

KINGDOM OF CAMBODIA
Nation Religion King



Ministry of Rural Development

Climate Change Action Plan for Rural Development Sector 2021-2023

Phnom Penh, 2021

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FREPACE

Climate change is having significant impacts on living and becoming a global concern about the future that need to seek urgent solutions. Cambodia is highly vulnerable to climate change and the Government of the Kingdom Cambodia (GoKC) has experienced and acknowledged the impart. Thus, the government identified the problems and the needs for mainstreaming climate change into the national strategy, policies and programs such as Rectangular Strategy phase 4 (RS4), NSDP and other national policies in different sectors.

In response to the RS4, NSDP as well as Cambodia Sustainable Development Goals and the uncertain current climate change issues, the Ministry of Rural Development (MRD) has put a strong effort under its 10-year strategic plan on rural and social infrastructure development that resistant and resilient to climate change. The strategy will improve the quality of rural infrastructures in their resilience to climate change and sustainability, as well as building up rural economic growth that will contribute in terms of reducing rural poverty. To implement its 10-year strategic plan, there is the need to start with potential action plans that address to climate change issues. Then, the first Climate Change Action Plan (CCAP 2014-2018) for rural development was prepared and updated into CCAP 2021-2023. The plan has been aligned with the four programs of the ministry of rural development strategies 2019-2021: enhance capacity building and ICT and knowledge management, improve quality and resilience of rural roads and infrastructure network, increase access to improve rural water supply and healthcare, ensure a sustainable rural economy and harmonious community development. With commitment and political support from the government, the Ministry of Rural Development has established the Climate Change Working Group (CCWG) that consists of all its key technical departments representatives for implementation, integration and monitoring the CCAP.

In regular technical consultation with all technical and senior management level, 10 concrete climate change action plans (CCAP) have been addressed to climate change and climate relevance, and they are ready to receive the supports from all kind of development partners and other national stakeholders. This CCAP is also developed in line with the rural development policy and strategy, National Strategic Development Planning, and the respond the Strategic Plan for Climate Change Strategy. On be haft of the Ministry of Rural Development (MRD), wishes to thanks we wish to thank the team of climate change for their hard work and high commitment in preparing this action plan. MRD wishes to extend its thankful to all involved governmental staffs and other stakeholders in this climate change action plan development during the consultation phase.

We wish to acknowledge the support of Cambodian Climate Change Alliance (CCCA) trust fund donation for their cooperation, understanding and being friends throughout the planning process. Hopefully, these climate change action plan would have met with the financial supports from the government and various development partners.

Acronyms

CCAPs	Climate Change Action Plans
CCCSP	Cambodia Climate Change Strategic Plan
MEF	Ministry of Economics and Finance
MOE	Ministry of Planning
MOP	Ministry of Planning
MRD	Ministry of Rural Development
NDC	Nationally Determined Contributions
NPRS	National Poverty Reduction Strategy
NSDP	National Strategic Development Program
PDRD	Provincial Department of Rural Development
PIP	Public Investment Program
KoGC	Government of the Kingdom of Cambodia

Executive Summary

Cambodia is one of the most vulnerable countries to climate change in the region due to its adaptive capacity, topography and its dependency on Mekong river system. In the given location and capacity, rural communities are often vulnerable to extreme events such as heavy rains, floods followed by droughts. Flooding with loss of rural connectivity can have a devastating affect on the livelihoods of the rural population. These impacts are expected to become more pronounced and severe under the influence of climate change. Climate change causing natural disaster is key threat to rural infrastructure and people wellbeing not only in rural areas but also urban periphery.

Many scientific studies (MOE-SNC 2010, MOE-PPCR 2013, UNDRR 2019, MEF and GSSD 2019, MRD 2019, NCDM 2020)) shows existing and potential impacts from climate change to key sector of rural development include:

- The impact on Rural Water Supply, mostly link with small scale irrigation whose role is to store water for paddy field and crop production for local community.
- The impact on ground water which is one of the key responsible of the ministry. Unlike surface water, ground water is less responsive to short-term climatic variability and will be buffer against the effects of climate change in the near-term, as a result of the storage capacity of the aquifer.
- Impact on rural road sector due to overall increase total annual rainfall, resulting in increased floods during the wet season and increased drought during the dry season.
- Impacts on the Rural Socioeconomic and Health Sector due to floods and droughts.

