comprehensive technical manual on climate change resilient land use planning will be produced, building on existing information. Additional technical studies will be conducted to better understand the role of natural features in strengthening natural island resilience and how these can be better incorporated into the land use planning process. For example, it is unclear why some islands are affected by erosion following land reclamation while others are not. The manual will also include further guidance on the design, management and restoration of Environment Protection Zones (EPZs), which the guidelines stipulate must be established on all inhabited Islands, to ensure that these are used to maximum advantage to strengthen resilience to future climate change impacts. Currently, other than specifying that EPZs must be at least 20 m wide, be located around the outer periphery of an island, between the beach and the rest of the land, and comprise natural vegetation, there is little practical guidance on the optimal design and management of such areas.

Indicative Activities under Output 2.1:

- Review current land use planning guidelines and processes from a climate risk planning perspective
- Review reports from the Detailed Island Risk Assessment in Maldives (DIRAM) and associated studies (e.g. MHTE 2009a)
- Identify land use practices that increase vulnerability to climate change risks
- Review and assess the cost and benefits of different options for reducing vulnerability to current and future climate change risks through land use planning measures such as maintaining or restoring natural protective buffers (e.g. coastal ridges, vegetation, swamps) and siting of critical infrastructure based on projected patterns of flooding and erosion.
- Develop guidance on the functions, design and management of Environment Protection Zones to increase climate resilience
- Apply the findings from the above reviews and studies to develop a guidelines document

Output 2.2 Guidelines developed for climate risk resilient coastal protection in the Maldives

[12] The Guidelines are constituted and implemented under Chapter 3 of the Maldivian Land Law

62. Currently there are no written guidelines on how to build climate change resilience into erosion control, land reclamation or harbour development. EIA requirements are very generic and are currently under review. Various studies such as DIRAM make recommendations on good and bad practices. The project will work closely with both EPA and PPD to address gaps in technical knowledge and know-how on how best to plan and develop harbours, conduct land reclamation and manage coastal erosion in a changing climate without increasing vulnerability. Current coastal zone management practices will be reviewed to assess their implications for strengthening or reducing climate resilience. Comprehensive technical guidelines on climate change resilient coastal protection, with separate chapters on climate change resilient harbour development, land reclamation and coastal erosion control will be produced and finalized through stakeholder consultations with relevant national, atoll and island authorities and sector specialists. This will then be used for developing further technical capacity under Outcome 1. The project will build on work being undertaken on erosion by EPA and the MEMP, such as the consolidation of existing erosion data into a database and the development of a coastal erosion model, and conduct studies to assess the climate resilience and costs and benefits of different erosion control methods. The project will also build on the DIRAM work, including the related Cost Benefit Analysis of coastal protection options for 3 islands.

Indicative Activities under Output 2.2 include:

- Review of the key policies (in addition to land use policies reviewed under 2.1) affecting coastal protection and development in the Maldives, including the Environment Act, the EIA regulation, the DRM, decentralization and privatization policies
- Review of current coastal protection and erosion control practices, including “soft” and “hard” measures
- Detailed review of current land reclamation and harbour development processes and practices and how these affect climate-related risks
- Review and assess costs and benefits of different options for climate change resilient land reclamation such as whether to reclaim up to the height of the oceanward ridge or to reclaim higher building on-going cost-benefit analysis of 3 islands (MHTE 2009a)
- Analyze and adapt the findings of the planned MEMP modelling of coastal erosion to identify the conditions under which “soft” coastal protection and erosion control methods can be applied in the Maldives
- Apply the findings from the above reviews and studies to develop a guidelines document

Output 2.3 A national research strategy to address information gaps on climate change impacts in the Maldives

63. The Maldives has insufficient capacity or resources to undertake the research needed to effectively address the different dimensions of climate change risk. There is considerable international interest in developing research collaborations to study different dimensions of climate change in the Maldives. Without an overall strategy to guide such collaborations, there is a risk of research taking place in an ad hoc manner that does not necessarily meet the country’s most important priorities. The strategy would also ensure that all research findings are incorporated into the climate risk system (Output 1.4).

Indicative Activities under Output 2.3 include:

- Identify the specific climate information needs of planners and decision makers at the national and atoll and island levels that are not yet covered by existing research activities
- Identify the key technical information and research capacity gaps and options for addressing these
- Develop the research strategy and obtain endorsement for the strategy from key stakeholders
- Identify at least four potential collaborations with international research institutions and establish partnerships with at least two of them which include meeting some of the priority climate change-related technical information and other capacity gaps of the Maldives

Output 2.4 Recommendations developed on how to integrate climate risk management into land use planning, coastal zone management, decentralization, privatization and disaster risk reduction policies

64. Once the project has completed various technical assessments and policy reviews, decision-makers and planners will be engaged to identify and agree ways in which the key findings and recommendations on resilient island planning arising from this project can be integrated into the major policy and planning frameworks of relevance to land use planning, coastal protection, coastal development and DRM. For example, the project will support EPA to ensure that climate risks are taken into account in the EIA process and will seek to introduce climate risk criteria into the proposal format for new private sector investments under the Public-Private Partnership Programme (see Table 1). The project will also strengthen the climate change adaptation component of SNAP and other DRM policies.

Indicative Activities under Output 2.4:

- Develop at least 5 sets of policy notes to communicate major findings from studies and assessments undertaken under Outputs 2.1 and 2.2 to key stakeholder groups
- A workshop to communicate policy recommendations arising from the project to national and atoll policy makers and planners and other key stakeholders
- Work with the concerned ministries and departments to identify effective ways of incorporating the different guidelines developed under Outcome 2 within existing policy frameworks and processes for land use planning, coastal zone management, land reclamation, harbour development and disaster risk reduction as well as into the decentralization and privatization programmes.

Outcome 3: Locally prioritized, appropriate adaptation options that reduce exposure to climate change risks demonstrated

Co-financing amounts for Outcome 1: $871,411

LDCF Project Grant requested: $2,605,060

Without LDCF intervention (baseline)

65. Without LDCF support, there are no plans or resources available to identify, design and pilot locally prioritized and appropriate "soft" adaptation measures in inhabited islands. Many island settlements and populations will face growing risks of physical exposure to climate change hazards. Traditional adaptation measures such as set backs, coral walls and sand bags are unlikely to be effective against future climate change impacts, while structural responses such as concrete sea walls are extremely expensive and fianncially unviable for most islands. There are only a few examples of inhabited islands having identified and implemented adaptation options. For example, Hulhulmalé was reclaimed to 2 m above sea level, i.e. to a height above average island elevation. The seawall around Malé is considered to be an effective adaptation measure against flooding and high waves. Vilufushi too was reclaimed to a higher level with climate change considerations in mind. However, such instances are rare and decided on a case-by-case basis. Furthermore, reclamation and other adaptation measures that rely on coastal engineering are extremely expensive and difficult to replicate widely. Hence the government is seeking LDCF support to explore more cost-effective and sustainable adaptation options for the Maldives.

With LDCF intervention (adaptation alternative)

66. With LDCF support, the project will work with atoll and island authorities, island communities and technical specialists to prioritize and demonstrate adaptation measures that are appropriate to local environmental and socio-economic conditions as well as more cost-effective and sustainable. The project proposes to work on 4 islands in 4 different atolls which were selected through various criteria and stakeholder consultations during the PPG phase (see Annex 4). The proposed demonstration islands are: H. Dh. Kulhudhuffushi, Dh. Kudhahuvadhoo, G. Dh. Thinadhoo and K. Thulusdhoo. The four islands have different socio-economic, environmental and geophysical characteristics, face different climate risks, and offer the possibility to pilot and demonstrate a range of adaptation options based on the technical guidelines developed under Outcome 2 and further island-specific assessments. Further details of the proposed demonstration islands and atolls are provided in Annex 5.

Output 3.1 **Climate change resilient land use plans designed and specific measures demonstrated on at least four islands**

67. Up to September 2009, 16 island land use plans had been completed, including the land use plans for all the proposed demonstration islands, although one island's land use plan needs revision. A further 3-4 island land use plans are to be developed every year until all inhabited islands have approved land use plans. The project will work with island and atoll

authorities, island communities and LUPS and other technical specialists as appropriate to assess the climate change resilience of existing land use plans and practices in the four target demonstration islands. Revisions will be identified in a participatory manner based on an assessment of the implications of strengthened climate change scenarios from Output 1.1 and building on the recommendations in each island's Disaster Risk Profile. Additionally, the project will also identify and work with 2 islands that have yet to develop their land use plans to be able to integrate climate change risk considerations into the land use planning process from the start.

Indicative Activities under Output 3.1:

- Evaluate the climate resilience of existing land use plans and practices in 4 demonstration islands
- Evaluate the effectiveness of existing EPZs on all 4 demonstration islands and redesign and strengthen their protection status as required
- Prioritize island specific climate change risks and identify soft adaptation options suited to each island's characteristics
- Incorporate locally appropriate and practical climate change risk reduction measures into the land use plans of at least 4 islands, e.g. a climate risk resilient drainage designs for Thinadhoo, which has severe flooding problems;
- Together with LUPS and Atoll authorities, identify two additional non-demonstration islands within the demonstration atolls that are slated for developing land use plans and work with these islands to integrate climate change risk reduction considerations into he planning process from the beginning

Output 3.2 **"Soft" measures for coastal protection that incorporate future climate risks demonstrated in at least three islands**

68. The individual draft Island Disaster Risk Profiles of all 4 proposed demonstration islands have been analyzed and stakeholder consultations held in three of the four islands. Based on these, adaptation priorities that could potentially be addressed through soft coastal protection measures have been identified. These include measures to restore and strengthen natural ridge systems that protect islands from ocean-induced flooding, introducing climate risk reduction measures into the drainage design of islands that are especially vulnerable to rain-induced flooding, and restoring coastal vegetation and inland wetlands, including mangroves. The suitability of these adaptation options will be reassessed after updating the island disaster risk profiles based on the strengthened climate change scenarios from Output 1.1 and the initial guidelines developed under Outputs 2.1 and 2.2. Further community consultations will also be held to confirm that proposed measures meet local adaptation needs.

