May 29, 2018

Dear LDCF/SCCF Council Member,

I am writing to notify you that we have today posted on the GEF’s website at www.TheGEF.org, a Project Identification Form (PIF) for a full-sized project proposal from FAO entitled Cambodia: Climate Adaptation and Resilience in Cambodia’s Coastal Fishery Dependent Communities (GEF ID : 9201), for funding under the Least Developed Countries Fund (LDCF). This PIF has been posted for Council approval by mail. Council Members are invited to review the PIF and to submit their comments (in Word file) to the GEF Secretariat’s program coordination registry at gcoordination@TheGEF.org by June 26, 2018.

Following the streamlined procedures for processing LDCF proposals, Council members are invited to approve the following decision:

The LDCF/SCCF Council reviewed the PIF entitled Cambodia: Climate Adaptation and Resilience in Cambodia’s Coastal Fishery Dependent Communities (GEF ID : 9201) (LDCF Project Grant $4,350,000) (Agency Fee $413,250), posted on May 29, 2018 and approves it on a no objection basis subject to the comments submitted to the Secretariat by June 26, 2018.

The Council finds that the PIF (i) is, or would be, consistent with the Instrument and GEF policies and procedures, and (ii) maybe endorsed by the CEO for final approval by the GEF Agency, provided that the final project document fully incorporates and addresses the Council’s and the STAP reviewer’s comments on the PIF, and that the CEO confirms that the project continues to be consistent with the Instrument and GEF/LDCF/SCCF policies and procedures.

The final project document will be posted on the GEF website for information after CEO endorsement. If the GEF CEO determines that there has been a major change to the present scope and approach since PIF approval, the final project document shall be posted on the web for Council review for four weeks prior to CEO endorsement.

In accordance with this decision, if the Secretariat has not heard from you in writing by June 26, 2018 we will assume that you approve the PIF.

Sincerely,

Naoko Ishii
Chief Executive Officer and Chairperson

Copy to: Country Operational Focal Point, Alternates, GEF Agencies, STAP, Trustee
**A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES**

<table>
<thead>
<tr>
<th>Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs)</th>
<th>Trust Fund</th>
<th>GEF Project Financing</th>
<th>Co-financing</th>
</tr>
</thead>
<tbody>
<tr>
<td>LDCF Objective 1: Reduce the vulnerability of people, livelihoods, physical assets and natural systems to the adverse effects of climate change</td>
<td>LDCF</td>
<td>3,507,000</td>
<td>13,715,000</td>
</tr>
<tr>
<td>LDCF Objective 2: Strengthen institutional and technical capacities for effective climate change adaptation</td>
<td>LDCF</td>
<td>525,000</td>
<td>1,531,005</td>
</tr>
<tr>
<td>LDCF Objective 3: Integrate climate change adaptation into relevant policies, plans and associated processes</td>
<td>LDCF</td>
<td>318,000</td>
<td>774,995</td>
</tr>
</tbody>
</table>

**Total Project Cost**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4,350,000</td>
</tr>
<tr>
<td></td>
<td>16,021,000</td>
</tr>
</tbody>
</table>

**B. INDICATIVE PROJECT DESCRIPTION SUMMARY**

**Project Objective:** Coastal fishery dependent communities adapt to climate change through strengthening coastal ecosystem and adapting their livelihoods.

<table>
<thead>
<tr>
<th>Project Components</th>
<th>Financing Type</th>
<th>Project Outcomes</th>
<th>Project Outputs</th>
<th>Trust Fund</th>
<th>GEF Project Financing</th>
<th>Co-financing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Capacity development</td>
<td>TA</td>
<td>1. National and provincial capacity to support adaptation to climate change is enhanced along coastal areas. Possible indicators (actual indicator to be selected during formulation phase, including selection of AMAT indicators): i. Provincial, district and commune governments understanding of impacts of climate change. Target: 100% increase during</td>
<td>1.1 Assessment of the vulnerability of the coastal fishing communities to climate change and of the potential socio-economic impacts (including assessment of mangrove ecosystems). This will build on, not duplicate, previous assessments. 1.2. Joint (FiA/MoE) strategy to support Protected Area Communities and Fishing Communities as they adapt to climate change in coastal areas. This will</td>
<td>LDCF</td>
<td>500,000</td>
<td>950,000</td>
</tr>
</tbody>
</table>

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1. Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.
2. When completing Table A, refer to the excerpts on GEF 6 Results Frameworks for GEF, LDCF and SCCF.
3. Financing type can be either investment or technical assistance.
ii. Level of government funding allocated to climate change adaptation actions in coastal areas. Target: 100% increase through CDP or CIP during lifetime of project.

iii. Level of collaboration between national ministries in providing support to fishing communities. Target: full collaboration across the four coastal provinces, measured through common maps and workplans.

include clearer definition of zones, improved maps and clearer rules and regulations. This will also include financial models.

1.3 Technical guidelines on (i) how to implement mangrove/coastal habitat friendly aquaculture and (ii) how to restore coastal habitat and replant mangroves along Cambodian coast.

1.4 Government technical staff trained in climate-sensitive fisheries and mangrove/coastal habitat restoration in fisheries and environment units at commune, district and provincial levels across the four coastal provinces.

1.5 Measures to adapt marine fishery communities to climate change integrated into Commune Development Plans (CDP) and Commune Investment Plans (CIP) for coastal communes.
| 2. Sustainable ecosystem management | TA | 2. Mangrove ecosystems in protected areas provide increased protection against climate change and provide enhanced livelihoods for communities using protected area natural resources. Possible indicators (actual indicator to be selected during formulation phase, including selection of AMAT indicators):

i. Confidence of Protected Area Communities in their own ability to adapt to climate change. Target: 100% increase during lifetime of project.

ii. Area of healthy mangroves inside protected areas. Target: 11,000 hectares.

iii. Revenue of the members of the Protected Area Communities. Target: figure to be determined. | 2.1 Six Protected Area Communities in the three coastal protected areas have fully completed the Community Protected Area Management Plan (CPAMP) approval process;

2.2 In line with the approved CPAMPs, 65 hectares of mangrove sustainably planted (inside protected areas), as a measure to increase ecosystem resilience;

2.3 In line with the approved CPAMPs, 11,000 hectares of existing coastal mangrove ecosystems protected and naturally regenerating (inside protected areas), as measures to increase ecosystem resilience;

2.4 In line with the approved CPAMPs, a series of other outputs that increase the climate resistance of the 10,000 persons. This will notably include collaborative management and benefit sharing activities - with at least some activities inside protected areas - to ensure livelihoods are adapted to climate change;

2.5 In line with the approved CPAMPs, coastal protection measures implemented. | LDCF | 1,670,000 | 6,500,000 |
<table>
<thead>
<tr>
<th>3. Fishing community adaptation capacity</th>
<th>TA</th>
<th>3. Community Fisheries have increased capacity to adapt to the impacts of climate change.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possible indicators (actual indicator to be selected during formulation phase, including selection of AMAT indicators):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Number of Community Fisheries actively implementing Community Fishery Area Management Plans (CFAMP) in line with the Fishery Law Target: at least 35.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii. Food security of the members of the Community Fisheries. Target: figure to be determined.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii. Area in hectares of healthy mangroves (outside protected areas). Target: figure to be determined.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1 All fishery Communities fully complete the Community Fishing Area Management Plans approval process (CFAMP).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.2 In line with the approved CFAMPs, 500 hectares of coastal mangrove sustainably planted or naturally regenerating (outside protected areas), as a measure to increase ecosystem resilience;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.3 In line with the approved CFAMPs, 10,000 fishermen/women adopt climate resilient fishery practices and technologies.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.4 In line with the approved CFAMPs, a series of other outputs that increase the climate resistance of 20,000 fishermen/women (both members and non-members of communities). This will include support to engaging in improved livelihood activities, to ensure livelihoods are adapted to climate change.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.5 In line with approved CFAMPs, medium-sized mangrove-friendly aquaculture investments implemented. These will be providing climate adapted livelihoods to local communities, thereby increasing resilience.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LDCF</td>
<td>1,670,000</td>
<td>7,360,000</td>
</tr>
</tbody>
</table>
4. Knowledge management  
4. Monitoring and evaluation and information dissemination

4.1 System for systematic collection of field-based data to monitor project outcome indicators;

4.2 Strengthened system for the storage and free dissemination of data and information and lessons learnt related to adaptation in coastal areas;

4.3 Mid-term and final evaluations;

4.4 Project-related “best-practices” and “lessons-learned” for enhanced adaptation to climate risk are disseminated via publications, project website and others.

<table>
<thead>
<tr>
<th></th>
<th>TA</th>
<th>4. Monitoring and evaluation and information dissemination</th>
<th>LDCF</th>
<th>302,857</th>
<th>738,000</th>
</tr>
</thead>
</table>

Subtotal | 4,142,857 | 15,548,000 |

Project Management Cost (PMC) | LDCF | 207,143 | 473,000 |

Total Project Cost | 4,350,000 | 16,021,000 |

For multi-trust fund projects, provide the total amount of PMC in Table B, and indicate the split of PMC among the different trust funds here: ( )

C. INDICATIVE SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE

<table>
<thead>
<tr>
<th>Sources of Co-financing</th>
<th>Name of Co-financier</th>
<th>Type of Co-financing</th>
<th>Amount ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recipient Government</td>
<td>Fisheries Administration</td>
<td>In-kind and Cash</td>
<td>2,100,000</td>
</tr>
<tr>
<td>Recipient Government</td>
<td>Ministry of Environment</td>
<td>In-kind</td>
<td>1,000,000</td>
</tr>
<tr>
<td>GEF Agency</td>
<td>FAO</td>
<td>Cash</td>
<td>150,000</td>
</tr>
<tr>
<td>Donor Agency</td>
<td>ADB/PPCR</td>
<td>Cash</td>
<td>8,000,000</td>
</tr>
<tr>
<td>Private Sector</td>
<td>Hon Giang Aquaculture Co., Ltd</td>
<td>Cash</td>
<td>2,000,000</td>
</tr>
<tr>
<td>BU – AFD</td>
<td>CapFish programme (Aquaculture Component)</td>
<td>Cash</td>
<td>2,330,000</td>
</tr>
<tr>
<td>Inter-governmental organizations</td>
<td>SEAFDEC Sida project</td>
<td>Cash</td>
<td>400,000</td>
</tr>
<tr>
<td>ECHO donor, via NGO</td>
<td>People In Need (PIN) – The project to boost disaster resilience in Cambodia</td>
<td>Cash</td>
<td>41,000</td>
</tr>
</tbody>
</table>

Total Co-financing | 16,021,000 |

D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES) AND THE PROGRAMMING OF FUNDS

<table>
<thead>
<tr>
<th>GEF Agency</th>
<th>Trust Fund</th>
<th>Country/Regional/Global</th>
<th>Focal Area</th>
<th>Programming of Funds</th>
<th>GEF Project Financing (a)</th>
<th>Agency Fee (b)</th>
<th>Total (c)=a+b</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAO</td>
<td>LDCF</td>
<td>Cambodia</td>
<td>Climate Change</td>
<td>Cross-Cutting Capacity</td>
<td>4,350,000</td>
<td>413,250</td>
<td>4,763,250</td>
</tr>
</tbody>
</table>

4 For GEF Project Financing up to $2 million, PMC could be up to 10% of the subtotal; above $2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.
E. PROJECT PREPARATION GRANT (PPG)\(^5\)
Is Project Preparation Grant requested? Yes ☑ No □ If no, skip item E.

PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS

<table>
<thead>
<tr>
<th>GEF Agency</th>
<th>Trust Fund</th>
<th>Country/Regional/Global</th>
<th>Focal Area</th>
<th>Programming of Funds</th>
<th>(in $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAO</td>
<td>LDCF</td>
<td>Cambodia</td>
<td>Climate Change</td>
<td>(select as applicable)</td>
<td>150,000</td>
</tr>
<tr>
<td></td>
<td>(select)</td>
<td></td>
<td>(select)</td>
<td>(select as applicable)</td>
<td>14,250</td>
</tr>
<tr>
<td></td>
<td>(select)</td>
<td></td>
<td>(select)</td>
<td>(select as applicable)</td>
<td>164,250</td>
</tr>
</tbody>
</table>

Total PPG Amount: 150,000 + 14,250 = 164,250

part ii: Project Justification

1. Project Description

1.1 Context

a) The coastal area in Cambodia

The Kingdom of Cambodia covers 181,035 km\(^2\) in mainland Southeast Asia. Cambodia is one of the least developed countries and an estimated sixty-percent of Cambodia’s population lives either below or just above the national poverty line. The country’s population continues to grow rapidly and now exceeds 15 million, with a density of roughly 75 people per km\(^2\). According to the World Food Programme, Cambodia has one of the highest malnutrition rates in Asia with 44 percent of children aged five years having stunted growth and development.\(^7\)

The Cambodian coastline extends along the north-east of the Gulf of Thailand between the Thai and Vietnamese borders. It is approximately 435 km long and consists of estuaries, bays and 69 islands. The coastal zone includes parts of the following four provinces: Sihanoukville, Kampong, Koh Kong, and Kep\(^8\) (see map in Annex 1). Along these four provinces, marine resources and habitat cover 2,806 hectares of fringing coral reefs, 78,405 hectares of mangrove forest and 33,814 hectares of seagrass (MPP, 2013\(^8\)). The annual economic value of seagrasses alone in Cambodia is estimated to be US$1,186 per hectare, equivalent to about US$40 million of the whole seagrass area (ibid).