The ministry of rural development (MRD) has been trying its best effort of the maindate with lack of much resources, to gather development partners and all relevant stakeholders to invest their capital in the cause of response to current climate extreme events such as floods and droughts in order to strengthen capacity of adaptation and recilience. MRD has planned majors projects focusing on the construction of water culverts, flood protection dykes in major provincial towns, and rehabilitation of roads and bridges damaged by floods. Consequently, MRD strongly need cooperation from all partners to construct water storage dams, pumping facilities, water gates, canals, and expansion of drainage and sewerage networks which are currently in the limited amount.

The goal of preparing this CCAP is to strengthen capacity of adaptation and recielience of rural works involved in improving the design of rural infrastructure and increasing long-term investments, especially social services (such as provision of micro-credit to open up business opportunities); increasing the flexibility of vulnerable systems (e.g. changing activity or location); and improving the preparedness and awareness of rural society (dissemination of the concept of agricultural practices being able to adapt to climate change).

This CCAP includes a planning matrix which identifies the priority actions required to deliver maindate, missions and strategies of MRD and the Cambodia Climate Change Strategic Plan (CCCSP) as well as support to the implementation of Nationally Determined Contributions (NDCs) for 2030 through formulation of priorities, proposed activities and costing and financial mechanism.

Five major strategies and 27 actions are developed in response to the climate change adaptation in rural development sector as follow:

1. Reconstruction and Rehabilitation of Resilient Rural Road has 9 actions;
2. Rural Water Supply and Sanitation for Climate Change Resilience has 6 actions;
3. Capacity Building in Climate Change and Disaster Risk Deduction in Rural Development Sector has 4 actions; and
4. Mainstreaming Climate Change into rural development policies, strategies and action plans has 4 actions.

The total cost of all proposed actions is 1,299,600,000 USD. The source of funding is categorized into two: Unconditional referring to committed funding with allocated resources ready to be implemented throughout the years and Conditional which refers to non-committed funding, the figure of which only exists in various ministerial programs and working groups. Unconditional funding amounts for 875,840,000 USD or 67.39% of the total funding. The remaining 32.61% which equals to 423,760,000 USD need to be funded either through government budget or donors to fully implement these actions.

1. Background

The MRD is a multi-disciplinary intervention institution, working in integrated approaches for rural development including rural social and infrastructure. The main activities of the rural infrastructure sector are rural road improvement, irrigation rehabilitation and water well construction. The social infrastructure sector comprises sanitation and hygiene, community development and capacity building, micro-credit provision, gender protection and indigenous population protection.

As part of the government's body, MRD have played its part in climate change related activities; namely, CCAP (2013-2019) implementation. We have faced some challenges as followed: our technical working group's capacity in resource mobilization to implement planned activities, there was not any monitoring and evaluation mechanism properly in place, there was a lack of information and data sharing amongst concerned departments and projects. The required budget to implement such planning activities is big making it difficult to find funding and support from Donors, NGOs and Government fund. To improve the implementation of the next ACCAP 2021-2023, we need properly plan through in depth study of the donor funding activities, the commitment of the government support. For that reasons all of our proposed activities aligns with government priorities such as NDC, rectangular strategy, NSDP, Climate Change Strategic Plan, MRD policy and Rural Development Strategic Plan. Collaboration with partners in resource mobilization to support uncommitted activities is a must in order to improve our performance. Capacity building among the climate change technical working group is needed especially in term of proposal writing and development of M&E framework along with the establishment of the M&E tools or system in monitoring the implementation of the CCAP 2021-2023.

a) Policies and strategies

The stating of the term Climate Change in both Rectangular Strategy IV (2018-2023) and National Strategic Development Plan (NSDP 2019-2023) show signification integration of climate change into national planning and national strategies into achieve inclusive and sustainable development. Further evidence can be drawn from Cambodia Climate Change Strategic Plan (CCCSP-2014-2023) showing political will, commitment and readiness in climate change impact reduction, effort in mitigating GHG emissions.