Indicative Activities under Output 3.2 include[13]:

[13] Indicative activities for Dh. Kudahuvadhoo are not given as stakeholder consultations have not yet taken place with island communities there (see Section 1.4)

- Strengthening of natural ridge system including remedial action where the ridge has been modified in H. Dh. Kulhudhuffushi
- Redesigning the drainage system of G. Dh. Thinadhoo and H. Dh. Kulhudhuffushi to withstand higher, climate change-induced, flooding risks
- Restoration of 1.2 km natural ridge system and revegetation of 47,000 sq. m of EPZ in G. Dh. Thinadhoo
- Repair breaches using alternative materials in 800 m long coral wall of Thulusdhoo, which offered good coastal protection against flooding until the 2004 tsunami

Output 3.3 **Replication strategy for demonstrated adaptation measures developed**

69. A replication strategy will be developed under this output to strengthen linkages and synergies between project activities under different outcomes that support the replication of effective adaptation measures demonstrated under Outcome 3. However, replication of effective adaptation measures will be promoted through strategies under all project outcomes. Thus, uptake of effective adaptation measures will be promoted directly by the integration of climate risk planning into the Atoll Development Plans for the four demonstration atolls that will be prepared for all Atolls after Atoll Councils have been elected (Output 1.2). Together, the 4 atolls targeted by this project include 45 inhabited islands with a combined population of c. 42,000 (Annex 5, Table 2) or nearly 25% of inhabited islands and nearly 15% of the total country population. A few targeted exposure visits will be conducted both under Outcome 3 and Outcome 4, to bring key planners, decision-makers and civil society representatives from both demonstration and major non-demonstration islands to see adaptation measures that have been implemented in demonstration islands within the same atoll. Mainstreaming of climate risk planning into key policies such as the guidelines for land use planning and the EIA regulations, as well as into private sector investment programmes under Outcome 2, will also help to ensure that adaptation considerations, including the measures demonstrated by the project, become more widely adopted across the Maldives. More than 150 inhabited islands are yet to develop their land use plans and between 20-30 EIAs are conducted annually across the Maldives. There is also a concerted push by GOM to promote public-private sector investment in the Maldives. Replication will also be strengthened by the targeted capacity development of key actors at national, atoll and island levels under Outcome 1, and also through the wide national and international dissemination of lessons learned and adaptation knowledge under Outcome 4.

Indicative Activities under Output 3.3:

- Develop a replication strategy
- Organize and conduct at least 2 exposure visits between demonstration islands to exchange experiences
- Organize and conduct 2-3 exposure visits to bring decision-makers and planners at the national and provincial/atoll level who are not already engaged directly in the project to experience successfully demonstrated adaptation measures first hand

Outcome 4: Project knowledge and lessons learned compiled, analyzed and disseminated locally, nationally and internationally

Co-financing amounts for Outcome 4: $882,688

LDCF Project Grant requested: $151,920

Without LDCF intervention (baseline)

70. There is currently very little knowledge about climate risk management and locally appropriate adaptation options in the Maldives. The information that exists from FNC, NAPA, DIRAM and other assessments is yet to be communicated in a systematic fashion, particularly outside Malé. This is the country's first NAPA follow-up project to be implemented. Adaptation knowledge sharing falls within the mandate of the CCD. However, due to capacity constraints, the CCD to date has been mainly engaged in the supporting the government in the international negotiations on climate change (see Sections 1.2 & 1.3). Additionally, there are no systems or mechanisms in place to facilitate such knowledge capture and sharing. In the absence of LDCF support, valuable new and locally relevant adaptation knowledge and experiences will not be systematically compiled, analyzed and, most importantly, effectively shared with others who would benefit from such information both nationally and internationally.

With LDCF intervention (adaptation alternative)

71. LDCF support will ensure that the knowledge and lessons generated by the project are systematically collected, analyzed and disseminated throughout the Maldives, both nationally and at the atoll and island levels, as well as internationally through the ALM platform and the AOSIS/SIDS network. This will increase the replication potential of the project both within the Maldives and internationally, particularily in other SIDS.

Output 4.1 **Information generated by the project publically available through a web-based portal**

72. There are a number of possible options for web-based dissemination of project information, including MHTE's website or other GOM websites.

Indicative Activities under Output 4.1:

- Work with CCD to identify a suitable climate change adaptation web portal for disseminating project reports and information
- Make all project reports and information available on the web portal
- Establish links on other government department websites to the climate change adaptation web portal

Output 4.2 **Increased understanding of climate change risks and community-based adaptation options among island communities in 4 provinces/atolls**

73. Greater public understanding and support for climate change adaptation is essential for consolidating and up-scaling the capacity developed through the project as well as for the long-term sustainability of project results. Such understanding is especially critical given the government's programmes for decentralization and privatization. Resilient island planning will only become a reality across the Maldives when there is greater public demand for climate risk reduction to be integrated into coastal land use planning and development. This in turn requires the general public to be better informed about the climate risks and adaptation options.

Indicative Activities under Output 4.2:

- Develop teaching materials on climate change risks and adaptation options in the Maldives for inclusion in the national curriculum through the new environmental management course supported by MEMP
- Develop educational materials in Dhivehi and English on climate change risks and community-based adaptation to target different audiences
- Education campaign on climate change risks and community-based adaptation options developed and rolled out in at least 4 atolls
- Disseminate project demonstration experiences, lessons learned and adaptation knowledge through different media including, national radio, television and newspapers

Output 4.3 **Adaptation knowledge and lessons learned shared through the SIDS/AOSIS network, the ALM platform and other networks and platforms**

74. The Maldives was instrumental in the formation of the SIDS/AOSIS network and continues to be actively engaged in this network. The project will ensure that all adaptation knowledge and lessons learned from this project are shared through the SIDS/AOSIS network. The project will also contribute to the ALM's Output 2.1 (*A functional active network of stakeholders for ALM support and facilitation)* and Output 2.2 (*A functional knowledge base and learning process for support of ALM activities*). The ALM's regional project management unit will help facilitate access to other relevant regional and international networks for further dissemination of key project lessons and adaptation knowledge.

Indicative Activities under Output 4.4:

- Codify lessons learned and knowledge on climate change resilient land use planning and coastal development and protection in the Maldives
- Conduct a workshop in the final year of the project for SIDS/AOSIS members to exchange adaptation knowledge and experiences
- Share lessons learned and project reports with the ALM

- Share lessons learned through other national and international networks including networks on DRM

2.5. Key indicators, risks and assumptions

75. The project strategy dovetails with various on-going government programmes, particularly in the fields of land use planning, coastal protection, coastal development and disaster risk management, and the achievement of planned project outcomes will depend partly on strong engagement with the project by its key stakeholders, particularly the different departments within MHTE, as well as effective intersectoral coordination. A key project assumption is that the government will implement its programmes on schedule, including the decentralization and regionalization programme, which will transform the development planning processes in the Maldives. There is currently uncertainty over the precise governance and administrative structure that will eventually emerge. This has implications for both project implementation and replication as project design may have to be adapted in the even of delays or changes in government programme implementation. Institutionalization of project results at the local level will depend on some measure of continuity in the project's relationships with local government officials and civil servants at the provincial, atoll and island levels and a smooth transition when the new governance and administrative structures are eventually in place. Other risks include turn over of government staff working with the project, which is disruptive in itself, which may also result in loss of the additional capacity developed through the project.

76. The project also assumes that there will be strong community support for the project and that communities will perceive real added value in engaging with the project. However, stakeholder consultations during the PPG phase revealed 'development fatigue' and disillusionment with consultation processes that do not materialize in tangible benefits among some island community members (see Annex 2). A major challenge will be to manage stakeholder expectations and also find appropriate ways of securing tangible benefits for local communities. The project's ultimate success, including the up-scaling and replication demonstrated adaptation measures, depends partly on national and local government authorities taking the necessary steps to incorporate project recommendations on climate risk reduction into key sector policies and plans. There is always a risk that the highest-level decision-makers and planners may not prioritize climate change adaptation over more immediate and visible development priorities. Finally, there is always the risk that "soft" climate change adaptation measures may not be sufficient to cope with the projected impacts of climate change in the Maldives in the long-term, particularily climate-change induced SLR.

77. By being based within the Climate Change Division of MHTE, the project will be able to ensure strong coordination with the other MHTE departments that are key project stakeholders. Good communication and constant engagement with key stakeholders will be key to ensuring their support and active involvement, at national, atoll and island levels as well as ensuring the timely delivery of planned project outputs. The stakeholder involvement plan developed during the PPG phase (and attached in Annex 3 of the project document) will be further expanded during the inception phase as additional strategies will be needed to ensure good enagement of stakeholders in the demonstration atolls. This will also include management of community expectations as well as leveraging additional resources for activities that are priorities for local communities but fall outside the scope of this NAPA

follow-up project. Some UNDP TRAC funds have also been allocated to address local adaptation priorities that may not be eligible for LDCF support.The status of project risks will be periodically assessed through different means and by different project bodies and the project implementation strategy adjusted as needed.

78. The main indicators of project success will be the successful integration of climate risk planning into key sectoral policies and plans and the systematic application of climate risk planning principles by designated GOM officials to land use planning, coastal protection and coastal development tasks in the Maldives. This will result in measurable benefits to island communities and the government in terms of the proportion of the population and the value of assets protected through adaptation measures implemented as a result of the project. Other important indicators at the project outcome level include the amount of capacity that is developed within relevant sections of government and civil society at national, provincial/atoll and island levels and the number of key sectors that are applying climate risk planning in their core work, which can be measured through the EIA reports, land use plans and Island and Atoll Development Plans. Objective and outcome indicator targets as well as output level indicators and targets are provided in the Project Results Framework in Section 3. Key risks and assumptions are summarized in the UNDP Risk Log in Annex 6.

2.6. Cost-effectiveness

79. Strengthening the resilience of coastal settlements and communities to climate change impacts was identified in the NAPA as an urgent and immediate adaptation priority, with the highest immediate cost-benefit ratio. Additionally, the project has been designed to complement and build on the on-going work of line agencies including other major donor-assisted projects as described in detail in Section 2.3, thereby increasing its efficiency, cost-effectiveness and sustainability. Hard adaptation measures that involve engineering solutions such as seawalls or island modification to increase overall elevation are not a viable means of addressing climate risks in the nearly 200, geographically dispersed, inhabited islands of the Maldives. The concrete sea wall around Malé, for example, cost an estimated $53 million or nearly some $12 million/km. The project's focus on developing adaptive capacity and strengthening island resilience through practical and locally appropriate soft adaptation measures is more cost-effective, at least in the short and medium-term, than structural adaptation measures assuming that soft measures can adequately withstand the impacts of future climate change even under the worst case scenarios. Integration of climate risk planning into land use planning and coastal development at all levels will reduce physical exposure to climate risks at minimal cost, and help avoid the additional costs that are resulting from mal-adaptive land use and coastal development planning and practice. The project's approach is in line with the preliminary findings of the on-going review of the Safer Islands Programme and cost-benefit study of mitigation and adaptation measures in three islands, which strongly recommends a shift towards softer protection measures and increasing resilience.

