
Country programme

Kingdom of Cambodia

December 2021



THE KINGDOM OF CAMBODIA

THE NATIONAL COUNCIL FOR SUSTAINABLE DEVELOPMENT



December 2021

CAMBODIA'S COUNTRY PROGRAMME

for the Green Climate Fund



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Foreword

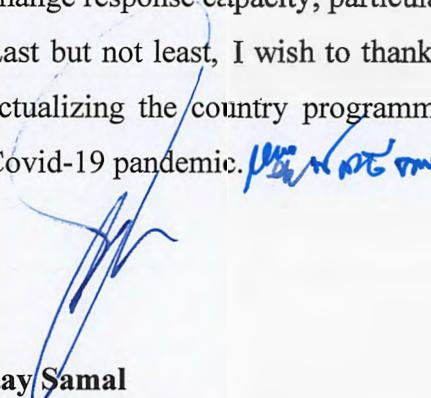
Cambodia had enjoyed steady economic and social development during the last two decades prior to the Covid-19 pandemic with an average annual growth rate of around 7%. The country aspires to attain upper middle-income status by 2030 and high-income status by 2050, while balancing the impacts of economic development on our environment, society, and culture.

Being one of the most vulnerable countries to the effects of climate change, Cambodia is fully aware of the challenges caused by the climate change and therefore the needs of building climate resilience into the development efforts despite its minimal contribution to the global GHG emissions. International assistance is thus important at this juncture to ease the additional GHG abatement costs, and we are thankful to the various international agencies for their assistance in improving our development capabilities in line with the international best practices.

The Green Climate Fund (GCF) has especially been actively supporting our green development efforts and working closely with the Cambodian Ministry of Environment since 2014, from when we were appointed as the National Designated Authority (NDA) for the GCF. At present, the GCF has provided US\$ 40 million funding for one project. In addition, out of an approved amount of US\$ 1.2 million for readiness support, US\$ 772,600 has been disbursed for six readiness activities (GCF, 2021).

This country programme document includes lists of new projects for which Cambodia wishes to receive funding and also areas where Cambodia wishes to receive capacity building support. The preparation of this programme document has gone through a number of discussions and consultations with line ministries and key relevant stakeholders.

I would like to express my gratitude for the support extended by the GCF to enhance our climate change response capacity, particularly in strengthening our people's climate change resilience. Last but not least, I wish to thank all the relevant stakeholders for their kind contribution to actualizing the country programme document despite the difficulties posed by the current Covid-19 pandemic.



Say Samal

Chair of the National Council for Sustainable Development
Minister of Environment

Executive Summary

Cambodia sets ambitious to become a high-income country by 2050, while balancing the economic development with the conservation of her rich culture and environment.

According to the Cambodia Climate Change Financing Framework (CCCCFF) 2015, the country needs between US\$ 400 Mn to US\$ 500 Mn for climate action including both mitigation and adaptation activities for the period 2013 – 2023.

Assistance of international organizations is important for these efforts. The GCF has been supporting Cambodia since 2014 on the green development initiatives. At present, the GCF has funded one project worth US\$ 40 million. A further US\$ 1.2 million has been approved for readiness activities and US\$ 772,600 has already been disbursed for 6 readiness activities (GCF, 2021).

This country programme is prepared to assist accredited entities developing and aligning their climate project funding proposals to priority areas of Cambodia. This Cambodia's GCF country programme abbreviates a set of national development and climate change priorities. It provides priority areas, which comprise of mitigation and adaptation activities. GHG mitigation to reduce climate change impacts consists of 5 priority areas: Agriculture; LULUCF; Energy; Transport; and Industry, while adaptation to climate change consists of 5 priority areas: Agriculture; Water resources; Forest; Human health; and Coastal zone. In light of promoting a paradigm shift toward low emission and climate resilient development, this country programme aims to harmonizing international climate finance and Cambodia fiscal priority and development policies, coordinating and allocating the GCF funding to areas with financial and development gap, ensuring programmes seeking for the GCF funding have incorporated environment and social safeguards as well as inclusive engagement process.

This Country Programme Document presents details of following projects for which the GCF funding is requested.

Project pipeline with specific accredited entity and financial details

No	Project	Financing (mUS\$)		Accredited Entity
		GCF	Co-Finance	
1	Public-Social-Private Partnerships for Ecologically-Sound Agriculture and Resilient Livelihood in Northern Tonle Sap Basin (PEARL)	34.5	6.1	FAO
2	Agroecological Transition	10	0.1	UNDP, NCDD
3	Integrated Water Management	10	0.2	UNDP, NCDD
4	Realizing the full potential of Cambodian communities in a changing climate	10	-	Save the Children, NCDD
5	Reducing Cambodia's Emissions Through Decentralized Forest Management	25	5	CI, WCS
6	Resilience's Livelihood and Infrastructure in Social Land Concession for Vulnerable Communities Project	-	-	NCDD
7	Moving Towards REDD+ Implementation through Private Sector Engagement in REDD+ Actions	10	3	UNDP
8	Strengthen Resilient Capacity of Flooding Communities	-	-	NCDD
9	Supporting climate resilience and sustainable water management	-	-	The World Bank
10	Scaling up of Distributed Renewable Energy in Cambodia	26.3	-	UNEP
11	Promotion of E-mobility in tourism areas	5	0.5	UNIDO
12	Repair and rehabilitate existing road infrastructure and ensure effective operation and maintenance system, taking into account climate change impact	-	-	N/A
13	Decarbonizing the transport, industrial and households sectors through scaling up biofuels value chain in Cambodia	1.5	1	UNIDO
14	Strengthening the market supply chain and increasing the climate resilience of rural communities through water energy food nexus	10.3	-	NCDD, UNEP
15	Local Governments and Climate Change-III (LGCC3)	10	4.31	NCDD
16	Promote integrated public transport systems in main cities	-	-	N/A
17	Technical Assistance (TA) Facility for the Global Subnational Climate Fund (SnCF Global; Cambodia: Production and Dissemination of Ceramic Water Purifiers)	-	-	IUCN
18	Urban Cooling	10	-	NCDD, UNEP
19	Resilient Cities	10	0.2	UNDP, NCDD
20	Fostering climate-friendly agro industry development and investment in southern and northwestern regions of the country.	20	3	UNIDO
21	Fostering climate-friendly recovery responses through innovative policies and interventions and green technology up-taking	15	2.5	UNIDO
22	Formulation of Technical guidelines for mainstreaming climate change into Commune	-	-	N/A
23	Develop various technical guidelines and tools (e.g., disaster vulnerability analysis, disaster prevention strategy, and new town development guidelines) for strengthening spatial planning responding to climate change, especially the effective procedures for disaster risk management (flood and drought), green infrastructure planning, and green growth.	-	-	N/A
24	Collaborative R&DB Programme for Promoting the Innovation of Climate Technopreneurship	60	60	UNIDO

List of Acronyms

ADB	Asian Development Bank
AE	Accredited Entity
AEZ	Agro Ecological Zones
AF	Adaptation Fund
AHP	Analytical Hierarchy Process
ASEAN	Association of Southeast Asian Nations
BUR	Biennial Update Report
CBA	Cost-Benefit Analysis
CC	Climate Change
CCA	Climate Change Adaptation
CCAI	Climate Change and Adaptation Initiative
CCAP	Climate Change Action Plan
CCCCF	Cambodia Climate Change Financing Framework
CCCSP	Cambodia Climate Change Strategic Plan
CCM	Climate Change Mitigation
CCTWG	Climate Change Technical Working Group
CDC	Council for the Development of Cambodia
CDM	Clean Development Mechanism
CH4	Methane
CI	Conservation International
CIF	Climate Investment Fund
ClimateSI	Climate Smart Initiatives (Pvt) Ltd
CO2	Carbon Dioxide
CPER	Climate Public Expenditure Review
CPEIR	Climate Public Expenditure and Institutional Review
CRDB	Cambodian Rehabilitation and Development Board
CSDG	Cambodia Sustainable Development Goal
CTCN	Climate Technology Centre and Network
D & D	Decentralization and Deconcentration
DAE	Direct Access Entity
DCC	Department of Climate Change
DP	Development Partner
ESS	Environmental and Social Safeguards

EU	European Union
FCPF	Forest Carbon Partnership Facility
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environment Facility
Gg	Gigagram
GGGI	Global Green Growth Institute
GHG	Greenhouse Gas
GSSD	General Secretariat of the National Council for Sustainable Development
GVA	Gross Value Added
HDI	Human Development Index
IAE	International Accredited Entity
IFAD	International Fund for Agricultural Development
IFI	International Financial Institution
IMF	International Monetary Fund
INC	Initial National Communication
INDC	Intended Nationally Determined Contribution
IP	Indigenous People
IPCC	Intergovernmental Panel on Climate Change
ITAP	Independent Technical Advisory Panel
IIED	International Institute for Environment and Development
IUCN	International Union for Conservation of Nature
KHR	Cambodian Riel
L & D	Loss & Damage
LDC	Least Developed Country
LDCF	Least Developed Countries Fund
LUCF	Land Use Change and Forestry
LULUCF	Land Use, Land Use Change, and Forestry
MAFF	Ministry of Agriculture, Forestry, and Fisheries
MCA	Multiple-Criteria Analysis
MDG	Millennium Development Goal
MEF	Ministry of Economy and Finance
Mekong ARCC	The Mekong Adaptation and Resilience to Climate Change

MISTI	Ministry of Industry, Science, Technology and Innovation
MLMUPC	Ministry of Land Management, Urban Planning and Construction
MME	Ministry of Mines and Energy
MoC	Ministry of Commerce
MoE	Ministry of Environment
MoH	Ministry of Health
MoP	Ministry of Planning
MoWRAM	Ministry of Water Resources and Meteorology
MPWT	Ministry of Public Works and Transport
MRC	Mekong River Commission
MRD	Ministry of Rural Development
MSP	Mekong Strategic Partners
Mt	Metric Tonne
N2O	Nitrous Oxide
NAPA	National Adaptation Programme of Action on Climate Change
NAPFF	National Adaptation Plan Financing Framework
NCCC	National Climate Change Committee
NCDD	National Committee for Sub-National Democratic Development
NCDD-S	National Committee for Sub-National Democratic Development Secretariat
NDC	Nationally Determined Contribution
NGO	Non Governmental Organisation
NIS	National Institute of Statistics
NPRS	National Poverty Reduction Strategy
NP-SNDD	National Program for Sub-National Democratic Development
NSDM	National Committee for Disaster Management
NSDP	National Strategic Development Plan
ODA	Official Development Assistance
PIP	Public Investment Program
PM	Particulate Matter
RE	Renewable Energy
RGC	Royal Government of Cambodia
RS-IV	Rectangular Strategy Phase IV
SAP	Simplified Approval Process

SD	Sustainable Development
SDG	Sustainable Development Goal
SEZ	Special Economic Zone
SIDA	Swedish International Development Cooperation Agency
SNA	Sub-National Administration
SNC	Second National Communication
SPCR	Strategic Programme for Climate Resilience
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNFAO	Food & Agriculture Organization of the United Nations
UNFCCC	United Nations Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organization
UNOPS	United Nations Office for Project Services
UN-REDD	United Nations Programme on Reducing Emissions from Deforestation and Forest Degradation
USD	United States Dollar
WB	World Bank
WCS	Wildlife Conservation Society
WHO	World Health Organization
WRI	World Resources Institute

Country Profile

Basic information of Cambodia is given in Table 1 below:

Table 1: Country Profile of Cambodia

Geographical Location	South-Eastern Asia
Land Area	181,035 km ²
Population	15.29 million (2019 census, August, 2019)
Types of Climate	Climate is tropical, hot all year round, with a rainy season from May to mid-November due to the south-west monsoon and a dry season from mid-November to April.
GHG Emissions Profile	The total emissions of greenhouse gases (GHG) estimated are 163,592 Gg.CO ₂ -eq in 2016, which is 285% higher than that of in 1994. The main driver for this increase in GHG emissions is the deforestation reflected in the emissions of the FOLU sector (GSSD, 2020b).
Key Emitter Sectors	Energy, Industrial Processes and Product Use (IPPU), Agriculture, Forestry and Other Land Use (AFOLU), and Waste (GSSD, 2020b)
Key Climate Risks	Floods, droughts, tropical storms and vector-borne diseases
Vulnerable Sectors	Agriculture and water resources, forestry, coastal zones, and human health (GSSD, 2020a)
Ratification of the United Nations Framework Convention on Climate Change (UNFCCC); Kyoto Protocol and Paris Climate Agreement	The UNFCCC entered into force for Cambodia on 17/03/1996 after it ratified the UNFCCC on 18/12/ 1995. The RGC approved of the Kyoto Protocol in 2002 and has submitted two national communications (NCs) to the UNFCCC, most recent one in 2015 (Second National Communication). Submission of INDC, 2015; BUR 13 August 2020 and NDC update 31 December 2020
NDA/ FP	Minister of Environment
National Accredited Entities (AEs)	National Committee for Sub-National Democratic Development (NCDD) ¹
International AEs	² The World Bank, Food & Agriculture Organization of the United Nations (UNFAO), CI, IUCN, UNDP, UNEP, UNIDO, UNCDF, Save the Children, etc.

Please note that Table 1 lists only active AEs with the Royal Government of Cambodia. However, it does not imply that other International AEs are not permitted to engage with project ideas with the Royal Government of Cambodia.

¹ NCDD has only been accredited in November 2019 with the Green Climate Fund and is pursuing accreditation with the Adaptation Fund in 2021.

² Only the international entities who have expressed their interest to NDA to work in Cambodia are mentioned here

1. Country Context

1.1. Sustainable Development Agenda

1.1.1. Overview

Cambodia has shown an enormous progress during the last four decades in recovering from protracted conflict and genocide, and the accompanying blows to the country's social and economic infrastructure, human resources, and above all, lifting up the spirit of Khmer people.

Country's policies have played a vital role in ensuring, strong macroeconomic stability, formulation of an open economy and also to maintain an average GDP growth rate of over 7% per year in last two decades from year 2000 to 2019. (MoP, 2019). According to the Ministry of Economy and Finance (MEF), the GDP growth is estimated at 7.5% in 2018 and 7.1% in 2019. If the COVID 19 emergency pandemic did not arise, it is projected for a stable growth of GDP at 6.1% in 2020. GDP per capita has also steadily increased from US\$ 1,043 in 2013 to more than US\$ 1,561 in 2018. In line with COVID 19 impact on GDP growth, according to World Bank's Economic Update for Cambodia 2020, tourism, construction, and manufacturing exports are seriously affected. Consequently, for 2020, the Bank has projected that growth rate will be contracted between 1% (baseline) to 2.9% (downside) and for 2021, it will recover to 6% under the baseline case and 3.9% for the downside scenario (WB, 2020).

As envisaged in recently adopted Industrial Development Policy, Cambodia is obliged to increase the GDP share of industrial sector to 30% by 2025 with the manufacturing sector growing from 15.5% in 2013 to 20% in 2025, while diversifying the export of goods by increasing the export of non-textile to reach 15% of all exports by 2025 and promoting the export of processed agricultural products to reach 12% of all exports by 2025.

Cambodia's rapid development was attributed to the policies that prioritize industrialization and modernization of the economy although it led to decline the GDP share by the agricultural sector. However, the agriculture sector continues to play an important role in the production and employment, which is evidenced by Cambodia being one of the world's 10 largest rice exporters, doubling her exports of milled rice in the period 2013-2017.

Although these efforts resulted in higher average incomes and a significant reduction in poverty, and accompanied by a high level of employment, Cambodia needs to further develop her economy in order to become an upper-middle income country by 2030 and a high-income country by 2050 (as per RGC's Vision 2050).

Income distribution and poverty estimates

Cambodia recorded one of the world's most impressive declines in poverty over the past decade. However, income inequality is higher, and large gaps remain between urban and rural residents. At the same time, domestic revenue mobilization has improved substantially, but collection of tax revenue is biased towards non-progressive sources (Niels-Jakob, Hansen, & Gjonbalaj, 2019).

ODA support to climate change

Each year, Cambodia receives hundreds of millions of dollars in grant aid from strategic partners such as China and Japan. However, none of these bilateral donors has notably mainstreamed its development assistance to climate change. For instance, China has used only 8% of her entire ODA to Cambodia on Climate Change, while Japan has used only 14% (UDOM et al., 2019).