The updated Nationally Determined Contribution (NDC) for Cambodia presents the commitments and needs for the next decade, in order to realize our vision of a low carbon and resilient society. This updated NDC has increased to include climate change mitigation targets in the agriculture and waste sectors, and more detailed actions in key sub-sectors. It also includes a stronger set of adaptation actions, which remain the top priority for Cambodia. This NDC pays particular attention to gender and vulnerable groups, in order to ensure that our adaptation and mitigation actions contribute to a more inclusive society. A significant effort has been made to develop a solid framework for monitoring, reporting and verification (MRV), so that we are able to generate solid evidence on progress made and on any challenges encountered. This will help us to continuously refine our policies so that we not only meet our NDC commitments, but also our climate change targets under the Sustainable Development Goals (SDGs).

Under Ministry of Rural Development mandate, Rural Development Strategy, Action Plan (2019-2023) has shifted its policy and strategy to tackle both resilience to climate change and assurance toward gender equality. This legal document recognizes climate change as one of its main cross-cutting issues and promotes rural development and climate resilience into its strategy.

National Action Plan on Rural Water Supply, Sanitation and Hygiene 2019-2023 (RWSSH NAP II) points out that one of the challenges in rural water and sanitation is the lack of climate change adaptation and at the same time sets out the climate change related strategic goals and action plans such as climate proofing water and sanitation infrastructure, climate change integration into water safety plan, capacity building for national and sub-national government, and project costing adjustment for climate change adaptation.

On top of that, four priorities are identified to help the rural poor who are restrained by the impacts of climate change in Climate Change Strategic Plan for Rural Infrastructure (2014) which are:

- Development of policies and regulations which relate to upgrading rural infrastructure quality and rural adaptation
- Creation of rural business opportunities for savings and improved rural livelihoods
- Provision of upgraded rural infrastructure projects as demonstrated in some areas
- Provision of capacity building on climate change adaptation and rural health care awareness to communities.

Climate Change Action Plan for Rural Development 2014-2018 (CCAP) was the main climate change action instrument and four climate change strategic priorities were prioritized:

- Creating policies and study profiles for rural infrastructure resilient to climate change.
- Supporting adaptation to climate change through creating local business opportunities that focus on micro-credit provision for socioeconomic development.

- Promoting climate resilience through strengthening the quality of rural infrastructures to be resilient to flood and drought (pilot project implementation).
- Promoting adaptation to climate change through capacity and institutional development and increasing rural awareness rising on climate change adaptation and response options.

b) Situation Analysis

The overview of Cambodia by the World Bank summarized that during the last two years, Cambodia has undergone many huddles” reaching lower middle-income status in 2015 and aspiring to attain upper middle-income status by 2030”. Depending on garment exports and tourism, Cambodia have seen an average growth rate of 8% between 1998 and 2018 and is known to be one of the fastest-growing economies in the world. It was estimated to have reached 7.5% in 2018 and slightly dropped to 7.1% in 2019 with gross national income per capita reaching \$1,643 World Bank (2020). The same source also highlights that even though poverty rate had decreased from 47.8% in 2007 to 13.5% in 2014, 90% of the poor is living in the country. Despite the fact that Millennium Development Goals (MDG) was achieved by splitting 50/50 in 2009, those who went above the poverty line was able to do go slightly above the bar and could easily sink back into poverty when exposed to economic and other external shocks. Due to 2020 Covid-19 pandemic, this case could be likely to be true among households involved in key sectors like tourism, construction, trade, manufacturing and the garment industry.

Cambodia’s topography is dominated by several surrounding mountain ranges, the Mekong River and Tonle Sap, the largest fresh water lake in Asia. The lake is connected via the Tonle Sap River to the Mekong River at Phnom Penh. Their conjunction leads to an unusual event. When water level of the Mekong is higher than the Tonle Sap River the river flows backwards into the lake causing it to expand its surface are by 400%. Then when the Mekong water recede, the lake discharges into the Mekong and returns to its original size (Oeurng et al., 2019). Due to the fact that around 80 percent of the country is within the Mekong River and Tonle Sap basins, it is very vulnerable to natural disasters. Cambodia’s topography and tropical climate make its road network both highly exposed and sensitive to climate inducted disasters such as frequent rainfall, flooding, and storms. The 2018 World Risk Index ranks Cambodia as the 12th most disaster-prone country among 172 countries. The infrastructure sector is particularly vulnerable to the impacts of disasters.