80. The project's approach also has has greater potential for up-scaling and replication across the Maldives unlike the more costly structural adaptation measures. By the end of the project, it will be possible to assess the proportion of the population and the value of critical infrastructure and other economic assets protected as a result of the adaptation measures

implemented through the project and to make comparisons with the costs and benefits of alternative hard adaptation measures that have been implemented elsewhere in the Maldives.

2.7. Sustainability

81. The project was designed through close consultation with key stakeholders (see Annex 2). It has the full support of GOM and other key stakeholders as it addresses urgent and immediate adaptation priorities identified through the NAPA. These relate to one of the most vulnerable systems in the Maldives, ie. land, beach and settlements. The project is strongly anchored in several major national policies and programmes (Sections 2.1-2.3) and project results will be institutionalized in the following ways. Adaptation measures developed through the project will be mainstreamed into key sector planning guidelines, such as the EIA and Land Use Planning Guidelines, as well as into the development planning process more generally, through the decentralization and privatization programmes, as well as through the Atoll Development Plans. Through these means, project results can be sustained long beyond the life of the project. Sustainability has also been built into the project approach by a strong emphasis on developing institutional and individual capacity by complementing other capacity development initiatives supported through MEMP, UNDP and others. When LDCF funding ends, up-scaling and replication will be taking place and project impacts will have been institutionalized through the combined impacts of the project's work on capacity development, policy changes, additional technical knowledge and education and advocacy. An 'exit strategy' will be developed under Output 3.3 (see Section 3).

2.8. Replicability

82. Strategies for promoting up-scaling and replication are included under every project outcome. Demonstrated adaptation measures will be further up-scaled and replicated through integration of climate risk reduction measures into key policy guidelines and development plans at national, atoll and island levels. For example, integration of climate risk planning into the Atoll Development Plans for the four demonstration atolls will help to ensure replication in a further 123 inhabited islands with a total population of over 42,000 (see Annex 5). Mainstreaming of climate risk planning into key policies such as the guidelines for land use planning and the EIA regulations under Outcome 2, will also help to ensure that adaptation considerations, including the measures demonstrated by the project, become more widely adopted across the Maldives, as over 150 inhabited islands are yet to develop their land use plans and numerous EIAS are conducted annually. Replication will be further supported by the project's emphasis on capacity development, which promotes knowledge transfer and skills development through training workshops at national, atoll and island levels, as well as exchange visits to promote direct learning by from the demonstration islands. Outcome 4 focuses particularly on both in-country and international learning and knowledge transfer including incorporation of climate risk planning into the national curriculum, dissemination of knowledge and lessons learned through a range of communication media and through the ALM and the SIDS/AOSIS (see Section 3).

2.9. Stakeholder involvement plan

83. The stakeholder involvement plan for the main project implementation phase is provided in Annex 3.

3. Project Results Framework

This project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD: Communities enabled to manage impacts of climate change and reduce disaster vulnerabilities
Country Programme Outcome Indicators: Number of islands with climate change adaptation measures integrated into development programmes
Primary applicable Key Environment and Sustainable Development Key Result Area: Promote climate change adaptation
Applicable SOF Strategic Objective and Program: Least Developed Countries Fund (LDCF)
Applicable SOF Expected Outcomes: N/A
Applicable SOF Outcome Indicators: N/A

Goal: To increase the resilience of the Maldives in the face of climate change and improve capacity to respond effectively to climate related hazards

	Indicator	***Baseline***	***Target***	**Sources of Verification**	**Risks and Assumptions**
Objective[14]: To ensure that climate change risks are integrated into resilient island planning in the Maldives and that national, provincial, atoll and island authorities and communities are able to prioritize and implement climate change adaptation measures	Availability of a framework for resilient island planning in the Maldives Percentage of households in 4 demonstration islands and atolls protected by climate change adaptation measures implemented as a result of the project Proportion and value of assets protected by climate change adaptation measures implemented as a result	Earlier Safer Islands Strategy and preliminary resilient island planning framework No climate change adaptation measures to protect people or economic assets, including coastal infrastructure, have been implemented by the government in the 4 demonstration islands targeted by this project	By the end of the project a comprehensive framework for resilient island planning is being actively used by government authorities to guide decentralized development planning and prioritize climate change adaptation measures across the country By the end of the project at least 50% of households in the 4 selected demonstration islands and 10% of the total population in the respective atolls are better protected from future climate change impacts as a result of climate change resilient land use planning and coastal protection	Project terminal evaluation report Project surveys and technical assessment reports	Affordable and sustainable adaptation measures that are sufficient to protect island communities and economic assets from projected climate change impacts in the long-term exist. Sector planners, decision-makers and island communities perceive added value in using the framework for resilient island

[14] Objective (equivalent to Atlas output) monitored quarterly ERBM and annually in APR/PIR

	Indicator	*Baseline*	*Target*	Sources of Verification	Risks and Assumptions
	of this project		measures By the end of the project at least 50% of critical infrastructure in the 4 demonstration islands will be better protected from future climate change impacts as a result of climate change resilient land use planning and coastal protection measures		planning and have adequate capacity to apply it effectively Regional climate change scenarios provide sufficiently accurate data for resilient island planning Government authorities and local communities continue to prioritize climate change adaptation
Outcome 1[15]: Enhanced capacity of national, provincial, atoll and island authorities and civil society leaders to integrate climate risk information into policy, planning and investment decisions	Number and percentage of national, provincial/atoll and island planners and decision-makers trained to evaluate and prioritize climate risks and plan locally appropriate adaptation measures. Number of government departments that have integrated climate risk reduction planning into their core work	National, provincial/atoll and island authorities have limited knowledge of how to integrate climate risk information into their policies, plans and programmes Climate risks are not systematically considered in the development and implementation of sector polices and programmes	By the end of the project, at least • 12 senior decision-makers and planners from national government including MoF (Planning), MHA and MHTE • 100% of senior decision-makers and planners in 4 provinces/atolls and 4 islands • 12 civil society leaders have been trained to assess and prioritize climate risks and prioritize locally appropriate adaptation measures. By the end of the project, climate risk reduction planning has been integrated into the workplans of	Start and end of project surveys Training reports Project and government reports Key information interviews Project terminal evaluation report	National planners, technical specialists, atoll/provincial and island authorities are interested and able to engage actively in the project's capacity development initiatives and committed to apply climate risk reduction principles in their core work

[15] Outcomes (equivalent to ATLAS activity) are monitored annually in the APR/PIR.

	Indicator	***Baseline***	***Target***	Sources of Verification	Risks and Assumptions
			staff in MHTE (LUPS, EPA, Programmes & Projects, NDMC), MHA, Department of Planning (MoF)		
Output 1.1 Regional climate change scenarios for the Maldives analyzed and updated to provide more accurate climate risk data for national and local planning	Number of updated regional climate change scenarios Number of disaster risk profiles revised to include updated regional climate change scenarios	The most comprehensive climate risk profile for the Maldives is based on an average of estimates generated by a combination of 4 GCMs and 2 emission scenarios and uses observed data from just one of five potential sites for the Maldives. Analysis of climate hazards in the detailed disaster risk assessments of 10 islands was based on secondary data, primarily from the climate risk profile for the Maldives and the IPCC Assessment Reports.	By the end of Year 1, existing climate change scenario information for Maldives have been reviewed, gaps identified and at least one state-of-the-art regional climate change scenario is available By the end of Year 2, disaster risk profiles of 10 islands revised to incorporate updated regional climate change scenarios and communicated to the relevant authorities and island communities.	Climate Risk Profile Revised disaster risk profiles of 10 islands	Adequate and timely national and international support for sharing and exchange of climate change data and modelling information.
Output 1.2 Provincial/atoll authorities, island authorities and civil society leaders for at least 4 islands understand climate change related risks and are able to prioritize appropriate land use planning and coastal protection measures	Number of provincial/atoll and island authorities and civil society leaders trained to assess climate change risks and prioritize, plan and implement locally appropriate measures for resilient land use planning and coastal protection	Provincial/atoll and island authorities are aware of climate change risks but do not understand specific implications or available options to address them Existing island and atoll development plans are not proactively designed to either reduce vulnerability to climate change impacts	By the end of the project, at least 12 civil society leaders and 40 provincial/atoll and island government officials responsible for the islands of Kulhudufushi, Kudhahuvadhoo, Thinadhoo and Thulusdhoo and their respective provinces/atolls are trained to assess climate change risks and to prioritize, plan and implement locally appropriate measures for resilient land use planning and	Training workshop reports Island development plans Atoll development plans Mid-term and	Provincial/atoll and island authorities are supportive to the project's capacity development initiatives and committed to integrating climate change risks into existing and proposed island land use plans and island

	Indicator	***Baseline***	***Target***	Sources of Verification	Risks and Assumptions
	Number of island and atoll development plans that are in line with the principles of climate change resilient land use planning and coastal protection	and/or ensure that proposed development does not adversely affect climate change resilience and adaptive capacity	coastal protection By the end of the project, the development plans of at least 4 islands (Kulhuduffushi, Kudhahuvadhoo, Thinadhoo and Thulusdhoo) and at least two of the concerned atolls integrate climate change resilient land use planning and coastal protection principles	terminal Evaluation Report	and atoll development plans
Output 1.3 Technical specialists in government departments responsible for land use planning, coastal zone management, coastal infrastructure development and land reclamation trained in the application of guidelines developed under Outputs 2.1 and 2.2	Percentage of technical specialists in each government department trained in the application of one or more guidelines. Number of government departments regularly applying technical guidelines developed through the project in their core work Number of instances of guidelines being applied to land use planning (in non-demonstration islands) and new coastal infrastructure development projects and land reclamation projects	The vast majority of government technical specialists in the Maldives have had no training in climate change resilient land use planning, coastal protection and erosion control. There is no systematic or comprehensive consideration of climate change risks in current practices of coastal zone management, land reclamation, erosion control, coastal engineering, and infrastructure development / -siting.	By the end of Year 2, at least 75% of technical specialists in MHTE (Land Use Planning Section, EPA, NDMC, Programmes & Projects) are trained in the application of guidelines on climate change resilient land use planning and coastal protection By the end of the project, at least 4 key government departments in MHTE (Housing & Land Use Planning, EPA, NDMC, Programmes & Projects) are applying the guidelines on climate change resilient land use planning and coastal protection regularly and systematically By the end of the project, the guidelines have been used to integrate climate change risk considerations into the land use plans of at least 6 non-demonstration islands	Training workshop reports Interviews Project Evaluation Reports EIA Reports from Years 3 & 4	MHTE and the concerned government departments continue to see value in such training, ensure that the appropriate staff take part and actively encourage and empower them to apply this training in their core work. Staff turnover does not negate the benefits of training. The technical guidelines meet user needs and are designed in a user-friendly manner