Projects with a value of more than USD 306 million (23% of total ODA) are recorded as having made some form of contribution to climate change in 2017, representing a 12% increase compared to 2016. Agriculture and transportation are the largest climate change mainstreaming sectors with a combined more than USD 171 million (56%) of mainstreamed funds. Sectors that have most successfully mainstreamed climate change to a significant extent in USD terms are agriculture, rural development, and health (more than USD 24.5 million combined) (CDC, 2018).

It is worth noting that the share of climate change expenditure in GDP in 2018 and 2019 were 1.8% and 2.0%, respectively. The climate change spending financed by domestic resources (national budget) kept increasing in 2019 and represented 41.5% (KHR 905 billion or USD 226.2 million) of total climate change expenditure, while the climate change concessional loans disbursements in 2019 grew by 43%, higher than the overall CDC's ODA which grew by 34% (CPEIR, 2019).

Cambodia should request more grant aid or loans from her strategic partners toward climate change projects. Setting annual quotas such as 30-40% of total annual development aid toward climate change would greatly increase funding for climate change adaptation projects.

Rapid development in Cambodia has improved the several social indicators, among others, improvement to health (reduction in maternal, child and infant mortality rates; a reduction in the HIV/AIDS prevalence rate; and significantly reduced malaria incidence) and education (education reforms have enhanced life opportunities for youth and created an improved supply

of quality human resources and skills to the job market). The chart below depicts the path of Cambodia's Human Development Index, which underlines the dramatic rate of change that has made Cambodia one of the top ten performers globally.

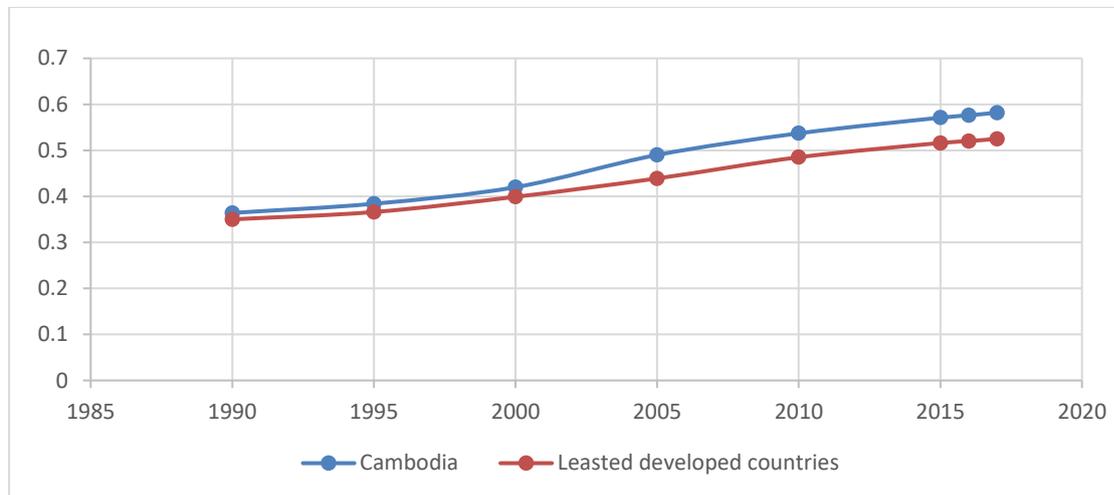


Figure 1: Human Development Index from 1990

Source: (MoP, 2019)

The RGC has a stronger emphasis on the environmental impacts of rapid social and economic development in order to achieve Cambodian Vision 2050, in particular, giving a greater attention to better management of natural resources and responding to the impacts of climate change, which is also explicitly recognized in the Rectangular Strategy IV (RS-IV). For the better management of natural resources and responding to climate change, the RGC has three policy initiatives: 1) National Environment Strategy and Action Plan (NESAP) 2016-2023 ; 2) the Cambodia Climate Change Strategic Plan 2014–2023; and 3) National Strategic Plan on Green Growth 2013-2030, which will facilitate to reduce climate change impacts on national development, and join hands with the international community, in global efforts for mitigating GHG emissions under the UNFCCC.

1.1.2. Cambodian Sustainable Development Goals (CSDGs)

The CSDGs fully reflect Cambodia's longer-term visions, which seeks progression to Upper Middle-Income in 2030 and then High-Income Country in 2050, while leaving no one behind, and preserving Cambodia's natural resource endowment. The CSDGs have been fully integrated within planning and policymaking via the NSDP, and most innovatively within Budget Strategic Plans, where the CSDGs targets provide key performance measures.

The RGC reiterated its fullest contribution and support of the SDGs, and its ambition to maintain Cambodia's rapid pace of development and carry through the necessary measures and

reforms (MoE, 2018). Cambodia SDGs 2016-2030 have been built on Cambodia Vision 2050, Rectangular Strategies/RGC’s Policies, and NSDP 2019-2023, etc as shown in Figure 2.

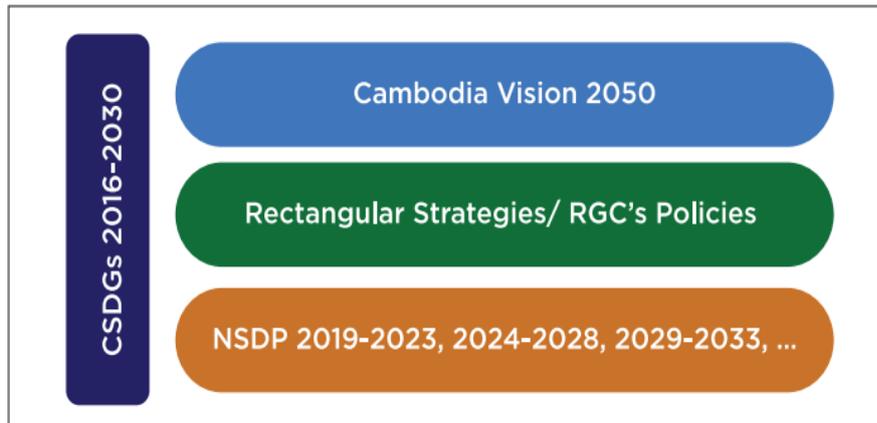


Figure 2: National planning timelines and CSDGs

Source: (MoP, 2019)

The Cambodian SDG Framework (MoP, 2019) represents a comprehensive and fully nationally-adapted set of targets; provides a baseline, milestones and end-line data; and sets-out arrangements for the management and governance of delivery at the strategic level. The SDGs are also fully aligned with the RGC’s long-term development vision as articulated in Vision 2050, and in its medium-term instruments – the RS-IV and the NSDP 2019-2023. These collectively seek to enable progression to upper-middle income and then high-income country status based on socioeconomic inclusion and environmental sustainability. Therefore, the imperative of securing equitable development and leaving no one behind, and preserving Cambodia’s natural resource endowment, while also addressing the threats posed by climate change, are fully embedded within the policy stance.

As such, the RGC intends to prioritize the implementation of SDGs based on three criteria: 1) the principle of leaving no one behind and population groups which lag others; 2) the alignment between the CSDG targets and, existing and new national objectives; and 3) considering the global experience, guidance, and also based on the international literature, priority will be given to policy actions which serve as “accelerators” (MoP, 2019).

Funding development priorities

Latest Public Investment Program in Cambodia is three-year rolling Public Investment Program (PIP) for 2020-2022. Since beginning, rolling three-year PIP is prepared annually to reflect the priorities of the RGC for capital and technical assistance needs to implement its development strategies. The primary objective of the PIP is to present data on high priority public investment projects of the ministries and agencies according to the policies outlined in the Rectangular

Strategy Phase IV, and the roadmap for the implementation of these policies presented in NSDP 2019-2023.

The National Budget Law of Cambodia has three main parts: revenues; expenditures; and deficit. Budgetary resource mix includes revenue from various sources raised by the government in order to fund government activities and development programs. These revenues are divided into current revenues and capital revenues. Tax and non-tax revenues make up current revenues. Tax revenues are those received from taxes on goods, service, and international trade. Non-tax revenues include revenues from renting and sale of public property, mining concessions, public enterprise profits, privatization, passport and visa fees, and administrative services. Capital revenues include domestic capital revenues, mainly from financial investments, and capital revenues from external sources, which are made up of the budget support fund, loans and grants (NGO-FC & EIC, 2007).

Since the Paris Peace Accords in October 1991, Cambodia has received significant global support for her development and post-conflict rehabilitation work. This has included direct aid, development loans and infrastructure funding from bilateral, multilateral, and private donors. In 2018, Cambodia received US\$ 769 million in official development assistance, in other words 21.5% of government expenditure. While that is a significant proportion, it is nevertheless a significant drop from earlier years.

There is no explicit legal framework solely regulating donor and development assistance in Cambodia. Despite the lack of a specific law, the Cambodian Rehabilitation and Development Board (CRDB) under the Council for Development of Cambodia (CDC) is the authorized focal point for aid management (ODC, 2018).

1.1.3. Integrating the CSDGs within the national policy and planning structures

Integrating the CSDGs within policy and resource planning in Cambodia primarily involves embedding the framework within the current decision making and administrative arrangements. Two key challenges are faced during the process: first, the need to ensure consistency and coherence between the CSDGs and plans and actions; and second, the need to prioritize between CSDG targets and to make policy and resourcing choices (MoE, 2018).

Key aspects in sub-national development policy, devolution of funds

National Program for Sub-National Democratic Development (NP-SNDD) 2010- 2019 mentioned that the Royal Government's policies and strategies over the last ten years before 2010 have led to major social and economic improvements in Cambodia, fostering the culture

of unity, peace and security. The political stability and economic liberalization in Cambodia created the conditions for maintaining macroeconomic stability and attracting investment, which is crucial for sustainable development and poverty alleviation. As in most fast-developing countries, economic growth of Cambodia also has not benefited people and regions equally. It was difficult to directly deliver local development and the required range of public services across the country from the Capital. One of Cambodia's key approaches in tackling local development, inequality and poverty is the policy of Democratic Development set out in the Strategic Framework for Decentralization and Deconcentration (D & D) Reforms adopted by the RGC in June 2005. The country has since enacted the Organic Law and established democratically-elected sub-national councils. At the same time, the Royal Government has embarked on a number of other major governance reforms, including the Public Financial Management Reforms and the Public Administration Reforms to ensure maximum value-added benefit for all citizens.

The National Committee for Sub-National Democratic Development (NCDD) was established in 2008 to assist the Royal Government to implement the terms of the Organic Law and to formulate, oversee and coordinate implementation of a national D&D programme. NP-SNDD provided key entry points required to create a national "adaptation system" that will support society in the long-term, iterative process of adjusting to the climate change. One of the guiding principles under NP-SNDD is integrate appropriate consideration of environmental issues, especially climate change, into Sub-National Administration (SNA) activities at all levels. Funds received can be allocated autonomously by the recipient subnational administration (though some general constraints may apply such as meeting standard public financial management and audit requirements) (NCDD, 2010). Climate change was one of the cross-cutting themes mainstreamed across the five programme areas of the first NP-SNDD. The next NP-SNDD is being formulated covering the coming ten years (2021 to 2030). Climate change remains one of the three cross-cutting themes of the next NP-SNDD. In the framework of NP-SNDD, NCDD has a mandate to support sub-national administrations to access climate finance and support sub-national administration to implement climate activities.

Establishing 'country ownership' and 'need of recipient' through sectoral trends

Incorporating a low-carbon mindset to the outset of planning will definitely add benefits to support decarbonization movement and several SDGs. For example, improved urban transport will support SDG 3 ("ensure healthy lives and promote well-being for all ages") by reducing air pollution (especially, particulate matter, PM10 and PM2.5) and resulting in fewer health risks. Further, shifting away from carbon-intensive energy sources to less carbon-intensive

along with renewables will support SDG 7 (“ensure access to affordable, reliable, sustainable, and modern energy for all,” emphasis added). Both these examples would also support more overarching goals such as SDG 9 (“build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation”) and SDG 11 (“make cities and human settlements inclusive, safe, resilient, and sustainable”).

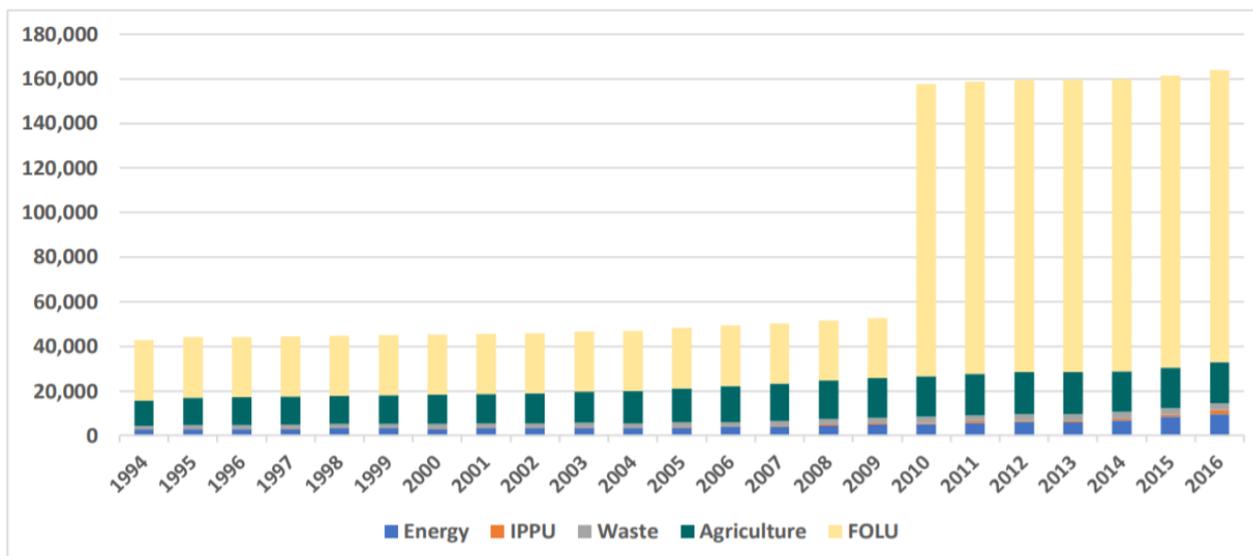


Figure 3: GHG emission trends by sector in Cambodia; Years 1994-2016 (measured in Gg. CO2-eq)

Source: (GSSD, 2020b)

From an investment perspective, climate and carbon are no longer externalities and are being factored into business decisions. Therefore, as Cambodia seeks to attract more foreign direct investment and develop her industrial and manufacturing sector, decision makers will eventually have to proactively incorporate climate risk and the price of carbon in their planning. In this regard, studying the sectoral trends of GHG emissions is important for the purpose of indicating priority sectors for the growth of Cambodia.

Table 2: Key drivers for scaled up climate change intervention

Generic Climate Interventions	Likely trend of GHG emissions in the sector	Key drivers to the trend of mitigation and climate resilient activities
Sustainable Forestry	Decreasing	<ul style="list-style-type: none"> • Sustainable forestry (including agroforestry) is key to safeguard forests productivity over the long term; • Protected areas are a source of revenues for tourism;

		<ul style="list-style-type: none"> • Reforestation contributes to meeting the demand for wood products. • Forests and reforestation also decreases vulnerability to flooding and drought.
Climate Smart Agriculture	Increasing	<ul style="list-style-type: none"> • Agriculture's high vulnerability to climate change reinforces the case for climate smart agriculture; • Productivity is low and farming households are poor: scaling up sustainable farming techniques (maximizing crop residue, improving irrigation and water storage techniques, rotating crops and harvesting best practices) has a strong potential.
Renewable energy and low-carbon energy generation	Increasing	<ul style="list-style-type: none"> • Electricity is mostly generated through Diesel and Heavy Fuel Oil (HFO) and costs of electricity are high; • Strong solar radiation provides a strong impetus for solar PV. • Waste to energy is underdeveloped, yet has strong potential, especially in the agriculture sector. • Availability and access to RE is still limited in less urban communities. • RE investments are still underdeveloped in Cambodia compared to neighboring countries due to lack of sufficient technology, lack of technical expertise etc. • Participation from financial institution remains a challenge and needs further engagement to encourage blended financing.
Energy Efficiency		<ul style="list-style-type: none"> • High inefficiencies in energy consumption: inefficient equipment and carbon intensive technologies for sewing, dying, heating, steaming; • High energy costs drive down industry profitability.
Clean Transport	Increasing	<ul style="list-style-type: none"> • Poor quality second hand cars dominate automotive market; • Most vehicles have low fuel efficiency; • All countries in the ASEAN have issued restrictions on used car imports. • Detection and enforceability of inspection can be improved especially in urban areas.