UNDRR (2019)’s description of economic impact disasters points out that transport sector is the most vulnerable sector impacted by three disasters in 2009, 2013 and 2014 with a total combined cost of US\$454 million to its physical infrastructure. A recent event further emphasis the impact of natural disaster on Cambodia. MRD report of natural disaster by November 17 2020 that there were 659 rural road lines covering 3,154 kilometers in total needed to be repaired. Not to mention other infrastructure such as national road, water and irrigation system and water and sanitation, the total cost of rural road alone is worth more than USD 91 million. The disruption of infrastructure connectivity further significantly impacted the overall economy due the loss of market access of key economic goods such as agriculture

products. According to a world bank document; Disaster Risk Finance Country Diagnostic Note: Cambodia, the annual economic losses in Cambodia because of natural disasters were estimated at 0.7 percent of GDP.

Climate Risk and Adaptation Country Profile (2011) on Climate change projections indicate temperature to increase by 0.7-2.7°C by 2060 as well as the increase of intensity and frequency of extreme precipitation in monsoon season and flooding risks. Economic and social losses related to climate impact may increase if infrastructure planning does not consider climate and disaster risks. Flood and drought events can cause disruption of and damage to WASH infrastructure including community piped-water systems, water sources (wells and ponds), latrines and other facilities: the worst drought in 50 years in 2015/2016 affected an estimated 2.5 million people according to UNDP(2019). The Cambodia 2013 Post-Flood Early Recovery Needs Assessment Report also pointed out that floods in 2013 affected 38,516 wells posing other WASH-related health risks resulting from reduced access to WASH services.

The same source noted that the vulnerability of a population is depending on key indicators such as population density, level of economic development, food availability, income level and distribution, local environmental conditions, pre-existing health status, and the quality and availability of rural public health care.

European Commission (2003) acknowledge that vector-borne diseases such as malaria, dengue fever, cholera and diarrhea will be likely to increase their geographic ranges because of the changes in temperatures and precipitation. The loss of low-lying landmass in coastal areas could lead to extreme storms. The increase in sea level could result in damage to infrastructure, evacuation, and even death.

Recent climate change trends observed throughout the country point to an increase in frequency and intensity of extreme weather events, an increase in mean temperature, alterations in the timing and duration of the seasons, and sea-level rise. Cambodia's vulnerability to climate change is further exacerbated by its post-civil war situation and structural development challenges, and with approximately 80 percent of its population living in rural areas, the country largely depends upon natural resources for food and income.

The following are impacts identified:

- Impact to Cambodian Economy from Climate Change: This GDP loss still increase higher from year to year in Southeast Asia. Climate change has been on mitigation and adaptation measures in relation to natural disasters – but rising temperatures pose a bigger threat when it comes to the economic impact of climate change in Cambodia. “In 2050, reduced labour productivity accounts for 57% of all loss and damage. It affects all sectors but is particularly high in manufacturing and construction” quoted from MEF and GSSD (2019) on addressing climate change impacts on economic growth. This projection depicts a clear sign on what to come if temperature keep raising.
- Impact to living hood and health: The long-term good health of populations depends on the continued stability and functioning of the biosphere's

ecological and physical systems, often referred to as life-support systems. According to the flood response plan Cambodia (2020), by the end of October, 42 people have died directly resulting from storm and flood. 161,500 houses damaged directly affecting 800,000 people. As a result, 14,300 households were evacuated to safe sites. According to the Provincial Committees for Disaster Management, the most severely affected provinces are Battambang, Banteay Meanchey, Pursat, Kompong Speu and Kampong Thom in central and western Cambodia. On top of that 66 health care facilities and six hospitals' access was interrupted due to the damage of both the infrastructures itself and roads and bridges. The first three quarters alone inflicted extreme loss and damage inflicted by the natural disasters.

- Impact to social environment: Climate change will continue to harm all of us unless governments take action. However, its effects are likely to be much more pronounced for certain groups – for example, those communities dependent on environment, agricultural or coastal livelihoods – as well as those who are generally already vulnerable and disadvantaged.