The coastal and marine ecosystems include mangrove forests, coral reefs, seagrass beds, salt marshes and estuaries. These are all extremely important to Cambodia’s economic development as well as to the livelihoods of the local communities. According to a coastal study undertaken by the ADB in 2000, in financial terms, the benefits of the coastal and marine biodiversity to the local communities is an estimated USD12 million annually together with economic value of 100 million USD annually for fisheries export (SPF 2010-2019).\(^9\)

The following Table provides an estimate of the population in the coastal communes in the four provinces (MoP, 2015).

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5 PPG requested amount is determined by the size of the GEF Project Financing (PF) as follows: Up to $50k for PF up to $2m (for MSP); up to $100k for PF up to $3m; $150k for PF up to $6m; $200k for PF up to $10m; and $300k for PF above $10m. On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

6 PPG fee percentage follows the percentage of the Agency fee over the GEF Project Financing amount requested.

7 Source: FAO/LDCF project – “Strengthening the adaptive capacity and resilience of rural communities using micro-watershed approaches to climate change and variabilty to attain sustainable food security in Cambodia”.

8 Source: UNEP/LDCF project – “Vulnerability Assessment and Adaptation Programme for Climate Change within the Coastal Zone of Cambodia Considering Livelihood Improvement and Ecosystems”.


The coastal population in the four provinces is estimated to be approximately 270,000. All these people are to some extent dependent on fisheries and on the sustainable harvesting of other marine/coastal resources. Other socio-economic activities in coastal areas include agriculture, livestock-raising, construction (often through migration to urban areas) and small-scale tourism and recreation. Tourism has been growing rapidly in recent years – if this growth continues it may become a major employer in coastal areas as well as a source of livelihoods.

The population consists almost entirely of Khmer. In coastal areas, the Cham ethnic group constitutes a sizeable minority (circa 10-20%). There is little difference between these groups in terms of socio-economic activities or conditions. In terms of gender, both women and men are involved in fishery activities, although to some extent the men devote more time to fishing at sea, whereas the women devote more time to processing and trading sea products. The Cham ethnic group in this area are largely Muslim, while the majority of Khmer are Buddhists.

b) Climate variability and climate change

Cambodia is located at latitudes 10-14° north of the equator and it experiences a tropical monsoon climate. Average temperatures are relatively uniform across the country, and are highest (around 26 to 30°C) in the early summer months before the rainy season begins. Temperatures remain at 25 to 27°C throughout the rest of the year. The wet season arrives with the summer monsoon, in May through to November. The heaviest rainfall is in the Southeast and Northwest - mean monthly rainfall at this time of year can be more than 500mm in some areas.

Inter-annual variations in climate are caused by the El Niño Southern Oscillation (ENSO). El Niño episodes influence the behaviour of the monsoons in this region, and generally bring warmer and drier than average winter conditions across south-east Asia, whilst La Niña episodes bring cooler than average summers. Seasonality in rainfall can result in variability in water supplies with flooding in the wet season and water shortages in the dry season.

Global climate change is expected to cause climate changes in the region. The key projections related to climate change are:

- **Temperature**: the mean annual temperature is projected to increase by 0.7 to 2.7°C by the 2060s, and by 1.4 to 4.3°C by the 2090s;
- **Rainfall**: the different models are broadly consistent in indicating increases in mean annual rainfall. This increase is mainly due to the projected increases in the wet season, JJA (June, July, August) 14% (−11 to +31%) by the 2090s) and SON (September, October, November) 15% (−8 to +42%) by the 2090s. Increases in annual rainfall are partially offset by projected decreases

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11 Note: Kep's fishery communities remain under the supervision of the fishery cantonment of Kampot following the former management structure when Kep was still part of Kampot.
12 Assumes average household size of 4.7 (World Health Organization, 2013).
13 Source: UNDP Climate Change Country Profiles, Cambodia (see http://country-profiles.geog.ox.ac.uk)
14 June, July, August
15 September, October, November

GSF 6 PIF Template-January2015
Sea level: Combined with a decline in mangrove area and in increase in the frequency of storms and surges, Cambodia’s coastline are increasingly vulnerable to climate change induced sea-level rise. Climate models project the sea-level in this region to rise by the following levels by the 2090s (relative to 1980-1999): 0.18 to 0.43m under SRES B1; 0.21 to 0.52m under SRES A1B and 0.23 to 0.56m under SRES A2.

In terms of tackling challenges associated with climate change, Cambodia is one of the most vulnerable countries in the region given its low adaptive capacity. There are major issues pertaining to required technical knowledge and sustainable coastal natural resource use, which alongside poverty, call for improved coastal resource management models and measures enhancing community climate resilience.

c) Coastal and Mangrove ecosystems and trends

Natural ecosystems of mangroves, coral reefs and seagrass beds all provide a wide range of services to Cambodia — for example for fishing and critical food resources, coastal protection, tourism and biodiversity. They also provide important natural habitats essential to sustaining the marine fisheries of Cambodia. There is a strong inter-relationship between ecosystem health and human livelihoods in the coastal zone: on the one hand coastal ecosystems support human well-being through the wide range of services they offer, in return, ecosystems also need to be maintained and protected if they are to continue to provide essential services to humankind.

The distribution (in hectares) of mangroves, seagrass and coral reefs across the four coastal provinces is shown in the following table.

<table>
<thead>
<tr>
<th>Province</th>
<th>Area of mangrove (ha)</th>
<th>Area of sea-grass (ha)</th>
<th>Area of coral reef (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kampot</td>
<td>1,900</td>
<td>25,240</td>
<td>953</td>
</tr>
<tr>
<td>Kep</td>
<td>1,005</td>
<td>3,095</td>
<td>52.5</td>
</tr>
<tr>
<td>Sihanoukville</td>
<td>13,500</td>
<td>1,486</td>
<td>1,198</td>
</tr>
<tr>
<td>Koh Kong</td>
<td>62,000</td>
<td>3,993</td>
<td>602</td>
</tr>
<tr>
<td>SUBTOTAL</td>
<td>78,405</td>
<td>33,814</td>
<td>2,805.5</td>
</tr>
</tbody>
</table>

Trends: Available official data suggests that Cambodia’s coastal ecosystems are being severely impacted by both anthropogenic and climate change threats. By example, mangroves declined from about 85,100 hectares to 78,405 hectares of mangroves during the ten year period up till 2010, a loss of approximately 8%. The unmanaged exploitation (e.g. for charcoal) and conversion of mangrove areas (e.g. into shrimp farms and settlement due to population growth) have adversely impacted mangrove habitat and its productivity to protect against storms. According to FAO, the area of mangrove may have declined even more quickly and is accompanied by the degradation of the remaining mangrove areas. The situation is further challenged by ad hoc coastal development, (notable in all, and especially in Preah Sihanouk province) and a lack of coordination between line agencies and departments responsible for coastal management. Seagrass beds have also undergone extensive destruction due to both rapid coastal development and illegal fishing methods (notable in all, and especially Kep province). Destruction and degradation of these natural coastal habitats results in a loss of breeding, spawning, nursery and feeding grounds for many marine species, leading to a reduction in fish stocks and other coastal and marine fauna and flora and to serious impacts on human well-being. The conservation and management of mangroves, coral reefs and seagrass beds are therefore vital to the sustainable management of coastal and marine fisheries and to ensure Cambodia’s people continue to gain economic, cultural and nutritional benefit from the natural resources.

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16 December, January, February
18 Figures for 2007
1.2 Problems to be Addressed and Vulnerability to Climate Change

1.2.1 Direct challenges faced by communities

A review of recent literature complemented by a rapid consultation of the key stakeholders revealed the following list of challenges faced by the coastal communities, as perceived by the community members themselves:

- Loss and degradation of mangrove ecosystems;
- Limited and declining access to freshwater for domestic and agricultural use;
- Sea water intrusion;
- Storms damaging land and threatening at-sea fishing activities;
- Declining fish catch and the need for increased effort;
- Poor infrastructure, for example electricity supply and water supply and sanitation;
- Expansion of urban land and land-grabbing due to ad hoc coastal development;
- Level of individual debts (to micro-finance organizations).

It is important to note that these issues vary in detail and intensity from site to site, and from village to village. A more thorough and systematic analysis is necessary in the PPG phase to inform the project’s baseline and full design of project activities.

As seen in the later sections, climate change is a root cause under many of these challenges. To the extent that climate change is a root cause, LDCF funds will be used to complement baseline to reduce the scale of the challenge.

1.2.2 Contribution of Climate Change to these challenges

Climate variability and climate change is one of the root causes of many of the challenges facing coastal populations listed in the previous section. Climate variability/change is directly contributing to the destruction and modification of ecosystems, to salt water intrusion, to storms (at-sea and on-land) and to water shortages. Cambodia already faces salinization of land surface and groundwater, impacting freshwater ecosystems and the fertility of farming areas, and climate changes will serve to amplify these issues as well as coastal erosion. As most agriculture is also located in low lying and flood prone coastal areas, these changes also pose threats to food security and livelihood resilience.

Climate variability/change may also be contributing indirectly to the declining fish catches reported, and the need for improved infrastructure. Climate variability can majorly affect fish distributions, migration and production in sensitive species (e.g. via increased sea surface temperatures and ocean acidification). There are also indirect effects increasingly being understood through ecosystem level changes that affect trophic webs and may result in shifts in species compositions. While these impacts are beginning to be understood for inland Cambodian fisheries and aquaculture, Cambodia does not yet have a marine fishery monitoring system capable of tracking coastal fishery catches and impacts. As climate change increases over the coming years, the threat to ecosystems and livelihoods will increase. As a result, the coastal communities dependent on fisheries are highly vulnerable to climate change. Given their high dependence on natural resources, direct exposure to climate vectors (i.e. storms, sea level rise and changing rainfall), overall poverty and lack of adaptive capacity, remoteness and marginalization, all these factors combine to lead to very high levels of vulnerability. This finding was confirmed through the vulnerability assessments undertaken as part of Cambodia’s Second National Communication. It is imperative that strategies are put in place now identify, monitor and minimize negative impacts and address harmful and unsustainable coastal zone activities. Until recently, local resilience and coping mechanisms have more or less managed to keep pace with the impacts of climate change. However, projected climate change (notably changing rainfall patterns and sea level rise) are likely in the coming decades, and are expected to increasingly contribute to: the further destruction of mangroves, increased salinization of waters and land, increased storms over fishing areas, less supply of freshwater, and changed composition in

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19 Cambodia’s Second National Communication is in draft form and is not yet approved. These findings were based on personal communications and presentations made available to the FAO project design team.
near shore coastal waters. In turn, each of these is likely to exacerbate the socio-economic challenges facing Cambodia’s coastal communities.

Climate change also has a distinct gender dimension in that women are more exposed to the adverse direct and indirect impacts of climate change. They have less adaptive options and are often involved in activities that are more dependent on climate vulnerable inputs. They also tend to deal with the health effects of climate change. Moreover, women traditionally tend to have less influence over decisions, including decisions related to climate change adaptation.

Finally, one important aspect of climate change is the high levels of uncertainty. Although there is wide recognition of its impact and importance, there is little scientific data or understanding. Climate change is mentioned as a major threat in almost all government policy and planning documents. However, there is little analysis or data as to how climate change will affect Cambodia’s coastal ecosystems in terms of temperature, chemical composition, ecosystem composition, ecosystem health or hydrological circles. Moreover, there is no scientific analysis as to how this will impact socio-economic development. Hence there is currently little scientific basis for planning adaptation to climate change.