	Indicator	*Baseline*	*Target*	Sources of Verification	Risks and Assumptions
			By the end of the project, the EIA process undertaken by EPA incorporates the guidelines for climate change resilient erosion control By the end of the project, the Programmes & Projects Department has applied the guidelines for the planning of all new harbour and land reclamation projects that are planned during the project lifetime		
Output 1.4 A climate risk information system established that enables universal access to meteorological and oceanographic data for adaptation planning purposes	Number of climate relevant data sets from different government departments integrated into the national GIS system as a result of the project Number of stakeholder groups served by new climate risk information system	There is no climate risk information system in the Maldives. A national GIS strategy and system are under development. This will incorporate key data for national development planning and monitoring. At present, different datasets are available in different departments in different formats. There is no systematic exchange of information by electronic means, and no central repository for climate risk planning data	By the end of the project, climate relevant data sets from MMS, EPA, MRC, NPD/MFT have been integrated into the national GIS system By the end of the project, at least 10 major stakeholder groups (government departments, provincial/atoll and island authorities, research institutions and civil society organizations) are actively retrieving information from the system for adaptation planning purposes	Reports of the government agency managing the national GIS system Electronic database interface Interviews with stakeholders	The concerned government agencies and research institutions engage actively and make their date available in the agreed standardized format The government has sufficient funds and technical capacity to develop and run a national GIS system
Outcome 2: Integration of climate risk planning into key national policies that govern or impact land use planning, coastal	Number of different policy documents that incorporate and/or propose to incorporate climate risk planning as a result of the project	Climate risk planning is not reflected in environmental, land use, decentralization and privatization policies.	By Year 3, climate risk planning has been integrated into at least 2 key regulations and guidelines, including the EIA Regulation and the Guidelines for Land Use Planning.	EIA regulation Guideline documents Policy	Planners and decision-makers at the highest levels continue to recognize the importance of

	Indicator	*Baseline*	*Target*	Sources of Verification	Risks and Assumptions
protection and development			By the end of the project, project findings and relevant recommendations on climate risk management have been incorporated into at least 5 additional policies including NEAP 3, NSDS, the GIS Strategy and SNAP and the Decentralization and Regionalization Programme (DRP) and the Privatization Programme (PP)	documents Official DRP and PP documents Terminal evaluation report	mainstreaming climate risk planning and are committed to making the necessary policy and programme changes Systematic and regular coordination between the SNAP and NAPA follow-up processes
Output 2.1 Guidelines developed for climate risk resilient land use planning in the Maldives	Number of guideline documents developed and disseminated	There are no guidelines for climate risk resilient land use planning in the Maldives that outline available options and their associated advantages, disadvantages, costs and benefits.	By the end of Year 1, existing findings and recommendations relevant to climate risk-resilient land use planning (including findings from the vulnerability & poverty assessments, DIRAM, NCs, NAPA, MEMP, Cost-Benefit Analysis of three Safer Islands) have been collated, analyzed and disseminated to national authorities, 4 provincial/atoll and island authorities, civil society leaders and other key stakeholders. By the end of Year 2, an intermediate draft of a technical manual on climate risk-resilient land use planning, outlining different land-use planning options for Maldivian islands and including a dedicated chapter on the design and management of EPZs, has been produced and reviewed by technical specialists in	Guideline document Printed manual, briefing notes, information leaflets and other communication materials	Timely completion of the studies and assessments that underpin development of the guidelines. The concerned government departments remain supportive and actively engage in the process, particularly the Departments of Planning and Housing & Land Use, MHA, NDMC and EPA. The most effective communication methods and means are identified to

	Indicator	*Baseline*	*Target*	Sources of Verification	Risks and Assumptions
			MHTE By the end of the project, a comprehensive technical manual on climate risk resilient land use planning is published in English and Divehi and made available electronically and in printed format to MoF (the Department of Planning); MHTE (NDMC, Department of Climate Change, Land Use Planning Section; MHA; and the 4 Provincial/Atoll and Island Offices targeted by the project. By the end of the project, at least 3 additional sets of information materials on climate risk resilient land use planning produced in English and/or Divehi, targeting different non-technical audiences including policy makers, politicians, NGOs, students and the media.		target different stakeholder groups.
Output 2.2 Guidelines developed for climate risk resilient coastal protection in the Maldives	Number of guideline documents developed and disseminated	There are no guidelines for climate risk resilient coastal protection in the Maldives, including any guidelines for harbour development, land reclamation or erosion control. There is no information available on potential, locally appropriate adaptation options	By the end of Year 1, existing findings and recommendations from recent assessments and studies undertaken by EPA and Programmes & Projects relevant to coastal protection (including lessons learned from past harbour development, land reclamation, and erosion control efforts) collated, analyzed and disseminated to national authorities and 4 provincial/atoll and island authorities, civil society leaders	Guideline document Printed manual, briefing notes, information leaflets and other communication materials	There is timely conduct and completion of the studies and assessments needed to develop the guidelines. The concerned government departments remain supportive and actively engage in

	Indicator	***Baseline***	***Target***	Sources of Verification	Risks and Assumptions
		including the costs and benefits of different "soft" and "hard" coastal protection measures.	and other key stakeholders. By the end of Year 2, an intermediate draft of a technical manual on resilient coastal protection with separate chapters on harbour development, land reclamation and erosion control produced and shared with relevant stakeholders. By the end of the project, a comprehensive technical manual on resilient coastal protection published in English and Divehi and made available electronically and in printed format to MoF (the Department of Planning); MHTE (EPA, Programmes & Projects, NDMC, Land Use Planning Section); MHA; and the 4 Provincial/Atoll and Island Offices targeted by the project. By the end of the project, at least 3 additional sets of information materials on resilient coastal protection in the Maldives and adaptation options in relation to harbour development, land reclamation and coastal erosion control produced in English and/or Divehi targeting different audiences including policy makers, politicians, NGOs, students and the media.		the process, particularly EPA and Programmes & Projects (MHTE). The most effective communication methods and means are identified to target different stakeholder groups.
Output 2.3	Availability of a	There is no plan guiding	By Year 2, national climate change	The published	The strategy is

	Indicator	*Baseline*	*Target*	Sources of Verification	Risks and Assumptions
A national research strategy to address information gaps on climate change impacts in the Maldives	national climate change research strategy Number of government departments and research institutions using the strategy to guide climate-change related research Number of climate change related research collaborations established with international institutions	climate change research in the Maldives to ensure that research is targeted at priority information needs. Research takes place in an ad hoc fashion dictated by individual and institutional interests and opportunities for funding and research collaborations that are not systematically enhanced and expanded.	research strategy published By the end of project, the national climate change research strategy is being used by the Planning Department, EPA, MMS, MRC and relevant research institutions to guide and prioritize climate change related research in the country By the end of the project, at least 2 international research institutions have established collaborations with counterpart Maldivian institutions to conduct joint work on priorities identified in the national climate change research strategy	strategy Interviews with government officials and research institutions Research collaboration agreements	developed in a participatory manner and represents a consensus of all the concerned major government departments, research institutions and individual researchers in the Maldives and is therefore used to guide climate change research.
Output 2.4 Recommendations developed on how to integrate climate risk management into land use planning, coastal zone management, decentralization, privatization and disaster risk reduction policies	Number of policy notes on options for integrating climate risk management into resilient island planning developed and agreed with high-level planners and decision-makers	Land use planning, coastal zone management, decentralization, privatization and disaster risk reduction policies in Maldives do not incorporate climate change considerations	By Year 4, 5 different policy notes with recommendations on how to integrate the major findings of the project into the existing policy frameworks for land use planning, environment, DRM, decentralization and regionalization, and privatization developed and disseminated to the President's Office, Department of Planning (MoF), MHA, MHTE,	Minutes of meetings with government on policy recommendations	Policy and decision makers are committed to integrating climate risk management options and directives into the different policies that are relevant to resilient island planning.
Outcome 3: Locally prioritized, appropriate adaptation	Percentage of households protected through adaptation	No planned climate change adaptation measures are in place in the 4	By the end of the project, at least 50% of households and 50% of critical infrastructure on 4	Participatory surveys and independent	Local communities see value in the project and actively

	Indicator	*Baseline*	*Target*	Sources of Verification	Risks and Assumptions
options that reduce exposure to climate change risks demonstrated	measures as a result of the project % of land area protected through adaptation measures implemented as a result of the project Value of private and public assets protected through adaptation measures implemented as a result of the project Atoll Development Plans that incorporate climate risk planning and adaptation measures as a result of the project	demonstration sites selected by the project Atoll Development Plans do not include climate risk planning and adaptation measures	demonstration islands are better protected from flooding risks as a result of one or more coastal protection measures that have been designed and implemented by the project By the end of the project, at least 30 % of land area in the 4 demonstration islands is better protected through erosion control and coastal protection measures implemented by the project By the end of the project, public and private assets worth at least $20 million on the 4 target islands are protected through one or more adaptation measures implemented by the project. By the end of the project, at least 4 Atoll Development Plans covering 45 inhabited islands with a total population of 42,000 incorporate tangible actions and proposals related to climate risk planning, based on analysis and lessons learned from the project	assessments Provincial/Atoll Development Plans	engage in the identification and implementation of adaptation measures. Appopriate and effective soft adaptation measures exist for the Maldivian context and are successfully implemented Provincial/Atoll authorities recognize value of integrating climate risks into their development plans
Output 3.1 Climate change resilient land use plans designed and specific measures demonstrated on at least four islands	Number of island land use plans revised to address future climate risks Number of new and/or strengthened land use measures under implementation that	Land use planning does not take into account future climate risks. All islands are supposed to have EPZs but there is no guidance on how these should be designed to in order to maximize protection against current and future	Climate change risk considerations integrated into at least 2 island land use plans by the end of Year 2 and into at least 4 island land use plans by the end of Year 3 (including two islands that do not yet have land use plans) The EPZs of all 4 demonstration	Island land use plans Participatory survey reports Independent evaluation reports	Island communities, local authorities and LUPS engage actively in the process and support the incorporation of climate change risks into existing or new land use plans.