2. Action Plan

This section lists down the proposed actions for climate change in rural development. It covers the scope of planning, the planning matrix, the impact of expenditure and the potential benefit of applying these prioritized actions. Summary of scope of planning

MRD has identified 4 strategic priorities and 22 priority action plans to be implemented for a period of 2021–2023 as follows:

- **Strategic Priority 1:** Reconstruction and Rehabilitation of Resilient Rural
- **Strategic Priority 2:** Rural Water Supply and Sanitation for Climate Change Resilience
- **Strategic Priority 3:** Capacity Building in Climate Change and Disaster Risk Reduction in Rural Development Sector
- **Strategic Priority 4:** Mainstreaming Climate Change

Following the five strategic priorities, MRD has been proposed the implement action plan as below:

Strategic Priority 1: Reconstruction and Rehabilitation of Resilient Rural

1. Reconstruction and rehabilitation of resilient rural roads supporting production, value chain Infrastructure. (SAAMBAT).
2. Reconstruction and rehabilitation of resilient Rural Road connectivity along Mekong provinces Climate Change Resilience (DRM).
3. Reconstruction and rehabilitation of resilient rural roads for Ecotourism development in Cardamom Area (2019-2025) (CSLEP).
4. Improving laterite road to DBST or Concrete pavement to be resilient to Climate Change (RRD).
5. Climate Resilient Rural Infrastructure Development Project (CRIDP) 2019-2025 (150 Km).
6. Rural Road Improvement Project RRIP-III (720 Km).
7. Increase the scope of climate-resilient rural roads and provide comfort to

- rural communities
- 8. Ensure normalization and reconnection of roads cut off by disasters and climate change
- 9. Increase maintenance and repair of rural road to be climate-resilient rural transport network

Strategic Priority 2: Rural Water Supply and Sanitation for Climate Change

Resilience

- 10. Resilient and Adaptive rural water supply infrastructure construction(DRWS)
- 11. Carry out risk assessment and management for the improvement of water supply and sanitation (WATSAN) in the Tonle Sap Great Lake provinces.
- 12. Water and Sanitation Service Development Program Phase III (2020-2023).
- 13. Building Climate Change Resilience for Rural Water Supply Infrastructure in Cambodia (CCR-WS).
- 14. Development of Technical guide book for household water supply system using surface water/underground water and spring water (for 200, 500 and 700 households) (DRWS).
- 15. Water and Climate Change Day (DRWS).

Strategic Priority 3: Capacity Building in Climate Change and Disaster Risk Reduction in Rural Development Sector

- 16. Developing a Training Manual for building adaptive and resilient capacity for MRD officer at national and sub-national level for mainstreaming climate change into rural development planning processes and technical design.
- 17. Build adaptive capacity on Climate Change for Village leaders (Village Development Committees, VDCs).
- 18. Developing a Training Manual and providing Training on Approaches for Development of Climate-Smart and Sustainable Livelihood to Rural Poor People.

Strategic Priority 4: Mainstreaming Climate Change

- 19. Supporting resource mobilization for MRD climate change programme through integration of climate change budget.
- 20. Mainstreaming Climate Change concept into rural development policy.
- 21. Small-scale irrigation system that resists climate change, and promotes sustainable use of renewable energy
- 22. Develop guidelines and technical standards on small-scale irrigation systems that is climate change resilient and on renewable energy.

3. Implications for Expenditure in the Ministry

Investment in climate-relevant rural infrastructures (small irrigation, water and sanitation and rural roads), under MRD rose by 44%. With the flood event become more frequent, the provincial and national roads improvement and building have increasingly recognized the importance of resilient adaption on infrastructure projects. The table below depicts climate change expenditure by ministries.

Climate change expenditure by ministries (total, in percentage change)

Ministries	2016	2017	2018	2019
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MLMUPC	-47.2%	194.9%	-47.6%	-26.1%
MOT	164.9%	191.5%	-64.5%	-14.6%
MIH	-49.1%	504.8%	-35.8%	7.4%
MOInfo	na	na	na	na
MPTC	37.0%	-61.3%	25.7%	-5.0%
MAFF	-21.9%	56.0%	-2.4%	27.5%
MME	69.3%	13.2%	51.5%	-43.1%
MOWRAM	-11.5%	21.7%	12.5%	34.3%
MPWT	-18.8%	33.1%	95.5%	19.4%
MRD	-62.2%	55.2%	74.2%	44.0%
MOH	-33.8%	0.8%	24.6%	12.3%
MEYS	na	-33.5%	447.8%	-45.1%
MWA	2.5%	-49.3%	32.0%	-51.1%
NCDM	-23.8%	19.2%	7.6%	-1.9%
MOE	80.9%	123.8%	203.7%	49.2%
SNA	-29.5%	43.4%	19.3%	22.2%
NGO	11.2%	0.4%	73.4%	-26.6%

