

# GEF-8 PROJECT IDENTIFICATION FORM (PIF)

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## General Project Information

### Project Title

A Holistic Approach to Food Systems Resilience and Adaptation in Maldives

Region Maldives	GEF Project ID 11411
Country(ies) Maldives	Type of Project FSP
GEF Agency(ies): FAO	GEF Agency ID 747888
Executing Partner Ministry of Environment, Climate Change and Technology and Ministry of Fisheries, Marine Resources and Agriculture	Executing Partner Type Government
GEF Focal Area (s) Climate Change	Submission Date 10/18/2023

### Project Sector (CCM Only)

Climate Change Adaptation Sector

### Taxonomy

Focal Areas, Climate Change, Climate Change Mitigation, Agriculture, Forestry, and Other Land Use, Climate Change Adaptation, Disaster risk management, Climate resilience, Ecosystem-based Adaptation, Private sector, Climate information, Small Island Developing States, Mainstreaming adaptation, Sea-level rise, Influencing models, Strengthen institutional capacity and decision-making, Transform policy and regulatory environments, Convene multi-stakeholder alliances, Stakeholders, Beneficiaries, Communications, Awareness Raising, Behavior change, Private Sector, Financial intermediaries and market facilitators, SMEs, Local Communities, Type of Engagement, Participation, Consultation, Civil Society, Community Based Organization, Gender Equality, Gender Mainstreaming, Sex-disaggregated indicators, Gender results areas, Access to benefits and services, Capacity Development, Capacity, Knowledge and Research, Enabling Activities

Type of Trust Fund SCCF	Project Duration (Months) 60
GEF Project Grant: (a) 2,639,726.00	GEF Project Non-Grant: (b) 0.00
Agency Fee(s) Grant: (c) 250,774.00	Agency Fee(s) Non-Grant (d) 0.00
Total GEF Financing: (a+b+c+d) 2,890,500.00	Total Co-financing 3,000,000.00
PPG Amount: (e)	PPG Agency Fee(s): (f)

100,000.00	9,500.00
PPG total amount: (e+f)	Total GEF Resources: (a+b+c+d+e+f)
109,500.00	3,000,000.00

#### Project Tags

CBIT: No NGI: No SGP: No Innovation: No

#### Project Summary

Provide a brief summary description of the project, including: (i) what is the problem and issues to be addressed? (ii) what are the project objectives, and if the project is intended to be transformative, how will this be achieved? (iii), how will this be achieved (approach to deliver on objectives), and (iv) what are the GEBs and/or adaptation benefits, and other key expected results. The purpose of the summary is to provide a short, coherent summary for readers. The explanation and justification of the project should be in section B “project description”. (max. 250 words, approximately 1/2 page)

#### Project Summary

**The objective of this project is that food systems in Maldives are resilient and adaptive to the impacts of global climate change. In the absence of SCCF support, food production as well as supply, input and value chains will be threatened by climate change factors including sea level rise and increasing saline intrusion, storm surges, erratic rainfall, and increasing air and sea temperatures: these pressures will come on top of underlying challenges including population growth, internal migration and urbanization, the overexploitation of fisheries and the degradation of natural ecosystems, which play a vital role in buffering islands, their populations and their production systems against the effects of climate change. The country is especially vulnerable to the effects of climate change given its low topography and narrow resource base.**

**The project will support the Government of Maldives in applying an integrated “whole food system,” “whole of society” and “whole island” approach to ensuring the country’s food security in the face of climate change, working with nature, and addressing environmental and health dimensions at the same time. It will principally focus on the agriculture and coastal and marine fisheries sectors, which are the main sources of nutrition and livelihood support of local communities in the country; it will also address the interactions between the tourism industry and the country’s food system under conditions of climate change.**

**The project will focus specifically on the southern atolls of Maldives, namely Laamu, Gaafu Alifu, Gaafu Dhaalu, Gnaviyani and Seenu Atolls, which are typical of the conditions found in many other atolls across the country, and the challenges faced by their populations in ensuring resilience of food systems in the face of increasing climate variability are of similar nature. The project will work at multiple levels to ensure mainstreaming of climate change into policy, planning and institutional frameworks, and inter-sector coordination, at national level, through to local governments, communities and households at atoll and island levels.**

#### Indicative Project Overview

#### Project Objective

## Food systems in Maldives are resilient and adaptive to the impacts of global climate change

### Project Components

#### 1. Enhancement of planning, policy, and institutional conditions for food systems resilience

Component Type	Trust Fund
Technical Assistance	SCCF-A
GEF Project Financing (\$)	Co-financing (\$)
250,000.00	450,000.00

##### Outcome:

Institutional stakeholders in diverse sectors (including fisheries, agriculture, environment, food, and tourism) support food system resilience and adaptation in a strategic, collaborative, and science-based manner.

##### CCF CORE INDICATOR 3:

*Number of policies, plans, frameworks, or institutions that strengthen climate adaptation: 11*

##### Output:

**Science/evidence-based mechanisms for decision-making** on food systems to ensure optimum net outcomes from resilience and adaptation measures (the whole of society approach), such as natural capital accounting (NCA)

**Mechanisms for inter-sector cooperation** integrating the multiple dimensions of food systems resilience and adaptation (fisheries agriculture, environment and health)

Guidance for the formulation of a national Food Security Act incorporating considerations of food system resilience and gender mainstreaming

**National Food Systems Resilience and Adaptation Strategy**, setting out institutional responsibilities and priority actions with corresponding resources.

**Enhancement and application of anticipatory action and disaster risk reduction plans and early warning systems**, to share with agricultural communities, especially women

**Proposals and schemes to insure and compensate** farmers, including smallholder farmers, especially women, against climate change losses

#### 2. Enhancement of conditions in supply, value and input chains and businesses

Component Type	Trust Fund
Investment	SCCF-A
GEF Project Financing (\$)	Co-financing (\$)
377,104.00	600,000.00

##### Outcome:

Food supply, input and value chains and businesses, including tourism, favour resilient and adaptive food production and supply.

##### CCF CORE INDICATOR 5

*Number of private sector enterprises engaged in climate change adaptation and resilience: 5*

##### Output:

**Public/private sector platforms, alliances, and commitments**, on food supply/stock resilience and on collaborative action to favour resilient and adaptive sources of supply.

**Strengthened food system-related micro-, small, and medium-sized enterprises**, with emphasis on women led enterprises, working on food production, value-adding, transport, and retail, to make them more resilient and adaptive to climate change (CC) impacts and develop business opportunities based on resilient production.

Enhanced **tourism sector food supply chains**, that factor in resilience and adaptation, and are compatible with national food security and provide resilient and adaptive livelihood options to local people under conditions of CC

### 3. Integrated island ecosystem and coastal zone management for food system resilience and adaptation

Component Type	Trust Fund
Investment	SCCF-A
GEF Project Financing (\$)	Co-financing (\$)
754,208.00	750,000.00

Outcome:

tolls and islands are subject to an ecosystem-based adaptation approach<sup>[1]</sup> that responds to the interactions among their different components and stakeholders and anticipates how these will change and move as a result of climate change.

CCF CORE INDICATOR 2

a) Area of land managed for climate resilience (ha):

(b) Coastal and marine area managed for climate resilience (ha): 6874ha

<sup>[1]</sup> Incorporating principles of [integrated landscape management \(ILM\)](#) and integrated coastal zone management (ICZM)

Output:

**Zoning** of food production activities (agriculture and fisheries) to minimize their exposure to CC risks, reduce negative impacts on ecosystems of importance for resilience, and optimize land use (including community-based gardening for local resilient food production).

Enhanced **governance** mechanisms to favour resilience and adaptation measures and optimize net societal outcomes and equity. **Participation of women will be ensured in the planning process.**

### 4. Enhanced farming and fisheries systems for resilient national food production

Component Type	Trust Fund
Investment	SCCF-A
GEF Project Financing (\$)	Co-financing (\$)
755,611.00	600,000.00

Outcome:

farmers and fishers have enhanced capacities to apply and adapt sustainable and climate resilient and adaptive farming and fishing practices, based on principles of agroecology and the ecosystem approach to fisheries.

CCF CORE INDICATOR 4:

Number of people trained or with awareness raised:

Male \_ 2019

emale\_ 856

% for Women\_\_30

Output:

**Farmers' and fishers' field schools established**, to define and promote climate-smart options for food production, farming, and fisheries.

Enhanced **capacities for the provision of technical assistance** (in alignment with the Government's Skills Development Plans) on the promotion of multiple benefits including resilience and ability to adapt to climate **change, with a focus on women and youth.**

- Systems for peer-to-peer **knowledge exchange**, including stocktaking and sharing of lessons

## 5. Knowledge management

Component Type	Trust Fund
Technical Assistance	SCCF-A
GEF Project Financing (\$)	Co-financing (\$)
251,402.00	300,000.00

Outcome:

strengthened knowledge among policy makers and different stakeholder groups on the implications of climate change, especially sea level rise, for agriculture and food systems, and on the feasibility of climate-smart options for agriculture, livestock, and fisheries.

*Knowledge, Attitudes and Practice indicator values improved across all key stakeholders (targets TBD during PPG)*

Output:

**Focused studies and participatory analyses on the** implications of climate change, including **gender considerations.**

**Inter-island/inter-community knowledge exchange and cooperation networks**, including lessons learned through previous and other ongoing projects (GEF and others).

**Project mechanisms for exchange knowledge with other SIDS**, as part of multi-country "communities of practice" on applying food systems perspectives in island countries under conditions of climate change.

## M&E

Component Type	Trust Fund
Technical Assistance	SCCF-A
GEF Project Financing (\$)	Co-financing (\$)
125,701.00	150,000.00

Outcome:

Project implementation is based on RBM and responds effectively and adaptively to the results of monitoring.