	Indicator	***Baseline***	***Target***	Sources of Verification	Risks and Assumptions
	increase the resilience of households and infrastructure to climate-induced risks	climate risks.	islands are redesigned in line with the technical guidelines developed under Output 2.2.	Field observations	Island communities support the establishment of effective EPZs
Output 3.2 "Soft" measures for coastal protection that incorporate future climate risks demonstrated in at least three islands	Number of different "soft" options for coastal protection applied in Maldives to protect the coastline from climate -induced risks	Existing 'soft' methods of coastal protection are limited and only address current patterns of erosion and climate-related risks, with variable success. They are not designed with future climate change-related risks in mind. The concept and means available to maintain and strengthen natural island resilience is poorly understood.	By the end of the project, at least 3 different, locally appropriate, "soft" coastal protection measures that address future climate change impacts are under implementation as follows: H. Dh. Kulhudufushi: Strengthened natural resilience through restoration of natural ridge system & 'climate-change proofing' of drainage system K. Thulusdhoo: Repair of breaches in coral sea wall with environmentally friendly alternatives G. Dh. Thinadhoo: Restoration of 1.2 km natural ridge system & revegetation of 47,000 sq. m of EPZ & 'climate-change proofing' of drainage system	Island authority reports Participatory survey reports Independent evaluation reports	Appopriate and effective soft adaptation measures exist for each demonstration island and can be successfully implemented within the available time and resources
Output 3.3 Replication strategy for demonstrated adaptation measures developed	Number of replication strategies for demonstrated adaptation measures	There are no replication strategies for demonstrated adaptation measures	By the end of the project, a replication and up-scaling ('Exit') strategy for the project has been developed At least 2 exposure visits between different demonstration islands.	Replication strategy document Project progress reports	The process of decentralization and regionalization takes place in parallel with project implementation.

	Indicator	*Baseline*	*Target*	Sources of Verification	Risks and Assumptions
			At least 2 exposure visits bringing high-level decision-makers and planners to demonstration islands	Independent evaluation reports	
Outcome 4: Project knowledge and lessons learned compiled, analyzed and disseminated locally, nationally and internationally	Number of project technical reports, information materials and codified lessons communicated through atoll/provincial, national and international networks and platforms	The project is yet to generate knowledge, good practices and lessons that can be shared.	By the end of the project: At least one report documenting project experiences and lessons learned produced in different formats for differet target audiences including decision-makers & planners, students, and island communities with selected reports available in Dhivehi and English One synthesis report produced in Dhivehi and English documenting project knowledge and lessons learned in the four project sites with island specific annexes All of the above and project evaluation reports available through the ALM	Websites Lessons learned report and other knowledge materials Project Terminal Evaluation report ALM	Systematic documentation of knowledge and lessons throughout project implementation.
Output 4.1 Information generated by the project publically available through a web-based portal	Number of users and accessibility of web-based climate change information portal	The project has not yet generated enough information for public dissemination.	By the end of the project, at least 10 major national and subnational user groups including Island and Atoll Offices, key sectors, research institutions, NGOs and environmental consultancy companies, make use of the web-based portal The web-based portal is actively	Website Interviews of user groups	Potential users will see value in using the adaptation knowledge and lessons generated by the project.

	Indicator	***Baseline***	***Target***	Sources of Verification	Risks and Assumptions
			linked and connected with other climate change-related initiatives that are relevant for SIDS		
Output 4.2 Increased understanding of climate change risks and community-based adaptation options among island communities in 4 provinces/atolls	Knowledge about managing climate change risks and community-based adaptation options Number of exchange visits between stakeholders within the project provinces/atolls and in Malé Number of teaching materials on climate risk management and adaptation produced for the national curriculum	There is general public awareness about climate change and its likely impacts of the Maldives, but very little understanding of what can be done about it No such exchange visists have taken place. There are no teaching materials on climate risk management or adaptation.	In Years 3 & 4, at least 4 exchange visits organized for demonstration and non-demonstration islands within the 4 target provinces/atolls to share and learn from the experiences generated by the project By Year 3, teaching materials on climate risk management in the Maldives and adaptation options for land use planning and coastal protection developed and integrated into the national curriculum through the environmental management certificate and degree courses developed by MEMP	Individual and group interviews at the start and end of the project Project reports MEMP reports Environmental management course content	Island communities are interested and able to participate in exchange visits. The teaching institutions are interested in using the materials produced by the project and that these are of good quality and effective
Output 4.3 Adaptation knowledge and lessons learned shared through SIDS/AOSIS network, the ALM platform and other networks and platforms.	Number of workshops with SIDS/AOSIS members to share project knowledge and experiences. Number of project lessons codified and communicated through the national web portal, the ALM and other networks and platforms	No knowledge, experience or lessons are from the project available for sharing with networks or platforms	In Year 4, a SIDS/AOSIS workshop organized in Malé to exchange adaptation knowledge and experiences between SIDS By the end of the project, both the national web portal and the ALM include codified 'lessons learned', technical reports and other major information materials generated by the project	Proceedings of the workshop. Project-related entries in the ALM platform Project-related entries on the national web portal	SIDS/AOSIS countries are interested and able to participate in the workshop. The ALM remains an active and operational platform to capture lessons from LDCF, SCCF and SPA-funded climate change adaptation projects.

TOTAL BUDGET AND WORKPLAN

Award ID:	00058332				Project ID(s): 00072423						
Award Title:	Maldives: Integrating Climate Change Risks into Resilient Island Planning in the Maldives										
Business Unit:	MDV10										
Project Title:	Maldives Integrating Climate Change Risks into Resilient Island Planning in the Maldives										
PIMS no.	4093										
Implementing Partner (Executing Agency)	Ministry of Housing, Transport & Environment (MHTE)										
SOF (e.g. GEF) Outcome/Atlas Activity	**Respon-sible Party/ Imple-menting Agent**	**Fund ID**	**Donor Name**	**Atlas Budgetary Account Code**	**ATLAS Budget Description**	**Amount Year 1 (USD)**	**Amount Year 2 (USD)**	**Amount Year 3 (USD)**	**Amount Year 4 (USD)**	**Total (USD)**	**See Budget Note:**
OUTCOME 1: Enhanced capacity of national, provincial/atoll and island authorities and civil society leaders to integrate climate risk information into policy, planning and investment decisions	**MHTE**	**62160**	**LDCF**	71200	International Consultants	7,200	13,200	0	0	20,400	a
				71300	Local Consultants	4,500	13,500	9,000	0	27,000	b
				72100	Contractual services (Companies)	100,000	75,000	0	0	175,000	c
				71600	Travel	5,866	37,014	28,200	0	71,080	d
				72500	Supplies	1,000	2,000	1,000	0	4,000	e
				74200	Audiovisual & Print Production Costs	6,880	8,000	8,000	2,000	24,880	f
				74500	Miscellaneous	1,000	2,000	2,000	1,000	6,000	g
					Sub-total LDCF	**126,446**	**150,714**	**48,200**	**3,000**	**328,360**	
	UNDP	**04000**	**UNDP[16]**	72600	Grants	0	20,000	20,000	0	40,000	h
					Sub-total UNDP	**0**	**20,000**	**20,000**	**0**	**40,000**	
					Total Outcome 1	**126,446**	**170,714**	**68,200**	**3,000**	**368,360**	
OUTCOME 2: Integration of climate risk planning into key national policies that govern or impact land use planning, coastal		**62160**	**LDCF**	72100	Contractual services (Companies)	168,000	294,000	252,000	126,000	840,000	i
				74200	Audiovisual & Print Production Costs	10,000	20,000	20,000	30,000	80,000	j

[16] Only cash co-financing (cost sharing at project level or other trust funds) actually passing through UNDP accounts should be entered here and in Atlas. Other co-financing should NOT be shown here.

protection and development				74500	Miscellaneous	5,000	5,000	5,000	5,000	20,000	k
					Sub-total LDCF	**183,000**	**319,000**	**277,000**	**161,000**	**940,000**	
					Total Outcome 2	**183,000**	**319,000**	**277,000**	**161,000**	**940,000**	
OUTCOME 3: Locally prioritized, appropriate adaptation options that reduce exposure to climate change risks demonstrated	**MHTE**	**62160**		71200	International Consultants	0	15,000	15,000	15,000	45,000	l
				71400	Contractual services (Individual)	0	64,800	86,400	64,800	216,000	m
				72100	Contractual services (Companies)	0	654,315	872,420	654,315	2,181,050	n
				71600	Travel	0	5,760	8,360	8,890	23,010	o
				74200	Audiovisual & Print Production Costs	0	0	20,000	20,000	40,000	p
				74500	Miscellaneous	25,000	25,000	25,000	25,000	100,000	q
					Sub-total LDCF	**25,000**	**764,875**	**1,027,180**	**788,005**	**2,605,060**	
	UNDP	**04000**		72100	Contractual services (Companies)	0	0	40,000	0	40,000	r
					Sub-total UNDP	**0**	**0**	**40,000**	**0**	**40,000**	
					Total Outcome 3	**25,000**	**764,875**	**1,067,180**	**788,005**	**2,645,060**	
OUTCOME 4: Project knowledge and lessons learned compiled, analyzed and disseminated locally, nationally and internationally	**MHTE**	**62160**	**LDCF**	71200	International Consultants	9,000	0	9,000	12,000	30,000	s
				71300	Local Consultants	3,750	6,250	4,000	6,000	20,000	t
				72100	Contractual services (Companies)	2,000	6,000	10,000	12,000	30,000	u
				71600	Travel	4,860	0	9,920	14,140	28,920	v
				74200	Audiovisual & Print Production Costs	5,000	8,000	15,000	10,000	38,000	w
				74500	Miscellaneous	1,250	1,250	1,250	1,250	5,000	x
					Sub-total LDCF	**25,860**	**21,500**	**49,170**	**55,390**	**151,920**	
					Total Outcome 4	**25,860**	**21,500**	**49,170**	**55,390**	**151,920**	