### 1.2.3 Other root causes of the challenges facing the communities

In all cases, climate variability/change combines with, or superimposes upon, other root causes to form the challenges to the local communities. An initial analysis of the challenges faced by local communities led to the following ‘root cause’ assessment:\(^{20}\)

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Root causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss and degradation of mangrove ecosystems</td>
<td>• Climate change (due to changed rainfall and storms);</td>
</tr>
<tr>
<td></td>
<td>• To create land for houses and for agriculture. This is linked to strategies to claim ownership over land from its agricultural use, and to national policies that promote agricultural production;</td>
</tr>
<tr>
<td></td>
<td>• To collect wood for sale;</td>
</tr>
<tr>
<td></td>
<td>• To collect coral for sale;</td>
</tr>
<tr>
<td></td>
<td>• To develop incompatible small-medium private sector investments (e.g. recreation resorts or aquaculture);</td>
</tr>
<tr>
<td></td>
<td>• To develop medium-large scale private sector investments (e.g. ports or oil refineries);</td>
</tr>
<tr>
<td></td>
<td>• Construction of dykes/water-gates to hold freshwater for irrigation changing hydrological balance of ecosystems;</td>
</tr>
<tr>
<td></td>
<td>• Conversion into salt farms;</td>
</tr>
<tr>
<td></td>
<td>• Changed upstream hydrological network (dams).</td>
</tr>
<tr>
<td>Access to freshwater</td>
<td>This is a natural problem greatly exacerbated by climate change. Traditionally, in dry season, there is a need to bring water from higher grounds via a middle man.</td>
</tr>
<tr>
<td>Sea water intrusion</td>
<td>This phenomenon is greatly exacerbated by loss of mangroves and sea level rise (climate change), ad hoc coastal development, the depletion of groundwater resources as well as mangrove clearing (e.g. for agriculture).</td>
</tr>
<tr>
<td>Storms damaging land</td>
<td>This is also a natural phenomenon greatly exacerbated by loss of mangroves and by sea level rise (climate change).</td>
</tr>
<tr>
<td>Unpredictable storms and strong winds threatening at-sea fishing activities</td>
<td>This is in part caused by climate change.</td>
</tr>
<tr>
<td>Declining fish catch and the need for increased effort</td>
<td>• It is observed that some species are becoming mature at a smaller size (e.g. a species of swimming crab) – which might be caused by climate change;</td>
</tr>
<tr>
<td></td>
<td>• Loss of fish ecosystem/habitats – in part due to climate change;</td>
</tr>
<tr>
<td></td>
<td>• Population growth;</td>
</tr>
<tr>
<td></td>
<td>• Increased market demand, e.g. from tourism;</td>
</tr>
<tr>
<td></td>
<td>• Unsustainable fishery practices (using the wrong nets, using illegal nets and</td>
</tr>
</tbody>
</table>

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\(^{20}\) Again, it is noted that this is based on a preliminary analysis. Further, details will vary greatly from site to site. One key factor is population pressure, in areas with higher population density and tourist activities, the types of root causes are different.
<table>
<thead>
<tr>
<th>Challenge</th>
<th>Root causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor infrastructure (electricity, WSS, dyke, ....)</td>
<td>The remotesness of the area makes infrastructure costly. The need to <code>climate proof</code> investments makes these more costly. This is further exacerbated by the high poverty levels. Moreover, poor priority setting at commune and district level exacerbate this problem.</td>
</tr>
<tr>
<td>Debts (to micro-finance, to middle-men, and to NGOs)</td>
<td>The low income due to limited economic activities and to a high dependence on one sector (fishing); No financial management capacity.</td>
</tr>
</tbody>
</table>

1.2.4 Cross-cutting issues

In addition to the above perceived challenges and root causes, there are some cross-cutting issues which were revealed through stakeholder analysis and policy review. One such key issue is the weak coordination and collaboration across sectors. This is recognized to be a barrier to all efforts to support sustainable development in coastal areas. Notably the agencies responsible for environment, fisheries and forestry each implement their own work programmes, and therefore miss opportunities to generate synergies, and to avoid overlaps, coordinate to address important gaps. A starting point in this is the lack of jointly agreed maps and agreement on the boundaries of the types of land subject to different land management regimes.

A second issue that is recognized to underlie all other challenges is the lack of clarity and transparency with regards to land ownership and land-use rights, and the weak conflict resolution processes. Registering land-ownership and obtaining permission for land-use both require complex approval processes that involve many government actors at several levels. Hence, there is a high risk of competing claims for the same land, both equally valid. As a result, there is a high risk that powerful economic forces dominate the land ownership and land-use conflicts, through both legal and extra-legal channels. Further, even when land use or land ownership is sufficiently clear on paper, in practice the lack of accurate, up-to-date maps and signboards mean that both short-term and long-term trespassing is common. These issues also affect land that is covered, or was previously covered, by mangroves. It also affects coastal areas that have been identified for use in community fishing. Until present, the only long-term solutions to these challenges were through lengthy consultation processes driven by the grassroots and involving several government agencies.

1.3 Current Response and Baseline Scenario

In the baseline, a range of policy, legal and technical measures, and investments, are being undertaken to support coastal communities. The current response focusses mostly on the root causes and challenges without accounting for climate change.

1.3.1 The policy and legal framework

Overall development in Cambodia is guided through the Rectangular Strategy, which is currently in its third Phase. The Rectangular Strategy III specifically mentions the importance of ‘adapting to climate change, and developing coastal fisheries and sustainably managing mangroves.’ Under the Rectangular Strategy III, specific policies, national plans and laws address each of these issues in turn.

Many key policies are expressed through the Fisheries Law and the Protected Area Law. Further, policy objectives are expressed in the following national plans: National Biodiversity Strategy and Action Plan, The Strategic Planning Framework for Fisheries (2010 – 2019); the updated Strategic Planning Framework for Fisheries 2010-2024 (SPF); and the Environment and Natural Resources Code of Cambodia in 2016. These are discussed further, and introduced below.

In Cambodia, forestry land, including mangroves, is managed by the following agencies: uplands forest by the Forestry Administration of MAFF, and its provincial and lower level affiliates; mangrove forests by the Fisheries Administration of MAFF (FIA), and its provincial and lower level affiliates; and all protected areas by the Ministry of Environment (MoE), through the concerned protected area management unit and in collaboration with the lower level affiliates of MoE. Hence, forests or mangroves lying in a protected area are under the jurisdiction of MoE and MAFF.
There are a few notable coastal protected areas, and that have significant areas of mangrove (see Map in Annex 1). These include:

- Bokor National Park in Kampot province (23,308 hectares of Mangrove, from Prey Nup area to Bokor mountain);
- Prek Kampong Smach Marine Fisheries Management Area in Preah Sihanouk province (3,400 hectares of mangroves);
- Koh Rong Marine Fisheries Management Plan in Preah Sihanouk province (127 hectares of mangroves);
- Kep National Park in Kep province (600 hectares of mangroves);
- Ream National Park, in Preah Sihanouk province Province (400 hectares of mangroves);
- Peam Krassap Wildlife Sanctuary in Koh Kong Province (10,000 hectares of mangroves);
- Botum Sakor National Park21 (600 hectares of mangroves).

The Law on Fisheries (2006) establishes a framework to manage, protect, conserve, use, exploit and restore flooded forests (including mangroves) and to develop the fisheries sector in order to ensure the long-term sustainability of environmental, social and economic benefits. One key strategy under this Law is the establishment of Community Fisheries (CFI) - i.e. collective ownership and/or access to fishing and related areas. These are established through a demanding and complex but thorough approval process leading to the approval of a Community Fishing Area Management Plan (CFAMP), with zones, maps and objectives. Through this process land-use and land-management rights are transmitted to the communities. The CFAMPs cover all socio-economic activities and needs of the fishing community members, not just fisheries. For example, they will cover agriculture, livestock raising, and they may also cover involvement in tourism and needs such as water supply, health care and education.

The Law on Protected Areas (2008) notably includes the following strategies/aims: manage and conserve in an effective way biodiversity resources and sustainably use the natural resources in protected areas; define responsibilities and involvement of local communities, and; define standards and tools for the management of protected areas. Application of this Law takes precedence over the Fisheries Law in coastal area protected areas. This Law allows for sustainable use of all resources.

This law also allows for the establishment of ‘Protected Area Communities’ (PACs). This is a process for transmitting land-use and land-management rights inside protected areas to communities. As with the CFI in protected areas, this transfer is through a demanding and complex but thorough approval process, and leads to the approval of a Community Protected Area Management Plan or CPAMP (with zones, maps and objectives). The limited capacity of MoE means that, in coastal areas, the Protected Area management has been very weak, and efforts to establish PACs are not advanced.

The Strategic Planning Framework for Fisheries (2010 – 2019) has the overall vision of “management, conservation and development of sustainable fisheries resources to contribute to ensuring people’s food security and to socioeconomic development in order to enhance people’s livelihoods and the nation’s prosperity”. Although the main focus is inland fisheries, notably around Ton le Sap, coastal and marine fisheries are recognised to have increasing significance. One notable aim is to establish 39 CFI in coastal areas, with an anticipated total membership of approximately 10,000. Moreover, it has the aim that “at least 75% of the area of coastal flooded forest are protected through physical demarcation by the end of 2019”.

The newly modified main fisheries policy document is the Strategic Planning Framework for Fisheries (2015-2024) (SPFF). The vision for the fisheries sector is defined as follows: “Management, conservation and development of sustainable fisheries resources to contribute to ensuring people’s food security and to socioeconomic development in order to enhance people’s livelihoods and the nation’s priority”. The SPFF is structured around four development pillars: (a) capture fisheries and management; (b) aquaculture; (c) fisheries value chain; and (d) regulatory services. Specific objectives have been set for each of these four pillars and indicators provided to assess progress toward achievement of these objectives.

21 Botum Sakor is Cambodia’s largest national park. Situated in Koh Kong Province, it consists mostly of gently sloping lowland covered by evergreen wood and grasslands. It also includes some coastal flood plains and mangroves.
The SPFF recognizes the central role of CFIs in the management of fisheries resources. In particular, it enhances fisheries governance and contributes significantly to employment creation and food security of poor rural people. Key activities with respect to CFIs for the 2015-2024 period include: (a) mapping and demarcating CFIs areas; (b) developing CFIs management plans; (c) training CFIs staff; (d) establishing conservation areas within CFIs areas; and (e) improving compliance with existing fisheries regulations.

Another important policy initiative is the ongoing devolution of powers and responsibilities to local levels. This is notably to be through the preparation and financing of Commune Development Plans (CDP) and Commune Investment Plans (CIP). This national process benefits from strong support from the national government (Ministry of Interior, MoI) and donors. District and Provincial governments also play a role in developing plans and mobilizing resources to their implementation. One challenge is the lack of local level management and technical capacity.

1.3.2 Previous and ongoing technical support initiatives and investments

In recent years, several national and internationally supported initiatives have contributed to the implementation of the policies and laws. Some of the more notable are:

- Ongoing support from GEF/UNDP and MoE to implement the Integrated Coastal Management by PEMSEA in the coastal provinces;
- Ongoing support from Sida/SEAFDEC project on transboundary fisheries between Thailand, Vietnam and Cambodia in the coastal provinces;
- Ongoing support from the FiA to establish CFIs and to build the capacity of CFIs. The key steps are: prepare maps, identify and negotiate zones, develop CFiAMP, prepare registration sub-decree, obtain approval by the concerned government authorities, and then start implementation of the CFiAMP. Until present, although all 39 CFIs have been established in coastal areas, the majority are inactive and have not completed the approval process;
- Support to protected area management in the three protected areas with mangroves. With support from international partners, MoE has developed management plans, developed ecotourism activities, reduced non-sustainable economic activities, reduced the number of private sector investments in non-friendly sectors, and undertaken basic protected area management tasks (monitoring, controlling, establishing signs, etc). Some of the support focuses on the PACs. Notwithstanding, without the support of international projects, the protected area management capacity remains weak in coastal areas;
- The ongoing decentralization and devolution exercise, to transfer capacity, decision-making and responsibilities to lower levels of government. Although not restricted to coastal areas, this has led to an allocation of budget through commune decision-making processes. This is coordinated by MoI;
- The Regional Fisheries Livelihood Programme of FAO (implemented between 2010 and 2013). The key achievements and key lessons learnt of the Cambodian component of this Programme are listed in Box 1;
- Flora and Fauna International Coastal and Marine Conservation Project. Activities under this Project supported climate resilience amongst fishery communities through ecosystem management. One important and innovative aspect was the development of a "Marine Fishery Management Area" in Sihanoukville Province.23
- The NGO “FACT” are supporting coastal livelihood improvement programmes, advocacy and sustainable natural resource use, mangrove plantation and patrolling activities; 24
- The Cambodia Climate Change Alliance (CCCA) has undertaken assessment of vulnerability and risk to livelihoods in target communities (two communes in Koh Kong; six communes of Sihanoukville) with a view to introduce alternative or modified livelihoods. At the pilot level, the work initially aimed to develop coastal adaptation plans.
- IUCN previously implemented “Building Resilience to Climate Change impacts in Coastal SE Asia Project

22 With the financial support of the Government of Spain
23 Estimate budget: $180,000 - $200,000 per year.
24 Estimated budget: $70,000 per year.
in drafting the Peam Krasop Wildlife Sanctuary Management Plan in Koh Kong, and was engaged in coastal zoning activities in Kampot. The Peam Krasop work was important to this proposed project, and where lessons were shared in coastal demarcation.

- The UNEP/GEF South China Sea Programme. The UNEP/GEF project “Reversing environmental degradation trends in the South China Sea and Gulf of Thailand” was implemented in partnership with the seven South China Sea riparian states during 2002 – 2008. The Project addressed three priority areas of concern: the loss and degradation of coastal habitats; over-exploitation of fisheries; and land-based pollution. The project led to the development of a regional Strategic Action Programme (SAP) and seven National Action Plans (NAPs), including one for Cambodia. Follow-up GEF projects are being developed/implemented to address the priorities established in the NAPs and the SAP.