*100% of targets set out in annual work plans and budgets are based on the results of M&E*

Output:

**Project monitoring and evaluation plan and system** developed and implemented.

**System for adaptive results-based management of the project**

## Component Balances

Project Components	GEF Project Financing (\$)	Co-financing (\$)
1. Enhancement of planning, policy, and institutional conditions for food systems resilience	250,000.00	450,000.00
2. Enhancement of conditions in supply, value and input chains and businesses	377,104.00	600,000.00
3. Integrated island ecosystem and coastal zone management for food system resilience and adaptation	754,208.00	750,000.00
4. Enhanced farming and fisheries systems for resilient national food production	755,611.00	600,000.00
5. Knowledge management	251,402.00	300,000.00
M&E	125,701.00	150,000.00
<b>Subtotal</b>	<b>2,514,026.00</b>	<b>2,850,000.00</b>
Project Management Cost	125,700.00	150,000.00
<b>Total Project Cost (\$)</b>	<b>2,639,726.00</b>	<b>3,000,000.00</b>

Please provide justification



## PROJECT OUTLINE

### A. PROJECT RATIONALE

Briefly describe the current situation: the global environmental problems and/or climate vulnerabilities that the project will address, the key elements of the system, and underlying drivers of environmental change in the project context, such as population growth, economic development, climate change, sociocultural and political factors, including conflicts, or technological changes. Describe the objective of the project, and the justification for it. (Approximately 3-5 pages) see guidance here

## A. Project Rationale

### Baseline Context

#### **Biophysical and socioeconomic context**

1. The total area of Maldives is 859,000 km<sup>2</sup>, of which 21,300 km<sup>2</sup> are atolls (26 atolls and around 1,192 islands, including 5,500 km<sup>2</sup> of reef systems), and the remainder is ocean. Only 188 of the islands are inhabited, 116 of which have less than 1,000 people. The maximum elevation above sea level is less than 1.5 metres.
2. The country is undergoing rapid population growth and urbanization: over the last 10 years, the national population grew by around 43%, the urban population grew by 59% and the rural population by 33%<sup>[1]<sup>1</sup></sup>. About 53% of people are below the age of 20.
3. The overall sex ratio is 969 females to 1,000 males. Gender inequalities persist in sectors such as fisheries and agriculture: rural women have limited opportunities to pursue education and careers, due to domestic responsibilities. Occupational gender segregation limits their opportunities to jobs in localized, informal production and small-scale processing of agriculture and fishery products, harvesting and gathering etc<sup>[2]<sup>2</sup></sup>. Climate change disproportionately affects rural women, causing higher rates of mortality, morbidity and livelihood impacts.

#### The Economy

4. **Tourism** has undergone huge growth since the 1980s, and now is the country's largest industry, accounting for 28% of GDP and more than 60% of foreign exchange receipts: over 90% of government tax revenue flows in from import duties and tourism-related taxes.
5. **Marine fisheries** is the second leading sector and the country's main export, accounting for around 20% of domestic employment; coastal/reef fisheries are vitally important for local livelihoods and nutrition. A total of 17,589 fishers were registered in 2017. The Maldives is the world's most fish-dependent country: fish consumption contributes to 71% of the animal-source protein intake of the population's diet, and fish is the only food source for which the country is self-sufficient.
6. Of 4,000 ha of arable land in the country, only 573 ha were being cultivated in 2012. Agriculture is constrained by limited land availability, limited value chain development, and labour shortage. The **agriculture** sector is a significant source of income for many women, especially smallholder farmers and island communities. Women practise subsistence agriculture in home gardens (and some plots outside of the home area), which play a vital role in rural livelihoods, food security and income generation. Commercial agriculture is male dominated and grows high-value crops, mostly targeted to tourist resorts. Domestic production meets less than 10% of national food requirements; the country is 100% dependent on imports for staples such as

flour, rice, and sugar. Outer islands rely heavily food imports by boat from the capital, and rural populations often experience food shortages especially during extreme events and unexpected market irregularities.

7. The country has high levels of diet-related non-communicable diseases: an estimated 14.1% of adult women and 7.9% of adult men live with obesity, while diabetes is estimated to affect 12.1% of adult women and 13.4% of adult men.

8. Producer organizations (POs) face challenges<sup>[3]<sup>3</sup></sup> including limited market access due to geography and remoteness; reluctance of youth to participate in agriculture; limited interest in labour intensive farming practices (many farmers engage foreign labour); limited ability for women to participate in organizations, due to domestic and care responsibilities; inadequate functioning of POs in distributing benefits and ensuring equitable participation; and short-term availability of the agricultural land, which prevents long term investments in agriculture.

**Climate rationale:**

9. As the lowest-lying country in the world at just an average elevation of 1m above sea level, Maldives faces some of the worst impacts of rising sea levels, swell waves, frequent storm surges, increasing impacts of El Nino southern oscillation, warmer air, and sea temperatures. More than half the population and about 70% of infrastructure is located within 100m of the coast. The principal manifestations (historical and projected) of global climate change in the Maldives are as follows<sup>[4]<sup>4</sup></sup>:

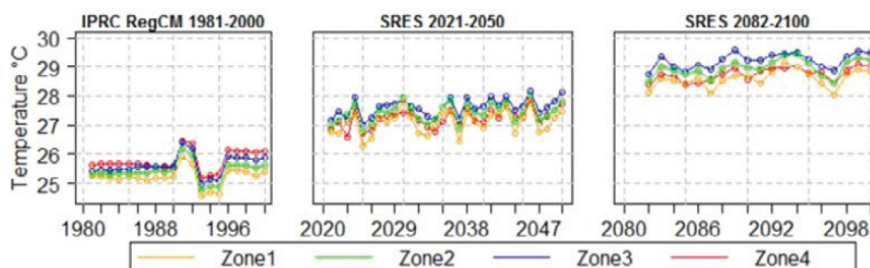
**1) Air temperature**

10. Mean average temperature shows an increasing trend for Malé (0.267°C/decade) and Gan (0.168°C/decade). Maximum temperature has an increasing trend in the north of the country (0.21°C per decade) and a decreasing trend (-0.06°C/decade) in the south. There is an increasing trend in minimum temperatures (0.25°C/decade in the north is observed and 0.4°C/decade in the south).

11. Temperature projections show an increasing trend over different zones (Fig. 2). Mean annual temperature for the time periods 2021-2050 is 1.8°C higher than the base period (1981-2000), with greater increase in northern and central regions than the southern region.

**Fig. 1. Time series of annual mean temperature: see figure in attached PIF**

**Fig. 2. IPRC RegCM annual mean temperature projections (SRES A1B: 2021-2050 & 2082-2100<sup>[5]<sup>5</sup></sup>)**

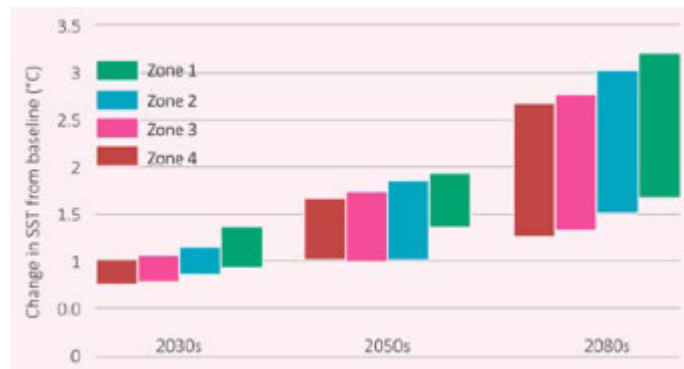


**Fig. 3. Maximum and minimum temperatures for a) historical (1981-2019) and projected future (2030-2060) periods at b) RCP 2.6 and c) RCP 8.5 scenario**[6]: see figure in attached PIF

**2) Sea temperature (SST)**

12. There is an increasing trend in SST throughout the country, of 0.11-0.15°C/decade. SST is lower in the north than the rest of the country. SST projections show rising trends in all four geographic zones in all 3 selected SRES scenarios, in the range of 0.76-1.37°C for the 2030s, 1.01-1.93°C for the 2050s and 1.27-3.07°C for the 2080s, relative to the thirty year (1961-1990) baseline mean.

**Fig. 4. Predicted range for all SST change scenarios for all zones vs. baseline (1961-1990):**



**3) Rainfall**

13. There is significant interannual variation in rainfall, with a decreasing overall trend of 0.02 mm and 2.21 mm/year in Malé and Gan respectively, and a significant decreasing trend in the number of rainfall days (days with at least 1mm rainfall). In recent years the length of dry period has increased due to late onset of the southwest monsoon.

**Fig. 5. Average rainfall – historical (1981-2019) and projected future (2030-2060)**[7]

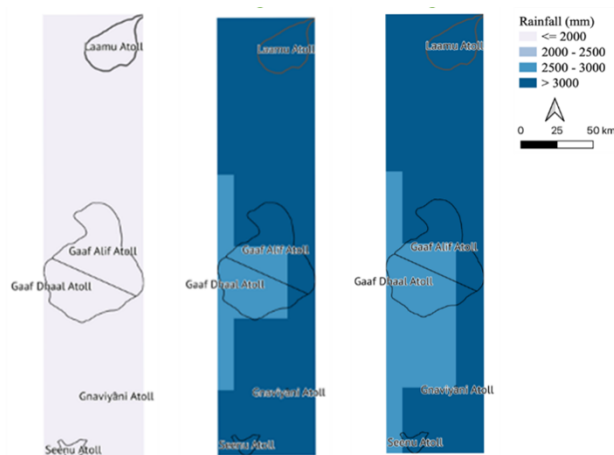
**Parameters**

**Average rainfall**

- a) Historical period (1981-2019)
- b) Future (2030-2060) for RCP 2.6
- c) Future (2030-2060) for RCP 8.5

Figure: Rainfall for a) historical (1981–2019), and projected future (2030–2060) periods at b) RCP 2.6 and c) RCP 8.5 scenario.

Historical datasets were derived from W5E5<sup>1</sup>, and future scenarios were the ensemble mean of CORDEX-CORE simulations derived using CAVA tool.



14. Precipitation is projected to increase in northern and central regions, and decrease in the south. The frequency of extreme rainfall events is projected to increase: an extreme daily rainfall of 180mm is currently a 100-year event at Hulhulé, but it is likely to occur twice as often, on average, by 2050. An extreme three-

hourly rainfall of 100mm is currently a 25-year event, but it is likely to become at least twice as common, on average, by around 2050.

#### 4) *Sea Level Rise*

15. Sea level at Malé and Gan has increased by 3.753 and 2.933 mm/ year respectively since 1989 and 1992. The maximum sea surface height changes for central and south is projected to vary between 0.40 to 0.48m from 2001 to 2100 with an uncertainty of 0.36 to 0.5m.

**Fig. 6. Annual mean sea surface height projections with respect to MSL<sup>[8]</sup>: see figure in attached PIF**

**Fig. 7. Sea level anomaly under baseline and climate change scenario for Maldives<sup>[9]</sup>:see figure in attached PIF**

**Fig. 8. Sea level rise (projected increase for 2020-2100 compared to the average for 1986-2005, with probable projections and median and higher-level scenarios) refer to the PIF document<sup>[10]</sup>**



**Fig. 9. Agricultural areas in Maldives exposed to 1 m sea level rise under climate change scenario<sup>[11]</sup>: see figure in attached PIF**

#### 5) *Storms and storm tides*

16. Although Maldives lies out of the tropical cyclone zone due to its proximity to the equator, cyclonic storms have occasionally passed over the country, with the north of the country being most exposed to frequent freak storms. Freak wind events are likely to increase in frequency: the return period of extreme wind gusts of 60 knots is projected to reduce from 16 years to 9 years by 2025 (MEEW 2006). Sea level will increase the magnitude of storm surges, and increasingly frequent storms will mean they occur more often (Table 1).