MONITORING & EVALUATION	**MHTE**	**62160**	**LDCF**	71200	International Consultants	0	18,000	0	18,000	36,000	y
				71300	Local Consultants	0	7,500	0	7,500	15,000	z
				72100	Contractual services (Companies)	1,200	0	0	0	1,200	aa
				71600	Travel	5,560	8,040	0	8,040	21,640	ab
				74200	Audiovisual & Print Production Costs	500	0	0	0	500	ac
				74100	Audits	3,000	3,000	3,000	3,000	12,000	ad
					Total M&E	**10,260**	**36,540**	**3,000**	**36,540**	**86,340**	
					Sub-total LDCF	**10,260**	**36,540**	**3,000**	**36,540**	**86,340**	
PROJECT MANAGEMENT	**MHTE**	**62160**	**LDCF**	71400	Contractual services (Individual)	67,200	67,200	67,200	67,200	268,800	ae
				71600	Travel	3,630	3,630	3,630	3,630	14,520	af
				72200	Equipment & Furniture	20,000	0	0	0	20,000	ag
				72500	Office Supplies	10,000	10,000	10,000	10,000	40,000	ah
				74200	Audiovisual & Print Production Costs	3,000	3,000	3,000	3,000	12,000	ai
				74500	Miscellaneous	4,500	4,500	4,500	4,500	18,000	aj
					Sub-total LDCF	**108,330**	**88,330**	**88,330**	**88,330**	**373,320**	
		04000	**UNDP**	71400	Contractual services (Individual)	10,000	10,000	0	0	20,000	ak
					Sub-total UNDP	**10,000**	**10,000**	**0**	**0**	**20,000**	
					Total Management	118,330	98,330	88,330	88,330	393,320	
				LDCF PROJECT TOTAL		478,896	1,380,959	1,492,880	1,132,265	4,485,000	
				UNDP TRAC (CASH) TOTAL		10,000	30,000	60,000	0	100,000	
				LDCF & UNDP PROJECT TOTAL		**488,896**	**1,410,959**	**1,552,880**	**1,132,265**	**4,585,000**	

Summary of Funds: [17]

	Amount Year 1	Amount Year 2	Amount Year 3	Amount Year 4	TOTAL Y1-Y4
LDCF	478,896	1,380,959	1,492,880	1,132,265	4,485,000
Government of Maldives	920,328	1,018,917	1,023,919	775,172	3,738,336
UNDP	487,875	250,000	140,000	0	877,875
UNISDR	47,000	70,500	53,000	64,500	235,000
TOTAL	**1,934,099**	**2,720,376**	**2,709,799**	**1,971,937**	**9,336,211**

Budget Note	Description of cost item
	OUTCOME 1:
a.	**Outputs 1.2 & 1.3**: 3 international consultancies @$600/day for 34 days: 1) one expert with expertise on climate change risks and coastal land use planning and protection to facilitate and lead (i) one two-day national training workshop on climate change risks and resilient island planning (Outputs 1.2 & 1.3) in Year 1; and (ii) a second more technical training workshop on application of specific guidelines end of Year 2 (Output 1.3); 2) one facilitation/capacity development expert with an understanding of CCA to train selected national consultants in Year 2 in preparation for atoll-level training workshops in Years 2 & 3.
b.	**Outputs 1.2 & 1.3**: National consultant inputs @$150/day for 180 days to organize, facilitate, train during 2 national workshops (Years 1 & 2) and 8 atoll-level workshops (Years 2 & 3).
c.	**Output 1.1**: Preparation of regional climate change scenarios for the Maldives ($100,000). **Output 1.4:** Development of a national climate risk information system ($75,000). See TORs Annex 8.
d.	**Travel related to Outputs 1.2 & 1.3:** a) 3 international return airfares @$2000/trip & DSA for 34 days @$158/day; b) domestic travels costs including travel by air and boat for local consultant & 5 others (6 in total) from Malé, including technical specialists and planners from EPA, Land Use Planning, NDMC, MMS, and other relevant agencies as appropriate to conduct 8 training workshops in 4 atolls in Years 2 & 3; c) domestic travel costs for 8 participants from 4 atolls (2/atoll) to attend national training workshops in Years 1

[17] Summary table should include all financing of all kinds: GEF financing, cofinancing, cash, in-kind, etc...

	& 2.
e.	**Supplies** for 10 training workshops in Years 1-3 with between 20-30 participants per workshop
f.	**Audiovisual & Print Production** costs related to communication, advocacy and training including: a) communication of revised regional climate change scenarios to national & local planners & decision-makers (Output 1.1); b) communicating disaster and climate risk profiles of at lest 4 islands to relevant atoll& island authorities and local communities, including translation costs (Output 1.2); c) developing materials for 10 training workshops.
g.	**Miscellaneous:** Under every outcome, a small percentage of between 1-4% has been allocated as a safeguard against inflation, currency exchange fluctuations and other external shocks and contingencies, which would increase the cost of travel and materials. Less than 1% of the total Outcome 1 budget is allocated for such contingencies.
h.	**Grants:** UNDP contribution to support two people for intensive training abroad on climate risk planning and modeling
	OUTCOME 2
i.	**3 subcontracts to develop**: 1) Technical guidelines manual for climate change resilient land use planning ($270,000); 2) Techncial guidelines manual for climate change resilient coastal protection in the Maldives ($550,000); 3) A national climate change research strategy ($20,000). Technical guidelines development will include technical studies and assessments of past experiences of land use planning, coastal development and coastal protection in the Maldives to assess the costs and benefits of different adaptation options. See TORs Annex 8.
j.	**Printing & Publication Costs** for different stages and versions of the two technical manuals for different target groups and for the national research strategy (see targets in the Project Results Framework, Section 3).
k.	**Miscellaneous:** 2% of Outcome 2 LDCF sub-total allocated for contingencies. See Budget Note (g).
	OUTCOME 3
l.	**Outputs 3.1 & 3.2:** A total of 75 days of international technical assistance @$600/day budgeted for Years 2-4 to provide specific technical inputs as needed to national consultant teams on the design of proposed adaptation measures for 4 demonstration islands.
m.	**Outputs 3.1 & 3.2:** One subcontract to local company or institution to cover technical design, coordination and support to implementation of field-level demonstration activities in 4 islands & atolls. Includes: at least 36 months of national consultant time @$2000/month over 3 years and operational costs including 2 two-week visits/per island/per year/per technical expert. One team of at least two national consultants will be contracted to work with individual demonstration islands to consult with stakeholders and plan and design locally prioritized and appropriate adaptation measures on each of the four demonstration islands under the supervision of the PMU. See TORs Annex 8.
n.	**Output 3.2**: 3 subcontracts for materials and implementation of specific adaptation measures in the 4 proposed demonstration islands and two non-demonstration islands as follows: H. Dh. Kulhudhuffushi ($600,000); G. Dh. Thinadhoo ($500,000); K. Thulusdhoo ($500,000), Dh. Kudahuvadhoo ($500,000). Costing is preliminary as the specific adaptation measure(s) to be implemented in each island needs to be confirmed through further stakeholder consultations, further technical analysis and detailed costings. The last two will depend in part on the results from Outcome 2. See Annex 8 for further details. **Output 3.1**: 1 subcontract for climate change resilient land use planning in two non-demonstration islands that have yet to develop their land use plans ($81,050).

o.	**Travel costs** for international technical experts in Years 2-4 including international return airfares, DSA, and domestic travel costs to the 4 demonstration islands.
p.	**Audiovisual & Printing costs**. One short film (20-30 minute @$20,000) will be produced to document climate risks and adaptation benefits generated by the project in the demonstration islands, which can be used for further communication and advocacy work and also shared more widely for lessons learning. Individual reports and other information and communcation materials will be produced on climate risks and adaptation measures demonstrated in each of the 4 islands. These will be translated into Divehi and made available to island communities.
q.	**Miscellaneous:** Just under 4% of the Outcome 3 LDCF sub-total is allocated for contingencies. See Budget Note (g).
r.	**UNDP TRAC funds** for financing baseline activities not eligible for LDCF funding.
	OUTCOME 4
s.	**Outputs 4.1 & 4.2.** 50 days of international technical assistance $600/day in Years 1, 3, & 4. Year 1 to: a) provide support in the design of education campaign public awareness surveys; b) provide support on developing educational and teaching materials for the national curriculum; and c) compile, analyze, and prepare lessons learned document and other knowledge products together with national counterparts.
t.	**Outputs 4.1-4.2** 100 days of national consultant inputs @200/day to work in a team with international expert(s) to a) develop educational materials and roll out education campaign b) develop teaching materials for the national curriculum; and c) prepare lessons learned documents and other knowledge products.
u.	**Outputs 4.1-4.3** Contractual services from appropriate companies/institutions to a) support roll out of educational campaign; b) design and make operational a user and maintenance-friendly climate change adaptation web portal with CCD; c) produce educational materials on climate change risks and community-based adaptation in English and Dhivehi; d) produce teaching materials for national curriculum; e) to support the organization of the SIDS/AOSIS workshop in final year
v.	**Travel** Includes travel costs of international consultant in Years 1, 3 and 4 and domestic travel costs of national consultants to 4 atolls in connection with the education campaign and consolidation adaptation knowledge and lessons learned; targeted exposure visits between demonstration islands and between non-demonstration and demonstration islands; and participants travel from atolls to final SIDS/AOSIS workshop.
w.	**Printing & Publication:** A range of knowledge products and lessons learned documents will be produced and published in English and Divehi as detailed under Outcome 3 and in the Project Results Framework.
	Monitoring & Evaluation
y	International expert's fee @600/day for 60 days for the mid-term evaluation end of Year 2 and for the terminal evaluation in Year 3. 30 days are necessary per evaluation given the complexity of the project, the 4 demonstration sites, and to allow sufficient time in the field excluding days of travel.
z.	National consultant's fee @300/day for 50 days for mid-term and terminal evaluations in Year 2 and Year 4, respectively.
aa.	Costs of Inception Workshop Year 1
ab.	Travel costs of both international and national experts associated with mid-term and terminal evalutations.

ac.	Inception Workshop related printing costs
ad.	Annual audit costs @$3000/year.
	Project Management
ae	**PMU**: a) 1 National Project Manager @$2,000/month for 48 months; b) 1 senior technical officer @$2000/month for 48 months; 1 Financial Assistant @ $900/month for 48 months; c) 1 Administrative Assistant @$700/month for 48 months.
af	**Travel for senior PMU staff** for preparatory and monitoring visits to demonstration atolls/islands including intial further stakeholder consultations in Year 1. Includes 3 visits/per atoll/year.
ag	4 computers, 1 laptop, 1 printer and fax machine and office furniture for 4 PMU staff and 2 additional visiting consultants working with PMU at any one time.
ah	Annual recurrent costs of stationery, computing and printer supplies, photocopying
ai	Printing & publication of project reports, communication and advocacy materials.
aj	**Miscellaneous:** 5% of the LDCF sub-total under this head has been allocated for contingencies. See Budget Note (g).
ak	**Skills/Professional capacity development** for PMU staff, M&E, CCA-related technical training, etc.x

4. Management Arrangements

84. The project will be implemented over four years beginning in 2010. The project will be nationally executed under UNDP National Execution (NEX) procedures. The project's lead Implementing Agency will be the Ministry of Housing, Transport and Environment (MHTE). The Minister, MHTE, will be the chair of the Project Board. The Climate Change Division (CCD) of MHTE will house the Project Management Unit. UNDP will serve as the GEF Implementing Agency for this Project. MHTE and UNDP will jointly monitor and evaluate all project activities. The project will be governed in accordance with UNDP's Results Management Guideline (RMG), GEF rules and procedures and the Government of Maldives operational principles within the governance structure described below (also see Terms of Reference for the key positions and managing bodies below in Annex 8).