**Box 1: FAO Regional Fisheries Livelihood Programme – Achievements and Lessons**

**Key Achievements**

- Development and official agreement of Community Fishing Area Management Plans (CFAMPs) for 15 Community Fisheries (CFIs).
- Establishment of 6 fisheries habitat conservation zones in CFi fishing grounds.
- Installation of 420 anti-trawling devices such as concrete poles and concrete cubes in the five community conservation zones.
- Greatly improved collaboration and relationships between the Fisheries Administration (FiAs) and Community Fisheries through monthly/bi-monthly meetings.
- Improved patrolling capacity through the provision of 9 wooden boats and 4 speed boats.
- Designed and piloted the first catch monitoring system for Cambodian coastal areas.
- Developed and piloted the first accident reporting system for Cambodian coastal areas.
- Replanted 8,000 ha of mangroves.
- Introduced a new, safer design of the commonly used 12-meter wooden fishing vessel and enhanced the skills of local wooden boat builders.
- Improved safety for fishing boats by installing landing lights in 5 Community Fisheries.
- A training manual on *good hygiene practices in community based fishery products supply chain* developed by RFLP was approved by FiA for national use. TOT training on use of the manual was provided to 14 FiA staff.
- Pilot fish sauce and fermented fish initiatives launched.

**Key Lessons**

- The process of co-management takes considerable time and resources to achieve results.
- CFAMPs are very important planning documents for Community Fisheries, however generating or obtaining funding for actions contained in these plans remains a considerable challenge.
- Although communities and the authorities have had some success in reducing illegal fishing they are often unable to counter illegal activities backed by powerful people.
- It does not matter how much safer or how longer lasting a new boat design may be, if fishers are unwilling (or unable) to meet the extra cost they are unlikely to purchase it.
- It is very difficult to implement good hygienic practice for aquatic products in locations without access to portable water, electricity and basic sanitation.
- Market access remains a great challenge for fishers and processors.
- Fisher families are very willing to turn to non-fisheries related livelihoods activities, but need increased extension support.
- Suppliers and service providers need to be carefully chosen so as to avoid poor quality inputs that may damage activities as well as impact on relations with beneficiaries.

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25 See the full report: “Project Terminal Report – RFLP Operation in Cambodia”
Finally, within the framework of the Cambodia Climate Change Alliance (CCCA), UNEP, with support from LDCF funds, previously implemented the Project: “Vulnerability Assessment and Adaptation Programme for Climate Change within the Coastal Zone of Cambodia Considering Livelihood Improvement and Ecosystems” (this project closed in 2015). This project aimed to target adaption planning in coastal areas and building the resilience of coastal buffers through ecosystem based adaptation measures. Some of the key work completed under this project includes: developing training material; vulnerability training; vulnerability assessments; establishing technical provincial working groups in the four coastal provinces; developing climate indicators for coastal areas; technical studies, e.g. on coastal zones characterization and shoreline investigation and identification of vulnerable communities, infrastructure and ecosystems; rehabilitation of dykes; design work towards deepening a shallow lake; and mangrove restoration. Overall, the UNEP/LDCF project has led to a more thorough understanding on climate change in Cambodian coastal areas. It piloted and demonstrated certain best practices to increase adaptive capacity. This helped remove some of the uncertainty with regards to planning adaptation activities. Hence, the present proposed project built directly on those findings and on the capacity built. It will support upscaling, expansion and mainstreaming.

1.3.3 Technical support initiatives and investments (updated)

In addition to the ongoing initiatives listed in (b) above, collaboration and synergy with the following baseline projects is planned/anticipated. These baseline projects and their budgeted amounts have been updated as required:

<table>
<thead>
<tr>
<th>Agency/financer</th>
<th>Description</th>
<th>Anticipated cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fisheries Administration (2018 – 2023)</td>
<td>The Fisheries Administration is charged with enforcing regulations re: IUU Fishing in Cambodian coastal areas. FiA through its FiA Department of Fisheries Conservation and Marine Inspectorate is also undertaking the conservation and protection of mangroves in the coastal areas of Cambodia. FiA is currently developing the EU funded Cambodia Programme for Sustainable and Inclusive Growth in the Fisheries Sector: Capture Fisheries component, which will support improvements in fisheries management and support to the CFI in the coastal area. The proposed GEF project is designed to complement the current and anticipated action plan of FiA for mangrove protection and conservation and livelihoods improvement of people dependent on mangrove and marine fisheries resources. FiA has welcomed the sustainable marine and brackish aquaculture proposed by this GEF project.</td>
<td>$2,100,000</td>
</tr>
<tr>
<td>Ministry of Environment (2018 – 2023)</td>
<td>As the focal point ministry, the Ministry of Environment is leading and guiding national implementation of Mangroves for the Future initiative through its Executive Board (composed of relevant ministries, civil society organization, academia and private sector). The priorities of the ministry include development of priority strategies and actions and which prioritize coastal management issues and areas of action; coordination and steering of the development and implementation of project initiatives; and facilitation of dialogue and information sharing on the projects and related lessons learnt and priority issues. The proposed GEF project will address implementation of ministry’s priorities for mangrove protection and conservation as well as the livelihoods improvement of people dependent on mangrove in the protected community and fisheries. The proposed project is viewed important by the Ministry and towards addressing coastal fishery and natural resource dependent community issues that they adapt to climate change and strengthen coastal ecosystem in the target provinces.</td>
<td>$1,000,000</td>
</tr>
<tr>
<td><strong>Asian Development Bank Pilot Programme for Climate Resilience (ADB/PPCR) (2018 - 2021)</strong></td>
<td>Construction of a dyke and other climate resilience activities near mangroves and near CFi in Koh Kong Province to increase climate resilience. Mainstreaming climate change resilience into development planning. The programme covers seven provinces, including the one coastal province of Koh Kong. As a partner, the proposed GEF project will support livelihood diversification and strengthen community organization for climate change mitigation and adaptation. This is notable where the GEF project is being viewed to expand relevant CCA activities to additional coastal provinces, and where focused activities are being considered to support resilience amongst CFIs.</td>
<td>$6,000,000</td>
</tr>
<tr>
<td><strong>Heng Heng Aquaculture Co., Ltd (Private Sector) (2019 - 2023)</strong></td>
<td>Investing in sustainable aquaculture in coastal areas – this work aims to generate local revenue streams and that, where informed by the GEF project, stand to create sustainable livelihoods by developing mangrove friendly aquaculture. This will contribute to increased climate resilience amongst the fishing communities. The proposed GEF project will thereby encourage private sector support for mangrove rehabilitation and conservation, and sustainable livelihood diversification which integrates climate change adaptation alongside market concerns.</td>
<td>$2,000,000</td>
</tr>
<tr>
<td><strong>EU – AFD CapFish</strong></td>
<td>Cambodia Programme for Sustainable and Inclusive Growth in the Fisheries Sector (Aquaculture); has an overall goal to contribute to food security and socioeconomic development in Cambodia in order to enhance people’s livelihoods and the nation’s prosperity. The programme will be directed towards aquaculture development and will support the proposed GEF project through the development of mangrove friendly aquaculture.</td>
<td>$2,330,000</td>
</tr>
<tr>
<td><strong>Sida-SEAFDEC</strong></td>
<td>The project is strengthening the transboundary fisheries management along the coasts of Cambodia, Thailand and Vietnam and supports the implementation of the Ecosystem Approach to Fisheries Management; providing baseline support to increasing resilience of the fisheries systems.</td>
<td>$400,000</td>
</tr>
<tr>
<td><strong>PIN – ECHO project</strong></td>
<td>The programme aims to help at least 150,000 Cambodians prepare for droughts, floods and storms. This project will coordinate with the PIN efforts and provide guidance on DRM need and livelihood improvement specific to the coastal systems.</td>
<td>$41,000</td>
</tr>
</tbody>
</table>

The project’s strategic partnership with these initiatives will help in pooling resources to achieve an even more sustainable, long-term impact. (The coordination of project baseline and roles of stakeholders are further considered in sections 2 and 5).

1.3.4 Proposed alternative

The previous sections describe a series of baseline actions and projects to support coastal fisheries and ecosystem management. However, these do not address adequately climate change. LDCF funds will build on the above baseline in order to support critical and catalytic actions that will greatly increase the adaptive capacity of the fishery dependent coastal communities and increase their climate resilience.

Four Outcomes will be attained:

**Outcome 1: National and provincial capacity to support adaptation to climate change in coastal areas is enhanced.**

**Specific Issues**

Although there has been a great increase in overall and general capacity to adapt to climate change in Cambodia\textsuperscript{26}, very little capacity specific to the coastal fishery communities has been developed. Understanding of climate change and assessments have increased and improved in Cambodia in general, but there is little specific understanding of how it may affect coastal fisheries, how it will affect the communities, and what specific adaptation/response measures can be used.

There is currently very little downscaled research on the impact of climate change in tropical coastal fisheries and

\textsuperscript{26} By example, the USAID Mekong Adaptation and Resilience to Climate Change (ARCC) programme: http://www.mekongarcc.net/sites/default/files/cambodia_june2014-press-small_0.pdf

GEF-6 PIF Template-January2015
mangroves of southeast Asia in general, and in Cambodia in particular. There are broader analyses related to climate driven weather events and vulnerable areas; and much tropical climate change research has focussed on impacts on coral reefs, however, these are not a major part of the Cambodia coastal ecology, being primarily shallow coastal areas with mangrove forest cover. Sea surface temperature changes tend to affect pelagic stocks more than coastal stocks and migrations related to temperature are only really discernible towards the edges of the tropical belt. The complexity of coastal fishery assemblages and the fact that tropical temperatures range are relatively ‘high - warm’ means that measuring changes in stocks from climate driven factors is a considerable challenge.

In general, the over-fished nature of the Cambodia coastal fisheries (by both commercial Cambodian vessels and incursions by IUU vessels from Thailand and Vietnam), and the non-existence of a Cambodian marine fishery research programme combine to prevent any strong trend being identified, and it will be challenging to separate anthropogenic fishing effects from the climate driven effects on fish stocks anywhere in coastal fisheries of the region. This uncertainty requires a precautionary approach to be taken. The project will seek to address potential impacts and stressors across a range of drivers, climate change and/or anthropogenic, and where there are actions which can directly address both and the over-arching focus on sustainable management of coastal natural resources.

Notably, there is also no specific capacity in the responsible government departments at national, provincial and district levels. Finally, although it is known that improved ecosystem management will increase resilience, the knowledge of how to do this, notably on how to sustainably manage mangroves (including replanting) in the Cambodian context, is very limited.

Adaptation alternative

Building on previous assessments and filling gaps, the first step will be to assess the vulnerability of the coastal fishing communities to climate change. As necessary, this may include an assessment of the vulnerability of mangrove ecosystems to climate change. This may also include data collection to better understand the nature of the climate change threat. These assessments will be a basis for prioritizing target communities and for designing support activities. These activities will build on and borrow from previous assessments, and duplication will be avoided. They will be community driven, and directly linked to the community planning processes. The climate change assessment process will be linked to existing processes to prepare and implement CFiAMPs and CPAMPs.

Next, concerned national and local stakeholders will be taken through a consultation process in order to develop a common strategy for supporting both PACs and CFIs as they adapt to climate change in coastal areas. This strategy will notably link the fishery, environment and forestry sectors. This strategy will include a definition and identification of zones, the preparation of maps, and the definition of a clear set of rules and regulations for PACs/FIs. The strategy will include the identification of a sustainable financing mechanism for its own implementation. Clear measures and practices for adapting to climate change will be defined.

Next, given the importance of mangrove ecosystems to climate resilience and to sustainable development, based on international experience and lessons learnt in Cambodia, a set of technical guidelines will be developed to guide mangrove restoration/replanting and to guide the development of coastal and mangrove-friendly aquaculture. These guidelines will be applicable across the entire coast. These guidelines will be adapted to projected climate change.

The project will also support the training of government technical staff in fisheries and environment units at commune, district and provincial levels across the four coastal provinces. This training will complement—not duplicate—previous training provided through international projects. It will build upon FAO’s developing project network and extensive practical experiences using ecosystem approaches to fisheries and coastal resource (incl. mangrove) natural resource

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27 Cambodia has historically been rather more protected from cyclones, though this may change where landfill patterns shift.

28 There are examples of aquaculture integration into mangroves that do not result in significant loss of mangrove cover, and which integrate rather than replace—please refer to Annex 2. There are notably equity issues to be considered where aquaculture may imply ‘ownership’ of the common property/open access area. Important issues regarding access, sustainable off-take, collaborative management and protection and natural resource benefit sharing must be addressed within the project framework and in the PPG phase. FAO Voluntary Guidelines on tenure and small-scale fisheries are being considered in this regard.
management. It will cover climate change, impacts, adaptation measures, monitoring and response measures – with the focus on fishing communities. Finally, noting the growing importance of the Commune Development Plans (CDP) and Commune Investment Plans (CIP) in the ongoing decentralization process in Cambodia, the project will support the integration of measures for climate change adaptation for coastal fishery communities into CDP and CIP for all coastal communes.