4. Contribution to the NDC implementation

To contribute to the Royal Government of Cambodia's commitments in combating climate change and accelerating the transition to a climate-resilient, low-carbon sustainable development, MRD has produced this CCAP prioritizing 23 actions which are in line with NDC's Adaption Actions and Enabling adaptation actions. Four of which are stated in NDC Table 1 Priority adaptation actions in Agriculture, Infrastructure (Roads), Livelihoods, poverty and biodiversity and Water resources sectors. The other two actions are in NDC Table 2 Enabling Adaptation Actions in Policy and planning. The actions are described below accordingly:

1. Developing a training manual and providing training on approaches for development of climate-smart and sustainable livelihood to rural poor people. Target: Baseline: 0, by 2030: 2,000 Rural poor People (Poor1, Poor 2). From CCAP, actions number 18 is the whole actions of this NDCs action.
2. Rural road rehabilitation and improvement for climate change resilience. Target: Baseline: 0, by 2030: DBST 3166 Km, concrete: 812 Km From CCAP, actions number 1 through 9 are the sub-actions of this NDCs action
3. Integrated Village Development. Target: Baseline: 10 villages in Takeo, 10 in Kampong Speu and 10 Thbaung Kmom, by 2030.
4. Resilient and Adaptive rural water supply and sanitation construction. Target: Baselines: 0, by 2030: Water Supply 58%, sanitation 71% From CCAP, actions number 10 through 15 are the sub-actions of this NDCs action
5. Building adaptive and resilient capacity for MRD officers at national and sub-national level for mainstreaming climate change into rural development planning processes and technical design. Target: by 2030, about 30% of Technical Officials in MRD and PDRD have been trained. From CCAP, actions number 16 is the whole actions of this NDCs action.

6. Build adaptive capacity on climate change for Village leaders (Village Development Committees, VDCs). Target: Baseline: 0, by 2030: 200 VDCs have been trained (1000 VDC members) From CCAP, actions number 17 is the whole actions of this NDCs action.

It should be noted that even only 18 of the 23 actions were mentioned to be in line with NDC, that does not mean that the last 5 actions are not in line. They fall into mainstreaming climate change category which also was highly raised in NDC. All of these actions are submitted by Ministry of Rural Development and they will be implemented during the three years period. MRD priority actions are in line with NDC's adaptation actions and enabling adaptation actions.

5. Management and Financing Mechanism

a) Analysis of existing management and financing mechanisms

The ministry develops a portfolio of projects based on national priorities as reflected in the rectangular strategy of the Government and in the Strategy for rural road development and improvement, rural water supply and sanitation and indigenous people development. However, most external resource mobilization in MRD is done on a bilateral basis, through discussions with individual donors on one or several of the pipeline projects identified in the Public Investment Plan (rolling three-year plan). Domestic capital resources are allocated as counterpart funds and on the basis of decisions from the Prime Minister.

Both donors funded and nationally funded projects are managed through the central project management office and its units, and subsidiary provincial project implementation units. The PMO and its structure is not shown on the organization chart of MRD as it is outside the line management structure. The PMO reports to the Minister via a project manager for each project, who may be at Secretary of State Level. The PMO financial accounting system is separate from that of the Ministry and funds do not flow through the Department of Finance, or line departments. The establishment of a project management office (PMO) with project management units (PMUs) and project implementation units (PIU) outside line departments has created overlapping mandates of line departments and the PMOs. Staff has been attracted from departments into PMUs, because funding arrangements are more free and workable than in the ministry itself.

The working group in charge of CCAP development, including representatives from relevant ministries, will remain active and coordinate the implementation of the CCAP within the ministry.

There is a need to strengthen the provincial offices PDRD of MRD to enable them to implement national and sub-national level programs.

b) Analysis of potential sources and volume of finance for Climate Change actions

The CCAP includes 23 actions for a total cost of 1,299,600,000 USD over a 3 years period. 54.60% of the budget is allocated to the rehabilitation and rural road proofing of infrastructure. Other actions include research, testing of technologies, capacity development, as well flood risk management, clean water and sanitation.

No	Budget	Total
1	Grand total	1,299,600

2	Uncondition	875,840
3	condition	423,760

The ministry expect to source a significant portion of these resources through its existing donors, by raising the profile of climate change at project identification and design stage. Additional climate resources may be raised from LDCF and the Green Climate Fund.