Waste management	Increasing	<ul style="list-style-type: none"> • Waste to energy market is still at early stages, with numerous opportunities for investment, but there are significant barriers for investment as well • Composting and landfills with gas collection can reduce methane emissions • Most potential is in agriculture (e.g. crops waste, rice husk...) • Promotion of decentralized solid waste and sanitation management should be enhanced and developed.
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Source: (GSSD, 2016)

Even though GHG emission in forestry sector has a decreasing trend, still there are some key drivers of forest emissions such as, illegal logging in protected areas, and promotion of agricultural projects within protected area boundaries which are identified as potential barriers to overcome. GHG emission trends illustrated in Figure 3 and relative climate interventions mentioned in Table 2 create a clear idea about the need of the recipient. Country ownership has to be established through: a) readiness and preparatory support including the preparation of country programmes; b) building in-country institutional capacities including for country coordination and multi-stakeholder consultation mechanisms; c) developing the capacities of potential regional, national and subnational implementing entities, and intermediaries; and d) building the capacity of NDA to perform its role in coordinating and overseeing GCF activity in the country.

1.1.4. Policy Responses to CSDGs

National Strategic Development Plan (NSDP) is the main policy response to achieve MDGs and SDGs in Cambodia. As of today, four NSDPs (NSDP 2006-2010, NSDP 2009-2013, NSDP 2014-2018, NSDP 2019-2023) have been approved in Cambodia. NSDP 2006-2010 includes the goals and strategies of the National Poverty Reduction Strategy (NPRS) adopted in 2002 and Cambodia's Millennium Development Goals (CMDGs) adopted in 2003. The NSDP 2006-2010 established a framework, which integrates development efforts and aid-effectiveness in Cambodia. The NSDP 2009-2013, which is the first policy document that states climate change as the major priority of the RGC, emphasized the need of strengthening climate change capacity; mainstreaming climate change into relevant sectors; preparing a national climate change strategy and action plan; promoting the implementation of adaptation (including the National Adaptation Programme of Action on Climate Change or NAPA) and mitigation

(including the Clean Development Mechanism or CDM) measures; and enhancing climate change education and awareness.

The Rectangular Strategy (RS) for growth, employment, equity and efficiency guides the government's actions in achieving sustainable development and reducing poverty. The Rectangular Strategy has, at its core, good governance and public sector reform, and focuses on agriculture, infrastructure, human resources, and employment mainly through the private sector. (RGC, 2018)

In the NSDP 2019-2023, the phase and focus have been shifted again to adapting the economic model to face new challenges posed by the speed of Cambodia's regional and global integration, declining ODA, and the potential loss of trade privileges. With 2015 as the base year for the CSDGs, the NSDP has framed the establishment of the new delivery capacities and approaches required by the CSDG agenda and address early priorities, particularly the completion of any unfinished business from the CMDGs.

The midterm review of the NSDP listed 7 themes to be taken forward: (1) promoting poverty reduction and inclusive growth; (2) expanding agriculture; (3) securing greater competitiveness; (4) managing migration and urbanization; (5) combating climate change and deforestation; (6) better governance; and (7) improving the human resource base (RGC, 2019).

1.2. Climate Change Profile

Table 3 provides basic climate facts in Cambodia.

Table 3: Basic climate facts in Cambodia

Type of tropical moon climate	Wet/rainy season; and dry season
Period of rainy season	May to October (heavy rains, which account 90% of annual precipitation)
Period of dry season	November to April
Maximum mean temperature ³	28°C
Minimum mean temperature	22°C
Average annual rainfall (1994 – 2004) ⁴	1,400 mm - 1,970 mm

Source: (GSSD, 2015)

³ Maximum temperatures above 32°C are common before the start of the rainy season.

⁴ Inland provinces may experience less than 600 mm of rainfall annually, while precipitation may reach 3,800 mm in coastal areas.

Although annual rainfall is in a reasonable range, Cambodia has experienced seasonal floods from 1991 – 2013 making severe damages to the economy as shown in Table 4.

Table 4: Severe floods and economic damage in Cambodia

Year	Economic and social damage
1991	No information
1996	No information
2000	157 million US\$ and lost of 362 lives
2001	30 million US\$ and lost of 62 lives
2002	12 million US\$ and lost of 29 lives
2011	630 million USD, lost of 250 lives, and damaged over 400,000 ha of crops
2013	356 million US\$

Source: (NCDM, 2011); (Thoeun, 2019)

Although Cambodia has faced several severe flooding as shown in Table 4, the country is rarely exposed to the full force of tropical cyclones and typhoons as it is surrounded by mountain chains, which dissipate the typhoon’s force. However, in 2009, Typhoon “Ketsana” caused more than 40 deaths; more than 66,000 families had to leave their houses and the storm damaged significant agricultural crops and road infrastructure.

1.2.1. Greenhouse gas projection and Climate Change Mitigation

National GHG emissions of Cambodia

The national GHG emissions of Cambodia in 2016 were 163.592MtCO₂e according to the first Biennial Update Report (BUR) of Cambodia. The estimated emission percentages in 2016 for main GHGs were 86.71% for CO₂, 11.43% for CH₄, and 1.64% for N₂O and 0.23% for HFC. The contributions of sectors towards these totals are as follows:

Table 5: Sector wise GHG Emissions of Cambodia 2016

Sector	GHG Emissions (MtCO ₂ e)	% of total emission by sector in 2016
Energy	9.602	5.9%
IPPU	1.821	1.1%
Waste	2.761	1.70%
Agriculture	18.398	11.2%
FOLU	131.011	80.1%

Source: (GSSD, 2020b)

Table 6: GHG Emission by gases, 2016

Gas	Emissions (MtCO ₂ e)	% of the total emission by gas in 2016
CO ₂	141.85	86.71%
CH ₄	18.70	11.43%
N ₂ O	2.68	1.64%
HFC	0.38	0.23%

Source:(GSSD, 2020b)

According to 2016 GHG emission data, the highest contributor was Forestry and Other Land Use sector (FOLU), which accounted for about 80.1% of total national GHG emissions, followed by agriculture with 11.2%, energy (5.9%), IPPU (1.1%).

Emissions from land use play an important role in GHG emissions in the Agriculture, forestry and other landuse sector, accounted for 131.01tCO₂e or 86% of the sector's GHG emissions. It is followed by crop cultivation which accounts for 13.01 tCO₂ and 8.7% of the sector. Transport sub-sector of energy sector is the main source of GHG emissions within the energy sector, which accounted for 5.094 tCO₂ and 53% of the sector's emissions followed by the energy industries sub-sector and manufacturing industries sub-sector. Table 5 provides a more detailed sectoral overview of Cambodia's 2016 GHG inventory. (GSSD, 2020b)

Cambodia needs to increase energy production to facilitate industrial activities, while improving energy efficiency in the transport and other energy sub-sectors in order to reduce GHG emissions. It is also important to focus on the integration of renewable energy sources in order to meet higher demand in future energy production (NCCC, 2013).

GHG emission projections in Cambodia

According to the Nationally Determined Contribution in Cambodia 2020, overall GHG emissions in 2030 in the Business as Usual (BAU) scenario, without the Forestry and Other Land Use (FOLU) are expected to rise by up to 79 million tCO₂e/year, while overall GHG emissions with the FOLU are expected to increase to 155 million tCO₂e/year.

Table 7: Sectoral share and absolute number of BAU GHG emissions in 2030

Sector	Sectoral Share (%)	GHG Emissions (MtCO ₂ e)
FOLU	49.2	76.3
Energy	22.2	34.4

Agriculture	17.5	27.1
Industry (IPPU)	9.0	13.9
Waste	2.1	3.3

Source: (GSSD, 2020a)

The FOLU sector will generate the highest overall BAU emissions in 2030, with 49.2% of the forecasted BAU emissions in 2030. This would be followed by the energy sector with 22.2%, the agricultural sector with 17.5%, and Industry (IPPU) with 9.0%.

GHG emissions reductions projections in Cambodia

The estimated emissions reduction with the FOLU by 2030 under the NDC scenario will be approximately 64.6 million tCO₂e/year (41.7% reduction of which 59.1% is from the FOLU).

Table 8: Summary over BAU emissions and NDC emissions reduction

Sector	BAU 2016 emissions (MtCO ₂ e)	BAU 2030 emissions (MtCO ₂ e)	NDC 2030 Scenario (MtCO ₂ e)	NDC 2030 reduction (MtCO ₂ e)	NDC 2030 emission reduction %
FOLU	76.3	76.3	38.2	-38.1	-50%
Energy	15.1	34.4	20.7	-13.7	-40%
Agriculture	21.2	27.1	20.9	-6.2	-23%
Industry (IPPU)	9.9	13.9	8.0	-5.9	-42%
Waste	2.7	3.3	2.7	-0.6	-18%
Total	125.2	155.0	90.5	-64.5	-42%

Source: (GSSD, 2020a)

Cambodia has a relatively high level of forest cover but the deforestation rate is also high. While Cambodia had around 11 million ha of forest in 2006 (mainly located in the Eastern Mekong Basin (34%), the Cardamoms (25%), and the Central Lowlands (24%)), only around 8 million ha of forests remained in 2018 (of which 35% in the Eastern Mekong Basin, 29% in the Cardamoms and 23% in the Central Lowlands). (RTS, 2020)

Cambodia also participates in the United Nations Programme on Reducing Emissions from Deforestation and Forest Degradation (UN-REDD) Programme and the Forest Carbon Partnership Facility. As part of the former, in 2010, Cambodia prepared its National REDD+ Strategy Roadmap, and received funding for a UN-REDD National Programme which is currently being implemented (USAID, 2017).

1.2.2. Climate Change vulnerability and impacts

Climate Change Vulnerability

Cambodia has been identified as one of the most vulnerable (high risk) countries to climate change by the Global Climate Risk Index (19th place based on 1998–2017 data) based on how much extent the countries have been affected by weather related losses. Further Cambodia is in 17th place as per the World Risk Index (based on 2019 data), which is based on a model for calculating the risk of disasters arising directly from earthquakes, cyclones, floods, droughts or sea-level rise. Climate projections indicate that temperatures across the country would rise by 0.7–2.7°C by 2060 and 1.4–4.3°C by 2090. Although rainfall trends and patterns are uncertain and difficult to predict, overall increase of rainfall is expected during the monsoon season (GSSD, 2015).

About 17.2% of Cambodia’s communes (279 communes) were ‘highly’ vulnerable and over 31.5% (512 communes) were ‘quite’ vulnerable to multiple climate hazards as per 2014, vulnerability assessments of Cambodia (GSSD, 2017a). This vulnerability assessment last update in 2019 indicated 16.5% of Cambodia’s communes were ‘highly’ vulnerable (270 communes) and 26% (423 communes) were ‘quite’ vulnerable and presented three-tiers (province level, district level and commune level). Although the province level ranking provides a holistic overview of vulnerability to climate change at a national level, it is imperative that planning for climate change responses should be done commune-level vulnerability⁵ (IIED, 2015). Agriculture, water resources, infrastructure, forestry, health, and coastal development have been identified as the most vulnerable sectors to the impacts of climate change.

- Agriculture, representing 26.5% of GDP in 2015 according to the National Institute of Statistics (NIS), is highly dependent on rainfall and the annual flooding/recession of the Tonle Sap Great Lake;
- Water resources: rural communities are highly dependent on water resources for agricultural production. Therefore, these communities are equally vulnerable to climate impacts. Sustainable irrigation systems and sound freshwater management are critical to build the resilience of the country;

⁵ IIED, 2015. - Developing a National M&E framework for climate change Tracking Adaptation and Measuring Development (TAMD) in Cambodia

- Infrastructure is critically affected by the increasing occurrence and severity of floods resulting in high maintenance costs and the recurrent need to upgrade rural roads and irrigation infrastructure;
- Forestry: By 2050, it is projected that, over 4 million hectares of lowland forest with a current dry season lasting between 4 and 6 months, will become exposed to water deficit periods of between 6 to 8 months or more;
- Health: Climate change has the potential to make direct and indirect impacts on human health. Changes in the geographical range and incidence of vector and water-borne diseases, infectious diseases, and malnutrition and hunger as a result of severe disturbance to the food production systems and ecosystem, are some examples for such impacts; and
- Coastal development: Coastal resources already face a number of environmental pressures, including over-fishing and over-exploitation of marine forests including mangrove ecosystems that lead to increased erosion. Climate change also challenges through sea level rise, salt water intrusion and coastal erosion. The cumulative impact of these contribute to the shrinking of arable land, reduction of drinking water sources and loss of coastal infrastructure. (GSSD, 2017)

Table 9: Expected sea level rise under different emission scenario(2090 – 2099 relative to 1980 – 1999)

Emission scenario	Expected sea level rise (m)
SRES B1: Low emission scenario	0.18 – 0.43
SRES A1B: Medium emission scenarios	0.21 – 0.52
SRES A2: High emission scenarios	0.23 – 0.56

Source: (IPCC, 2007)

If Cambodia has to face 0.56 m sea level rise as per SRES A2 in Table 9, it may cause permanent inundation of about 25,000 ha of coastal Cambodia within 90 years (GSSD, 2015).

Examples for Climate Change Impacts

- An increase in temperature is likely to affect agricultural productivity as rice grain yield will decline by 10% for each 1°C increase in growing-season minimum night temperature in the dry season (NCCC, 2013)
- Climate change will lead to having higher rainfall in the provinces with higher elevation during the wet season, but will get drier during the dry season, which could hamper the

production of coffee and rubber in Cambodia (The Mekong Adaptation and Resilience to Climate Change: Mekong ARCC, 2011-2013 CCCSP, 2013).

- Sea-level rises and the severe impacts of more frequent typhoons under future climate projections can affect tourism capacity, cause coastal erosion, lead to damage settlements in coastal areas (CCCSP, 2013).
- Central plain is projected to be affected by climate-related flooding due to its increased frequency and intensity while the coastal zones is projected to be affected by tropical cyclones from the Pacific (CCCSP, 2013). According to the International Disaster Database (EM-DAT), the economic losses to Cambodia by natural disasters in 2011 was about 4.3% of its GDP.

Estimated socio-economic impacts of climate change

The Loss & Damage (L&D) in the public sector is composed mainly of more rapid degradation of national and rural roads, irrigation, water and sanitation and flood protection infrastructure. Some L&D to public sector buildings will also happen. These losses can be reduced by higher spending on maintenance and adaptation. Assuming that the average annual damage to infrastructure over the last 10 years doubles by 2050 as a result of CC, the average annual damage to public infrastructure will be about 7% of the value of the capital assets. Climate change has also affected to many other sectors like health, labour productivity, agriculture etc, in Cambodia imposing various socio-economic losses (M. M. NCSO, 2019).

Table 10: Evidence on Loss of Output/Income in Key Sectors

Sector	Source	Impact of CC
Agriculture	Agriculture Public Expenditure Review (Mokoro, 2010)	Increased annual losses by 2050 of 0.28% of GDP1
	USAID Mekong ARCC (USAID 2013)	Crop yields down by 3% to 6% by 2050
	ADB SE Asia study (ADB, 2009)	Crop yields down by between 10% and 50% by 2100, depending on the CC scenario
	The Post Flood Early Recovery Needs Assessment (PFERNA) (RGC 2010, RGC 2014)	Losses of USD 152m in the 2013 flood and USD 56m in the 2009 typhoon.

	Cambodia CCFE (MoE 2015)	Losses of 1.14% of GDP by 2050
	Analysis of crop yield and area trends	Losses of up to 1.6% of GDP by 2050
Livestock	USAID Mekong ARCC study (USAID 2013)	Pig productivity declines by 5% for every 1oC above 30oC
	Research in S and SE Asia (Younas, Ishaq et al. 2014)	Heat stress reduces productivity by nearly 10%
Fisheries	USAID Mekong ARCC study (USAID 2013)	Probably negative, but the scale of impact is not yet clear
Forestry	USAID Mekong ARCC study (USAID 2013)	Decline in productivity, but the scale of the decline is not clear
	ADB SE Asia study (ADB 2009)	Decline in productivity, could be serious
Energy	Cambodia CCFE (MoE 2015)	Losses in cooling and distribution to rise by 2% of the value of energy generation
Sea level rise	DARA Climate Monitor (DARA and Climate Vulnerability Forum 2010)	USD 250m in 2010, not taking into account possible increases to 2030

Source: (M. M. NCSD, 2019)

Cambodia is reported as a country with a highest vulnerability to natural disasters while having a 56.1% of a high risk population. The country experiences almost all types of hydro-meteorological hazards such as floods, drought, heavy storms (or typhoon) and few fire incidents and epidemics (UNESCAP, 2019). Following Statistics shows the impact of adverse climatic events on livelihood.