All rural coastal areas consist largely of communities that are to some extent dependent on fishery resources. These communities are poor and very vulnerable to climate change. They all have access to natural resources consisting fishing waters, mangroves, seagrass as well as some land for agriculture and livestock raising. Some of the land/waters are in formally recognized ‘protected areas’, for which Protected Area Communities have been established to support community resource management in line with the Protected Area Law. Outside of the protected areas, coastal rural land/waters are under the jurisdiction of the Fishery Law, and Community Fisheries have been established to support the community management. Outcome 2 focuses on the Protected Area Communities, and Outcome 3 focuses on the Community Fisheries.

**Outcome 2: Mangrove ecosystems in protected areas provide increased protection against climate change and provide enhanced livelihoods for communities using protected area natural resources.**

**Specific issues**

Currently communities utilize protected areas in an unsustainable and often unregulated manner. This is in part a ‘mal-adaptation’ – it is a response to the growing pressures created by climate change. However, this unsustainable use is degrading and destroying the ecosystem (mangrove, seagrass and coral) and so increasing the exposure to climate variability. Further, these communities remain poor and are increasingly exposed to climate change and natural resource hazards.

**Adaptation alternative**

Under this Outcome, the project will work notably with MoB and Protected Area management units to support protected area communities (PAC) to identify and select climate resilient, sustainable uses of resources in and around the protected areas. Measures that increase climate resilience will be directly demonstrated and implemented. Where appropriate, FiA and others will bring expertise related to climate resilient fisheries that enhance resilience. As a result, by project end:

i) Six (6) Protected Area Communities in the three coastal protected areas will have fully completed the Community Protected Area Management Plans (CPAMP) approval process;

ii) In line with the approved CPAMPs, 65 hectares of mangrove will have been sustainably restored through planting and/or natural regeneration inside protected areas (see Box 2 for FAO lessons learnt specific to mangrove restoration). This will directly increase resilience by providing protection and buffer against climate change (storms and water shortages). This will indirectly increase resilience by protecting existing livelihoods and providing for alternative and diverse livelihoods that are sustainable through climate change. Box 2 outlines the principles of mangrove restoration, which remain valid and become even more important to consider in planning appropriate intervention measures in the face of climate change. Rising sea level and increased frequency and severity of storm surges may mean that areas that used to be covered by mangroves would no longer be able to support a mangrove ecosystem in the long term. Additional measures such as placing of bamboo fence in the sea may become necessary to assist the establishment of mangrove seedlings as well. As described in Box 2, these factors, including those that may be altered or exacerbated by climate change, would be considered in the planning of sustainable measures to restore mangroves; 

iii) In line with the approved CPAMPs, 11,000 hectares of existing mangrove ecosystems will be sustainably protected and will be naturally regenerating (inside protected areas). Again, this will directly increase resilience by providing protection against climate change (storms and water shortages). This will indirectly increase resilience by providing for alternative and diverse livelihoods that are sustainable through climate change;

iv) In line with the approved CPAMPs, 10,000 PA community members will be engaged in a series of activities. The activities will be identified in the CPAMP and will vary from site to site. In each case, a major focus will
be on improving sustainable livelihoods - with some activities inside protected areas. This will increase the resilience of the communities. Climate resilient building actions that may be supported by the project include:

- Participatory demarcation of PA boundaries
- Establishing/strengthening the PA patrol system;
- Natural resource use and coastal natural resource inventories supporting improved PA zonation, critical habitat identification and protection, and parameters of sustainable off-take and natural resource use/access.
- Establishment of benefit sharing/collaborative natural resource agreements with communities, and that underscore PA protection mandates and sustainable natural resource management
- Developing the skills to deal and negotiate with economic actors from outside the community who 'trespass';
- Providing technical assistance supporting sustainable livelihood practices, on how to run a family business;
- Providing catalytic funds and technical assistance on vegetable production, animals raising, sewing, carpentry, construction and eco-tourism, etc.
- Actions to support sustainable fisheries will be provided, based on the lessons learnt under RFLP, in order to increase revenues and ensure ecosystem value is fully appreciated;

v) In line with approved CPAMPS, coastal protection measures will be implemented. This will provide protection to several thousand coastal dwellers. This includes the construction of dykes and canals – financed by ADB/PPCR co-financing.

<table>
<thead>
<tr>
<th>Box 2: Summarizing Lessons Learnt Related to Mangrove Planting/Restoration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Many mangrove replanting projects have resulted in high, or sometimes complete, mortality due to unsuitable species selection, lack of restoration of mangrove hydrology, continuing human disturbance, etc. Lessons learnt suggest the following 6-step method of mangrove rehabilitation (source: Mangrove Action Project):</td>
</tr>
<tr>
<td>1. Recognize both the autecology and community ecology of the naturally occurring mangrove species at the site, in particular the patterns of reproduction, distribution, and successful seedling establishment;</td>
</tr>
<tr>
<td>2. Identify the normal hydrologic patterns that control the distribution and successful establishment and growth of targeted mangrove species;</td>
</tr>
<tr>
<td>3. Assess the modifications of the mangrove environment that occurred and that currently prevent natural secondary succession;</td>
</tr>
<tr>
<td>4. Select appropriate restoration areas through application of steps 1-3 above that are both likely to succeed in rehabilitating a forest ecosystem, and are cost effective, given the available/likely funds and manpower to carry out the projects, including adequate monitoring of their progress towards meeting quantitative goals established prior to restoration. This step includes resolving land ownership/use issues necessary for ensuring long-term access to and conservation of the site and associated wildlife;</td>
</tr>
<tr>
<td>5. Design the restoration program at appropriate sites selected in step 4 above to restore the appropriate hydrology and utilize natural volunteer mangrove recruitment for natural plant establishment; and</td>
</tr>
<tr>
<td>6. Only utilize actual planting of seedlings as an integral part of the rehabilitation program after determining through steps 1-5 above, that natural recruitment will not provide the quantity of necessary established plants, rate of stabilization, or rate of growth as required for project success.</td>
</tr>
</tbody>
</table>

Encouraging household and community buy-in to the project (e.g. through their active consultation, the provision of new practices, livelihood inputs and securing their contributions to coastal protection and development) is important to consider in building their ownership of the project. Finally, in order for the restored mangrove forests to be sustained, it is necessary to minimize the disturbances that caused mangrove degradation in the first place. This requires a fully understanding of the use of the collected wood, markets for products, etc.

**Outcome 3: Community Fisheries have increased capacity to adapt to the impacts of climate change.**

**Specific Issues**
Currently, most of the community fisheries are not adapting to climate change, or are even ‘mal-adapting.’ Despite the support of government and other partners, they face increased pressure on resources, increased storms and water shortages, and decreasing livelihoods. They are entering into a vicious circle of climate change, resource degradation, increased pressure, further degradation and growing climate change.

**Adaptation alternative**

Under this Outcome, the project will work notably with FiA, with local technical units, and with CFIs to support the CFIs registration process, and to mainstream climate change adaptation into that process, and to develop climate resilient practices and livelihoods. As a result, by Project end:

1. The CFIs will have fully completed the Community Fishing Area Management Plans (CFiAMP) approval process. The aim is for all 39 to complete this, however considering the CFIs have different starting points, some CFIs will progress more than others;
2. In line with the approved CFiAMPS, 500 hectares of mangrove will have been planted or be sustainably regenerating. This will directly increase resilience by providing protection against climate change (storms and water shortages). This will indirectly increase resilience by providing for alternative and diverse livelihoods that are sustainable through climate change. Where planting or restoration takes place, the lessons in Box 2 will be used;
3. In line with the approved CFiAMPS, 10,000 fishermen/women will have adopted sustainable fishery practices and technologies that are resilient to climate change. The types of fishery practices that may be adopted and that will provide resilience to climate change may include:
   - the development of a community fisheries by-law and regulation;
   - the development of community fisheries boundaries and clear maps;
   - the development and negotiation of community fishing areas agreements;
   - the installation of sign boards;
   - establishing patrol team for mangroves and fisheries;
   - decreasing illegal cutting of mangrove forest;
   - revising the types of permitted fishing gears;
   - digging out canals;
   - developing the skills to deal and negotiate with fishers from outside the community that trespass;
   - integrating CFiAMP into CDPs;
   - undertaking training and providing equipment that increases safety at sea;
4. In line with the approved CFiAMPS, 20,000 fishermen/women will be engaged in improved livelihood activities thereby providing resilience to climate change. The activities will be identified in the CFiAMP and will vary from site to site. In each case, a major focus will be on livelihoods, and this may include:
   - providing technical assistance on running a business;
   - providing catalytic funds and technical assistance for mushroom production, rice bank, animals raising (e.g. eel, frog, pig, chicken and ducks) sewing;
   - supporting saving groups;
   - supporting carpentry and construction;
   - developing eco-tourism;
   - support to the processing of fish and other products.
5. In line with the approved CFiAMPS, medium-sized mangrove friendly aquaculture investments will be under implementation (financed by private sector). These will be providing climate adapted livelihoods to local communities, thereby increasing resilience. The types of interventions and their scale will be further pinpointed in the PPG phase (and where environment and social safeguard assurances will be considered).
Outcome 4: Monitoring and evaluation and information dissemination

Specific Issues

The coastal fisheries sector in Cambodia has very little documented experience in understanding climate change vulnerabilities and adaptation options. In addition, mechanisms for the various stakeholders to share information on technologies, practices and knowledge are weak. Currently, data and information regarding practices and lessons learnt is often kept by individuals – although this is openly accessible, it can be lost when the individual moves on.

Adaptation alternative

Activities under this Outcome will lead to a better understanding of how climate change affects coastal communities, and how to adapt. An M&E system building upon local knowledge and participatory tools and the improved capacities and outreach of marine fisheries centers is proposed within the project. Local surveillance and monitoring quantifying shocks/stressors and qualitative/perception based data will also be combined with available meso and marco-level measures (satellite data, political, market monitoring) to further pinpoint, measure and track trends and that may inform coping strategies. This work will also assist identification of observable ecosystem changes and serve to disaggregate potential root causes (e.g. whether shocks and stressors are climate driven, environmental and/or other anthropogenic, intensive or extensive risks as based on their duration and frequency; how biodiversity and communities respond to them, their capacity to recover, etc.).

As noted, there will be (i) a system for the collection of field-based data in order to monitor project outcome indicators. Filling of spatial and thematic gaps through vulnerability assessment and information gathering will continue in the PPG. Within this, the project is building stakeholder ownership at the outset by ensuring local consultative processes inform the development of project interventions. This M&E system is further strengthened with targeted capacity building of marine fisheries centers—building their outreach service to fishing communities and their joint monitoring responsibilities; (ii) a strengthened system for the storage and free dissemination of data and information and lessons learnt related to adaptation in coastal areas. Although this will be mostly covered by co-financing as it represents a baseline situation, LDCF funds will cover costs related specifically to climate change and adaption; (iii) the implementation of results-based mid-term and final evaluations; and (iv) the dissemination of project-related “best-practices” and “lessons-learned” via publications, the project website and others channels.

Notably, project M&E will be harnessed to provide critical feedback into project design of proposed coastal development planning (Component 1), protected coastal ecosystems, benefit sharing and collaborative natural resource agreements (Component 2), and sustainable coastal fishing communities (Component 3) as well as facilitate adaptive management in implementation. The results of project monitoring will be useful to further identifying factors specific to the needs of target coastal communities, individual species and important coastal habitats, as well as to tracking project impacts to reduce, minimize and adapt to potential changes/disruptions in coastal habitat, livelihoods and coastal fisheries.

1.3.5 Additional cost reasoning

Cambodia is a least developed country and it extremely vulnerable to climate change. Climate change poses a significant threat to coastal development and food security. The country currently has very low adaptive capacity at both local and national levels. Coastal fishing communities are amongst the most vulnerable, and their capacity to deal with climate variability is extremely low. Without financial and technical support, these problems will persist and grow, and any development gains attained over the past decade may be lost as climate change advances.

As seen in the previous sections, development and ecosystem management activities will take place in the baseline, including important investments designed to help coastal communities, to protect the coast and to generate revenue. However, the baseline does not adequately tackle climate change. It does not address the challenges exacerbated and complicated by climate change. Without additional financing to generate effective adaptation models and establish support frameworks and empower the vulnerable communities, the anticipated challenges and costs associated with climate change will increase. This project will contribute towards reducing these challenges and costs by implementing
priority appropriate adaptation measures.

The baseline consists of many investments, and it is not possible to fully separate baseline activities from adaptation activities. They are integrated. Moreover, there are many underlying causes of the challenges facing coastal communities and coastal ecosystems; climate variability/change is only one amongst many. Accordingly, it is not possible to address climate variability/change in isolation.

The LDCF investment will leverage and augment the existing baseline. The project will contribute to safeguarding baseline development initiatives in the fisheries and related coastal sectors against projected adverse climate impacts. The use of LDCF funds will target the margin between the current development baseline and an improved development scenario that incorporates best international CCA principles and practices.

1.3.6 Other global environmental benefits - biodiversity and climate change mitigation

In addition to directly supporting adaptation to climate change, the project will also generate indirect contributions to climate change mitigation and biodiversity conservation. These are estimated below.