**Table 1. Storm tide estimates for medium/ high sea level rise scenarios: see table in attached PIF**

17. Given that the average height of Maldivian islands is 1.5m above MSL, sea level rise would cause regular tidal inundations in most islands even at the medium prediction; the high prediction could cause inundations recurrently in all islands. Storm surges can create up to 2.78m waves under medium prediction, enough to completely inundate a medium to small sized island; a storm surge at high prediction could cause a 3.18m wave that could inundate even the largest of islands. These surges are in addition to regular monsoonal wind-generated flooding.

#### Ecosystem degradation

18. The Maldives' natural resources and ecosystems are undergoing degradation, undermining their capacities to buffer against climate change impacts. Coral reefs are particularly affected: these are the country's first line of natural defence against waves and are estimated to decrease wave energy and wave height by 97% and 84% respectively; their degradation also affects marine life and fish stocks and diminishes their aesthetic appeal for tourism. Degradation is due in part to climate change effects, with ocean acidification and sea temperature temperature increases causing coral bleaching; while underlying threats

including population growth and economic development result in pollution and overfishing, and the transformation of island topography and ecosystems through construction and infrastructure development. Between 2004-2006 and 2014-2016 there was a 14% reduction in the number of islands with no or low human disturbance, and a 51% rise in the number with a moderate to very high level of disturbance, with 43.6% of the 608-island sample having already at least partly lost the capacity to naturally adjust and adapt to climate-related ocean change<sup>[12]<sup>12</sup></sup>.

***Implications for food systems and food security:***

19. The CC-related processes described above, and the interactions among them, severely jeopardize the current and future ability of the population to meet their basic needs for food and water. Impacts of particular concern, resulting from the climatic hazards described above, include the following:

- **Loss and degradation of agricultural land**, due to sea level rise, and extreme sea levels associated with storm surges: severe rates of shoreline erosion now affect about 64% of islands.
- **Reduced agricultural and livestock productivity**: increases in air temperature place heat stress on crops, livestock and farmers; unpredictable variations in rainfall patterns, with unseasonal droughts disrupting the crucial growing periods of crops, and excessive rainfall causing loss of harvests or crop mortality due to flooding.
- **Reduced and less reliable fisheries yields**, due to seawater temperature increase, ocean acidification, disease, and changes in current movements and limnological mixing. Increases in sea water temperature also result in movements in fish populations, meaning that local species compositions may vary from those which fishers are set up to exploit.
- **Decline in the availability and quality of water**, due to droughts and saltwater intrusion into groundwater lenses, raising issues of competition for water between household use and crops.
- **Disruption to highly interconnected and fragile global supply chains**, on which the country is highly dependent for its food supply, by tropical storms and cyclones<sup>[13]<sup>13</sup></sup>, as well as factors such as pandemics, conflicts, global price fluctuations<sup>[14]<sup>14</sup></sup> and trade and tariff policies.

20. Other potential responses to climate change are also potentially maladaptive: using groundwater or rainwater for crop irrigation, for example, would compete directly with domestic water needs, while infrastructural approaches to protection against sea level rise and storm surges, such as sea walls, may alter coastal sedimentation patterns and undermine resilience and adaptive capacity. Farmers are already taking some measures to adapt their practices in response to the impacts of climate change, but these are inadequate to address the threats fully, and in some cases are costly or imply reductions in the diversity and nutritional quality of food production.

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[1] <https://data.worldbank.org/indicator/SP.POP.TOTL?locations=MV>

[2] [FAO. 2019. Country Gender Assessment of Agriculture and the Rural Sector in Maldives. Malé.](#)

[3] Stakeholder Consultations in support of GAFSP Maldives Concept Note. Report prepared and submitted on behalf of the Producer Organizations by Ms. Saeeda Umar, FAO National Consultant for Maldives (2021)

[4] Predictions are based on the IPCC 4th Assessment Special Report on Emission Scenarios, as reported in Maldives Second National Communication to the UNFCCC, 2016

[5] Adapted from MEE, 2015

[6] Historical datasets derives from Copernicus Climate Service (ERA5) and future scenarios were the assembled mean of CORDEX-CORE simulations derived using the CAVA tool

[7] Cucchi M, Weedon GP, Amici A, Bellouin N, Lange S, Muller Schmied H, Hersbach H and Buontempo C (2020). WFDE5: bias-adjusted ERA5 reanalysis data for impact studies. *Earth System Science Data*, 12(2), 2097-2120.

[8] Grey shades indicate the range of uncertainty of maximum sea level (adapted from MEE, 2015)

[9] Source: ESCAP calculations based on IPCC Interactive Atlas, 2021; Copernicus Climate Change Service, Climate Data Store, 2018 and Ministry of Environment, Climate Change and Technology, Govt. of Maldives, 2016.

[10] Amores A, Marcos M, Le Cozannet G, Hinkel J. Coastal flooding and mean sea-level rise allowances in atoll island. 2022. DOI: 10.1038/s41598-022-05329-1.

[11] Source: ESCAP calculations based on IPCC Interactive Atlas, 2021; Copernicus Climate Change Service, Climate Data Store, 2018 and Ministry of Environment, Climate Change and Technology, Govt. of Maldives, 2016.

[12] Magnan AK and Duvat VKE (2020). Towards adaptation pathways for atoll islands. Insights from the Maldives. *Regional Environmental Change* (2020) 20: 119. <https://doi.org/10.1007/s10113-020-01691-w>

[13] <https://www.frontiersin.org/articles/10.3389/fmars.2020.539646/full>

[14] <https://www.statista.com/statistics/1111134/monthly-food-price-index-worldwide/>

## B. PROJECT DESCRIPTION

### Project description

This section asks for a theory of change as part of a joined-up description of the project as a whole. The project description is expected to cover the key elements of good project design in an integrated way. It is also expected to meet the GEF's policy requirements on gender, stakeholders, private sector, and knowledge management and learning (see section D). This section should be a narrative that reads like a joined-up story and not independent elements that answer the guiding questions contained in the PIF guidance document. (Approximately 3-5 pages) see guidance here

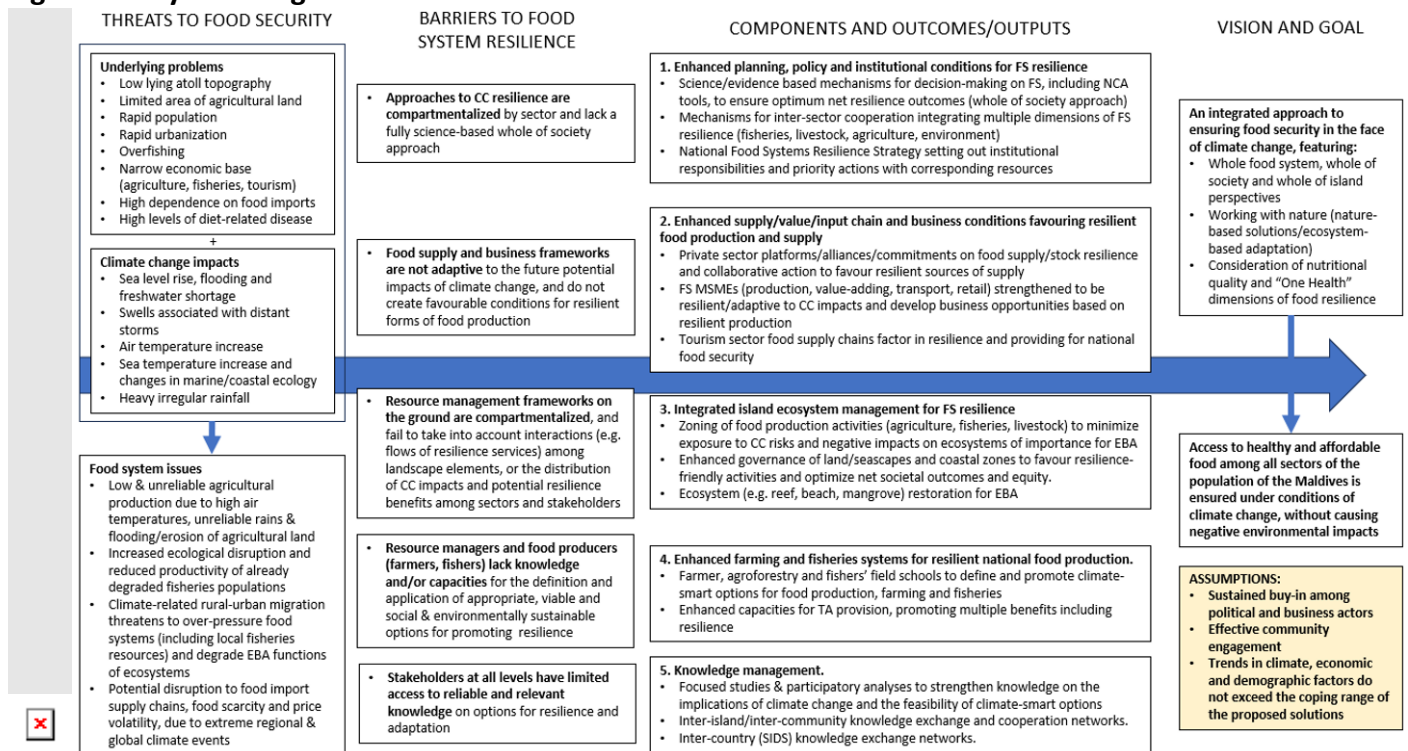
#### A. PROJECT DESCRIPTION

**1. The Theory of Change of the project is presented in Fig. 1. In summary, the project will support the Government of Maldives in applying an integrated “whole food system”, “whole of society” and “whole island” approach to ensuring the country’s food security in the face of climate change, working with nature and addressing environmental and health dimensions at the same time; this will be achieved through actions structured under five mutually dependent “pathways”, corresponding to the project’s five components.**

2. The logic set out in the theory of change centres on the promotion of resilience and adaptation on the ground, starting in selected target atolls (with potential for scaling nationwide), with livelihood and nutrition support systems based on resilient and adaptive fisheries and farming practices being applied (**Component/Pathway 4**) in accordance with atoll-level frameworks of community-led, science-based zoning and governance structures (**Component/Pathway 3**), that take into account the interactions between the terrestrial and coastal components of the atolls. The project will also make the mechanisms whereby food

reaches the consumer (supply, value and input chains, and the businesses engaged in these) more resilient and adaptive, as well as more favourable for resilient and adaptive production (**Component/Pathway 2**). These elements of the food system will be supported by enhanced planning, policy and institutional conditions (**Component/Pathway 1**), promoting the resilience and adaptiveness of the country's food supply through an integrated "whole food system" vision that spans sectors and engages multiple public and private stakeholders; the lessons learned at field level will in turn serve to inform and catalyse transformation at the level of the food system as a whole. Actions under **Component/Pathway 5** will ensure that the knowledge generated at field level is effectively captured, managed, disseminated in such a way as to support scaling and transformation at broader level.