Table 11: Summarized natural disasters in Cambodia from 1900 to 2014 and its effects

		No. of events	No. of People lost	No. of total affected people	Damage (000 US\$)
Drought	Drought	5	-	6,550,000	13,800
Flood	Unspecified	1	506	29,000	-
	Coastal flood	1	-	124,475	-
	Flash flood	1	7	535,904	500

	Riverine flood	15	1,128	12,113,708	1,418,600
Storm	Tropical cyclone	3	44	128,091	10

Source: (ABC, 2014)

Table 12: Estimation of GDP growth loss

Impacts of Global Warming (3°C) on the Cambodian GDP (% Change/Year)				
2027	2037	2047	2067	Long run
-1.175	-2.439	-3.758	-6.482	-12.101
Long-Run Impacts of Climate Change Scenarios on the Cambodian GDP (% Change/Year)				
1°C	2°C	3°C	4°C	
-3.509	-7.572	-12.101	-17.183	

Source: (Tom, Pham, & Che, 2018)

Agriculture: In the Nationally Determined Contributions, it was intended to address agriculture by adaptation actions such as, developing crop varieties suitable to Agro Ecological Zones (AEZ) and resilient to climate change (include coastal zones).

In Climate Change Action Plan (CCAP), similar approach was taken by mainstreaming adaptation actions in national, subnational and sectorial planning addressing areas such as agriculture. (Project: Promotion of adaptation by rural population and sub-national administration to climate risks and change)

Forestry : In the NDC Update, Cambodia has set an ambitious target in the Forestry and Land Use sector (FOLU) for reducing 50% of historical emissions by 2030, in line with her REDD+ national strategy (GSSD, 2020a).

Similar approach was taken in CCAP by collaborating with educational institutions to provide scholarship and opportunity for volunteerism in research study and services in climate change to meet the priority needs of national park, wildlife sanctuary, wetlands, watershed, protected landscape, multiple use area, and protected heritage areas by outreach and corporation activities. These provide evidence on how the existing NDCs and CCAPs have given significant importance of prioritized areas and these action will be further considered and prioritized in revising NDCs and CCAP.

Source : Climate Change Action Plan of Cambodia 2016 – 2018, 2016 & Cambodia’s Intended Nationally Determined Contribution

Based on the analysis by NCSD, it was found that following socio-economic impacts will take place due to the climate change impacts in Cambodia (MEF&NCSD, 2018).

- a) The full damage on Cambodia's GDP will be at least 2.5% in 2030, and 9.8% in 2050 based on the scenario of a 2°C temperature rise by 2050; and
Most of the damage from climate change will come through increased variability of rainfall, including extreme events such as floods and droughts.

The share of climate change expenditure in GDP in 2018 and 2019 were 1.8% and 2.0% respectively (MEF, 2020).

Table 13 Proportion of climate change expenditure to total public expenditure and GDP

	2015	2016	2017	2018	2019
Public expenditure with CC benefits vs. total public expenditure	30.9%	34.8%	35.7%	36.2%	37.1%
CC public expenditure (weighted) vs. total public expenditure	5.4%	4.0%	4.5%	6.2%	7.0%
CC public expenditure (weighted) vs. GDP	1.4%	1.0%	1.8%	1.75%	2.0%

Source: (MEF, 2020)

Potential synergies between CSDGs and climate change risks/opportunities

Agriculture, health and infrastructure sectors, which are crucial to human development, tend to be negatively affected by major climatic events. Considering the extent of the challenges for the Cambodian economy and society, both public and private investment will be required to address these threats and to minimize climate change impacts on the economy, business environment and wellbeing of the population (GSSD, 2017a).

To achieve agricultural production export target by 2030, in particular, rice, Cambodia has to maintain 5% annual agriculture growth. Therefore, it is vital to make further investment in the expansion of irrigation scheme as only 7% – 8% of total production land area is under full irrigation (CCCSP, 2013).

Coastal zone and central plains are vulnerable to tropical cyclones and climate related flooding frequently. Both regions are of significant in economic importance due to their fiscal revenue contributions generated from tourism, services, navigation, fishing and agricultural production. Therefore, measures must be put in place to minimize the impacts of climate change risks and disasters in order to drive Cambodia to achieve the desirable economic growth and development expected in the national development programmes (CCCSP, 2013).

1.2.3. Summary of policy response to climate change

Table 14: Summary of policy response to climate change

No.	Policy/strategy/plan	Summary
1	Cambodia Climate Change Strategic Plan (CCCSP), 2014 – 2023	<p>CCCSP is well designed with 8 key objectives to fill the policy gap, complement on-going efforts and meet the emerging challenges of development, environment and climate change issues. CCCSP has set out a number of actions structured into three phases of implementation:</p> <ul style="list-style-type: none"> i) Setting institutional and financial arrangements; developing monitoring and evaluation (M&E) frameworks and indicators; and development of climate change action plans; ii) Support the implementation of what was planned in Phase 1, with expansion to cover other activities such as accreditation of the Adaptation Fund and Green Climate Fund; and iii) Research and learning, but its main objective will be to scale up success cases and to continue mainstreaming climate change into national and sub-national programmes
2	National Policy on Green Growth (2013) & National Strategic Plan on Green Growth, 2013-2030	<p>The objective of this policy is to balance economic development with environment, society, culture, and sustainable use of national resources through integration, matching and adaption. Strategic Plan provides action plans including; attracting green investors, promotion of renewable energy, energy saving and efficiency, mainstreaming of green growth into the financial banking and economic systems and a green certification program for the private sector.</p>

3	Cambodia's Intended Nationally Determined Contribution (INDC), 2015	<p>The INDC of Cambodia includes both adaptation and mitigation actions based on national circumstances. Cambodia has proposed a 27% reduction in emissions below BAU by 2030, as well as a LULUCF contribution of 4.7 tCO₂e/ha/year. Cambodia wishes to propose a GHG mitigation contribution for the period 2020 - 2030, conditional upon the availability of support from the international community, in particular in accordance with Article 4.3 of the UNFCCC.</p> <p>Significantly, despite Cambodia's status as an LDC, Cambodia is implementing actions in accordance with their sustainable development needs that also address climate change:</p> <ul style="list-style-type: none"> i) Energy industries, manufacturing industries, transport, and other sectors: Cambodia intends to undertake actions which is expected to be a maximum reduction of 3,100 Gg CO₂eq compared to baseline emissions of 11,600 Gg CO₂eq by 2030. ii) LULUCF: Cambodia intends to undertake voluntary and conditional actions to achieve the target of increasing forest cover to 60% of national land area by 2030. In absence of any actions the net sequestration from LULUCF is expected to reduce to 7,897 GgCO₂ in 2030 compared to projected sequestration of 18,492 GgCO₂ in 2010. <p>The INDC also includes a section on Adaptation.</p>
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4	Cambodia's NDC Update (2020)	<p>Mitigation -</p> <p>In the BAU scenario, overall GHG emissions in 2030 without the FOLU are expected to rise by up to 79 million tCO₂e/year, while overall GHG emissions with the FOLU are expected to increase to 155 million tCO₂e/year.</p> <p>In the NDC scenario, the estimated emissions reduction with the FOLU by 2030 under the NDC scenario will be approximately 64.6 million tCO₂e/year (41.7% reduction of which 59.1% is from the FOLU). The total funding required for mitigation actions is over US \$ 5.8 billion. The FOLU, waste, and energy sector mitigation actions require the most funds.</p> <p>Adaptation -</p> <p>The updated NDC includes a section on adaptation with including Cambodia's vulnerability to climate change, Impacts and priorities for adaptation and resilience and Prioritised adaptation actions.</p>
5	Cambodia National Environmental Strategy and Action Plan, 2016-2023	This plan outlines priority actions that would include modernizing resource use, development and conservation, improving resource use efficiency and productivity, and ensuring sustainable financing mechanisms.
6	Draft Environmental Code	The draft Code seeks to create an enabling legal and policy environment that will strengthen the conservation of natural resources and wildlife, build climate resilience, promote the use of renewable and environmentally friendly energy, and build sustainable cities with the capacity to deal with air and waste pollution.
7	Climate Change Action Plan for MOE, 2014-2018.	The plan defines the concrete actions and resources needed for the operationalization of the Ministry of Environment's response to climate change.

8	Cambodian Sustainable Development Goals (CSDGs) Framework, 2016- 2030	<p>There are four basic goals to the CSDG framework;</p> <ol style="list-style-type: none"> 1. Presentation of the national goals, targets and indicators based on the priorities of Cambodia; 2. Identification of the agencies responsible for tracking and carrying out activities to achieve the targets and monitoring schedules; 3. Identification of data sources for each indicator and the data cycle, including working definition and methods for measuring the calculating indicators; 4. Presentation of paths to goal achievement, setting national baselines, setting annual (or cycle-based) target values, and sub-national implementation.
9	National Strategic Development Plan (NSDP), 2019 - 2023	<p>NSDP 2019-2023 has been formulated for the implementation of the Rectangular Strategy Phase IV with the identification of the priorities, indicators and timeframe for the implementation and with the identification of mechanism for the monitoring and evaluation of the Result Framework, especially setting the responsibility of the line ministries and agencies within each angle in order to gain high benefits from ASEAN Economic Integration and to move from Lower-Middle-Income Country to an Upper-Middle-Income Country in 2030 and to contribute to the achieving the Cambodian Sustainable Development Goals 2016-2030. For the preparation of NSDP 2019-2023, the RGC has used the existing procedures and mechanism as for the preparation of NSDP 2014-2018 and spent a longer time period improving this national plan.</p>
10	The Rectangular Strategy (RS-IV), 2018 - 2023	<p>The RS offers successive iterations based on four priority outcomes-Growth, Employment, Equity and Efficiency. The defined strategy is outlined within four policy rectangles covering enhanced agriculture, expanded physical infrastructure, the growth and employment of the private sector, and the development of human capital, each of which comprises four further policy components. These are based around a central rectangle of good governance, and are in turn informed by an external environment analysis.</p>

		RS-IV will act as a strategy to resolve the new challenges faced, and specifically the pressures as Cambodia further develops as an emergent middle-income country.
11	Cambodia's Climate Change Financing Framework (CCCFF), 2015	<p>The CCCFF for Cambodia presents a framework for governance-wide management of climate change finance. The CCCFF builds on Cambodia's national climate change policy, cross-sectoral action planning mechanism for climate change, and expenditure analysis (using tools such as the Climate Public Expenditure and Institutional Review (CPEIR)). It provides additional analyses of climate spending costs and benefits, an evaluation of climate financing scenarios, and a analysis of various modalities for channelling climate finance at the national and local levels. The CCCFF formulates guidelines for handling climate change finance. It also highlights the need for targeted approaches to create capacity.</p>
12	National Adaptation Plan (NAP) Financing Framework and Implementation Plan, 2017	<p>Reinforcing and further implementing the already underway processes to minimize vulnerability in Cambodia and incorporating climate change adaptation into sectoral policy and budget planning. The NAP Financing Framework is based on the outputs and key findings resulting from previous analytical and planning exercises, strategic plans and policies that Cambodian institutions have undertaken.</p> <p>The objective of this plan is to bring the NAP processes in Cambodia closer to its execution phase by analysing and articulating the financing dimensions (scoping demand, existing gaps, funding options at domestic and international levels) and offering an implementation plan for the NAP financing framework.</p>
13	Draft National Energy Efficiency Policy 2018-2035	<p>The National Energy Efficiency Policy of Cambodia includes a national target for the reduction of energy demand (which is also translated in a reduction of energy intensity and emissions), and sectoral objectives that would allow to achieve the mentioned targets.</p> <p>In line with the National Energy Policy and with the INDC, the National Energy Efficiency Policy has two main goals:</p>

		<ol style="list-style-type: none"> 1. Improve the management and maintenance of existing infrastructure (e.g. buildings) and industrial processes (e.g. for the use of fuel wood) for increased energy efficiency; 2. Increase the transfer and adoption of energy efficient technology (e.g. fuel efficient vehicles and light bulbs) to reduce energy intensity. <p>Based on the assessment of the energy efficiency potential for buildings, industry and transport, the overarching target of the National Energy Efficiency Policy is to:</p> <ul style="list-style-type: none"> • Reduce energy demand by 20% in 2035 relative to the business as usual scenario. <p>This would result in a reduction of:</p> <ul style="list-style-type: none"> • Energy consumption: 1 million tons of oil equivalent (toe) by 2035 relative to the business as usual scenario; • Energy intensity: 65% in 2035, relative to 2014; • CO₂ emissions: 3 million tons in 2035, or 28.5 cumulative million tons between 2017 and 2035, relative to the business as usual scenario.
14	Climate Public Expenditure Review (MEF, 2020)	CPER, 2019 provides an update on climate finance trends, including data up to fiscal year 2019, to monitor whether Cambodia and its development partners are effectively supporting national climate change priorities.

Table 14 provides a summary of key climate change policies/strategies/plans introduced by Cambodia to support the climate change mitigation and adaptation activities in domestically and internationally.

1.2.4. South-Eastern Asia regional engagement

Table 15 provides a summary of key regional initiatives to address climate change in the South-Eastern Asia.

Table 15: Key regional initiatives to address climate change in the South-Eastern Asia

No.	Initiative	Summary
1	Bangkok Call for Action (Realizing Development Effectiveness Making the Most of Climate Change Finance in Asia and the Pacific, 2010)	This was developed at the Asia-Pacific Climate Change Finance and Aid Effectiveness dialogue held on 19 th and 20 th October 2010 in Bangkok. The dialogue was facilitated by the Capacity Development for Development Effectiveness (CDDE) Facility and brought together over 75 participants representing seven governments, including Bangladesh, Cambodia, People's Democratic Republic of Laos (PDR), Nepal, Indonesia, the Philippines and Vietnam, as well as the Pacific Islands Forum Secretariat, eight development partners and international agencies. (Thornton, 2010)
2	The Mekong River Commission's Climate Change and Adaptation Initiative (CCAI, Climate Change and Adaptation Initiative, 2011)	CCAI is a collaborative effort among the MRC member countries of Cambodia, Lao PDR, Thailand and Vietnam, to demonstrate and share adaptation strategies. With its emphasis on a basin-wide approach, the initiative ensures that climate change adaptation is harmonized with effective strategies and plans at various levels and is applied at priority locations throughout the basin. (MRC, 2014)
3	GMS Core Environment Program	Building on existing assessment methodologies, the GMS Core Environment Program (CEP) developed a participatory framework to assess climate vulnerability and identify adaptation options in rural GMS communities. This work was aimed to demonstrate how a step-by-step framework can help translate available scientific information into adaptation options and ensure the integration of climate change considerations in community-level planning. (ADB, 2018)

1.3. Climate Finance Landscape

Existing Climate Expenditure

According to the Climate Public Expenditure Review (CPER) 2019, government expenditure was either fully or partially delivering climate change benefits, rising slightly from 36.2% in 2018 to 37.1% in 2019. During the period 2015-2019, the average share was 35%. The portion of climate change expenditure in GDP in 2018 and 2019 were 1.8% and 2.0%, respectively. In monetary terms, climate change expenditure has increased significantly from KHR 1,730 billion in 2018 to KHR 2,181 billion (about USD 545 million) in 2019 (MEF, 2020).

Public climate finance from domestic resources (national budget), increased from 795 billion KHR in 2018 to 905 billion KHR in 2019 while public climate finance from external resources increased from 934 billion KHR in 2018 to 1,276 billion KHR in 2019. In 2019, the domestically financed climate change expenditure represents 41.5% of the total climate expenditure, while externally financed climate change expenditure rises by 36.5% and remains high at 58.5% to the total in 2019. Most of the externally funded climate change expenditure continues through the National Treasury and the MEF financial system, representing the share of 78% to the total in 2019.