**Climate change mitigation/carbon sequestration.**

A very rapid estimate of potential GHG savings was undertaken. This was based on the following assumptions:

- Under Outcome 2, 65 hectares of mangroves will be sustainably planted;
- Under Outcome 2, 11,000 hectares of existing mangrove will be sustainably managed. It is argued that 5% of this is directly due to this Project’s interventions – equivalent to sustainably managing 550 hectares;
- Under Outcome 3, 500 hectares of mangrove will be sustainably planted, or natural regeneration will be supported. It is argued that 50% of this can be directly due to this Project’s interventions – equivalent to sustainably planting/regenerating 250 hectares;
- The growth of the existing mangroves in the area under pure conservation is able to sustain the demand for products/harvest (emission/removal = zero), and the protection of this area does not lead to significant leakage to other areas (accelerated pressure on other areas).

Using Tier 1, based on IPCC default values (2013 supplement to the 2006 IPCC guidelines), and using estimates for biomass (above and below ground) only: reforestation/rehabilitation leads to 211,002 tCO2e sequestered, and conservation leads to 397,641 tCO2e of reduced emissions. These are considered very preliminary estimates.

**Biodiversity.** The coastal and marine ecosystems include mangrove forests, coral reefs, seagrass beds, salt marshes and estuaries. They are considered extremely rich - Cambodian coastal waters are considered among the richest areas in biodiversity resources, including significant aquatic resources and marine endangered species, such as green turtles, sharks, coral reefs and sea-grasses, mangroves, groupers, shrimps, and tortoises (endangered and rare species). Marine mammals (Dugong dugon) and marine dolphins are found, including the endangered Irrawaddy Dolphin (Orcaella brevirostris). Other species of cetaceans known to occur in Cambodia's coastal waters are the IndoPacific Humpback Dolphin (Sousa chinensis), Common Dolphin (Delphinus delphis), Bottlenosed Dolphin (Tursiops truncatus), Shinner Dolphin (Stenella longirostris), and Finless Porpoise (Neophocaena phocaenoides). For example, of the approximately 50 mangrove species found in Asia, 37 species are present in Cambodia29. Mangroves of Cambodia are also important habitats for many bird species, including for globally endangered milky stork (Mycteria cinerea). The project, by supporting sustainable management, and by indirectly supporting protected area management, will contribute indirectly to the conservation of this globally important biodiversity.

1.3.7 Innovativeness, sustainability and potential for scaling up

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The project has several innovative aspects, notably:

- Support targeting critical vulnerabilities in Cambodian coastal and mangrove ecosystems and their links to coastal livelihoods and near shore (the most productive) fisheries; holistic address of coastal habitat use, maintenance and protection for vital biodiversity, livelihood and climate resilience benefits.
- The support to collaboration between the fisheries sector and protected area management sector, in particular at commune and district levels, in order to reach shared objectives. This will be backed by collaborative platforms and work planning created at provincial and national level;
- The introduction of best practices from South Asia for mangrove and coastal habitat restoration, which are new to Cambodia; the use of maps to facilitate the addressing of coastal land tenure issues and conflict resolution. This includes the use of community mapping to demarcate fishing areas and protection zones.
- Downscaled research on the impact of climate change in tropical coastal fisheries and mangroves. The project proposes a simple system building the capacity of marine fishery centres and that builds upon local knowledge and participatory tools to identify observable changes and their root cause (e.g. whether these impacts are climate driven, environmental and/or other anthropogenic).
  - These results will help first to identify and then reduce, minimize and adapt to potential changes/disruptions in marine fisheries.
  - Importantly, they will also help inform actions (e.g. coastal management and fishing regulation) addressing multiple factors specific to the needs of individual species and important coastal habitats.
  - This information is also important to establishing and supporting PA protection objectives as well as sustainable off-take/utilization potentials. Some minor efforts have been undertaken in the past, but this can be considered mostly ground-breaking;
- Targeted support assisting protected area and fishing communities to adapt to climate change and identifying ecosystem-based adaptation measures, coastal ecosystem productivity and resilience thresholds, threats and changes. (Inland fisheries and aquaculture are being assessed; Cambodian coastal fisheries yet systematically considering Community Fishing Area Management Plans, nor important links to restoration and climate resilience).

Sustainability of the project interventions will draw from two strategic approaches, one aiming at the target communities and one aiming at the national agencies that support natural resource management in coastal areas. The first strategy is to focus the project on the empowerment of communities and to enhance their capacity to adapt to climate, and increase their collective resilience. The sustainability of natural resource management plans requires community buy-in, and will initially and in part be secured in part through shorter-term but tangible project benefits. With this in mind, project income generation and sustainable livelihood improvement activities will be developed in parallel to planning processes. These will contribute to reduce vulnerability and build resilience. The project, working with the Community Fisheries and the Protected Area Communities, will develop technical and organizational capacity. With this enhanced capacity, once the project support is completed, the communities will be better able to engage with government and private sector and where consultative platforms, improved local information and knowledge systems, collaborative management approaches, outreach and capacity will enable household and communities improved voices in those decisions that directly impact their lives (e.g. the resilience and sustainability of the coastal ecosystems and natural resources upon which they rely).

The second sustainability strategy comes through regulatory and strategy framework improvements and capacity building, notably at provincial and national level. The policies and investment strategy developed supporting CCA in coastal areas, the individuals trained, the coordination networks created, and the maps and the guidelines produced, will remain effective after the project. This should not only facilitate sustainability, but also replication.

Coastal fishery and mangrove resources will benefit from improved stewardship and the development of community level norms on exploitation. There have been a number of pilot activities over the past seven years exploring the potential for development of community management plans for coastal fishery and mangrove resources. These have resulted in agreements being developed on sustainable exploitation and the non-use of destructive fishing gears; demarcation of
fishing areas and communities traditional use mangrove forest. Sustainability of management plans for coastal natural resources however requires a high degree of community buy-in, and this entails shorter -term tangible benefits. Income generation, livelihood improvement activities (including financial literacy, safety at sea, post-harvest processing training) are supported by the project in parallel to the planning processes. These activities also directly contribute to reduce vulnerability and build greater resilience. In the medium term, recovery of fishery and mangrove based resources is also expected to deliver such tangible benefits and will provide an improved resource base for income generating activities based on sustainable exploitation of these natural resources.

Outcomes 1 and 4 are to help upscaling. Outcome 1 will lead to tools that can be used broadly across the coast (i.e. the map, the guidelines and the capacity). Outcome 1 will also lead to integration of CCA activities into CDPs and CIPs – a means of directly achieving upscaling. Also, Outcome 4 focuses on capturing lessons and best practices. This will facilitate the replication of best practices across pertinent areas in Cambodia, as well as to other countries as appropriate.

2. Stakeholders

At the governmental level, the key stakeholders are the Ministry of Environment (MoE) that holds leading responsibility for all coastal land within protected areas, and the Fisheries Administration (F/A), that holds leading responsibility for all other rural coastal areas, including all mangroves outside of protected areas.

The following tables provide a list of all stakeholders, outlining their pertinent role/mandate, and briefly describing how they will be involved during project preparation.

### Governmental

<table>
<thead>
<tr>
<th>Agency</th>
<th>Pertinent role or mandate</th>
<th>Involvement in project preparation</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Committee for Management and Development of Coastal Areas</td>
<td>Responsible for coordination across all government and national agencies.</td>
<td>Their support will be sought and their capacity needs will be assessed.</td>
</tr>
<tr>
<td>Ministry of Environment</td>
<td>Responsible for environmental protection, regulation and planning. Responsible for coordination of the implementation of the UNFCCC. MoE is responsible for protected areas, including coastal protected areas, which contain a large proportion of Cambodia’s fishing areas and mangroves.</td>
<td>They will take a lead in all coordination and decision-taking.</td>
</tr>
<tr>
<td>General Department of Natural Resources Conservation and Protection of the Ministry of Environment</td>
<td>Responsible for national parks, wetland and coastal zone, climate change, wildlife sanctuary, international convention and biodiversity, research and management of community protected areas.</td>
<td>They will take a lead in all consultation, priority-setting and decision-taking.</td>
</tr>
<tr>
<td>Protected area management administration</td>
<td>Responsible for the implementation of the three coastal protected areas, including sustainable use of resources within the protected areas, and technical support to communities.</td>
<td>They will be consulted on all technical issues related to protected areas and protected area communities.</td>
</tr>
<tr>
<td>Fisheries Administration</td>
<td>Responsible for development, technical support and regulation of all coastal fishery activities. The Fisheries Administration is responsible for rural coastal land outside of protected areas, and therefore for a large proportion of Cambodia’s fishing areas and mangroves.</td>
<td>They will take a lead in all consultation, priority-setting and decision-taking.</td>
</tr>
<tr>
<td>Department of Community Fisheries</td>
<td>Responsible for:</td>
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<td>----------------------------------</td>
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<tr>
<td></td>
<td>• Promoting and facilitating the establishing and managing community fisheries;</td>
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<tr>
<td></td>
<td>• Research into socio-economic and community development;</td>
<td></td>
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<tr>
<td></td>
<td>• Demarcating community boundary and establishing fisheries conservation zone inside the community fishing area;</td>
<td></td>
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<tr>
<td></td>
<td>• Cooperating with concerned authorities to solve conflicts happening inside the community;</td>
<td></td>
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<tr>
<td></td>
<td>• Facilitating the development of internal rules, regulations, community fishing area agreements, and community registration;</td>
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<tr>
<td></td>
<td>• Diversifying community livelihoods.</td>
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<tr>
<td></td>
<td>They will be benefit from capacity building and will take a lead in all technical support and sustainability.</td>
<td></td>
</tr>
<tr>
<td>Marine Aquaculture Research and Development Centre (MARDEC)</td>
<td>Research and support to communities on aquaculture.</td>
<td></td>
</tr>
<tr>
<td>Marine Fisheries Research and Development Institute</td>
<td>Research and support to communities on marine fisheries.</td>
<td></td>
</tr>
<tr>
<td>Ministry of Interior</td>
<td>Responsible for rolling out and technically supporting the decentralization process</td>
<td></td>
</tr>
<tr>
<td>Forestry Administration</td>
<td>Responsible for development, technical support and regulation of all forestry activities. Forestry Administration mandate excludes flooded forests.</td>
<td></td>
</tr>
<tr>
<td>Ministry of Land Management</td>
<td>Lead agency on mapping and allocation of land ownership</td>
<td></td>
</tr>
<tr>
<td>Provincial[38] technical departments</td>
<td>Notably for environment and fisheries, responsible for implementation of national law and policy at provincial level. Also play a role in approving land-use permits and approving CFAMP. Also providing technical support to communities, and involved in inspection.</td>
<td></td>
</tr>
<tr>
<td>District[39] technical departments</td>
<td>Notably for environment and fisheries, responsible for implementation of national law and policy at provincial level. Although they do play a role in approving land-use permits and approving CFAMP, and providing technical support to communities, their main role is to ensure liaison between communities and provincial government. They are also involved in inspection.</td>
<td></td>
</tr>
<tr>
<td>Commune[32] technical departments or units</td>
<td>Environment and Fishery officers at commune level are the key extension officers. They are key stakeholders in the project, providing a link with communities and a channel to deliver technical assistance to communities.</td>
<td></td>
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<tr>
<td></td>
<td>They will be consulted on technical issues, and possibilities for a stronger partnership will be explored.</td>
<td></td>
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<tr>
<td></td>
<td>Their partnership will be sought in influencing local governments and CDP and CIP.</td>
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</tr>
<tr>
<td></td>
<td>They will be consulted on technical issues related to mangrove ecosystems.</td>
<td></td>
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<tr>
<td></td>
<td>They will be consulted and involved in some priority setting and decision-taking.</td>
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<tr>
<td></td>
<td>They will be consulted. They will also facilitate consultation and data collection at provincial level and lower.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>They will be consulted. They will also facilitate consultation and data collection at district level and lower.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>They will be involved in consultation and data collection.</td>
<td></td>
</tr>
</tbody>
</table>