85. **Project Board:** The Project Board (PB) is the strategic decision-making body of the project. It will provide overall guidance and direction to the project, and also be responsible for making decisions on a consensus basis, when high-level strategic guidance is required, including the approval of major revisions in project strategy or implementation approach. The Project Board will meet at least twice per year. The Minister, MHTE will chair the meetings of the Project Board. The Project Board will consist of: (1) the Chair, who is the Minister, MHTE (1) the National Project Director (NPD) (the Executive), who will be nominated by MHTE, and, given the strategic importance of the project, who will be a senior official of MHTE of the rank of Deputy Minister or higher; (3) the National Project Coordinator (NPC), who will be the head of the CCD. (4) a UNDP representative in the role of Senior Supplier (representing the interests of the parties providing funding to the project) and (3) Representatives of other implementing partners (DNP, EPA, LUPS, MHA, MMS, NDMC), who will be of the rank of Director or higher. (5) Representatives from important stakeholders such as Ministry of Foreign Affairs, Ministry of Finance and the World Bank MEMP project will also be part of the board. One council member from each of the demonstration islands will be represented in the Project Board. Other relevant stakeholders may participate in meetings as needed. Further details are given in the organogram at the end of this section. The project board will play a significant role to ensure that projects policy recommendations are integrated within the policies of respective sectors they represent. The approved annual work plans will be the instruments of authorization through which the Project Manager will deliver results.

86. The PB will undertake project assurance reviews at designated decision points during project implementation, or as required, at the request of the Project Director. The PB also approves the appointment and responsibilities of the Project Manager and any delegation of its Project Assurance responsibilities. Additional functions of the PB are to: ensure that LDCF resources are committed exclusively to activities that relate to the achievement of approved project objective and outcomes and in line with approved annual workplans; arbitrate significant conflicts within the project; and negotiate a solution to major problems that may arise between the project and external bodies. PB members are not funded through this project.

87. **Implementing Partners:** The implementing partners are responsible and accountable for achieving project objective, outcomes and outputs and for the effective and efficient use of donor resources. The MHTE is the lead Implementing Partner designated to take overall

responsibility for the project. Other implementing partner organisations will work closely with the NPC and PMU to implement activities and deliver outputs that are under their mandate in accordance with the Stakeholder Involvement Plan (Annex 3), and the Annual Work Plan, once preapred and approved. Whenever possible these agencies will lead project components that fall withing their respective core areas of work, with the PMU and the PTSAT facilitating the work and providing other required inputs to deliver planned project outputs and outcomes. Implementing partners need to be actively engaged in providing advice and timely inputs to deliver the project outputs that are related to their mandate.

88. **The Island Council:** will act as the local monitoring committee in each demonstration island to promote island level ownership over the project and ensure the appropriateness of interventions in meeting their priorities. The island council may call upon the Womens' Development Committee members or Youth NGOs or any other Civil Society members to provide input when needed.

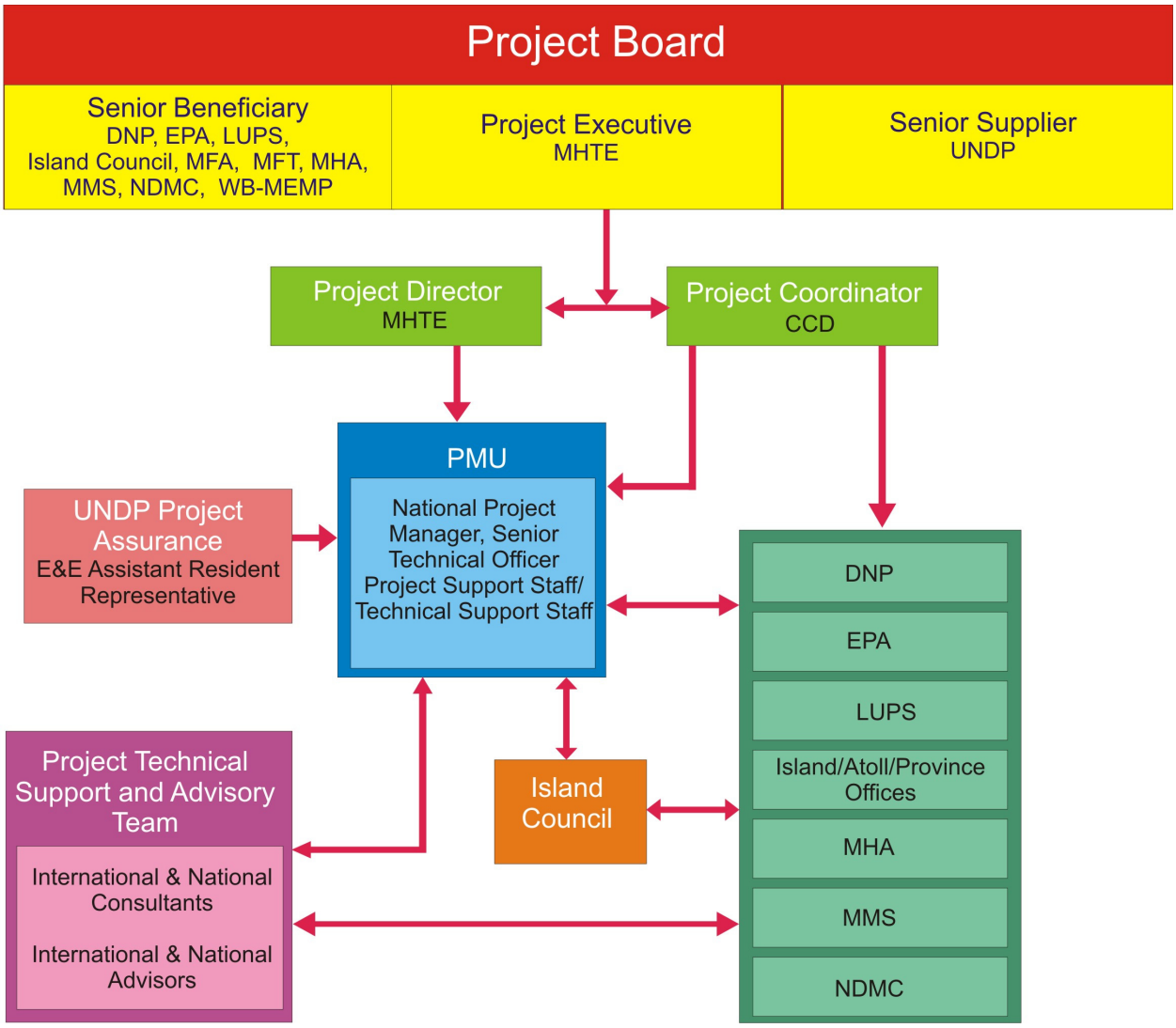
89. **The National Project Director (NPD)** The NPD will be responsible for overseeing overall project implementation on regular basis and ensuring that the project objective and outcomes are achieved. This function is not funded through the project. The NPD, assisted by the Project Coordinator and Project Manager, will report to the Project Board on project progress. The NPD will be responsible for coordinating the flow of results and knowledge from the project to the Project Board.

90. **National Project Coordinator (NPC):** The Project Manager will be guided and supported by the National Project Coordinator to ensure effective coordination between the project and the other key implementing partners. Other specific responsibilities include endorsement of procurement contracts, and guidance to the Project Manager and Technical Advisors on both strategic issues and project implementation issues. The Project Coordinator will ensure that the inputs required from the implementing partners are secured in a timely fashion and that the project, in turn, works effectively with these agencies. The project is designed such that close and sustained collaboration with implementing partners is essential for its success. The NPC's role is crucial in ensuring the active engagement of implementing partners. The NPC will ensure that decisions made by the board are communicated to PTSAT and technical staff of implementing partners. This position is not funded through the project.

91. **Project Management Unit (PMU):** The Climate Change Division of MHTE will provide office space for the Project Management Unit (PMU) and professional staff. 20% staff time of at least 2 CCD staff will be dedicated to the project. The CCD will provide logistics such as telephone and fax services for the PMU. The PMU staff will be funded by the project throughout its duration to ensure the delivery of results as specified in the Project Results Framework and Annual Workplans. The PMU will be composed of the following project staff.

92. **National Project Manager (NPM):** The NPM is a full time project-funded staff who will perform the following key functions. The NPM will be appointed by the Executing Agency, report to the NPC and NPD and receive guidance from the PB. The NPM is responsible for the day-to-day management, administration, coordination, and technical supervision of project implementation. S/he will monitor work progress, and ensure timely delivery of Outputs as per Annual Workplans and the Project Results Framework and within budget. The Project Manager will ensure a high quality of project planning, management and techncial and financial progress monitoring and reporting. Additional PMU staff (see TORs in Annex 8) will be hired to support the NPM as follows:

- 1 Senior Technical Officer
- 1 Finance Assistant
- 1 Administrative Assistant



93. **Project Technical Support and Advisory Team (PTSAT):** The PTSAT will consist of short-term and medium-term experts, including individuals, companies and institutions, drawn from the various fields that are relevant to achieving project outcomes and objective. They will be engaged on a needs basis to support the delivery of different Outputs and Outcomes of the project. The PTSAT may also include international and national advisors who may be called upon to assist in technical matters. The PTSAT will provide the link between the technical specialists from the implementing partner agencies and the project islands and help to identify the technically appropriate climate risk reduction and adaptation options.

94. **Project Assurance** - UNDP will ensure the application of UNDP administrative and financial procedures for the use of LDCF funds. UNDP will ensure project monitoring and evaluation according to an agreed schedule and in line with UNDP and GEF requirements, as described further in Section 6 below. UNDP will assist in compiling lessons learned and sharing project experiences on a national, regional and international basis.

6. Monitoring Framework and Evaluation

94. Project monitoring and evaluation will be conducted in accordance with established UNDP and GEF procedures and will be provided by the project team and the UNDP Country Office (UNDP-CO) with support from the UNDP Regional Coordination Unit (RCU). The Project Results Framework in Section 3 provides performance and impact indicators for project implementation along with their corresponding means of verification. These will form the basis of the project's Monitoring and Evaluation system.

95. The following sections outline the principle components of the Monitoring and Evaluation Plan and indicative cost estimates related to some major M&E milestones are provided in Table 2.