**Fig.1 Theory of Change**



- The following elements will ensure that the model proposed will be sustained in the long term:
  - Strengthening capacities and mechanisms for, and commitment to, inter-sector mainstreaming of resilience and adaptation and policy/institutional level, thereby **providing a reliable enabling environment for activities on the ground**, backed up by solid evidence of the whole of society benefits of doing this.
  - Bringing the private sector (especially food and tourism) on board**, by making the case that providing for resilience and adaptation in their business models makes good business sense.
  - Working with and strengthening existing local government and community structures, in order to **ensure sustained social buy-in**.
  - Working with community members to **ensure that the models promoted are economically attractive, aligned with social needs, and environmentally sustainable**, as well as resilient and adaptive.
- The functioning and sustainability of this model is dependent on a number of assumptions:
  - Sustained buy-in to the proposed models and its constituent parts among political and business leaders.** Political buy-in can reliably be assumed given the alignment between the project and the policy instruments set out above. Buy-in by business actors will be furthered through engagement during full project formulation, which will focus on the business case for ensuring resilience and

adaptation in the face of climate pressures and associated changes in demographic and supply/demand conditions.

- **Effective community engagement.** Detailed and full processes of participatory engagement will be carried out during full project formulation, focusing on the social, livelihood, health, and nutrition benefits of providing for resilience and adaptation, and ensuring that the proposed interventions are tailored to social and cultural conditions.
- **Trends in climate, economic and demographic factors do not exceed the coping range of the proposed solutions.** During project formulation, the proposed solutions will be subject to technical analysis based on science and field-level experiences from the country and comparable conditions in other geographies.

Generally, in the outer atolls of Maldives, most employment is generated by the private sector. The fisheries and agriculture sector is no exception, with private individuals and small and medium sized enterprises active in the sectors. There are 54 islands under long term lease mainly for private sector agriculture and aquaculture businesses, including individuals, SMEs and larger corporations. A condition mandated for islands leased recently includes a provision to contribute towards food security goals of the country. Further, with government and donor support, there is potential to increase the engagement of the private sector in these sectors. However, reforms and policy interventions are necessary for the implementation of management plans and market mechanisms for enhanced competition and private sector development in the fisheries and agriculture sectors. There is potential to engage with private sector and CSOs in the implementation of the Project and they are key stakeholders that will benefit from the project.

#### **The SCCF Alternative**

The impacts of global climate change, coming on top of the demographic and economic changes that the country is undergoing, are testing its ability to meet the nutritional and livelihood needs of its population, and develop its economy, in a sustainable manner, without exacerbating environmental damage or undermining its vital natural resource base. This project will make the national food system of Maldives resilient and adaptive to the impacts of climate change, through an innovative integrated approach, in accordance with the principles and priorities of both the Government of Maldives and the SCCF

#### **Outcomes**

**39. In order to achieve this objective, the project will result in the following outcomes:**

- 1) Institutional stakeholders in diverse sectors (including fisheries, agriculture, environment, food, and tourism) will support food system resilience and adaptation in a strategic, collaborative, and science-based manner. This will address a current baseline situation in which siloed and inadequately informed approaches to development impede the strengthening of the country's resilience and its capacities for adaptation: this leads to the risk that the development of one sector may occur at the expense of the resilience and sustainability of another, and that the overall implications of alternative development pathways for the country's food security, under conditions of climate change, are not objectively considered or optimized.**
- 2) Conditions in food supply, input and value chains and businesses will favour resilient and adaptive food production and supply. This will address a current baseline situation in which the multiple different elements of food production and supply systems are vulnerable to climate change and other factors, and food system structures and businesses perpetuate non-resilient patterns of supply and consumption. To address this, the private businesses and public institutions on which food production and supply will be supported in "climate-proofing" their future operations and adapting them to changing patterns of risk, supply, and demand, supported by favourable and reliable regulatory conditions and financial incentives.**



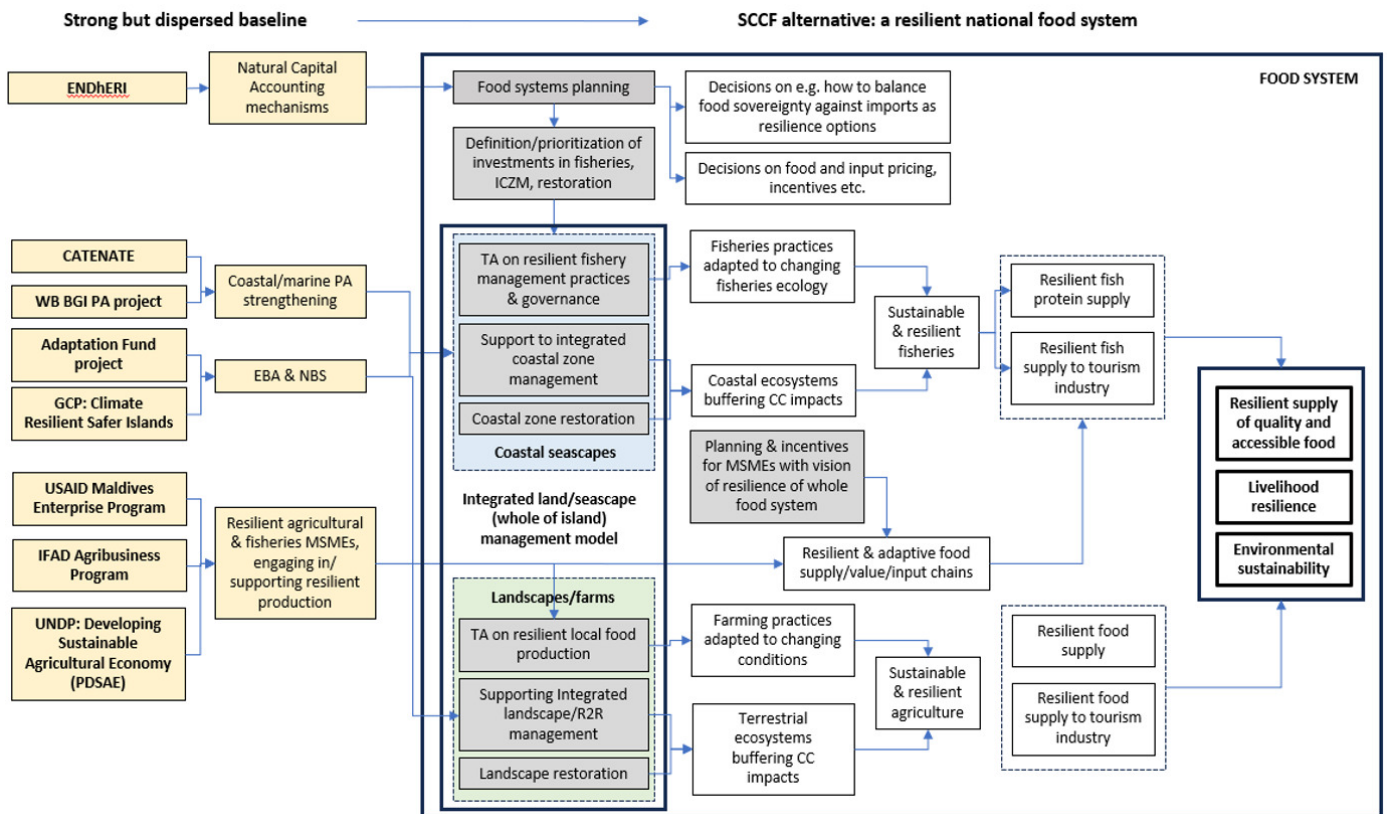
- 3) Island ecosystems (including terrestrial areas and associated coastal waters and reefs) will be subject to integrated management that responds to the interactions among their different components and stakeholders and anticipates how these will change and move as a result of climate change. This will address a current baseline situation where, for example, the inadequately coordinated development of agriculture or tourism risks undermining the resilience of fisheries and the ecosystems on which they depend, through over-exploitation, degradation and pollution; and this may in turn undermine the ecosystem-based adaptation (EBA) and food provision functions that these coastal ecosystems provide for farming populations and tourism operations.
- 4) Farmers and fishers will have enhanced capacities to apply and adapt sustainable, climate resilient and adaptive farming and fishing practices. This will address a baseline situation in which the knowledge and practices of farmers and fishers are narrow and static, with limited understanding of how productive and livelihood resilience depends on overall ecosystem health; of the implications of climate change for their existing practices and systems, and how to analyse and respond to these adaptively; or of the range of resilience options available to them, and the conditions under which they are applicable.
- 5) Knowledge on the implications of climate change, and options for resilience and adaptation, will be effectively managed and disseminated among all relevant stakeholders, addressing a baseline situation in which lack of awareness and knowledge acts as a disincentive to action, or results in ineffective or counterproductive (maladaptive) action; and promising options for resilience and adaptation remain at small, local scale.

40. Key elements of the approach to be applied by the project will include:

- **Agroecology:** this is a holistic and integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of sustainable agriculture and food systems. It seeks to optimize the interactions between plants, animals, humans, and the environment while also addressing the need for socially equitable food systems within which people can exercise choice over what they eat and how and where it is produced.
- **Working with nature:** nature-based approaches to development and to addressing environmental problems are typically low-risk, low-cost and both socially and environmentally more sustainable than those that rely solely on “hard” infrastructure, which are typically costly and can have unintended negative impacts on incompletely understood natural systems.
- **Applying an innovative holistic vision of resilience,** ensuring that the resilience of the food system to the effects of climate change is not undermined by other forms of vulnerability, including climate *variability* and the disruption of global supply chains by geopolitical and macroeconomic factors.
- **Ensuring that improvements in the resilience of food supply go hand in hand with the satisfaction of the nutritional, development, and livelihood support needs of the population, as a prerequisite for political and social uptake and sustainability.**
- **Bringing together and building on the results of multiple other initiatives to date in Maldives in relation to climate change resilience, resulting in a holistic “whole food system,” “whole of society” and “whole of island” approach.**
- **Considering farm and community level food system resilience within the context of the national food system.** Experiences learned in other SIDS during the COVID-19 pandemic show that resilience to crises requires a balance between self-sufficiency and connection to external food sources. in the context of climate change adaptation, this project would promote resilient local production, but also help to ensure that this is backstopped by access to “off-island” sources as needed, and, crucially, ensure that these external sources provide diverse and healthy food.