[38] Alternatively referred to as ‘Cantons’
[39] Alternatively referred to as ‘Divisions’
[32] Alternatively referred to as ‘Triage’ or ‘Sangkats’
<table>
<thead>
<tr>
<th>Organization</th>
<th>Pertinent role or mandate</th>
<th>Involvement in project preparation</th>
</tr>
</thead>
<tbody>
<tr>
<td>IUCN</td>
<td>Lead organization in the MIF initiative. Also involved in implementing several projects related to coastal management.</td>
<td>High consultation on all issues including work planning.</td>
</tr>
<tr>
<td>FFI</td>
<td>Implementing the <em>Coastal and Marine Conservation Project</em> in Sihanoukville Province, helping to develop the first Marine Fish Management Areas, and working with Community Fisheries.</td>
<td>High consultation on all issues including work planning, particularly with regards to Sihanoukville province.</td>
</tr>
<tr>
<td>IDRC</td>
<td>Have previously been involved in implementing the Mangrove Action Programme and are reportedly keen to undertake further action research related to mangroves.</td>
<td>Will be consulted and opportunities for a partnership explored.</td>
</tr>
<tr>
<td>Local NGOs and CBOs</td>
<td>There is a large number of NGOs and CBOs involved in community development, natural resource management, and climate resilient projects along the coast of Cambodia. These are mostly small-scale activities with a short life-time.</td>
<td>Depending on the geographical location of the NGO/CBO, they will consulted as partners regarding activities in their vicinity.</td>
</tr>
<tr>
<td>Protected Area Community members</td>
<td>Once approved, they are responsible for implementing the CPAMP, and therefore for the sustainable use of all resources, protecting natural resources and development of the community members.</td>
<td>Key implementation partners.</td>
</tr>
<tr>
<td></td>
<td>They are to be thoroughly involved in all activities. They are to be consulted on all strategies and activities as planned in and near their respective area.</td>
<td></td>
</tr>
<tr>
<td>Community Fishery members</td>
<td>Once approved, they are responsible for implementing the CFAMP, and therefore for the sustainable use of all resources and development of the community members.</td>
<td>Key implementation partners.</td>
</tr>
<tr>
<td></td>
<td>They are to be thoroughly involved in all activities. They are to be consulted on all strategies and activities as planned in and near their respective area.</td>
<td></td>
</tr>
<tr>
<td>ADB</td>
<td>Supporting activities to strengthen coastal defenses and mainstream climate change into commune plans in the project intervention area</td>
<td>Consulted on all strategies and activities as planned in and near their area.</td>
</tr>
<tr>
<td>Cambodian Natural Aquaculture Company Ltd</td>
<td>Planning a for-profit investment to raise mud crabs in mangrove friendly farming systems.</td>
<td>Explore possible partnership and synergies and cooperation modalities.</td>
</tr>
<tr>
<td>Vitamar Cambodia</td>
<td>The Cambodian affiliate of Norwegian investors in the aquaculture sector. Vitamar Cambodia are planning a for-profit investment in raising high quality fish fingerlings in mangrove friendly production systems.</td>
<td>Explore possible partnerships and synergies and cooperation modalities.</td>
</tr>
<tr>
<td>SCS/GEF</td>
<td>The Project &quot;Implementing the Strategic Action Programme for the South China Sea&quot; aims, amongst other things, to establish appropriate forms of sustainable management for 860,000 ha of mangrove across five countries, including Cambodia. The Cambodia office is in Sihanoukville.</td>
<td>Exchange information, explore possible partnerships and synergies and cooperation modalities.</td>
</tr>
</tbody>
</table>

3. Gender Considerations

The project setting is by and large remote, rural, and coastal. Women are often the poorest of the poor in rural Cambodia, making them particularly vulnerable to the impacts of climate change. Women frequently bear the heaviest labour burdens while enduring unequal access to education, health, and decision-making opportunities. Women play an important part in making incomes for the family and in the subsistence fisheries sector especially as regard to the post-harvest sector, including marketing and processing of fishery products and food preparation for family consumption. The project aims to fully mainstream women’s critical role in priority setting, mangrove forest protection and conservation, and that they receive equitable benefits from the sustainable use of coastal resources.
Both men and women are viewed as key stakeholders in this project. The project will aim to address gender empowerment through interventions narrowing gender disparities, and through improved (equal) access to project benefits, economic, knowledge and financial resources. The project will ensure that women's specific needs are met and that women benefit equitably from the project’s activities. This will begin with socio-economic and gender analysis and community consultation in the PPG, and this engagement will continue throughout implementation. By identifying and addressing barriers to participation faced by women, the project will be designed and implemented to raise levels of participation of women in coastal and natural resource decision-making and management, mainstreaming gender concerns across the project to ensure women receive an equitable share of the benefits of restoration and conservation. As livelihood assets may be supported through the clarification of access/user rights, women’s rights to livelihoods will also be supported. Women will also be organized by the project into women’s organizations for the protection, conservation and sustainable use of coastal resources.

Within the project and partners’ control, in any case where women are under-represented (e.g. on proposed committees, or in enterprise development), separate women’s organizations will be established to enhance their voice, rights and benefits. In addition to these structures, various livelihood interest groups will also be formed around vegetable gardening and enterprise development (e.g. fishery products), and in which women will be largely represented. Gender issues and needs will continue to be pinpointed within the PPG.

4 Risks

The following table summarizes the risk and the potential mitigation measures.

<table>
<thead>
<tr>
<th>Risk and description</th>
<th>Scale</th>
<th>Potential mitigation measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>National level coordination remains weak.</td>
<td>Medium likelihood, medium impact</td>
<td>The project will work mostly at local (commune and province) levels, where coordination and collaboration are generally stronger.</td>
</tr>
<tr>
<td>Sustainable management of coastal resources requires integrated management. At the national level in Cambodia, this notably requires forestry, fisheries and environmental agencies to coordinate on mapping, regulatory development, information exchange, activity implementation, etc. Until present this has been very weak in Cambodia, and the National Committee for Development of Coastal Areas has been unable to implement a coordinated approach.</td>
<td></td>
<td>The project will support local governments to bring lessons learnt to the attention of national decision-makers and facilitate improved national level coordination, although this will not be essential to success for the entire project.</td>
</tr>
<tr>
<td>Local disputes prevent rationale decision-making</td>
<td>High likelihood with high but localized impact</td>
<td>The project will address this issue head-on where it meets it. The project will strive to find win-win solutions to overcome challenges. It is expected that with perseverance and good information these challenges can be overcome on the whole.</td>
</tr>
</tbody>
</table>
### Strong local economic forces lead to irrational use of coastal resources

Local governance in Cambodia remains weak and many decisions are taken in a non-transparent manner. This often leads to degradation of natural resources to the clear detriment of local livelihoods. There are several examples of mangroves being cleared for aquaculture (small scale) or for resorts, or of industrial developments, and this greatly lessens the resilience of local communities to climate change.

### Climate change, increased storms or sea level rise undermine attempts to introduce sustainable resource management

Climate variability leads to two direct impacts: (i) sea level rise leading to salinization of water supplies and soils, including through storms (ii) increased unpredictability and intensity of storms at sea affecting fishing practices. Both of these can lead to economic (and other) losses that undermine climate change adaptation capacity.

### Illegal harvesting of fish or mangroves by local, national or international actors.

Although details vary from site to site, small scale illegal harvesting of both near coast fishes and of mangroves continue to occur, mostly driven by poverty in nearby areas, but also driven by rapid economic development including in neighboring countries. These can lead to economic losses that undermine climate change adaptation capacity.

<table>
<thead>
<tr>
<th>High likelihood with high but localized impact</th>
<th>The project is unable to address these issues head on. However, several aspects of the project support will help indirectly address these issues:</th>
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<td></td>
<td>• The collection of accurate data and information on the land and past use and ownership;</td>
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<td></td>
<td>• The collection of data and information that demonstrates the overall economic value of healthy mangrove ecosystems, thereby creating an incentive to protect;</td>
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<td></td>
<td>• The empowering of local communities through general support and capacity development, leaving them more able to defend their own interests.</td>
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<table>
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<tr>
<th>Medium likelihood with medium impact</th>
<th>To mitigate this, the project will (i) increase the availability of information on climate change and (ii) as necessary, help introduce more resilient technologies, such as stronger boats and improved polder management.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The project will also help develop alternative livelihoods that are less dependent on fisheries or agriculture during certain seasons.</td>
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<table>
<thead>
<tr>
<th>High likelihood with medium but mostly localized impact</th>
<th>To mitigate this risk, the Project will:</th>
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<tbody>
<tr>
<td></td>
<td>• Increase the legal basis of community and protected area fisheries through the registration process;</td>
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<td></td>
<td>• Help generate improved data and information on sustainable harvesting levels;</td>
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<tr>
<td></td>
<td>• Help develop alternative livelihoods, some of which may be available for those currently practicing illegal activities.</td>
</tr>
</tbody>
</table>

## 5. Coordination

The project will be executed by the FAO under direct execution modalities with the technical support of the National, Provincial and Commune Government offices. A Project Steering Committee (PSC) will be established to ensure coordination and provide guidance to the project. MoE, FiA, FAO, project financiers and representatives of the four Provinces will sit on the PSC. MoE and FiA will share alternate chairmanship of the PSC. Notably, MoE and FiA will ensure coordination with national initiatives, whereas FAO will facilitate coordination with internationally supported initiatives (including initiatives in other countries as relevant).

Close coordination with the following GEF initiatives will be assured through the above mentioned-mechanisms:

- Strengthening the adaptive capacity and resilience of rural communities using micro-watershed approaches to climate change and variability to attain sustainable food security in Cambodia (FAO/LDCF/MoE);
• Promoting Climate-Resilient Water Management and Agricultural Practices in Rural Cambodia (UNDP/LDCF/MAFF);
• Watershed management and ecosystem services in the Cardamom Mountains uplands of Prek Thnot River (ADB/GEF/MoE/MAFF);
• The UNEP/LDCF project (Vulnerability assessment and adaptation programme for climate change within the coastal zone of Cambodia considering livelihood improvement and ecosystems) previously established Technical Working Groups in each of the four concerned Project. This proposed project worked with those provincial TWGs as coordination platforms, and will continue to contribute to building their capacities.
• Supporting the implementation of ICM approaches in four coastal provinces of Cambodia; this was funded by GEF through United Nations Development Program (UNDP). This project was implemented by PEMSEA Resource Facilities based in Philippines, with local government of Cambodia.
• Please see Annex 3 for a summary of new initiatives that this project will coordinate with.

6. Consistency with National Priorities

6.1. National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAs, NAPs, NBSAPs, National Communications, TNAs, NCSAs, NIPs, PRSPs, NPFE, Biennial Update Reports, etc:

The overall development programme in Cambodia is The Rectangular Strategy – Phase III (2014 – 2018) which has the central theme of Growth, Employment, Equity and Efficiency. Overall the Strategy emphasizes both support to fishery communities and the importance of adapting to climate change. The 4th side of the second rectangle is “Sustainable Management of Natural Resources”, this includes aims for coastal fisheries, mangrove ecosystems and adaptation to climate change. This proposed project is in line with that Strategy. The project will track the new phase of this strategy to ensure relevance going forward.

The Government of Cambodia completed its National Adaptation Programme of Action (NAPA) in October 2006. Although some of the baseline data is now dated, the main objectives remain valid. The NAPA identified 20 high priority projects, and this proposed project contributes directly to three of those, i.e.:

• Community mangrove restoration and sustainable use of natural resources (no. 29);
• Rehabilitation of coastal protection infrastructure (no. 26);
• Community and household water supply in coastal provinces (no. 27).

Subsequently, the Government of Cambodia completed the Cambodia Climate Change Strategic Plan, 2014 – 2023 (CCCSP). The CCCSP defines the institutional framework and it defines major sectoral and cross-sectoral priorities. The implementation framework includes the National Climate Change Committee (NCCC), the Climate Change Technical Team (CCTT) and the Climate Change Department (in MoE). FiA is a member of NCCC and CCTT – and this project will be implemented in line with the institutional framework.

This proposed project notably contributes to the following strategic objectives in the CCCSP: Promote climate resilience through improving food, water and energy security (no. 1); Reduce vulnerability of sectors, regions, gender and health to climate change impacts (no. 2), and; Ensure climate resilience of critical ecosystems (includes coastal ecosystems), biodiversity, protected areas and cultural heritage sites (no. 3).

Cambodia recently became a full member of the Mangroves for the Future (MFF) initiative, and has completed its National Strategy and Action Plan 2014 – 2016. The MFF initiative has contributed to data collection, vulnerability assessments and consultation, all of which have contributed to the design of the proposed project. Hence, this proposed project is closely integrated with the institutional framework for MFF. This proposed project contributes in general to all 13 Strategies under the MFF Plan, in particular to Strategy 11 (climate change); Strategy 3 (building community resilience); and Strategy 9 (marine and coastal protected areas).

The development of fisheries in Cambodia is guided by the Strategic Planning Framework for Fisheries: 2010 – 2019. This document emphasizes the importance of coastal fisheries to poverty reduction and national development. It also
emphasizes the significance of climate change in coastal areas, although it does not provide any specific analysis or detailed figures. The proposed project is aligned to that planning framework.

Finally, by contributing to the implementation of the three coastal protected areas, this proposed project contributes to the implementation of the National Biodiversity Strategy and Action Plan (1998).

6.2. GEF Focal area and/or fund(s) strategies, eligibility criteria and priorities

The proposed Project will contribute to all three strategic objectives under the LDCF climate change adaptation framework. However, it makes the largest and most direct contribution to the first strategic objective (i.e.: LDCF Objective 1), i.e. Reduce the vulnerability of people, livelihoods, physical assets and natural systems to the adverse effects of climate change.