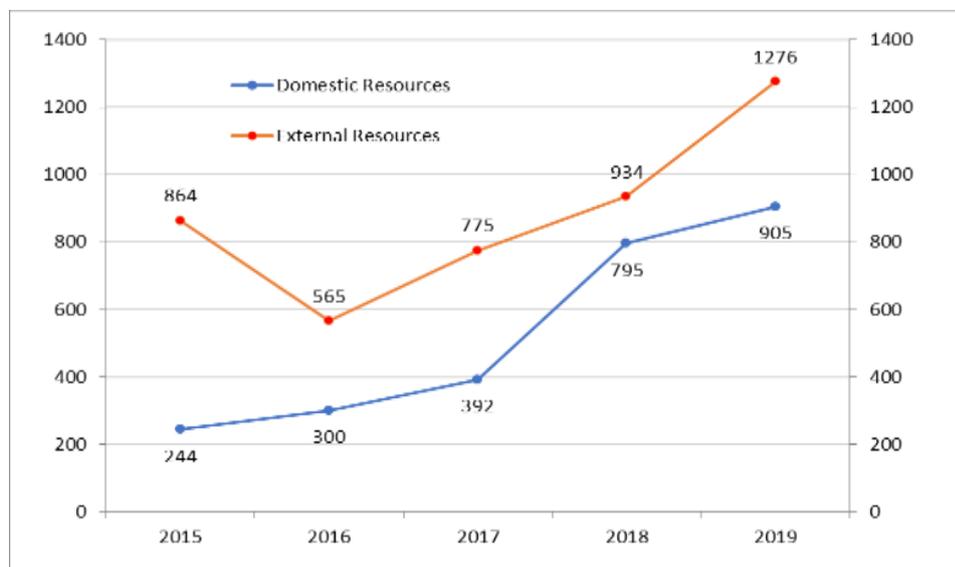


Figure 4: Source of Public Climate Finance (In billions of KHR)

For climate finance external resources, main donors for climate change expenditure in 2018 were ADB (24%), China (17%), Japan (12.4%), France (12%), World Bank (11%), IFAD (5%), EU/EC (4%), Republic of Korea and USA (each 3%), UNDP (2%), Australia (1.85%), Sweden (1.35%), while other donors' share is lower than 1% (MEF, 2020).

The public sector alone may not be able to address the climate change issues in any country, which is valid for Cambodia as well. As such, the role of the private sector and NGOs in investing in climate change mitigation, enhancing public awareness, and lobbying for corporate social responsibility will become increasingly important. The private sector including financial institutions might be more interested in mitigation projects with high economic returns such as energy efficiency projects but are unable to implement due to high initial cost.

The Royal Government of Cambodia has given highest consideration to have a sound climate finance mechanism with a specific focus for the strategic sectors and in this regard hopes to get assistance from CIFs, GEF and the Adaptation Fund versus GCF while considering the mechanisms such as scaling up, replicating, investing in parallel, applying lessons learned and blending finance.

Moreover, Government intends to have collaboration with other climate funding agencies by sharing information and selling the ideas related to potential projects/projects under implementation as well as success stories to attract more funding to further strengthen the climate finance component

According to the Stern Report (Stern Review: The Economics of Climate Change, 2006), the countries could typically aim to address about two-thirds of the damage. In furtherance the report indicated that “the total cost of climate change was estimated to be equivalent to a one-off, permanent 5–20% loss in global mean per-capita consumption today. And the marginal damage cost of a tonne of carbon emitted today was estimated to be around \$312”. Moreover, the loss of natural capital may not be possible to recover and also impossible to compensate due to dangerous climate change impacts and on the other hand because of the issues of economic risk and uncertainty.

In Cambodia, this would require adaptation-related expenditure to reach 3.3% of GDP (versus 1.22% in 2012) between now and 2050.

Cambodia has limited financial means to address constraints, gaps and adaptive capacity to the adverse effects of climate change. In addition to the inadequate financial resources, the financial management mechanisms to effectively implement the adaptation and mitigation options highlighted in the SNC are not in place. Therefore, international support is still essential to assist in the implementation of adaptation and mitigation options highlighted in the SNC and the priority activities in the Cambodia Climate Change Strategic Plan.

As per highlights mentioned in CPER 2019, the share of climate change expenditure in GDP in 2018 and 2019 were 1.8% and 2.0% respectively, which have allowed in particular for a

better reflection of climate-proofed infrastructure spending. Climate change spending financed by domestic resources kept increasing in 2019 and represented 41.5% of total climate change expenditures. Further the climate change concessional loans disbursements in 2019 grew by 43%, higher than the overall CDC's ODA which grew by 34%. Climate change integration in "hard" infrastructure investments seems to progress at a good pace, while some crucial "soft" expenditure, for example in social sectors, has received less attention so far. (MEF, 2020)

Having an accredited direct access entity: NCDD and a national readiness delivery partner: Mekong Strategic Partners, Climate Change Financing Framework, Annual Public Climate Change Expenditure Review, and system to track climate change finance in ODA system will support Cambodia to enhance access to climate finance.

Cambodia has established a Cambodia's Climate Change Financing Framework (NCSF, 2015a) with the aim to achieve the following objectives:

- **Update of existing CC spending:** Updating the existing CC expenditure analysis across the most affected government agencies since the 2012 CPEIR.
- **Future climate funding projection:** Reviewing the level of funding likely available to Cambodia, both from international and national sources over the next 5-10 years which provides indicative allocation ceilings for CC related activities of the relevant line ministries.
- **Prioritization of Sectoral Climate Actions:** Providing Cost-Benefit Analysis (CBA) of existing and proposed adaptation and mitigation actions in CCAPs which, together with the Multi- Criteria Analysis (MCA), helps inform the prioritization of climate actions.
- **Aggregate Benefits of Climate Finance:** Assessing the overall added benefits, in the short and long-term, of the estimated climate finance, compared to the damage of CC to Cambodia without any climate actions.
- **Better Climate Responsive Budgeting and Planning:** Providing guidance on evidence-based resource allocation based on the prioritization of climate actions, estimation of costs and benefits of those actions and clearer indicators for progress monitoring.
- **Modalities for managing CF:** Defining and analyzing modalities that will be used for managing CC finance. In particular, the CCCFF assesses the option of a National Climate Fund and considers the requirements for improved coordination. It also aims to

help improve public awareness about CC and the way in which government, the private sector and society can respond.

Climate finance needs for adaptation and mitigation across key priority sectors

Table 16: Climate finance needs for adaptation and mitigation across key priority sectors

Requirement and availability of the Funding Bodies			Priority Areas								
			Adaptation and Mitigation			Mitigation			Adaptation		
			Agriculture	Land-use change and forestry	Coastal zone	Energy	Industry	Transport	Human health	Water resources	Infrastructure
Domestic	Private	Requirements of funding	Public sector investment needed in terms of education and awareness programs, towards mitigation that would encourage private sector to bear capital expenditure on mitigation interventions. There are ample opportunities for private investments in energy efficiency, given the high economic returns in addition to mitigation benefits (NCSD, 2015b) Better to provide high incentives for scaled-up private investments in manufacturing industry (NCSD, 2015b).						Need to encourage private funding for protect labour productivity affects by climate change.		
		Funding Bodies	NGOs								
	Public	Requirements of funding	Climate change adaptation mostly link with mainstream projects (E.g. : irrigation, agriculture),						Climate change adaptation mostly link with mainstream projects (E.g. : irrigation, agriculture),		

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		<p>so the integrated in- country funds linked with these projects are required in climate adaptation.</p>		<p>so the integrated in- country funds linked with these projects are required in climate adaptation.</p>
		<p>Dedicated country funds are required for the overall addressing of climate change mitigation and adaptation.</p>		
	<p>Funding Bodies</p>	<p>Dedicated/in-country funds: By annual budget, or by bilateral and multilateral donors active in Cambodia. Allocated directly by the Cambodian Government on projects addressing the climate change mitigation/adaptation.</p>		
		<p>Integrated/in-country funds: Funds from donors and government which are allocated for projects that have a mid/low relevant on climate change mitigation and adaptation.</p>		
<p>International</p>	<p>Requirements of funding</p>	<p>Major recipient countries of international climate funds benefited areas such as agriculture, forestry, land use and livestock management, renewable energy, disaster risk management, transport, and energy efficiency.</p> <p>More than half of the above mentioned areas, which were previously benefited by international climate funds are also the prioritized areas of Cambodia.</p> <p>Comparatively, Cambodia has only received about \$25m per annum through global climate funds, which only accounts 0.2% of the total climate finance internationally available.</p> <p>Given the fact that the similarity of country’s priorities to the history of benefited projects by international funds, along with the percentage amount of international funds Cambodia has received so far and also considering the limited domestic funding, international funds are necessary in the process of climate change mitigation/adaptation.</p>		
	<p>Funding Bodies</p>	<p>Cambodia receives most of her climate change funding from international organizations or development partners such as the Asian Development Bank (ADB), the International Fund for Agricultural Development (IFAD), the World Bank, the Swedish International Development Cooperation Agency (SIDA), the European Union (EU), and UN agencies such as the World Food Programme, World Health Organization (WHO), and United Nations</p>		

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		Development Programme (UNDP). Further CIF (including SPCR), Global Environmental Facility (GEF), Least Developed Countries Fund (LDCF), Adaptation Fund (AF), Forest Carbon Partnership Facility (FCPF), UN-REDD, Green Climate Fund (GCF) and other Development Partners (DP).
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Source: (NCSD, 2015b)

Table 16 demonstrates all priority areas identified under the NDCs as priority areas which need climate finance both domestically and internationally.

As per Table 17, Cambodia credit rating has space for further improvement given the fact that lower credit ratings (having economic freedom score of 57.3 and credit rating level of B2) may create some difficulties to access climate finance from international sources.

Table 17: Expected climate finance scenario until 2023

Credit ratings	According to the Economic Freedom Index 2020, Cambodia's economic freedom score is at 57.3. This makes country's economic freedom status mostly unfree. According to the Moody's credit ratings (World renowned credit rating agency), Cambodia's credit rating level is at B2 stage which is known to be the most speculative level.
Mobilization of private sector	Implementation of provincial cross-sector business associations in Kampong Cham, Kampong Chhnang, and Kampot composing nearly 200 enterprises (Eg: rice milling, retail, agro-business, and fish-raising) under The Asia Foundation. The domestic credit to private sector in Cambodia is 99.5% of GDP ⁶ . Modification of agriculture by increase productivity, diversify production and markets, commercialize production and promote livestock farming and aquaculture. Investment promotions by investment climate, special economic zones (SEZs) and preparation of industrial zones.

Source: Cambodia Climate Change Finance Framework, 2015

Expected climate finance needs

Potential funding scenarios were studied in the period 2014-2018, focusing on three types of public resources that are relevant to the climate change response in Cambodia:

- a) Dedicated/global funds are finances available from global institutions and mechanisms for climate change, for instance, CIF (including SPCR), GCF, GEF, LDCF, AF, FCPF;
- b) The Green Climate Fund is dedicated to addressing CC through either mitigation or adaptation, or both;
- c) Dedicated/in-country funds are the portion of climate funds that are explicitly dedicated to addressing climate issues and that is directly financed by the Cambodian government through its annual budget means, or by bilateral and multilateral donors active in Cambodia; and
- d) Integrated/in-country funds refer to the type of resources financed by the government and donors in Cambodia that is not primarily meant for climate issues but involves some

⁶ Compared to global average of 129.7% and 133.1% for Viet Nam and 144.6% for Thailand.

degree of relevance (low and mid) to climate change either explicitly or implicitly. In this type of finance, the climate aspect is integrated or embedded in mainstream development projects.

Despite ongoing efforts, financial demands remain high. Future resource mobilisation will look towards a reasonable mix of national and international funds, in addition to market mechanisms, where appropriate, and in line with progress on Article 6 of the Paris Agreement. According to the NDC Update in 2020, the total funding required for all mitigation actions is over US \$ 5.8 billion. The FOLU, waste, and energy sector actions require the highest funding. Total funding required for all adaptation actions is just over US \$ 2 billion. Infrastructure, water, and agriculture require the highest funding. (GSSD, 2020a) There is an ongoing readiness support from GCF to Mekong Strategic Partners in developing green financial instruments for climate change action, which will provide the RGC with a clear framework and recommendations on how best to progress with their climate change goals through a key initiative: Development of a catalytic financial institution for green financing. This financial institution will be able to crowd in more private capital and blended financing from domestic sources, international donors and climate focused lenders to support the shift to a greener private sector and a greener finance sector in Cambodia.

2. Project and programme priorities for the GCF

2.1. Key players in GCF activities in Cambodia

There are several key institutions engaging in GCF activities in Cambodia. Those key players are directly or indirectly linked with the GCF proposal approval process shown in Figure 6.

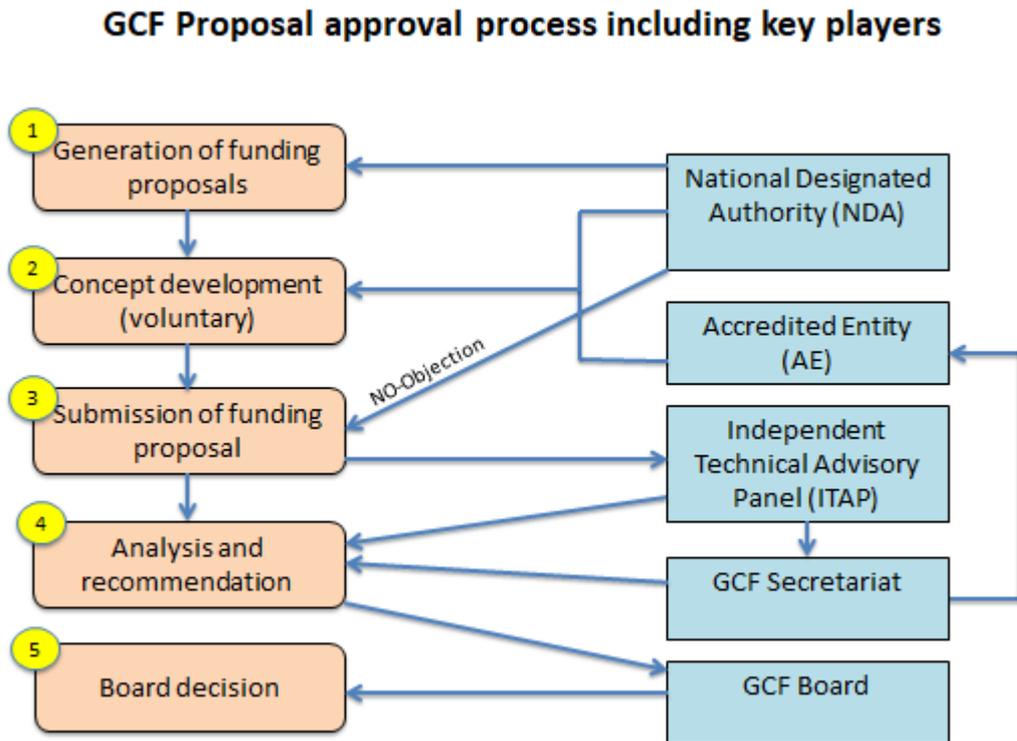


Figure 5: proposal approval process including key players

Table 18: Roles and responsibilities of key players

Institution	Roles	Responsibilities
Ministry of Environment (MoE)	National Designated Authority (NDA)	<p>Being the NDA of the Royal Government of Cambodia for GCF, Ministry of Environment serves as the interface between country and the Fund. The MoE provides broad strategic oversight of the GCF's activities in the country and communicate the country's priorities for financing low-emission and climate-resilient development.</p> <p>NDA works to engage national stakeholders towards engaging the Fund and oversight on alignment of funding to national climate change priorities along with issuance of the 'Nomination Letters for Direct Access' and 'No-Objection Letters for Projects/Programmes'.</p> <p>Further NDA is responsible to generate funding proposals, project concept development with AEs and submitting of funding proposals to (issuing No-objection statement) Independent Technical Advisory Panel(IATP).</p>
National Council for Sustainable Development (NCSD)	Inter-ministerial body that oversees climate change response	<p>The inter-ministerial body that oversees climate change response, represents a landmark in the national process of institutional reform, enabling a more effective, inclusive and comprehensive response. Its General Secretariat (GSSD), and in particular the Department of Climate Change (DCC), as well as the multisectoral Climate Change Technical Working Group (CCTWG), plays a key role, coordinating the implementation of the country's climate change response. GSSD is supporting the National Designated Authority for the GCF in Cambodia, in charge of coordinating and approving the GCF portfolio in-country.</p> <p>It is coordinating the implementation of the proposed activities under the readiness project, which will help the RGC to manage these demands in an efficient, effective and coordinated way that is well aligned with the NSDP and CCCSP, and at the same time meets</p>

		the requirements of the operational modalities and investment framework of the GCF.
Department of Climate Change (DCC) of the GSSD	National contact point to the UNFCCC	<p>The DCC of the GSSD and it is at the forefront of Cambodia's efforts to implement the country's response to climate change, serving also as the national contact point to the UNFCCC.</p> <p>DCC's main responsibilities include:</p> <ul style="list-style-type: none"> • Develop climate relevant legal and fiscal instruments, policies, strategies and action plans, programs and projects to mitigate greenhouse gases (GHGs) and adapt to climate change; • Coordinate and support the implementation of relevant legal, policy, planning instruments, conducting regular monitoring, evaluation and reporting; • Coordinate and provide technical support to the development and management of GHGs inventories, V&A assessment, National Communications, Biennial Update Reports (BURs) and deliver government commitments under the UNFCCC and other international bodies for climate actions; and • Mobilize and manage resources and build partnerships to scale up implementation of climate change response.
National Committee for Sub-National Democratic Development (NCDD)	National Accredited Entity (AE)	<p>Accredited Entities develop funding proposals to be considered by the Fund and oversee, supervise, manage and monitor their respective GCF-approved projects and programmes in line with respective country priorities.</p> <p>There are direct access entities and international access entities.</p> <p>Note: This is the direct access accredited entity/ national accredited entity in Cambodia.</p>
Independent Technical	Independently report to the GCF board with	Independent of the GCF secretariat and reports to the GCF Board. ITAP analyse the funding proposals and give recommendations to get the GCF board decision.