- Being fully inclusive of and owned by different stakeholders, responding to their diverse needs and conditions, considering cultural conditions and governance structures, and furthering their roles as agents of adaptation, rather than passive subjects.

Fig.2. The SCCF alternative building on the current baseline of investments



**Project Components, Outcomes, and Indicative Outputs:**

**Component 1. Enhancement of planning, policy, and institutional conditions for food systems resilience**

5. The outcome of the actions proposed under this component will be that **institutional stakeholders in diverse sectors (including fisheries, agriculture, environment, food, and tourism) are supporting food system resilience and adaptation in a strategic, collaborative, and science-based manner**. This will be achieved through the delivery of the following outputs (to be validated and developed further during full project formulation):

- Science/evidence-based mechanisms for decision-making on food systems to ensure optimum net outcomes from resilience and adaptation measures (the whole of society approach), such as natural capital accounting (NCA) (applying the model developed under the ENDhERI project to the specific case of food system resilience).
- Mechanisms for inter-sector cooperation integrating the multiple dimensions of food systems resilience and adaptation (fisheries, agriculture, and environment)
- National Food Systems Resilience and Adaptation Strategy, setting out institutional responsibilities and priority actions with corresponding resources.
- Anticipatory action and disaster risk reduction plans and early warning systems for the food and associated sectors.<sup>[1]</sup>

**Component 2. Enhancement of conditions in supply, value and input chains and businesses**

6. The outcome of the actions proposed under this component will be that **food supply, input and value chains and businesses favour resilient and adaptive food production and supply**. Outputs will include:

- **Public/private sector platforms, alliances, and commitments**, on food supply/stock resilience and on collaborative action to favour resilient and adaptive sources of supply. This will include the facilitation by the project of pre-competitive collaboration among public and private sector actors, to analyse jointly the threats posed by climate change to the food sector (on which private sector businesses depend) and the identification of joint actions needed to address these. These may include, for example: the joint leverage of investment in transport, storage and cold chain infrastructure to reduce risks of disruptions to supply and value chains, and food waste; joint innovation and knowledge sharing initiatives; and public/private alliances to provide technical and financial assistance to small producers for the transition to more reliable, resilient and adaptive production. Needs and opportunities will be analysed in more detail during full project formulation.
- **Strengthened food system-related micro-, small, and medium-sized enterprises (MSMEs)** working on food production, value-adding, transport, and retail, to make them more resilient and adaptive to CC impacts and develop business opportunities based on resilient production. This will include support to MSMEs in incorporating provisions for resilience and adaptation into their business and investment plans, based on reliable information on the nature and implications of climate change, and the economic analyses of the implications of alternative business adaptation strategies.
- **Enhanced tourism sector food supply chains:** the project will work with the tourism sector to ensure that their food sourcing is resilient to the impacts of climate change, thereby contributing to the overall resilience of the sector and its contribution to the national economy and local livelihoods. In addition, it will work to ensure that the tourism sector does not a) undermine local or national food security, by placing unsustainable pressures on local food sources, b) motivate local communities to prioritise supplying the tourism sector market for food, rather than growing resilient crops to meet their own food needs, or c) degrade the food production ecosystems; and help identify and realize opportunities for the tourism sector to provide inclusive livelihood diversification opportunities to local communities under conditions of climate change.

### **Component 3. Integrated island ecosystem management for food system resilience and adaptation.**

7. The outcome of the actions proposed under this component will be that **islands and coastal waters are subject to integrated management** that responds to the interactions among their different components and stakeholders, recognizes spatial variations in ecosystem conditions and resilience, and anticipates how these will change and move as a result of climate change. Outputs will include:

- **Zoning of food production activities (agriculture and fisheries)** to minimize exposure to CC risks and reduce negative impacts on ecosystems of importance for Ecosystem-Based Adaptation (EBA), including through the Ecosystems Approach to Fisheries (EAF).
- **Enhanced governance mechanisms** to favour resilience and adaptation measures and optimize net societal outcomes and equity. The project will strengthen local governments (city, atoll, and island councils) to plan and implement resilience and adaptation measures, and work with community-based organisations, paying particular attention to ensuring that women, youth, and people living in poverty are adequately engaged and represented, and that their specific conditions and needs are provided for.
- **Protection, restoration, and conservation** of coastal/atoll ecosystems (e.g., reefs, beaches, mangroves, seagrass beds) and their resilience functions, based on science- and participation-based analyses of their importance, the threats affecting them, and the specific options available for their management and restoration. Alliances will be sought with the tourism sector to support ecosystem protection, restoration, and management.

8. The project will support the Government's strategy of allocating uninhabited islands for food production (more than 70 have been identified so far): the World Bank TRANSFORM project has a small grant allocation for these islands, but this project will support the realization of background studies for individual islands and their conditions, and on the basis of this make recommendations on factors including crop types, crop

calendars and recommended varieties, as well as analyses of how production on these islands will be integrated into national food supply.

**Component 4. Enhanced farming and fisheries systems for resilient national food production.**

9. The outcome of the actions proposed under this component will be that **farmers and fishers have enhanced capacities to apply and adapt sustainable and climate resilient and adaptive farming and fishing practices**, based on principles of agroecology and the ecosystem approach to fisheries. Outputs will include:

- Farmers' and fishers' field schools established, to define and promote climate-smart options for food production, farming, and fisheries. These will make specific consideration of gendered dimensions of the agriculture and fisheries sectors (for example the domination of cash crop production by men) and explore options for taking these into account in such a way as to contribute to gender equity, where needed organizing separate processes for men and women.
- Enhanced capacities for the provision of technical assistance, focusing on the promotion of multiple benefits including resilience and adaptiveness.
- Systems for peer-to-peer knowledge exchange, including stocktaking and sharing of lessons.

10. The specific strategies to be used for resilience and adaptation will not be prescribed, but rather defined through inclusive processes such as the farmers' and fishers' field schools, on a case-by-case basis. Agroecology, as defined in Section A, is proposed as the overarching approach. Under this overall framework, it is expected that priority will be given to, for example:

- **Enhancement of soil organic matter content**, with corresponding benefits for productivity and water retention. This may be achieved through, for example, the production and application of compost based on organic wastes from households, food processing/retail, agriculture, and other sources; and circular economy solutions involving the feeding of organic wastes to small livestock and the use of the resulting manure for soil amelioration.
- **Integrated pest management**, using natural methods to respond to pest biology under conditions of climate change, without unintended consequences for natural agroecosystem processes.
- **Intensification of production**, including the use of raised beds to facilitate watering and reduce the risk of waterlogging.
- **Crop diversification**, including the identification, valuation, and recovery of neglected traditional crops, cropping systems and associated knowledge, as well as farmer-based experimentation with new varieties (backed up by external technical and research support).
- **Zoning and planning of crop production at farm level**, based on analyses of spatial variations in on-farm conditions in relation to productivity and resilience, and how these are likely to evolve under conditions of climate change, as well as the implications of climate change for the agricultural calendar.

11. In relation to fisheries, the project will consider science- and experience-based recommendations from other SIDS worldwide<sup>[2]</sup>, regarding strategies for optimising the contributions of small-scale fisheries to food security under conditions of climate change. Key measures to minimise the gap between nutrition needs and sustainable harvests from coastal fisheries include community-based approaches to **maintain the structural complexity of fish habitats; allow landward migration of mangroves** as sea level rises; sustain recruitment and production of demersal fish by **managing 'source' populations**; and **diversify fishing methods** to increase catches of species favoured by climate change. The main adaptations to help fill the gap in fish supply include transferring some fishing effort from coral reefs to tuna and other large pelagic fish by **scaling-up the use of nearshore fish aggregating devices; developing fisheries for small pelagic species**; and extending the shelf life of catches by **improving post-harvest methods**.

12. The project will apply the Ecosystem Approach to Fisheries (EAF), which recognizes the interdependence between human well-being and ecosystem health<sup>[3]</sup>: the management of fisheries in the target localities, as well as the management and restoration of natural and production ecosystems, will be guided by knowledge on the ways in which fisheries interact with, depend on and affect the different elements of atoll ecosystems

(e.g. reefs, lagoons, beaches, seagrass beds and mangroves), and the ways in which climate change may affect these interactions.

### **Component 5: Knowledge management**

13. The project will support:

- **Strengthening of knowledge on the implications of climate change**, especially sea level rise, for agriculture and food systems, and on the feasibility of climate-smart options for agriculture, livestock, and fisheries, through a combination of focused studies, participatory analyses, and support to decision-making processes.
- **Inter-island/inter-community knowledge exchange and cooperation networks**, including lessons learned through previous and other ongoing projects (GEF and others).
- **Inter-country (SIDS) knowledge exchange**: there is potential for this project to form part of multi-country “communities of practice” on applying food systems perspectives in island countries under conditions of climate change.

14. During project formulation, specific mechanisms will be proposed for facilitating knowledge management and exchange, including the use of internet- and mobile-based systems, and artificial intelligence.

### **CCF Core Indicators**

1: Total number of direct beneficiaries

Total: 5751 (9% of resident Maldivian population in project area)

Male: 4038 (63% in fisheries; 37% in agriculture)

Female: 1713 (all agriculture)

% for Women: 30

The number of total direct beneficiaries is determined by the number of registered fishermen and farmers at the project location. As fisheries sector is male dominated, there is a disproportionately higher number of men who will seemingly benefit from the project. However, note that both sectors are highly informal and there are many unregistered persons who will also benefit from the project. The southern atolls of Maldives are good fishing areas and there are several females also involved in the sector, specifically in fish processing and value addition. The project will document the unregistered women working in the fisheries and agriculture sector that will benefit from the SCCF project interventions.

Furthermore, the Government has a policy to develop the agriculture sector in the Southern atolls of Maldives, similar to the current ongoing IFAD MAP project in the Northern atolls. The government has identified 17 crops in which Maldives will work towards self-sufficiency, and these crops are now being grown in the Southern atolls of Maldives. These efforts by the Government, working parallel to this Project, will increase the potential number of beneficiaries.