Under LDCF Objective 1, it will contribute to Outcome 1.1 (vulnerability of physical assets and natural systems reduced) by providing more detailed, more precise assessments of the projected impacts of climate change, and most importantly by piloting and demonstration management approaches that effectively increase adaptive capacity of the communities. It will also contribute to Outcome 1.2 (livelihoods and sources of income of vulnerable populations diversified). It will do this by providing direct support to at least 20,000 fishermen/women in poor, vulnerable communities along the coast, developing alternative livelihoods and developing more climate resilient fishing practices. LDCF Objective 2 (strengthen institutional and technical capacities for effective climate change adaptation) is aligned with the capacity building activities of the national and provincial government technical staff under Component 1. LDCF Objective 3 (integrate climate change adaptation into relevant policies, plans and associated processes) is aligned with the activities of incorporating climate change adaptation in the joint FiA/MoE strategy to support Protected Area and Fishing communities, Commune Development Plans (CDP) and Commune Investment Plans (CIP) under Component 1.

In line with GEF, LDCF and Convention Guidance, the project has been designed to respond to the NAPA priorities. Moreover the proposed project will be designed to meet the following LDCF/GEF guidance and principles:

- Country drivenness and being designed and implemented through a participatory approach;
- Capacity development, and supporting a "learning by doing" approach;
- Supporting integrated, multi-disciplinary approaches where possible;
- Actively promoting and developing gender equality;
- Aiming for sustainability from the outset; and,
- Aiming for broad adoption through replicability, mainstreaming, up-scaling and market transformation.

6.3. The GEF Agency's comparative advantage for implementing this project

FAO is the global lead technical UN Agency for agriculture, forestry and fisheries and has six decades of accumulated knowledge and global, national, and local experience. It is the main UN Agency for collecting and disseminating relevant information utilized worldwide in these sectors. FAO’s Agriculture, Natural Resources, Fisheries and Forestry departments have been implementing participatory fishery and forestry projects in many countries over the last three decades, building the capacity for improved practices to improve livelihoods and ensure food security.

FAO was among the first UN agencies to commence operations in Cambodia in 1979, providing emergency relief in the form of rice seed and fertilizer distribution. In 1994, the FAO office became a full representation, and since 1995 FAO has implemented over 150 projects valued at USD 115,000,000 covering areas such as: food and agriculture policy, cropland and livestock management, fisheries and aquaculture, sustainable forest management, and natural resources management. Currently, FAO Cambodia has approximately 60 staff, including 6 international and approximately 50 national technical personnel with expertise in agriculture, forestry, livestock, fisheries, economics, natural resource management and climate change. In Cambodia, FAO has been instrumental in supporting community forestry, fisheries and protected areas. FAO has also developed various e-learning courses guides and manuals on climate change adaptation, community based adaptation, and climate smart agriculture.

GEF-6 PIF Template-January 2015
Additional technical support to project implementation will be provided by FAO staff from the Regional Office for Asia and the Pacific in Bangkok and FAO headquarters, drawing upon FAO’s wealth of experience in the fields of fisheries and forestry. The FAO Regional Office for Asia and the Pacific (RAP) has considerable experience in coastal area planning, the use of forests for providing protection against coastal hazards and in participatory forest and fisheries management. Specifically, FAO has vast experience in mangrove rehabilitation, restoration and management, both globally and in South and Southeast Asia, particularly as a result of interventions following the devastation of the 2004 Indian Ocean tsunami. FAO is a steering committee member of the International Union for Conservation of Nature (IUCN)-led “Mangroves for the Future” initiative which aims to improve the management of coastal ecosystems in the Indian Ocean Region (Cambodia is part of this initiative).

FAO recently implemented the Regional Fisheries Livelihood Programme for South and Southeast Asia (2010 – 2013, financed by the Government of Spain). With an investment of approximately $2 million in Cambodia, FAO oversaw and technically supported a series of activities to strengthen capacity among participating small-scale fishing communities and their supporting institutions towards improved livelihoods and sustainable fisheries resources management. FAO has developed Community Fishery Management and Mangrove Management planning approaches developed for use at district and provincial levels. A regional cadre of trainers is being developed in this regard (e.g. via Bay of Bengal Large Marine Ecosystem; Indonesia Seas Large Marine Ecosystem, and; several other FAO GEF projects). Government and local community stakeholders in this project will benefit from practical planning experiences using ecosystem approach fishery and coastal resource management (including mangroves) through pilot projects in carrying out marine spatial planning and in implementing Ecosystem Approach to Fisheries Management (EAFM) fisheries management plans. Capacity built in FAO regional projects, lesson learning, sharing of training course materials and knowledge exchange will also be made available through the FAO project network.

7. Knowledge Management

FAO together with the government counterpart will ensure the preparation of the necessary documentation and publications detailing the project progress and achievement of project activities and posted on project website and others channels. At the end of project activities, a dissemination workshop will be organized for the presentation of project achievements and suggestions for possible follow up/development interventions, to be submitted to the GEF.

Full visibility of the project will be ensured during the implementation through GEF’s and key partners’ logos, boards, stickers and publications, and national and international media as appropriate bringing up more attentions to the priorities of the biodiversity and climate change adaptation and management in the country.
**part iii: approval/endorsement by gef operational focal point(s) and GEF agency(ies)**

**A. RECORD OF ENDORSEMENT**³³ OF GEF OPERATIONAL FOCAL POINT(s) ON BEHALF OF THE GOVERNMENT(S):

(Please attach the Operational Focal Point endorsement letter(s) with this template. For SGP, use this SGP OFP endorsement letter).

<table>
<thead>
<tr>
<th>NAME</th>
<th>POSITION</th>
<th>MINISTRY</th>
<th>DATE (MM/dd/yyyy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Lonh Heal</td>
<td>Director General and GEF Country</td>
<td>Ministry of Environment</td>
<td>02/16/2015 &amp; 07/21/2015</td>
</tr>
<tr>
<td></td>
<td>Operational Focal Point</td>
<td></td>
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</table>

³³ For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are required even though there may not be a STAR allocation associated with the project.
B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies\(^4\) and procedures and meets the GEF criteria for project identification and preparation under GEF-6.

<table>
<thead>
<tr>
<th>Agency Coordinator, Agency name</th>
<th>Signature</th>
<th>Date (MM/dd/yyyy)</th>
<th>Project Contact Person</th>
<th>Telephone</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexander Jones Director, Climate and Environment Division, FAO Rome</td>
<td>![Signature]</td>
<td>24 May 2018</td>
<td>Nina Brandstrup (Ms.) FAO Representative in Cambodia, Street No. 370, Boeung Keng Kang I, Khan Chamranmon, House No.5 PHNOM PENH</td>
<td>+855 23 216 566</td>
<td><a href="mailto:FAO-KH@fao.org">FAO-KH@fao.org</a></td>
</tr>
<tr>
<td>Jeffrey Griffin Senior Coordinator GEF Unit, CBC, FAO Rome</td>
<td></td>
<td></td>
<td></td>
<td>+39 06 570 55680</td>
<td><a href="mailto:GEF-Coordination-Unit@fao.org">GEF-Coordination-Unit@fao.org</a>; <a href="mailto:Jeffrey.Griffin@fao.org">Jeffrey.Griffin@fao.org</a></td>
</tr>
</tbody>
</table>

C. ADDITIONAL GEF PROJECT AGENCY CERTIFICATION (APPLICABLE ONLY TO NEWLY ACCREDITED GEF PROJECT AGENCIES)

For newly accredited GEF Project Agencies, please download and fill up the required GEF Project Agency Certification of Ceiling Information Template to be attached as an annex to the PIF.

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\(^4\) GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, and SCCF

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Annex 1 – Map of Area Showing Protected Areas and Fishing Communities

- Protected Area
- Communities Outside Protected Area
Annex 2 – ‘Mangrove Friendly’ Aquaculture

“Mangrove-friendly” aquaculture is a form of aquaculture practised within the tidal zone of mangroves and associated creeks and habitats. Mangrove friendly aquaculture, as its name implies, are aquaculture operations which do not result in the clearance of mangrove cover. Rather aquaculture livelihood activities are integrated within the mangrove and such that they retain their functional hydrology. This practice is also called “Aqua-silviculture” although there are different extents of this type of activity. The most basic level is the “penning” off of a swath of mangrove and the stocking or enhancement of the area to generate a fishery for mangrove crab, other invertebrates and fish.

There is a reasonably long tradition of aquaculture-type activities inside mangroves and these system can be found in the Philippines, Vietnam and Indonesia. The scale can vary from large hectares of mangrove creek and tree systems, to smaller scale activities such as the certified organic shrimp production systems in Vietnam, to small 5x5 metre pens for the fattening of mangrove crabs.

The systems may be fed supplementary feed or rely entirely on natural productivity. Typically, some modification of the mangrove may occur, including thinning of trees and construction of trapping areas. This may be compensated by planting elsewhere, but requires an important degree of oversight to ensure maintenance of functioning and healthy mangrove habitat, and that these ecosystems and species compositions are not negatively impacted.

There are a number of ways that this type of aquaculture development can become “unfriendly”, and of which the project is aware. Aquaculture implicitly requires ownership of the stock being cultured. This also has a pre-requisite that the area or location of the aquaculture operation is also “owned” or secured for the aquaculture operator. Whilst some forms of mangrove friendly aquaculture take place in private pens and creeks and channels, others currently rely on open access. There are risks that the large scale enclosure of mangrove areas effectively enclose the commons and result in conflicts or marginalization of other users of the resources (especially those who forage in mangroves). In addition, if a given aquaculture operation intensifies to a point where biodiversity and ecosystem values are severely compromised (e.g. hydrology is significantly altered, habitat of key species degraded or the mangrove cover is fully removed), then this no longer constitutes “mangrove friendly” aquaculture and hence cannot be considered under this approach.

The project will consider legal implications and benefit sharing/protection potentials for permitting aquaculture in mangroves. This is important where, after some time of operation, there is often a tendency to intensify the operation and this inevitably requires the removal of some mangrove trees to improve harvesting or facilitate other management activities such as feeding and trapping, deepening ponds and flushing and stabilizing water. This evolution of mangrove friendly to unfriendly activity must be addressed by the project in terms of equity of access, the legal implications of owning cultured stocks in mangrove areas, trespass and the controls on intensification and removal of trees subsequent to the permitting and establishment of aquaculture activity.

The establishment of appropriate rules and regulations for permitting or controlling aquaculture in mangrove areas is critical to ensuring that any development contributes both environmental and social benefits and that these are sustained over the long term.
Annex 3: Summary of specific aspects that required updating.

Aspects that were confirmed:
1. The OFP and FiA confirmed the project framework and the continued relevance/priority of the proposed project.
2. National priorities are still highly relevant and current. For example, the Cambodia Climate
Change Strategic Plan, 2014 – 2023. The project will track other national priorities that are
being renewed, such as the overall development programme in Cambodia entitle The

Aspects that required updating:
1. Co-financing levels and partners were updated to reflect those projects which have closed and
adding new projects. Some government programs have consistent budgets that allowed for
maintaining cofinancing estimates (see section
2. Information in the context was updated to reflect more recent data.
3. The baseline / policy and legal framework (1.3.1) was updated to reflect changes in the policy
and legal frameworks, especially relating to the Strategic Planning Framework for Fisheries
4. The baseline was also updated to reflect three additional and related projects in the coastal
areas that are either on-going or recently completed. Very importantly, a new baseline
CAPFISH programme, supported by the European Union, is under development and will
provide important actions to support the fisheries and aquaculture sector in Cambodia,
including in the coastal provinces. This program is foreseen to begin in 2019.

Changes in Adaptation Funding Landscape of Cambodia:

The following new adaptation funding has been acknowledged and assessed. Coordination with
these new projects will be ensured to maximize synergies, share lessons and avoid overlaps.

1. ADB-GCF funded project on Climate-Friendly Agribusiness Value Chains Sector Project
   a. Project target areas: Kampong Cham, Tboung Khmum, Takeo and Kampot. Project
      shares only Kampot province with the FAO-LDCF Project but focuses on value chain
development of agriculture commodities including rice, maize, cassava and mango +
      investment in solar and bio-energy and does not include fisheries or mangroves.
      Potential livelihood diversification outside of the target sectors will be investigated
during project development phase.
2. ADB funded project on Promoting Climate-Resilient Agriculture in Koh Kong and
   Mondulkiri Provinces
   a. Primarily agriculture and dry forest-focused with bioengineered sea barriers,
      mangrove planting and fisheries best practices to be investigated during project
development phase. The LDCF project will coordinate closely with the ADB funded
project to ensure complementarity.
3. Australian funded project on Cambodia Agricultural Value Chain Program (CAVAC)
   a. Shares Kampot province but focuses on milled rice and other crops by strengthening
      market systems and investing in irrigation infrastructure. Potential livelihood
      diversification outside of the target sectors will be investigated during project
development phase.
4. Adaptation funded project Enhancing Climate Resilience of Rural Communities Living in
   Protected Areas of Cambodia
   a. Focusses on northern Cambodia, dry forests and rice cultivars. Exchange of lessons
      foreseen.

GEF-6 PIF Template-January 2015
5. **New Zealand funded project STEER - Systems approach to Transformative Economic Empowerment and Resilience.** The goal of STEER is to improve the economic empowerment, household wellbeing and resilience of target communities in Koh Kong province through a market-based approach. The primary desired outcome is "improved household agricultural value chain income generation and resilience. Potential synergies foreseen in Kho Kong and will be elaborated further under the PPG."