Advisory Panel (ITAP)	recommendations on projects, programmes	
GCF Board		Make decisions to approve or reject submitted funding proposal, or to provide approval that is conditional on modifications to the project or programme design or subject availability of funding.
Climate Change Technical Working Group (CCTWG)	Climate change advisory body	Provides technical and advisory support on climate change to the members of the NCSD, with terms of reference covering legal policy and regulatory frameworks, knowledge management and quality assurance, monitoring and evaluation, reporting on the sectoral responses, reporting to the UNFCCC, technical appraisal, resource mobilization and partnerships, capacity development, and awareness and communication on climate change.
Mekong Strategic Partners (MSP)	Official delivery partner for the GCF	It is the local readiness delivery partner nominated by Cambodia and approved by the GCF for delivery of readiness support (The design of Cambodian institution for green financing).
International Accredited Entities with mandate of operation in Cambodia.		The AEs which has a mandate to operate in Cambodia can be found from the link https://www.greenclimate.fund/countries/cambodia

Sources:

<https://ncsd.moe.gov.kh/dcc/institutional-arrangements>

<http://www.mekongstrategic.com/climate-finance-institution.html>

<https://www.greenclimate.fund/countries/cambodia>

2.2. Country Priorities for Climate Change Financing

Cambodia's main strategic documents related to climate change were analyzed with the intention of seeking alignment with the GCF result areas for mitigation (LUCF, Agriculture, Energy, Industry, and Transport) and adaptation (Agriculture, Forestry, Coastal zone, Human health and Infrastructure). The documents analyzed include:

- Cambodia Climate Change financing framework
- Cambodia NAP financing framework
- Cambodia's NDC Update to the UNFCCC 2020
- Cambodia Climate Change Strategic Plan 2014-2023
- Rectangular Strategy for Growth, Employment, Equity and Efficiency
- Building Foundation towards Realizing the Cambodia Vision 2050
- Second National Communication of Cambodia
- National Strategic Development Plan 2019-2023
- Report of Cambodia stakeholder consultation conducted on GCF in 2017
- Country Strategic Plans, NDC roadmap, investment plans

Highest Climate Change Priority areas

Highest climate change priority areas were identified by applying the following methodology:

Step 1: Take the priorities areas from Cambodian Sustainable Development Goals Framework 2016-2030 (Table 19, which has already aligned the national Strategic Development priorities and Cambodia SDGs; and identified the complementary and partially complementary areas);

Step 2: Identify the Cambodia climate change priority areas according to the NDCs;

Step 3: Identify the common priority areas based on interconnection between Cambodia climate change programmatic areas with the alignment of national Strategic Development priorities and Cambodia SDGs

Step 4: Prioritize the Cambodia climate change programmatic areas based on the outcome of step 3.

Step1: Cambodia SD priority

Table 19: Cambodia SD priorities

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	No Poverty	Zero Hunger	Good Health and Well-being	Quality Education	Gender Equality	Clean Water and Sanitation	Affordable and Clean Energy	Decent Work and Economic Growth	Industry, Innovation & Infrastructure	Reduced Inequality	Sustainable Cities and Communities	Responsible Consumption & Production	Climate Action	Life Below Water	Life on Land	Peace and Justice Strong Institutions	Partnerships to achieve the Goal	De-mining and removal of ERW (Explosive Remnants of War)
1	Poverty reduction & inclusive growth																	
2	Expanding agriculture																	
3	Securing greater competitiveness																	
4	Managing migration & urbanization																	
5	Combating climate change & deforestation																	
6	Better governance																	
7	Improving the human resource base																	

Source: Table 4.1 of Cambodian Sustainable Development Goals Framework 2016-2030

Step 2 : Cambodia climate change priority areas

- A Energy (M)
- B Industry (M)
- C Transport (M)
- D Coastal Zone (A)
- E Human Health (A)
- F Water resources (A)
- G Infrastructure (A)
- H Knowledge, Research and Innovation (A)
- I Land-use change and forestry (M/A)
- J Agriculture(M/A)

M- Mitigation A-Adaptation M/A-Mitigation and adaptation, Source: (MoE, 2017)

Step 3: Prioritization of CC programme areas

Table 20: Prioritization of CC programmatic areas

(dark shading - directly complementary, light shading - partially complementary)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	NSDP MTR Priorities / CSDG	No Poverty	Zero Hunger	Good Health and Well-being	Quality Education	Gender Equality	Clean Water and Sanitation	Affordable and Clean Energy	Decent Work & Economic Growth	Industry, Innovation & Infrastructure	Reduced Inequality	Sustainable Cities & Communities	Responsible Consumption & Production	Climate Action	Life Below Water	Life on Land	Peace & Justice Strong Institutions	Partnerships to achieve the Goal	De-mining and removal of ERW (Explosive Remnants of War)
1	Poverty reduction & inclusive growth									B									
2	Expanding agriculture		J																

3	Securing greater competitiveness																	
4	Managing migration & urbanization						F											
5	Combating climate change & deforestation							A										
6	Better governance								A		G							
7	Improving human resource base																	

Step 4:

Table 21: Identified highest climate change priority areas

Rank	Climate Change priority area
1	Agriculture(M/A)
2	Water resources (A)
3	Land-use change and forestry (M/A)
4	Human Health (A)
5	Knowledge, Research and Innovation(A)
6	Energy (M)
7	Transport (M)
8	Infrastructure (A)
9	Industry (M)
10	Coastal Zone (A)

M- Mitigation A-Adaptation M/A-Mitigation and adaptation

As per this assessment, agriculture, water resources, LUCF appears to be the areas with highest climate change priority while coastal zone seems to have the least climate change priority for Cambodia.

2.3. Proposed methodology to prioritize projects and programmes to GCF

Identified criteria

Following criteria were applied while prioritizing the project concept notes.

1. Criterion 1- Alignment with highest Climate Change Country priorities (As per the SDG assessment)
2. Criterion 2 - Alignment with track-records, Scalability of implemented projects and plans of AEs
3. Criterion 3 - Alignment with GCF policies and Strategies
 - Criterion 3.1 – GCF investment criteria
 - Criteria 3.11 - Impact potential
 - Criteria 3.12 - Paradigm shift potential
 - Criteria 3.13 – Sustainable development potential
 - Criteria 3.14 – Needs of the recipient
 - Criteria 3.15 - Country ownership
 - Criteria 3.16 - Efficiency and effectiveness
 - Criterion 3.2 – GCF Gender criteria
 - Criteria 3.21 - Gender equality and equity;
 - Criteria 3.22 - Inclusiveness in all activities;
 - Criteria 3.23 - Accountability for gender and climate change results and impacts;
 - Criteria 3.24 - Country ownership—through alignment with national policies and priorities, and broad stakeholder engagement, including women’s organizations
 - Criteria 3.25 - Gender-sensitive competencies throughout GCF’s institutional framework—skills, knowledge and behaviors acquired from training and experience that enable GCF Secretariat staff members to apply a gender-lens throughout their work;
 - Criteria 3.26 - Equitable resource allocation—so that women and men benefit equitably from GCF’s adaptation and mitigation activities
4. Criterion 4 - Impact to the national NDC targets

Methodology

- Assign a value for each project by considering above criteria (1= low, 3 =high)
- Assign weights for selected criteria according to the AHP (Analytic Hierarchy Process)
- Prioritize and rank the projects by applying multi-criteria analysis (MCA)

Table 22: Assigned weight for each criterion according to AHP (analytical hierarchy process)

No.	Criterion	Weight ⁷
1	Alignment with highest Climate Change Country priorities(As per SDG assessment)	27.28 %
2	Alignment with track-records, Scalability of implemented projects and plans of AEs	7.72 %
3	Alignment with GCF policies and Strategies	12.43 %
4	Impact on the national NDC targets	52.56 %
	Total	100%

⁷ Criterion weights were calculated based on the AHP method. More details on weights calculation methodology was attached with annex 1.

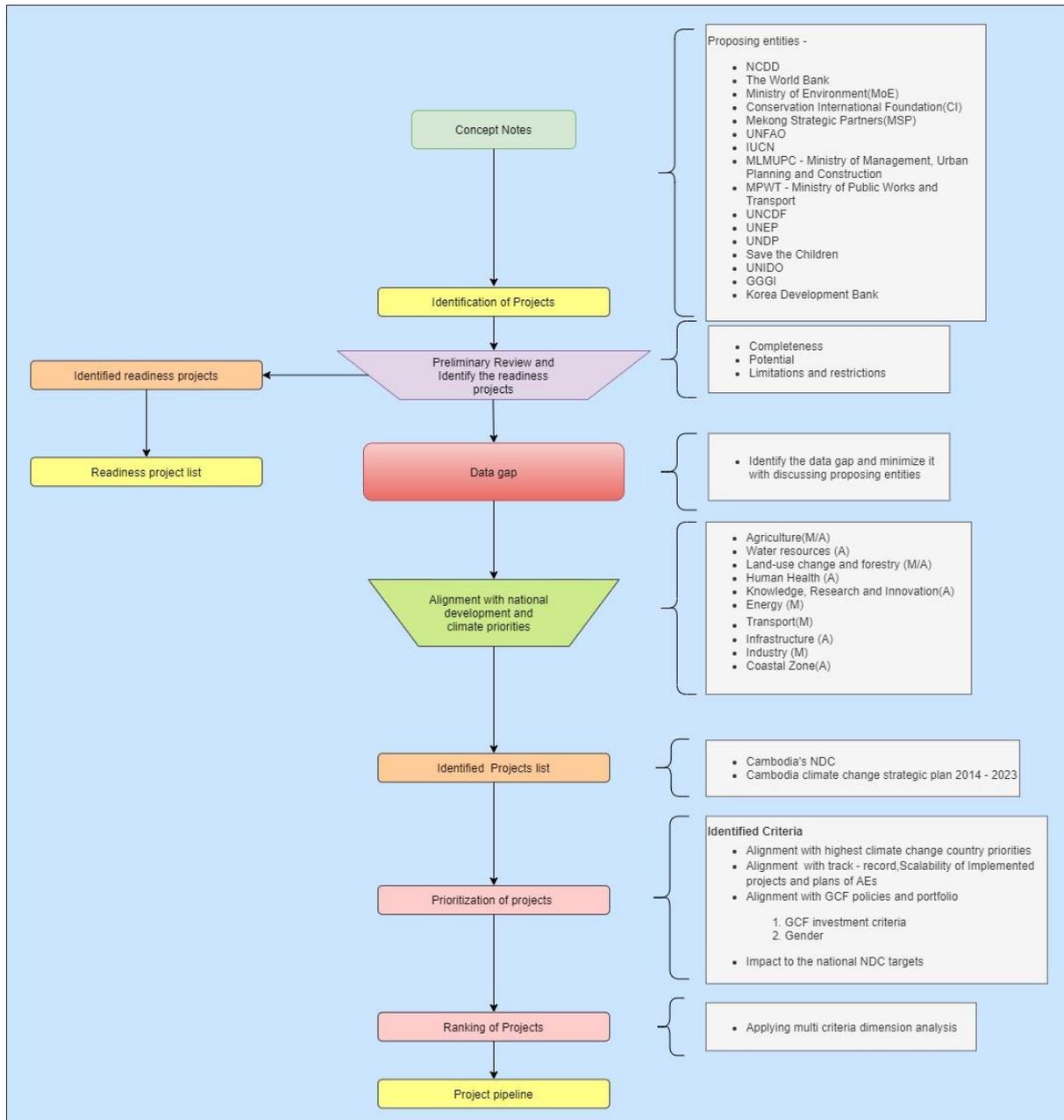


Figure 6: Graphical representation of projects prioritization

Table 23: Rational for inputs in each criterion

Criteria No	3 points (High)	2 points (Medium)	1 point (Low)
1	Alignment with 1- 3 highest climate change country priority areas(As per the SDG assessment)	Alignment with 4- 7 highest climate change country priority areas(As per the SDG assessment)	Alignment with 8- 10 highest climate change country priority areas(As per the SDG assessment)
2	The AE has successful track-record in Cambodia ,similar projects , plans of AEs and scalability of implemented projects	The proposed project is aligned with the AEs work plan for GCF or organizational strategy	Proposed project has no obvious alignment with track-record and plans of AEs
3	All proposed project interventions have very clear causal alignment with GCF policies and strategies	Some components of the proposed project have very clear causal alignment with GCF policies and strategies	Proposed project has no obvious alignment with GCF policies and strategies
4	<p>CCA - All proposed project interventions have very clear causal relationship to NDC targets</p> <p>CCM - All proposed project interventions have direct or indirect effects to reduce GHG emissions and have high scalability potential</p>	<p>CCA -Some components of the proposed project have a very clear causal relationship to NDC targets</p> <p>CCM -Some components of the proposed project have the potential to effectively reduce GHG emissions</p>	<p>CCA - Proposed project has no obvious link to NDC targets</p> <p>CCM - Proposed project does not appear to have any effective and scalable GHG reduction potential</p>

CCM –Climate Change Mitigation

CCA –Climate Change Adaptation

Table 24: Inputs for each criteria (Annex 1)

No	Project	Value			
		Criterion 1	Criterion 2	Criterion 3	Criterion 4
1	Reducing Cambodia's Emissions Through Decentralized Forest Management	3	3	2.4	3
2	Public-Social-Private Partnerships for Ecologically-Sound Agriculture and Resilient Livelihood in Northern Tonle Sap Basin (PEARL)	3	3	3.0	3
3	Technical Assistance (TA) Facility for the Global Subnational Climate Fund (SnCF Global; Cambodia: Production and Dissemination of Ceramic Water Purifiers)	3	3	1.5	2
4	Develop various technical guidelines and tools (e.g., disaster vulnerability analysis, disaster prevention strategy, and new town development guidelines) for strengthening spatial planning responding to climate change, especially the effective procedures for disaster risk management (flood and drought), green infrastructure planning, and green growth.	3	2	1.2	1
5	Formulation of Technical guidelines for mainstreaming climate change into Commune	3	2	1.3	1
6	Repair and rehabilitate existing road infrastructure and ensure effective operation and maintenance system, taking into account climate change impact	2	1	2.5	3
7	Promote integrated public transport systems in main cities	2	1	1.3	3
8	Local governments and climate change-III (LGCC3)	3	2	2.7	2
9	Resilience's Livelihood and Infrastructure in Social Land Concession for Vulnerable Communities Project	3	2	2.6	3

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10	Strengthening the market supply chain and increasing the climate resilience of rural communities through water energy food nexus	3	2	2.7	2
11	Integrated Water Management	3	3	2.6	3
12	Agroecological Transition	3	3	2.7	3
13	Resilient City	1	3	2.7	2
14	Strengthen Resilient Capacity of Flooding Communities	3	2	2.6	3
15	Urban Cooling	2	2	2.5	2
16	Realizing the full potential of Cambodian communities in a changing climate	3	2	3.0	3
17	Supporting climate resilience and sustainable water management	3	3	1.5	3
18	Moving Towards REDD+ Implementation through Private Sector Engagement in REDD+ Actions	3	2	2.6	3
19	Scaling up of Distributed Renewable Energy in Cambodia	2	2	2.6	3
20	Fostering climate-friendly agro industry development and investment in southern and northwestern regions of the country	1	1	2.9	2
21	Decarbonizing the transport, industrial and households sectors through scaling up biofuels value chain in Cambodia	2	1	2.4	3
22	Promotion of E-mobility in tourism areas	2	1	2.9	3
23	Fostering climate-friendly recovery responses through innovative policies and interventions and green technology up-taking	1	1	2.9	2
24	Collaborative R&DB Programme for Promoting the Innovation of Climate Technopreneurship	2	1	2.9	2

In the project prioritization all the non readiness projects were prioritized based on the criteria above criteria and listed them in descending order according to the final marks. That means above project pipeline shows the projects which are mostly align with the criteria. New projects can be included into this pipeline later, and it's important to note that AEs as suggested by the GCF are preparing and updating their Entity Work Programmes annually. But at that time project pipeline need to be updated according to this prioritization methodology. This pipeline does not shows the order of project initiation.