2 (a) Area of land managed for climate resilience (ha):

2 (b) Coastal and marine area managed for climate resilience (ha): **6874ha**

3: Number of policies/plans/ frameworks/institutions to strengthen climate adaptation: **11**

4: Number of people trained or with awareness raised

Male: 2617

Female: 1409

% for Women: 35

5: Number of private sector enterprises engaged in climate change adaptation and resilience: 5

<sup>[1]</sup> <https://www.undrr.org/media/89466/download?startDownload=true>

<sup>[2]</sup> Bella JD, Cisneros-Montemayor A, Hanich Q, Johnson JE, Lehodey P, Moore BR, Pratchett MS, Reygondeau G, Senina I, Viridin J, Wabnitz CCC. (2018). **Adaptations to maintain the contributions of small-scale fisheries to food security in the Pacific Islands**. Marine Policy 88 (2018) 303–3. <http://dx.doi.org/10.1016/j.marpol.2017.05.019>

<sup>[3]</sup> Garcia, S.M.; Zerbi, A.; Aliaume, C.; Do Chi, T.; Lasserre, G. (2003). **The ecosystem approach to fisheries. Issues, terminology, principles, institutional foundations, implementation, and outlook**. FAO Fisheries Technical Paper. No. 443. Rome, FAO. 2003. 71 p. <https://www.fao.org/3/y4773e/y4773e.pdf> | Ward, T., Tarte, D., Hegerl, E. & Short, K. 2002. **Ecosystem-based management of marine capture fisheries**. World Wide Fund for Nature Australia, 80 pp.

## Coordination and Cooperation with Ongoing Initiatives and Project.

Does the GEF Agency expect to play an execution role on this project?

If so, please describe that role here. Also, please add a short explanation to describe cooperation with ongoing initiatives and projects, including potential for co-location and/or sharing of expertise/staffing

The Ministry of Fisheries, Marine Resources and Agriculture (MFMRA) is the lead executing entity for the Project. The Ministry will appoint an official from within the Ministry to act as the National Project Director, who will be supported by other technical staff from the Ministry and the project management team to be set up under the project, led by the National Project Coordinator. A project steering committee (PSC) consisting of policy level and technical staff from the MFMRA and the Ministry of Environment, Climate Change and Technology and other relevant ministries and agencies will be set up to ensure that the Project achieves its objectives. The PSC may also be represented by the private sector, CSO/CBOs, research institutes and academia, as needed. As the GEF Implementing Agency for the project, FAO will be a member of the PSC. Details of the coordination arrangements will be elaborated during the PPG phase of the project.

The main ongoing initiatives and projects with which this project will coordinate and cooperate are set out in the Table below. The specific mechanisms to be used for coordination and cooperation will be defined during full project formulation.

### Relations with baseline initiatives

Baseline initiatives	Potential Relations (subject to selection of target geographies)
<a href="#">GEFTF: Conservation of Atoll Ecosystems through an Effectively Managed National Protected Area Estate (CATENATE) (2022-25)</a>	The project will complement the protected area focus of CATENATE, applying a whole-island ecosystem approach to also <b>cover areas with economic activity in diverse sectors, specifically in relation to food</b>
<a href="#">GEFTF: Enhancing National Development through Environmentally Resilient Islands (ENDhERI) (2022-25)</a>	The project will build on and broaden the scope of the Natural Capital Accounting and policy mainstreaming supported by ENDhERI, with an <b>integrated land/seascape and food system focus</b>

Baseline initiatives	Potential Relations (subject to selection of target geographies)
<a href="#">GEFTF: Sustainable Management of Fisheries, Marine Living Resources and their Habitats in the Bay of Bengal Region for the Benefit of Coastal States and Communities (2022-2027)</a>	<p>The project will integrate the models for sustainable management of coastal fisheries developed under the Bay of Bengal Large Marine Ecosystem (BOBLME) project into <b>broader island ecosystem management</b>, with an overall food system resilience perspective. BOBP-IGO is working on the development of an Ecosystem Approach to Fisheries (EAF) management plan in the Maldives under the BOBLME.</p>
<a href="#">GEF Blue and Green Islands IP/World Bank: Strengthening Biodiversity Conservation in Protected Areas (2025-30)</a>	<p>There will be opportunities for knowledge exchange on <b>options for coastal/marine management and financing</b>, relating these to food system resilience; and the project would <b>complement the protected area focus</b> of the BGI project under a whole-of-island approach.</p>
<a href="#">Green Climate Fund (GCF) project FP165: Building Climate Resilient Safer Islands in the Maldives (2021-28)</a>	<p>The project will build on and apply the <b>coastal resilience (EbA) approaches</b> developed under the GCF project, as relevant to food production areas</p>
<a href="#">UNDP Project for Developing Sustainable Agricultural Economy (PDSAE) (2021-24)</a>	<p>The project will build on the achievements of PDSAE in <b>strengthening local productivity of agricultural produce</b>, placing these within a food systems framework</p>
<a href="#">IFAD Maldives Agribusiness Program (2020-25)</a>	<p>The project will build on the achievements of these two programmes with the strengthening of agribusinesses, and apply them to <b>businesses based on resilient food systems</b></p>
<a href="#">USAID Maldives Enterprise Program (2023)</a>	
<a href="#">World Bank TransFORM Project</a>	<p>This project will <b>focus on coastal/reef fisheries</b>, complementing the focus of the World Bank project on ocean/tuna fisheries.</p>
<p>World Bank <a href="#">PROBLUE</a> programme</p>	<p>The <a href="#">Maldives Clean Environment Project</a> (MCEP) and the <a href="#">Maldives Enhancing Employability and Resilience of Youth</a> (MEERY) Project, under the PROBLUE programme, have been helping to develop a sustainable waste management system, build capacity, and teach youth to lay the groundwork for a cleaner and safer Maldives; this will contribute to this project by improving the overall health and resilience of the target ecosystems, and strengthening the capacities of youth to engage in resilience actions.</p>
<p>Asian Development Bank: <a href="#">Enhancing Climate Resilience and Food Security Project</a> (proposed grant)</p>	<p>The ADB project will support Maldives' efforts to build climate resilience focusing on the interlinkages between human settlement and agri-food systems. Outputs will include:</p> <ul style="list-style-type: none"> <li>- Capacity and awareness to plan, adapt, and respond to climate change strengthened.</li> <li>- Infrastructure for flood protection and nature-based solutions developed.</li> <li>- Solutions for improved resilience of islands agri-food production introduced.</li> </ul> <p>This project will complement the ADB investment by supporting an integrated, whole food system, ecosystem-based approach to food resilience.</p>
<p>Global Agriculture and Food Security Programme (GAFSP): <a href="#">Strengthening Agribusiness Producer Organizations in the Maldives through Enterprise Ecosystem Development and Deployment of Digital Solutions</a></p>	<p>The SCCF project will build upon the baseline of strengthened PO capacities and climate-smart technologies established by the GAFSP project, and apply knowledge learned through the project.</p>

## Core Indicators

Explain the methodological approach and underlying logic to justify target levels for Core and Sub-Indicators (max. 250 words, approximately 1/2 page)

### META INFORMATION – SCCF

LDCF <b>false</b>	SCCF-B (Window B) on technology transfer <b>false</b>	SCCF-A (Window-A) on climate Change adaptation <b>true</b>
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Is this project LDCF SCCF challenge program?

**false**

This Project involves at least one small island developing State(SIDS).

**true**

This Project involves at least one fragile and conflict affected state.

**false**

This Project will provide direct adaptation benefits to the private sector.

**true**

This Project is explicitly related to the formulation and/or implementation of national adaptation plans (NAPs).

**false**

This project will collaborate with activities begin supported by other adaptation funds. If yes, please select below

Green Climate Fund <b>true</b>	Adaptation Fund <b>false</b>	Pilot Program for Climate Resilience (PPCR) <b>false</b>
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This Project has an urban focus.

**false**

This project will directly engage local communities in project design and implementation

**true**

This project will support South-South knowledge exchange

**false**

This Project covers the following sector(s)[the total should be 100%]: \*

Agriculture	40.00%
Nature-based management	30.00%
Climate information services	10.00%
Coastal zone management	0.00%
Water resources management	0.00%
Disaster risk management	10.00%
Other infrastructure	5.00%
Tourism	5.00%
Health	0.00%
Other (Please specify comments)	0.00%
Total	100.00%

This Project targets the following Climate change Exacerbated/introduced challenges:\*



Sea level rise <b>true</b>	Change in mean temperature <b>true</b>	Increased climatic variability <b>true</b>	Natural hazards <b>true</b>
Land degradation <b>false</b>	Coastal and/or Coral reef degradation <b>true</b>	Groundwater quality/quantity <b>false</b>	

## CORE INDICATORS – SCCF

	Total	Male	Female	% for Women
CORE INDICATOR 1 Total number of direct beneficiaries	5,751	4,038.00	1,713.00	29.79%
CORE INDICATOR 2 (a) Area of land managed for climate resilience (ha) (b) Coastal and marine area managed for climate resilience (ha)	0.00 6,874.00			
CORE INDICATOR 3 Number of policies/plans/ frameworks/institutions for to strengthen climate adaptation	11.00			
CORE INDICATOR 4 Number of people trained or with awareness raised	4,026	2,617.00	1,409.00	35.00%
CORE INDICATOR 5 Number of private sector enterprises engaged in climate change adaptation and resilience action	5.00			

## Risks to Project Preparation and Implementation

Summarize risks that might affect the project preparation and implementation phases and what are the mitigation strategies the project preparation process will undertake to address these (e.g. what alternatives may be considered during project preparation—such as in terms of consultations, role and choice of counterparts, delivery mechanisms, locations in country, flexible design elements, etc.). Identify any of the risks listed below that would call in question the viability of the project during its implementation. Please describe any possible mitigation measures needed. (The risks associated with project design and Theory of Change should be described in the “Project description” section above). The risk rating should reflect the overall risk to project outcomes considering the country setting and ambition of the project. The rating scale is: High, Substantial, Moderate, Low.

Risk Categories	Rating	Comments
Climate	Low	As an LDCF project, climate risks are made explicit and built into project design. Attainment of project

		outcomes may only be affected if climatic conditions vary outside of the coping range that is designed for in the project.
Environment and Social	Moderate	There is some risk that sociocultural factors (such as external cultural influences determining food choices) may undermine the target population's commitment to sustainable and healthy diets.
Political and Governance	Low	The country is politically and socially stable: the World Bank gave a 0.5 rating for political stability in 2021 (where -2.5 is weak and +2.5 is strong; values from 2014-2021 have been within the range of 0.03 and 0.68) .
Macro-economic	Moderate	Given its strong reliance on food imports, the Maldives is highly exposed to global macro-economic conditions including price volatility and supply chain disruption. Recognition of this is built into project design.
Strategies and Policies	Low	The project is highly compatible with key Government strategies and policies
Technical design of project or program	Low	The proposed adaptation strategies have been widely tried and validated in similar conditions elsewhere, and/or will be subject to detailed technical analyses and participatory testing during project formulation and implementation.
Institutional capacity for implementation and sustainability	Low	The Government has successfully managed a number of other similar projects funded by GEF and other over recent years.
Fiduciary: Financial Management and Procurement	Low	The Government has successfully managed a number of other similar projects funded by GEF and other over recent years.