Project Inception Phase

96. A Project Inception Workshop will be conducted within four months of project start up with the full project team, relevant government counterparts, co-financing partners, the UNDP-CO and representation from the UNDP Regional Technical Advisor (RTA) from the Regional Coordination Unit (RCU). The Inception Workshop is crucial to building ownership for the project results and to plan the first year annual work plan. A fundamental objective of the Inception Workshop will be to present the modalities of project implementation and execution, document mutual agreement for the proposed executive arrangements amongst stakeholders, and assist the project team to understand and take ownership of the project's goals and objectives. Another key objective of the Inception Workshop is to introduce project staff with the UNDP expanded team which will support the project during its implementation, namely the UNDP CO, responsible UNDP RTA and other RCU staff.

97. The Inception Workshop should address a number of key issues including:

a) Assist all partners to fully understand and take ownership of the project. Detail the roles, support services and complementary responsibilities of UNDP CO and RCU staff vis à vis the project.

b) Discuss the roles, functions, and responsibilities within the project's decision-making, management, assurance and advisory structures (detailed in Section 5), including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff and other project-related structures will be discussed again as needed in order to clarify for all, each party's responsibilities during the project's implementation phase.

c) Review and agree on the indicators, targets and their means of verification in the Project Results Framework (PRF) as well as recheck assumptions and risks.

c) Provide a detailed overview of reporting, monitoring and evaluation (M&E) requirements, including roles and responsibilities for different M&E functions, with a particular emphasis on the Annual Project Implementation Reviews (PIRs) and related documentation, the Annual Project Report (APR as well as mid-term and terminal evaluations. The Monitoring and Evaluation work plan and budget should be agreed and scheduled.

d) Discuss financial reporting procedures and obligations, and arrangements for annual audit, including UNDP project related budgetary planning, budget reviews, and mandatory budget rephasings.

e) Plan and schedule Project Board meetings. The first Project Board meeting should be held within the first 12 months following the Inception Workshop.

101. An Inception Workshop Report is a key reference document and must be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

First Annual Workplan

102. After the Inception Workshop, the PMU will prepare the project's first Annual Work Plan (AWP), on the basis of the Project Results Framework (PRF). This will include reviewing the PRF (indicators, means of verification, assumptions and risks), imparting additional detail as needed, and on the basis of this exercise finalize the AWP with precise and measurable performance indicators, and in a manner consistent with the expected Outcomes for the project.

Quarterly:

101. Progress made shall be monitored in the UNDP Enhanced Results Based Managment Platform. The UNDP risk log (Annex 6) shall be regularly updated in ATLAS, and no less often than every six months where critical risks have been identified. Quarterly Progress Reports (QPR) will be prepared by the PMU and submitted to the UNDP CO for sharing with the UNDP Regional Coordination Unit.

Annually:

102. Annual Project Review/Project Implementation Reports (APR/PIR): This key report is prepared to monitor progress made since project start and in particular for the previous reporting period (30 June to 1 July). The APR/PIR combines both UNDP and GEF reporting requirements and is to be completed by the project in the prescribed report format by 1st August of each year.

103. The APR/PIR includes, but is not limited to, reporting on the following:

- Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative)
- Project outputs delivered per project outcome (annual).
- Lessons learned/good practice.
- AWP and other expenditure reports
- Risk and adaptive management
- ATLAS QPR

Annual Audit

104. The Government of Maldives will provide the UNDP Resident Representative with certified periodic financial statements, and with an annual audit of the financial statements relating to the status of UNDP and LDCF funds according to the established procedures set out in the Programming and Finance manuals. The Audit will be conducted by the Office of the Auditor General of the Government of Maldives, or by a commercial auditor engaged by the Government. The project foresees an audit to be conducted at the end of the project by a recognized national firm. The project will be audited on a yearly basis for financial year January to December as per NEX procedures and Global Environment Facility requirements. The National Auditor will conduct the audit. The MHTE shall also certify the yearly Combined Delivery Reports issued by UNDP based on financial statements prepared by the Project Accountant.

Periodic Monitoring through site visits:

105. UNDP CO and the UNDP Regional Coordination Unit (RCU), Bangkok will conduct visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress. Other members of the Project Board may also join these visits. A Field Visit Report/Back to Office Report (BTOR) will be prepared by the CO and UNDP RCU and will be circulated no less than one month after the visit to the project team and Project Board members.

Mid-term of project cycle:

106. The project will undergo an independent Mid-Term Evaluation at the mid-point of project implementation (insert date). The Mid-Term Evaluation will determine progress being made toward the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-EEG. The management response and the evaluation will be uploaded to UNDP corporate systems, in particular the UNDP Evaluation Office Evaluation Resource Center (ERC).

Table 2: M&E workplan and budget

Type of M&E activity	Responsible Parties	Budget US$ *Excluding project team staff time*	Time frame
Inception Workshop and Report	▪ National Project Director (NPD) ▪ National Project Coordinator (NPC) ▪ National Project Manager (NPM) & Project Management Unit (PMU) ▪ Project Board ▪ UNDP CO, UNDP Climate Change Adaptation (CCA) Regional Technical Advisor (RTA)	7,260	Workshop conducted & report completed within two months of full Project Team being on board and no later than six months after project start up
Measurement of Means of Verification of Project Results/Impact (*Outcome & Objective Indicators*)	▪ PMU with technical inputs from UNDP CCA RTA as required	To be finalized in Inception Phase and presented at Inception Workshop.	Start, middle and end of project (during evaluation cycle) and annually as required.
Measurement of Means of Verification of Project Progress (*Output and Activities)*	▪ PMU with technical inputs from UNDP CCA RTA as required	To be determined during regular AWP and APR/PIR preparation.	Twice a year, during preparation of AWPs and APR/PIRs
APR/PIR	▪ NPM & PMU ▪ NPC, NPD ▪ GEF OFP ▪ UNDP CO, UNDP RTA, UNDP EEG	None	Annually
TPR & Minutes	▪ GEF OFP, NPD, NPC, ▪ MHTE ▪ UNDP CO ▪ PMU	None	Every year upon completion of the APR/PIR
Project Board Meetings	▪ PB Members, including Minister MHTE, NPD, NPC & UNDP CO ▪ NPM & PMU	None	Twice year, once on completion of the APR/PIR, and more frequently if needed
ATLAS QPR	▪ PMU ▪ UNDP CO	None	Quarterly
Mid-term Evaluation	▪ NPM & PMU ▪ UNDP CO ▪ UNDP CCA RTA ▪ External Consultants (i.e. evaluation team)	Indicative cost: 33,540	At the mid-point of project implementation.
Terminal Evaluation	▪ NPM & PMU ▪ UNDP CO ▪ UNDP CCA RTA ▪ External Consultants (i.e. evaluation team)	Indicative cost: 33,540	At least six months before the end of project implementation
Project Terminal Report	▪ NPM & PMU ▪ MHTE ▪ NPC, NPD ▪ UNDP CO	None	At least three months before the end of the project
Terminal TPR & Minutes	▪ GEF OFP, NPD, NPC, ▪ MHTE ▪ UNDP CO ▪ PMU	None	At least three months before the end of the project

Type of M&E activity	Responsible Parties	Budget US$ *Excluding project team staff time*	Time frame
Audit	▪ UNDP CO ▪ PMU	Indicative cost: 12,000 (3,000/year)	Yearly
Visits to field sites	▪ UNDP CO ▪ UNDP CCA RTA (as appropriate) ▪ Government representatives	For GEF supported projects, UNDP costs paid from IA fees and operational budget	Yearly
TOTAL indicative COST Excluding project team staff time and UNDP staff and travel expenses		US$ 86,340	

End of Project:

107. An independent Terminal Evaluation will take place three months prior to the final Project Board meeting and will be undertaken in accordance with UNDP and GEF guidance. The final evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the mid-term evaluation, if any such correction took place). The terminal evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. The Terms of Reference for this evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-EEG.

108. The Terminal Evaluation should also provide recommendations for follow-up activities and requires a management response which should be uploaded to the UNDP-EEG Project Information Management System (PIMS) and to the UNDP Evaluation Office Evaluation Resource Center (ERC).

109. During the last three months, the project team will prepare the Project Terminal Report. This comprehensive report will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and areas where results may not have been achieved. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results.

Learning and knowledge sharing:

110. Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums.

111. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects.

112. Finally, there will be a two-way flow of information between this project and other projects of a similar focus.

7. Legal Context

113. This document together with the CPAP signed by the Government and UNDP, which is incorporated by reference constitute together a Project Document as referred to in the Standard Basic Assistance Agreement (SBAA) and all CPAP provisions apply to this document.

114. Consistent with the Article III of the Standard Basic Assistance Agreement, the responsibility for the safety and security of the implementing partner and its personnel and property, and of UNDP's property in the implementing partner's custody, rests with the implementing partner.

115. The implementing partner shall:

- put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
- assume all risks and liabilities related to the implementing partner's security, and the full implementation of the security plan.

116. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

117. The implementing partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

118. The UNDP Resident Representative in Maldives is authorized to effect in writing the following types of revision to this Project Document, provided that he/she has verified the agreement thereto by the UNDP Regional Coordination Unit and is assured that the other signatories to the Project Document have no objection to the proposed changes:

a) Revision of, or addition to, any of the annexes to the Project Document;

b) Revisions which do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of the inputs already agreed to or by cost increases due to inflation;

c) Mandatory annual revisions which re-phase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility; and

d) Inclusion of additional annexes and attachments only as set out here in this Project Document

SIGNATURE PAGE

Country:

UNDAF Outcome (s)/Indicator (s):

CPAP Outcome (s)/Indicator (s):

CPAP Output (s)/Indicator (s):

Executing Entity/Implementing Partner
Implementing entity/Responsible Partner

Programme Period:	2008-10
Atlas Award ID:	00058332
Project ID:	00072423
PIMS #	4093
Start date:	28 February 2010
End Date	31 March 2014
Management Arrangements	NEX
PAC Meeting Date	24 September 2009

Total resources required	$9,336,211
Total allocated resources:	**$9,336,211**
a) LDCF	$4,485,000
Co-financing:	
b) Government of Maldives (in-kind & parallel)	$3,738,336
c) UNDP: TRAC (cash)	$ 100,000
TRAC (parallel)	$ 777,875
d) UNISDR (parallel)	$ 235,000
Total Co-financing:	$4,851,211

***Agreed by (Government)**:*

NAME SIGNATURE Date/Month/Year

Agreed by (Executing Entity/Implementing Partner):

NAME SIGNATURE Date/Month/Year

Agreed by (UNDP):

NAME SIGNATURE Date/Month/Year