Table 25: Results

Project	Marks	Rank	Timeline	
			Start year	End year
Public-Social-Private Partnerships for Ecologically-Sound Agriculture and Resilient Livelihood in Northern Tonle Sap Basin (PEARL)	3.00	1	2022	2029
Agroecological Transition	2.96	2	2021	2026
Integrated Water Management	2.95	3	2021	2024
Realizing the full potential of Cambodian communities in a changing climate	2.92	4	2021	2026
Reducing Cambodia's Emissions Through Decentralized Forest Management	2.92	5	2022	2028
Resilience's Livelihood and Infrastructure in Social Land Concession for Vulnerable Communities Project	2.88	6	2020	2024
Moving Towards REDD+ Implementation through Private Sector Engagement in REDD+ Actions	2.87	7	2021	-

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Strengthen Resilient Capacity of Flooding Communities	2.87	8	2024	2029
Supporting climate resilience and sustainable water management	2.81	9	2021	2026
Scaling up of Distributed Renewable Energy in Cambodia	2.60	10	2021	2026
Promotion of E-mobility in tourism areas	2.55	11	2021	2027
Repair and rehabilitate existing road infrastructure and ensure effective operation and maintenance system, taking into account climate change impact	2.50	12	2021	2025
Decarbonizing the transport, industrial and households sectors through scaling up biofuels value chain in Cambodia	2.50	13	2021	2023
Strengthening the market supply chain and increasing the climate resilience of rural communities through water energy food nexus	2.36	14	2021	2026
Local Governments and Climate Change-III (LGCC3)	2.36	15	2021	2025
Promote integrated public transport systems in main cities	2.36	16	2021	2023
Technical Assistance (TA) Facility for the Global Subnational Climate Fund (SnCF Global; Cambodia: Production and Dissemination of Ceramic Water Purifiers)	2.29	17	2021	2028
Urban Cooling	2.06	18	2021	2026
Collaborative R&DB Programme for Promoting the Innovation of Climate Technopreneurship	2.03	19	2022	-
Resilient Cities	1.89	20	2021	2025
Fostering climate-friendly agro industry development and investment in southern and northwestern regions of the country.	1.76	21	2021	2024
Fostering climate-friendly recovery responses through innovative policies and interventions and green technology up-taking	1.76	22	2021	2027

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Formulation of Technical guidelines for mainstreaming climate change into Commune	1.59	23	2021	2025
Develop various technical guidelines and tools (e.g., disaster vulnerability analysis, disaster prevention strategy, and new town development guidelines) for strengthening spatial planning responding to climate change, especially the effective procedures for disaster risk management (flood and drought), green infrastructure planning, and green growth.	1.57	24	2021	2024

Table 26: Prioritized project pipeline⁸

Project name		Type of GCF proposal	Project Preparation Facility (PPF) required	Baseline	Estimated GCF Financing million US\$)	Estimated Co-financing (million US\$)	Confirmed Accredited Entity	Fiduciary Standards ⁹	ESS ⁹	Estimated Submission		
										2020	2021	2022
1	Public-Social-Private Partnerships for Ecologically-Sound Agriculture and Resilient Livelihood in Northern Tonle Sap Basin (PEARL)	Funding proposal	Yes	Concept Note developed	34.5	6.1	FAO	Basic, project management	Category B			×
2	Agroecological Transition	Funding proposal			10	0.1	UNDP, NCDD	Basic, Project management, Grant award	Category B & Intermediation 2		×	

⁸ Project concept notes(PCNs) were listed in the Annex 2 and identified potential entities for each sector for CMB was ranked in the Annex 3.

⁹ Refer to Annex I of document GCF/B.07/11, available at; <https://www.greenclimate.fund/sites/default/files/document/gcf-b07-11.pdf>

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3	Integrated Water Management	Funding proposal	-	-	10	0.2	UNDP, NCDD	NCDD - Basic, Project management, Grant award	NCDD - Category B & Intermediation 2		×	
								UNDP - Basic, Project management	UNDP - Category B			
4	Realizing the full potential of Cambodian communities in a changing climate	Funding proposal	-	-	10	-	Save the Children, NCDD	Save the Children - Basic, Project management	Save the Children - Category C			×
								NCDD - Basic, Project management, Grant award	NCDD - Category B & Intermediation 2			
5	Reducing Cambodia's Emissions Through Decentralized Forest Management	SAP		Concept Note developed	25	5	CI, WCS	CI - Basic, Project management, Grant award	CI - Category B & Intermediation 2			×
6	Resilience's Livelihood and Infrastructure in Social Land Concession for Vulnerable Communities Project	Funding proposal	-	-	-	-	NCDD	NCDD - Basic, Project management, Grant award	NCDD - Category B & Intermediation 2		×	
7	Moving Towards REDD+ Implementation through Private Sector Engagement in REDD+ Actions	SAP	-	-	10	3	UNDP	UNDP - Basic, Project management	UNDP - Category B		×	
8	Strengthen Resilient Capacity of Flooding Communities	Funding proposal	-	-	-	-	NCDD	NCDD - Basic, Project management, Grant award	NCDD - Category B & Intermediation 2			×
9	Supporting climate resilience and sustainable water management	Funding proposal	-	-	-	-	The World Bank	Basic, Project management, Grant award, Loan & Guarantee	Category A & Intermediation 1		×	

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10	Scaling up of Distributed Renewable Energy in Cambodia	Funding proposal	-	-	26.3	-	UNEP				×	
11	Promotion of E-mobility in tourism areas	Funding proposal	-	-	5	0.5	UNIDO	Basic, Project management	Category B & Intermediation 2		×	
12	Repair and rehabilitate existing road infrastructure and ensure effective operation and maintenance system, taking into account climate change impact	Funding proposal	-	-	-	-	-				×	
13	Decarbonizing the transport, industrial and households sectors through scaling up biofuels value chain in Cambodia	Funding proposal	-	-	1.5	1	UNIDO	Basic, Project management	Category B & Intermediation 2		×	
14	Strengthening the market supply chain and increasing the climate resilience of rural communities through water energy food nexus	Funding proposal	-	-	10.3	-	NCDD, UNEP	NCDD - Basic, Project management, Grant award	NCDD - Category B & Intermediation 2		×	
15	Local Governments and Climate Change-III (LGCC3)	Funding proposal	-	-	10	4.31	NCDD	NCDD - Basic, Project management, Grant award	NCDD - Category B & Intermediation 2		×	
16	Promote integrated public transport systems in main cities	Funding proposal	-	-	-	-	-				×	
17	Technical Assistance (TA) Facility for the Global Subnational Climate Fund (SnCF Global; Cambodia:	Funding proposal	-	-	-	-	IUCN	Basic, Project management, Grant award	Category B & Intermediation 2		×	

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	Production and Dissemination of Ceramic Water Purifiers)											
18	Urban Cooling	Funding proposal	-	-	-	-	NCDD, UNEP	NCDD - Basic, Project management, Grant award	NCDD - Category B & Intermediation 2		×	
								Basic, Project management, Grant award	Category B			
19	Collaborative R&DB Programme for Promoting the Innovation of Climate Technopreneurship	Funding proposal	-	-	60	60	UNIDO					×
20	Resilient Cities	Funding proposal	-	-	10	0.2	UNDP, NCDD	NCDD - Basic, Project management, Grant award	NCDD - Category B & Intermediation 2			×
								UNDP - Basic, Project management	UNDP - Category B			
21	Fostering climate-friendly agro industry development and investment in southern and northwestern regions of the country.	Funding proposal	-	-	20	3	UNIDO	Basic, Project management	Category B & Intermediation 2		×	
22	Fostering climate-friendly recovery responses through innovative policies and interventions and green technology up-taking	Funding proposal	-	-	15	2.5	UNIDO	Basic, Project management	Category B & Intermediation 2		×	
23	Formulation of Technical guidelines for mainstreaming climate change into Commune	Funding proposal	-	-	-	-	-				×	

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24	Develop various technical guidelines and tools (e.g., disaster vulnerability analysis, disaster prevention strategy, and new town development guidelines) for strengthening spatial planning responding to climate change, especially the effective procedures for disaster risk management (flood and drought), green infrastructure planning, and green growth.	Funding proposal	-	-	-	-	-				×	
Total					257.6	85.91						

3. Policy, strategy, planning and institutional needs

Cambodia has prepared several policy measures to address environmental impacts of development activities. The Rectangular Strategy has explicitly recognized this need. The Cambodia Climate Change Strategic Plan 2014-2023 has been approved, and the Environment and Natural Resources Code has been drafted. Successive National Strategic Development Plans have addressed how climate change is integrated into the development goals.

However, further policy interventions can be explored to ensure to achieve sustainable development in three dimensions – ie. economic, social and environment complying with the four normative shifts in policies to promote integration, namely:

- Social justice and ecological sustainability must be incorporated in the main policies;
- There must be a shift from a predominantly short-term policy horizon to one that seeks long term benefits to all;
- Gross domestic product (GDP) as a measure of progress should be replaced by metrics that encompass the three dimensions of sustainable development; and
- Public policy must recognize that the resources are limited and that shortage cannot be addressed by technology alone.

3.1. Gaps in national policies, plan and institutional systems and human capacity

Like other developing countries, Cambodia faces many challenges in enhancing climate resilience. There is limited understanding among many people on the impacts of climate change. This lack of awareness is not limited to the general public. Even decision makers at various levels of governance are not convinced on the climate change impacts and the need for resilience.

One requirement related to policy, strategy, planning and institutional needs is understanding the concepts and requirements associated with green financing schemes. For example, the country needs support in developing capacity on finance mapping, project development, project prioritization, linking climate change benefits, accomplish procedural requirements with GCF such as no objections, NDA approvals etc. Exact requirements have to be identified through adequate stakeholder consultations need to be developed in the country and individual institutions.

Institutional and technical capacities at various institutions dealing with development activities in order to mainstream adaptation into development planning. Cross-sectoral coordination among various private and public entities has to be improved. Being a developing country, it is difficult to acquire appropriate mitigation and adaptation technologies

In order to reduce damage due to extreme climate events, it is necessary to have an efficient and capable disaster management mechanism and advanced weather forecasting systems. Most of the above gaps are linked with inadequate funding availability.

Although many policies and strategies have been developed to address the effects of climate change, their implementation is limited due to inadequate financial support (GSSD, 2020b). The gaps needed to be addressed during GCF readiness programme are listed as follow:

1. Gaps on capacity building

Cambodia has a limited number of experts and researchers in the field of climate change. Creating opportunities for climate change, as well as retaining professionals, remains a key challenge for the successful implementation of climate change projects (GSSD, 2020b). Development of researchers in the fields of GHG inventory and mitigation, climate vulnerability assessment and adaptation measures, climate change and energy, climate agronomists, climate economists, etc. are important in further improvement in the adaptation, mitigation and cross cutting sectors.

2. Financial gaps, strategic frameworks for low-emission investment and strengthening adaptation planning for investment

Although Cambodia has received international climate finance as both grants and loans for climate change projects, still faces financial constraints to ensure effective implementation of adaptation and mitigation actions. Climate change financing still remains a key barrier though significant success have been achieved (GSSD, 2020b)

Carrying out financial and economic studies to demonstrate the benefits of mitigation options is limited by lack of detailed studies on mitigation opportunities and the costing of mitigation measures (GSSD, 2015).

Sound policies and institutions underpin successful climate change strategies. The general integration of climate change risks into policy, plans and strategies at the national and sub-national levels needs strengthening. Cambodia's efforts focus on the Cambodia Climate Change Strategic Plan, the National Policy on Green Growth and the National Strategic Plan on Green Growth, in which future developments are strategically planned towards low-carbon development and climate resilience.

Some of the climate change finance available to Cambodia has been spent on activities not clearly aligned with some national plans, including National Adaptation Plan. This is essential to be addressed in readiness activities (GSSD, 2020b)

3. Paradigm-shifting pipeline development

Developing and applying pipeline performance metrics and associated indicators are essential. Furthermore, when selecting the concept papers for the GCF if consideration is given to sector transformational paradigm shift potential then that would facilitate to enrich the Country Program. Assistance for development of concept notes for priority sectors for submission to the GCF is required to Cambodia under this objective (GSSD, 2015).

4. Knowledge sharing and learning

One barrier to technology transfer is the weak coordination and sharing of information between stakeholders including private sector. There is a need to strengthen relevant stakeholders and especially Cambodian private sector to coordinate and share information on activities, projects and other information related to climate-friendly technology development and transfer including the innovation. This should definitely require the private sector engagement as well. This can be done by training a group of industry and public sector personnel initially by having a well designed program or series of programs with the support of a qualified expert. Then it is necessary to conduct a series of well planned “training of trainers workshops” to train a public and private sector personnel with the support of the previously trained group members and that help to develop the competencies, capabilities and also to gain a synergetic effect in the long run with public and private sector participation.

Some mitigation technologies have been transferred to Cambodia through various mechanisms (including the Clean Development Mechanisms under the Kyoto Protocol), yet substantial gaps remain. As an initial step to fill the gaps, a Technology Needs Assessment (TNA) for climate change mitigation technologies was conducted, while the associated Technology Action Plans (TAP) were prepared in 2013 (RGC, 2013a). Two prioritized sectors were covered in the analysis, the transport sector and the energy sector. Fourteen technologies in the transport sector and 12 in energy efficiency were proposed, but only two for each sector were selected. Although the TAP was developed in 2013, the determined priority sectors remain valid and are addressed by several ministries (GSSD, 2020b).

Advanced technologies are developed outside Cambodia and are expensive, and often requiring the training of experts so they can verify the technical and environmental soundness of the equipment and processes. These experts would need the proper incentives, job security and motivation to remain in their jobs. Cambodia is still highly underdeveloped in the process of industrialisation. It requires technology initiatives, innovations and training of experts. In adaptation technology, especially, water resources need much more attention (GSSD, 2015).

5. Accreditation Strategy

The Royal Government of Cambodia in the long run plans to expand scope of the current cooperation with the GCF by accrediting any additional national entities. Then, it is very much important to have a sound accreditation strategy to ensure the impartiality, fairness, transparency and efficiency of the accreditation process through a continuous monitoring and evaluation process. In this context the Government can bench mark the best practices of any other country covering lessons learned related to accreditation strategy and then adopt it by making appropriate changes to suit to country specific situation. However, it is prudent to have a wider stakeholder consultation before adopting such a strategy to obtain inputs which facilitate the process of setting a more acceptable and recognized strategy.

3.2. Country GCF Readiness Pipeline

Eight readiness proposals were received during the preparation of the country programme document:

- i) Agriculture sector readiness for enhanced climate finance and implementation of Koronivia Joint Work on Agriculture priorities in Southeast Asia;
- ii) NCDDS Readiness Accreditation Fulfillment;
- iii) GCF Pipeline Development and Other Readiness Support for Countries Seeking to Address Climate Change through: Restoration;
- iv) Establishing an Evidence-based National Adaptation Plan Process at National and Sub-national scale in Cambodia;
- v) National Framework for Climate Financing for Sub-National Administrations;
- vi) Strengthening climate change mainstreaming in SNA planning and implementing development projects and assessing SNA capacity to establish climate change mitigation and adaptation plans;

- vii) Increase the rate of submission of high-quality concept notes for submission to the GCF and assess pilot projects implemented through other sources of climate finance for scaling up and expedite the process for submitting those projects to the GCF; and
- viii) Capacity Development of NCDD-S in support NCDD-S work with line-ministries.

3.3 Readiness Strategy

The readiness support is important to implement the Cambodia pipeline and in this regard the following readiness support needs to be as part of the readiness strategy.

- Country programming process;
- Direct access to climate finance;
- Climate finance access;
- Formulation of national adaptation planning and/or other adaptation planning processes;and
- Country capacity for engagement with the GCF.