Stakeholder Engagement	Low	A detailed stakeholder engagement plan will be developed during project formulation, setting out how key stakeholders (especially community members) will be meaningfully engaged in both project formulation and implementation. This will also be a central tenet of the project's approach to technology definition and promotion, using the farmer/fisher field school approach.
Other		
Financial Risks for NGI projects		
Overall Risk Rating	Moderate	

### C. ALIGNMENT WITH GEF-8 PROGRAMMING STRATEGIES AND COUNTRY/REGIONAL PRIORITIES

Describe how the proposed interventions are aligned with GEF- 8 programming strategies and country and regional priorities, including how these country strategies and plans relate to the multilateral environmental agreements.

Confirm if any country policies that might contradict with intended outcomes of the project have been identified, and how the project will address this.

For projects aiming to generate biodiversity benefits (regardless of what the source of the resources is - i.e., BD, CC or LD), please identify which of the 23 targets of the Kunming-Montreal Global Biodiversity Framework the project contributes to and explain how. (max. 500 words, approximately 1 page)

- The project will be strongly aligned with the GEF Climate Change Adaptation Strategy by virtue of its focus on transformational adaptation of the multiple levels of the country's food system; the linkages that it promotes between the enhancement of adaptive capacity and sustainable development; its whole-of-society approach; and its alignment with the Healthy Planet, Healthy People framework.
- It will specifically be aligned with the SCCF Theory of Change, as it will:
  - Address in particular one of the priority issues set out in the SCCF problem statement: **climate change leading to severe adverse impact on SIDS**, which have limited access to finance.
  - Work at **multiple scales of intervention**, covering coastal areas and vulnerable regions, ecosystems, value chains, and enterprises.
  - Support the **adaptation priorities of SIDS**.
  - Result in **climate-resilient communities, ecosystems, value chains and regions**, particularly in SIDS.
  - Apply a **whole-of-society approach** for inclusive adaptation.

#### Policy coherence

1. The proposed project would respond to **national policy priorities**, as expressed in particular in the following policy instruments, as well as GEF's Climate Change Adaptation Strategy and the programming directions for the SCCF:

- The **Climate Emergency Act (Act no. 9/2021)** was passed by Parliament in April 2021, and ratified by the President in May 2021. The Climate Emergency Act is the overall climate policy act of the Maldives, and stipulates actions to address the climate emergency resulting from the swift acceleration of the severity of the repercussions from climate change. It introduces the legal structure and guidelines for

addressing issues and concerns related to climate change, including reporting, ensuring the sustainability of natural resources, overcoming negative impacts and allocation of funds for renewable energy sources.

- **Maldives Climate Change Policy Framework (MCCPF) 2015-2025:** the project is aligned with the recognition in the MCCPF of the inherent complexity of the climate change challenge; the need for multi-focal and cross-sectorial responses, designed and implemented in a coherent and coordinated way; and the fact that the resilience of the natural environment is key to coping with climate change, thus adaptation measures that enhance, maintain, and where necessary, restore, the integrity of ecological processes are essential for reducing vulnerability of both natural and physical systems.
- **National Fisheries and Agricultural Policy 2019-2029:** the project would contribute in particular to Pillar 1.1 of the NFAP, focused on ecological resilience, including Objectives 1.1.1 on the prioritization of environmentally sustainable fisheries and agriculture, and 1.1.2 on strengthening the management of reef fisheries; Pillar 2.2 on food security and nutrition; and Pillar 2.3 on community empowerment. The NFAP also contemplates inter-institutional coordination, including with the Ministry of Environment, in order to achieve its policy objectives.
- The **Pre-Summit Statement by the Minister of Agriculture to the 2021 United National Food Systems Summit (UNFSS)**, which emphasized reducing food import dependence; urban, school and community gardening; sustainable fisheries; locally grown food; sustainable and healthy consumption; traditional crops; and reducing food waste.
- The Maldives **Nationally Determined Contributions (NDC)** Document, updated in 2020, which emphasized food security and resilience through building public food reserves and stocks and expanding regional distribution mechanisms.
- The **National Adaptation Programme of Action (NAPA)**, of 2006, which emphasized addressing implications of climate change impacts on fisheries for food security and tourism-based livelihoods, a national food security strategy, trade agreements with other countries, emergency food storage capacity, increased local food production, trade in local food, improved agricultural land allocation, and traditional food preservation and storage.
- **National Biodiversity Strategy and Action Plan (NBSAP) 2016-2025**, the vision of which is “A nation of people that co-exist with nature and has taken the right steps to fully appreciate, conserve, sustainably use, and equitably access and share benefits of biodiversity and ecosystem services”. This is highly compatible with the project’s emphasis on ecosystem-based adaptation.

#### D. POLICY REQUIREMENTS

##### **Gender Equality and Women’s Empowerment:**

We confirm that gender dimensions relevant to the project have been addressed as per GEF Policy and are clearly articulated in the Project Description (Section B).

Yes

##### **Stakeholder Engagement**

We confirm that key stakeholders were consulted during PIF development as required per GEF policy, their relevant roles to project outcomes and plan to develop a Stakeholder Engagement Plan before CEO endorsement has been clearly articulated in the Project Description (Section B).

Yes

## Were the following stakeholders consulted during project identification phase:

Indigenous Peoples and Local Communities: Yes

Civil Society Organizations: Yes

Private Sector: Yes

## Provide a brief summary and list of names and dates of consultations

Consultations were held with sectoral stakeholders over the last one year and that has informed the PIF development. This includes consultations with Cooperatives, individual farmers and fisherfolk, local governments, state owned companies and private sector representatives working in proposed sector and sites. Consultations were also held with the government representatives on the thematic focus of the project, the project sites and proposed activities. The Government has further consulted the relevant Ministries and agencies in the identification of the project. More targeted consultations will be held as the project is further developed.

Some of the consultations are detailed below.

- Consultation with Addu Meedhoo Cooperative Society operative in the South of Maldives, August 2022, to discuss the potential for cooperative societies to work together to take advantage of agricultural market chains
- Consultation with Addu City Council in August 2022 to discuss the potential for agriculture to be developed commercially in the region
- Consultation with private farmers in Addu City in August 2022 to understand their willingness and concerns in operating commercially viable farms in the region
- Fishermens' day forum (held annually on December; in 2022 in GDh Atoll) to give information and discuss challenges being faced by fishermen across the country in their daily operations as well as sustaining their livelihoods
- Consultations with SMEs active in the fisheries sector was held in January 2023 to discuss enhancing competitiveness and private sector participation in improving the business climate for fisheries
- Consultations with domestic financial institutions in August 2022 to understand and address the issues in supporting SMEs in obtaining finance
- Consultations in August 2022 to understand the challenges in implementing business plans proposed by leased island holders in agriculture and mariculture sectors, and fish processing. These business plans were designed to contribute towards food security. These consultations included large as well as small and medium enterprises holding leased islands.
- Consultations held in November 2023 to inform stakeholders of the pest and disease outbreak in the coconut sector, and management techniques of coconut plantations. Impact of the climate change and how it exacerbates the spread of the pest and crop yield were discussed. Stakeholders included individual farmers, CSOs, NGOs, businesses engaged in the sector, and other development partners.

## Stakeholders

The project will work with stakeholders at a range of distinct levels, from central Government down to individual households, and spanning sectors. Stakeholders will include:

- The [Ministry of Environment, Climate Change and Technology](#) (home to the GEF political and operational focal points), the [Ministry of Fisheries, Marine Resources and Agriculture](#), the [Ministry of Tourism](#) and the [Ministry of Health](#) (regarding food and nutrition);
- Local governments (city, atoll, and island councils).
- Private businesses in the food sector (production, transport, processing, import and retail), and tourism sector.
- Smallholder farmers and coastal fisherfolk.

- Community-based organizations (including farmer, fisher, women, and youth organizations).

(Please upload to the portal documents tab any stakeholder engagement plan or assessments that have been done during the PIF development phase.)

## Private Sector

Will there be private sector engagement in the project?

Yes

And if so, has its role been described and justified in the section B project description?

Yes

## Environmental and Social Safeguard (ESS) Risks

We confirm that we have provided indicative information regarding Environmental and Social risks associated with the proposed project or program and any measures to address such risks and impacts (this information should be presented in Annex D).

Yes

### Overall Project/Program Risk Classification

PIF	CEO Endorsement/Approval	MTR	TE
Medium/Moderate			

## E. OTHER REQUIREMENTS

### Knowledge management

We confirm that an approach to Knowledge Management and Learning has been clearly described in the Project Description (Section B)

Yes

## ANNEX A: FINANCING TABLES

### GEF Financing Table

#### Indicative Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non-Grant	GEF Project Grant(\$)	Agency Fee(\$)	Total GEF Financing (\$)
FAO	SCCF-A	Maldives	Climate Change	SCCF-A Country allocation	Grant	2,639,726.00	250,774.00	2,890,500.00
<b>Total GEF Resources (\$)</b>						<b>2,639,726.00</b>	<b>250,774.00</b>	<b>2,890,500.00</b>

## Project Preparation Grant (PPG)

Is Project Preparation Grant requested?

true

PPG Amount (\$)

100000

PPG Agency Fee (\$)

9500

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non- Grant	PPG(\$)	Agency Fee(\$)	Total PPG Funding(\$)
FAO	SCCF-A	Maldives	Climate Change	SCCF-A Country allocation	Grant	100,000.00	9,500.00	109,500.00
<b>Total PPG Amount (\$)</b>						<b>100,000.00</b>	<b>9,500.00</b>	<b>109,500.00</b>

Please provide justification

## Sources of Funds for Country Star Allocation

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Sources of Funds	Total(\$)
<b>Total GEF Resources</b>					<b>0.00</b>

## Indicative Focal Area Elements

Programming Directions	Trust Fund	GEF Project Financing(\$)	Co-financing(\$)
CCA-2-1	SCCF-A	2,639,726.00	3000000
<b>Total Project Cost</b>		<b>2,639,726.00</b>	<b>3,000,000.00</b>

## Indicative Co-financing

Sources of Co- financing	Name of Co-financier	Type of Co- financing	Investment Mobilized	Amount(\$)
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Recipient Country Government	Ministry of Environment, Climate Change and Technology and Ministry of Fisheries, Marine Resources and Agriculture	In-kind	Recurrent expenditures	300000
<b>Total Co-financing</b>				<b>3,000,000.00</b>

Describe how any "Investment Mobilized" was identified

Not applicable. The project co-financing will be provided by the government in-kind through recurring expenditures from support provided to the project by Maldives government officials, office rental/space, and other in-kind support.