Table 27: Country GCF Readiness Pipeline

Readiness Request	Description	Estimated GCF Financing (USD)	Estimated Co-Financing (USD)	Duration	
				Start year	End year
Agriculture sector readiness for enhanced climate finance and implementation of Koronivia Joint Work on Agriculture priorities in Southeast Asia	<p>The main aim of the project is to enhance the capacity of countries in Southeast Asia to develop investment programmes linked to adaptation and mitigation priorities for the agriculture sector and develop innovative mechanisms for public and private sector climate finance. Specifically the project will:</p> <ol style="list-style-type: none"> 1) Develop agriculture investment plans/programmes embedded within national climate change policy frameworks; 2) Build capacities of agriculture sector stakeholders in ASEAN Member States (AMS) to improve the quality of pipeline of concept notes, proposals; and 3) Enhance opportunities for knowledge capture, learning and dissemination on climate-friendly agriculture through partnership networks. 	-	-	2021	-

Readiness Request	Description	Estimated GCF Financing (USD)	Estimated Co-Financing (USD)	Duration	
				Start year	End year
NCDD Readiness Accreditation Fulfillment	<p>In November 2019, NCDD became the first direct access entity to be accredited by GCF in Cambodia. NCDD's mandate is focused on supporting sub-national governments. This includes channeling resources to communes, districts and provinces for their operations and for sub-national development projects. NCDD has almost 10 years' experience in blending climate finance and regular development funds in support of climate-resilient development projects at the sub-national level.</p> <p>In relation to GCF, NCDD's role will be crucial in developing and overseeing projects for delivery at the sub-national, through provinces, districts and communes. This includes projects in both rural and urban areas.</p> <p>Note: This readiness request has been approved by the GCF secretariat and operationalized during the finalization of this document.</p>	-	-	2021	2022

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Readiness Request	Description	Estimated GCF Financing (USD)	Estimated Co-Financing (USD)	Duration	
				Start year	End year
GCF Pipeline Development and Other Readiness Support for Countries Seeking to Address Climate Change through Restoration	<p>This proposal will access GCF Readiness Programme funding to support participating countries in assessing FLR opportunities and planning high-impact, high-priority GCF-eligible FLR interventions integral to bringing about a transformational shift to low-emission and climate-resilient development. Key elements of the proposal include:</p> <ul style="list-style-type: none"> • A country-led, multi stakeholder-driven approach using best practice tools to identify highest value, highest priority restoration opportunities and interventions at national and/or sub-national levels • An integrative focus on private-sector engagement and blended finance strategies, taking advantage of the significant opportunities for investments, jobs and other benefits found through greening of supply chains and “building back better” following the Covid-19 pandemic 	-	-	2021	2024

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Readiness Request	Description	Estimated GCF Financing (USD)	Estimated Co-Financing (USD)	Duration	
				Start year	End year
	<ul style="list-style-type: none"> • Development and strengthening of in-country multi-sectoral planning platforms to align and coordinate work • A global support platform, providing a number of services to country-driven processes, to realize cost savings, ensure quality, and facilitate South-South learning and exchange. Support includes. 				
Establishing an Evidence-based National Adaptation Plan Process at National and Sub-national scale in Cambodia	<p>This Readiness support will allow DCC/GSSD to prepare a national adaptation plan. The project will be split into two phases, each with a budget of USD 1.5 million. The overall objective of the project is to Strengthen institutional and scientific capacity in Cambodia to formulate and implement national, sectoral, and subnational climate change adaptation strategies and actions. It is envisaged that the project will greatly enhance the country's ability to plan strategically for climate change, develop appropriate policies,</p>	3,000,000	-	2021	2022

Readiness Request	Description	Estimated GCF Financing (USD)	Estimated Co-Financing (USD)	Duration	
				Start year	End year
	<p>plans, and projects/programmes, and access enhanced financing.</p> <p>The three outcomes include:</p> <ul style="list-style-type: none"> • Evidence basis produced to design adaptation solutions for maximum impact; • Adaptation planning governance and institutional coordination strengthened; and • Private sector engagement in adaptation catalyzed. 				
National Framework for Climate Financing for Sub-National Administrations	<p>This GCF Readiness support will allow NCDD-S to put in place a requisite instrument for sub-national administrations to meet their needs of supplementary funding for climate change adaptation. The NCDDS-S will deploy a programme that would advance this framework, which will be developed and progressively rolled out in all sub-national levels. It will also allow NCDD-S to design a monitoring and evaluation system to track and report on sub-national adaptation and future mitigation benefits. A feasibility study will be developed,</p>			2021	2022

Readiness Request	Description	Estimated GCF Financing (USD)	Estimated Co-Financing (USD)	Duration	
				Start year	End year
	reflecting best practices of LoCAL and other financing mechanisms through the full institutionalization and roll out of the performance-based climate resilience grants system. A Sub-National Investment Fund for Climate Change and Disaster Resilience will also be created and anchored to support resource mobilization efforts through the preparation of concept notes and funding proposals to bilateral and multilateral donors.				
Strengthening climate change mainstreaming in SNA planning and implementing development projects, and assessing SNA capacity to establish climate change mitigation and adaptation plans	Although NCDD-S has implemented a number of climate change projects at the sub-national levels and SNA have implemented an array of sub-projects under these projects, climate change adaptation planning has been mainstreaming into local planning process but only available through those target communes and districts of the projects being identified. The GCF Readiness support will provide resource needed to roll-out a national programme based on the lesson learned from past projects, guidelines and manuals produced for project			2022	2023

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Readiness Request	Description	Estimated GCF Financing (USD)	Estimated Co-Financing (USD)	Duration	
				Start year	End year
	implementation. In addition, additional tools and guidelines will be developed to expand roles of SNA in developing and implementing mitigation projects and expand their adaptation experience beyond small scale infrastructures.				
Increase the rate of submission of high-quality concept notes for submission to the GCF and assess pilot projects implemented through other sources of climate finance for scaling up and expedite the process for submitting those projects to the GCF	Three prioritized project ideas have been identified with resources needed for the full concept note development to be submitted to the GCF. The readiness support will further review for satisfactory of GCF investment criteria and following the paradigm shift potentials as suggested under the GCF Readiness guidebook. The resource will also be utilized to coordinate with NDA and ensure NCDD’s pipeline development process is in line with country priorities and policies. i. The first project idea is on ‘Integrated Water Management’;			2021	2023

Readiness Request	Description	Estimated GCF Financing (USD)	Estimated Co-Financing (USD)	Duration	
				Start year	End year
	<p>ii. The second project idea is on ‘Gender Mainstreaming into Climate Change Resilience for Women Livelihood Enhancement in Rural Areas’; and</p> <p>iii. The third project idea is ideally target the proposed project ideas presented by the NCDD-S, namely on the result area of resilient livelihood.</p>				
Capacity Development of NCDD in support NCDD work with line-ministries	<p>This readiness proposal will build the human resource capacity of NCDD-S to identify project ideas, assess and develop into high quality project concept notes and funding proposals.</p> <p>i. A strategic framework would be developed to assist the NCDD-S in assessing the project ideas and concepts to align with the result areas of NCDD-S and targeting high and quite vulnerable communes. The readiness support will be utilized to equip NCDD-S staff with scientific knowledge and tools to fully assess climate and other index vulnerability and impacts on local development. NCDD-S staff will gain knowledge on</p>			2022	2024

Readiness Request	Description	Estimated GCF Financing (USD)	Estimated Co-Financing (USD)	Duration	
				Start year	End year
	<p>performing assessments and capacity to prepare high quality concept notes and proposals after the tenure of the consultant(s);</p> <p>ii. A component of this strategic framework will develop a concrete, strategic partnership plan for the NCDD-S to engage with relevant stakeholders as the NCDD-S seek to identify partners to support its activities and pipelines. The support will also be extended to line ministries, whose work related to prioritized focus areas of NCDD-S. Line ministries will receive technical assistance to produce project concepts and to work with NCDD-S to prepare concept notes and funding proposals.</p>				

Source:(DCC, 2021), (NCDD-S, 2021)

4. Multi-stakeholder engagement process

Multi-stakeholder engagement is critical for preparing and updating an effective GCF country programme document. Stakeholder engagement is also a key component of the Environmental and Social Policy that applies to all activities financed by the Green Climate Fund (GCF), and to both private and public sector accredited entities (AEs). This includes projects directly financed by GCF, as well as the many subprojects supported and implemented through GCF-supported programmes, financing frameworks and financial intermediaries (FIs). As a country with emerging interest on combatting climate change, Cambodia needs to ensure effective stakeholder engagement in climate change programmes through following an effective and consultative multi-stakeholder engagement process. Country priorities of AEs, their focus areas and implemented projects in the country are described in Annex 3.

There are several priority points, which have to be discussed during the stakeholder engagement process. Those includes updating key parameters on climate finance, GHG inventories etc to address the gaps through readiness proposals.

Intention of this stakeholder engagement is to update Cambodia's GCF Country Programme annually, initially focusing on updates to the project pipeline, whereas other sections will be updated as new and relevant information becomes available including: New and improved data and information on expected climate change impacts in Cambodia become available;

- New or updated relevant policy is developed or adopted;
- New international good practice or GCF guidelines for country programming become available; and
- Relevant GCF operational policies are being changed, etc.

The Climate Change Technical Working Group (CCTWG), which was established in May 2011, acts as a technical advisory body to the NCSD. For instance, it provided support to the line ministries for the development of sectoral CCAPs. In the context of stakeholder engagement, they play a crucial role as they interact with several government and private sector entities. As such, their engagement throughout the stakeholder engagement process will be vital to have a successful stakeholder engagement process.

4.2. Stakeholder engagement process

Step 1: Set Stakeholder engagement objectives

Main objective under this step is to ensure the country ownership, which means shared responsibility and accountability among numerous partners within the country, including the public and private sector, women and men, urban and rural, rich and disenfranchised. This provides clarity and direction to internal working teams, and it communicates to the broader public that the country will recognize and respect the values, beliefs, perceptions and ideas of people and communities impacted by their activities.

In order to ensure that the objective of this step is met, several meetings, discussion and workshops were planned with public sector, private sector, civil society, Direct Access Entities (DAE), International Access Entities (IAE), covering all relevant segments of the society. In addition, following steps were set to be taken to ensure the consideration of gender issues and social inclusion:

- Women and men will be given equal and equitable opportunities during consultations;
- Inclusion of the significant number of women and marginalized people during the consultations with organizations will be ensured;
- Number of women involved during the consultations will be tracked and recorded in the report; and
- GCF indigenous people's (IPs) policy, especially relevant to land-use and forestry related projects, will be considered as Cambodia has 15-20 groups of IPs and they have traditional rights to forest land. Inclusion of IPs during the consultation will be ensured.

Step 2: Identify and assess stakeholders

Information gathering on key stakeholders who are required to engage in the process includes government agencies at the national or sub-national level, accredited entities (direct access and international access), development partners, private sector, academic institutions and civil society organizations. Civil society participation (e.g. community-based, gender-oriented or indigenous peoples) is also important in stakeholder consultation because they are the affected/potentially affected people by proposed GCF-funded activities. Development of key stakeholders, other stakeholders and their expected roles in the implementation of the Country Programme is final outcome of this step. This step initiates the process of stakeholder mapping. Table 28 provides a list of stakeholders to be interviewed and engagement approach with them.

Step 3: Develop engagement plan and techniques

Development of effective stakeholder engagement plan including capacity development, knowledge sharing, technology transferring, multi-stakeholder meetings and a series of bilateral meetings.

Two stakeholder workshops (1. Multi stakeholder Inception workshop; 2. Multi stakeholder validation workshop) will be attended by the international consultant.

First multi stakeholder consultation will be held to share the initial results of the assessment and also to get the feedback from the stakeholders. In addition, several group discussions will be held to collect the information on the country programme and priority working areas.

Table 28 provides a list of stakeholders to be interviewed and engagement approach, engagement tools and frequency.

Step 4: Implement stakeholder engagement plan

Effectively implement the plan addressing barriers. These initial conversations provide an opportunity to share detailed information about the activity, gather ideas about the most appropriate approaches to communication and engagement, and generally refine the stakeholder map and engagement strategy. It is crucial to meet with all the stakeholders identified in the mapping exercise.

Step 5: Assess the engagement process, develop action plans and lessons learned

Development of action plans with the target of translating findings, agreements, or recommendations into concrete actions and then communicating those actions to the relevant stakeholder groups. Reports of the workshops will be prepared and minutes of the meetings with the stakeholders will be taken. The reports and minutes can be shared with the relevant stakeholders which include action plans and lesson learned.

Step 6: Monitoring and Evaluation (M & E)

Stakeholder engagement plans include an M & E process aligned with the initial results management framework of GCF to review the progress of the deliverables of each stakeholder during the implementation of projects, included in the Cambodia Country Programme. It should include periodicity and scope of the reviews to ensure effective prioritization of projects and programmes in the country to request GCF funding (GCF, 2019).

It is recommended to use the progress reports and the M&E framework of the accredited entities (AEs) in order to review the progress of the project implementation. In a situation,

where there are difficulties applying M&E frameworks of AEs, NDA may use the newly introduced initial results management framework of the GCF.

4.3. Stakeholder engagement plan

Table 28 provides the information on key stakeholders to be interviewed, their areas of influences, which phase of the project that they will be approached, engagement tool and engagement frequency.

Table 28: Key Stakeholders

No	Stakeholder	Areas of influence/interest	Project phase	Engagement tools	Frequency
1	Department of Climate Change of the General Secretariat of the National Council for Sustainable Development (GSSD), Ministry of Environment of Cambodia	Regulatory Project management Coordination	All	Face-to-face E-mails	Very frequent
2	Green Climate Fund	Operating Entity of the Financial Mechanism of the UNFCCC”	All		Very frequent
3	NCDD	Direct access entity accredited by GCF	All		
4	Mekong Strategic Partners (MSP)	Readiness Delivery Partner nominated by Cambodia	All		
5	Ministry of Mines and Energy (MME)	Country programme and priority working areas	All		Frequent
6	Department of Energy Techniques				
7	Electricity Authority of Cambodia				

8	Ministry of Industry, Science, Technology and Innovation (MISTI)						
9	Ministry of Public Works and Transport (MPWR)						
10	Ministry of Agriculture Forestry and Fisheries (MAFF)						
11	Ministry of Planning (MoP)						
12	Ministry of Health (MoH)						
13	Ministry of Water Resources and Metereolgy (MoWRAM)						
14	Ministry of Land Management, Urban Planning and Construction (MLMUPC)						
15	Ministry of Commerce (MoC)						
16	Ministry of Rural Development (MRD)						
17	National Institute of Statistics					All	Frequent
18	(Cambodia) Electricity Private Co. LTD. Power Plant					All	Frequent
19	T.N.N.T ELECTRICITY CO., LTD.					All	Frequent

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20	EDC - Electricité du Cambodge		All		Frequent	
21	Thai Boon Rong Cement Co		Scoping mission		Less frequent	
22	Chip Mong Insee Cement Corporation (CMIC)		Scoping mission		Less frequent	
23	Battambang Conch Cement Co Ltd		Scoping mission		Less frequent	
24	Cambodia Cement Chakrey Ting Factory Co Ltd		Scoping mission		Less frequent	
25	Cambodia Iron & Steel Mining Industry Group Co., Ltd.		Scoping mission		Less frequent	
26	Libminco Mining Co., Ltd		Scoping mission		Less frequent	
27	Other relevant ministries		All		Face to face, E-mail	Frequent
28	GCF - National Implementing Agencies		All		Face to face, E-mail	Frequent
29	GCF – Multilateral Implementing Agencies (ADB, the WB, UNDP, etc)		All		Face to face, E-mail	Frequent
30	Civil Society organizations (The NGO forum, its network member NGOs, etc)	All	Face to face, E-mail	Frequent		
30	Chambers/Industry Associations and Private sector Institutions including Financial and non-Financial	Country programme and priority working areas	All	Face to face, E-mail	Frequent	

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31	United Nations Development Programme (UNDP)	Country programme and priority working areas	All	Face to face, E-mail	Frequent
32	Food & Agriculture Organization of the United Nations (FAO)	Country programme and priority working areas	All	Face to face, E-mail	Frequent
33	World Bank (WB)	Country programme and priority working areas	All	Face to face, E-mail	Frequent
34	Asian Development Bank (ADB)	Country programme and priority working areas	All	Face to face, E-mail	Frequent
35	United Nations Industrial Development Organization (UNIDO)	Country programme and priority working areas	All	Face to face, E-mail	Frequent
36	Global Green Growth Institute (GGGI)	Country programme and priority working areas	All	Face to face, E-mail	Frequent
37	UNHabitat	Country programme and priority working areas	All	Face to face, E-mail	Frequent
38	Rural Development Bank	Country programme and priority working areas	All	Face to face, E-mail	Frequent

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