## ANNEX B: ENDORSEMENTS

### GEF Agency(ies) Certification

GEF Agency Type	Name	Date	Project Contact Person	Phone	Email
GEF Agency Coordinator	Jeffrey Griffin	10/17/2023	Lianchawii Chhakchhuak	91-9911340441	lianchawii.chhakchhuak@fao.org

### Record of Endorsement of GEF Operational Focal Point (s) on Behalf of the Government(s):

Name	Position	Ministry	Date (MM/DD/YYYY)
Ms. Miruza Mohamed	Director, Environment Management and Conservation Department	Ministry of Climate Change and technology	11/13/2023

## ANNEX C: PROJECT LOCATION

Please provide geo-referenced information and map where the project interventions will take place

The project will focus specifically on the southern atolls of Maldives, namely **Laamu, Gaafu Alifu, Gaafu Dhaalu, Gnaviyani and Seenu Atolls.**

The geo coordinates for the above sites are 72.982322 E, 0.709680 S to 73.591819 E, 2.136589 N



## Land cover (2022) Maldives

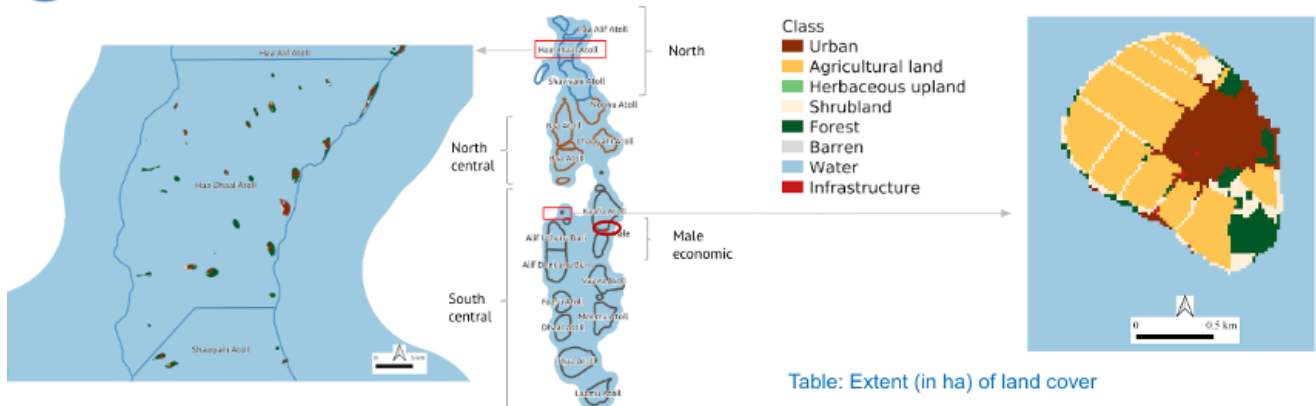


Figure: Spatial extent of land cover class in Maldives. The land cover legends were obtained from Fallati et. al (2017), and the land cover map was obtained by combining ESRI land cover (2022) and Open Street Map datasets (2022). The administrative boundary of regions (admin 1) were obtained from UNOCHA-HDX (2021), which was used to aggregate the land cover statistics.

Table: Extent (in ha) of land cover

Class/Region	Urban	Agriculture	Herbaceous upland	Shrubland	Forest	Barren	Water	Infrastructure	Land area
Male Economic	125.7	0.0	2.8	26.2	0.0	0.0	23.3	8.0	162.7
North	735.7	32.6	1.8	1 207.3	3 081.9	70.9	319 385.2	5.5	5 135.7
North Central	529.6	28.7	4.2	1 475.6	1 853.6	94.4	434 181.2	7.6	3 993.7
South	958.4	86.0	69.0	1 826.8	1 639.6	172.8	364 680.4	16.0	4 768.5
South Central	1	9.8	64.5	2 398.1	2 514.2	304.4	1111 011.0	224.2	6 632.2
South	3								
<b>Total</b>	<b>466.5</b>	<b>157.2</b>	<b>142.2</b>	<b>6 934.0</b>	<b>9 089.3</b>	<b>642.4</b>	<b>2 229 281.1</b>	<b>261.3</b>	<b>20 692.8</b>

## Land cover of Laamu Atoll, Maldives (2022)

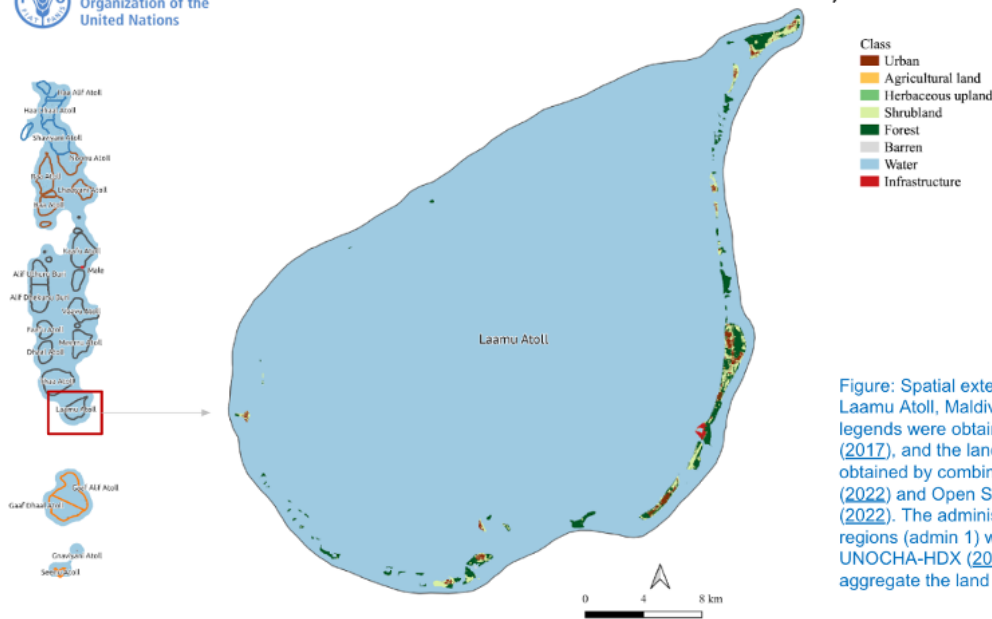


Figure: Spatial extent of land cover class in Laamu Atoll, Maldives. The land cover legends were obtained from Fallati et. al (2017), and the land cover map was obtained by combining ESRI land cover (2022) and Open Street Map datasets (2022). The administrative boundary of regions (admin 1) were obtained from UNOCHA-HDX (2021), which was used to aggregate the land cover statistics.



## Land cover of Gaaf Alif and Gaaf Dhaal Atoll, Maldives (2022)



Figure: Spatial extent of land cover class in Gaaf Alif and Gaaf Dhaal Atoll, Maldives. The land cover legends were obtained from Fallati et. al (2017), and the land cover map was obtained by combining ESRI land cover (2022) and Open Street Map datasets (2022). The administrative boundary of regions (admin 1) were obtained from UNOCHA-HDX (2021), which was used to aggregate the land cover statistics.



## Land cover of Gnaviyani Atoll, Maldives (2022)

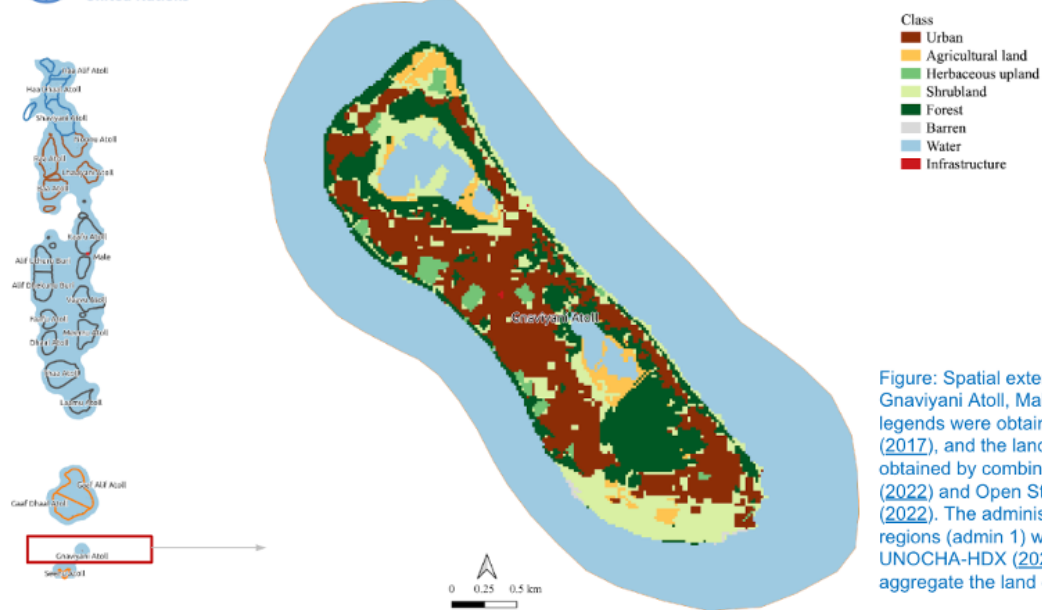


Figure: Spatial extent of land cover class in Gnaviyani Atoll, Maldives. The land cover legends were obtained from Fallati et. al (2017), and the land cover map was obtained by combining ESRI land cover (2022) and Open Street Map datasets (2022). The administrative boundary of regions (admin 1) were obtained from UNOCHA-HDX (2021), which was used to aggregate the land cover statistics.

### ANNEX D: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING

(PIF level) Attach agency safeguard screen form including rating of risk types and overall risk rating.

Title

Full ES Risk Screening checklist for project 747888 Nov 20

ANNEX E: RIO MARKERS

Climate Change Mitigation	Climate Change Adaptation	Biodiversity	Land Degradation
Significant Objective 1	Principal Objective 2	Significant Objective 1	No Contribution 0

ANNEX F: TAXONOMY WORKSHEET

*The taxonomy worksheet is uploaded in the roadmap page*