Expenditure on infrastructure could be scaled up or down depending on whether a high or low climate change financing scenario materializes.

c) Entry points for climate change mainstreaming in management and financing mechanisms

Investment funds under MRD are exclusively managed through a project modality. In the absence of strong coordination mechanisms, it is recommended to introduce standard procedures including climate change as a criterion for the identification and formulation of projects. The PMO could play a role in enforcing these standards for all new projects. A priority activity would be to conduct the necessary research to define adequate CC proofing standards for irrigation infrastructure.

Many CCAP actions are directly linked to projects already included in the ministry's PIP. New actions will be incorporated in the PIP by the Department of Planning and Public Relations.

6. Gender and Cross-Cutting issues

MRD will implement actions specified in CCAP by integrating gender and cross-cutting issues such as engagement of the youth and the private sector. Regarding gender targets, the CCAP will follow the target set for the NDCs that range between 30% to 50% of women participation in the implementation of the actions. The private sector will play a crucial role in the implementation processes that include road construction, water supply, well construction and sanitation as major service and equipment supply providers. Therefore, building the capacity and raising the awareness of the private sector actors on climate change is also crucial. The youth will potentially have a role to play in awareness raising campaigns as well as as community volunteers of water user groups. The MRD will identify concrete indicators and entry points for cross-cutting issues during the development of the MRV framework for each specific action once the financial support for implementation of the actions have been identified.

7. Monitoring and Evaluation

Monitoring and evaluation of the CCAP will be conducted consistently with the national framework for M&E of climate change response established by the CCCSP.

The impacts of climate change on ecosystems and society are complex; addressing them through adaptation requires a coordinated response across multiple sectors and scales. Establishing a low-carbon development path and contributing to mitigation efforts requires new technologies and cross-cutting policies. Given the complexity of these actions and the technical issues associated with evaluating their effectiveness and impacts, M&E of mitigation and adaptation responses poses a new set of challenges. The CCCSP recognizes the importance of addressing these challenges by establishing a national framework for M&E of climate change, with the

vision of integrating the framework into national and sub-national development planning processes. Developing and mainstreaming the M&E framework will be a long-term effort of strategic relevance, as it will create an enabling environment based on accountability and learning. Improved accountability will facilitate access to new international climate finance, and learning from investments will generate new knowledge critical for future policy development. The aim of the national framework for M&E of climate change is to:

- Measure to what extent adaptation efforts have been effective in keeping development on track in a changing climate;
- Monitor climate change mitigation actions and low-carbon development policies;
- Generate evidence and lessons as a basis for future policy development;
- Facilitate the coherent integration of M&E of climate change in national development planning and key sectors;
- Provide the information required to fulfil the reporting obligations towards the UNFCCC and development partners.

Ministry of Rural Development which has just launched its Monitoring and Evaluation Guideline that will importantly guide every department pay its attention to development of their indicators can easily compilation into core indicators under the framework of MRD's M&E. In this stage, MRD will have its focus on core M&E system.

For further necessary step MRD will - A template will be developed in order to facilitate collection of baselines on these entire proposed actions(output level). These will be collated and analyzed for inclusion in the first M&E report.

Using new guideline of M&E, monitoring and reporting framework is developed for these **action** plans in order to ensure that climate change indicators are utilized and data collection related to climate change indicators are collected.

- Developing gender inclusive results framework and management information system for these action plans M&E ensuring every action plan are gender inclusive by utilizing effective gender-related indicators and reporting against those indicators.
- Prepare annual monitoring and evaluation reports on action plan achievement.

The department of planning and public relations will have responsibility to manage the monitoring, reporting and evaluation process with the technical support from the working group of the climate change. It carries out these tasks with the support and in coordination with the NCSD and MoP. For details of the institutional arrangements see also the diagram of Figure 3.

A mid-term evaluation will be organized in year 2021 and a final evaluation in 2023. The evaluations will assess the progress in implementing the CCAP and CCSP, its relevance and contribution in addressing climate change and water issues and achieving impacts foreseen in sectoral plan and NSDP, the effectiveness in terms of mainstreaming climate change within the MOWRAM services, and integration in planning and monitoring systems of the ministry. The evaluations will also assess the alignment and contribution towards achieving the objectives set in the CCCSP³, and will provide recommendations for future adjustment of the policy response. This effect will be important in evaluations identify lessons learned and, if needed, entry

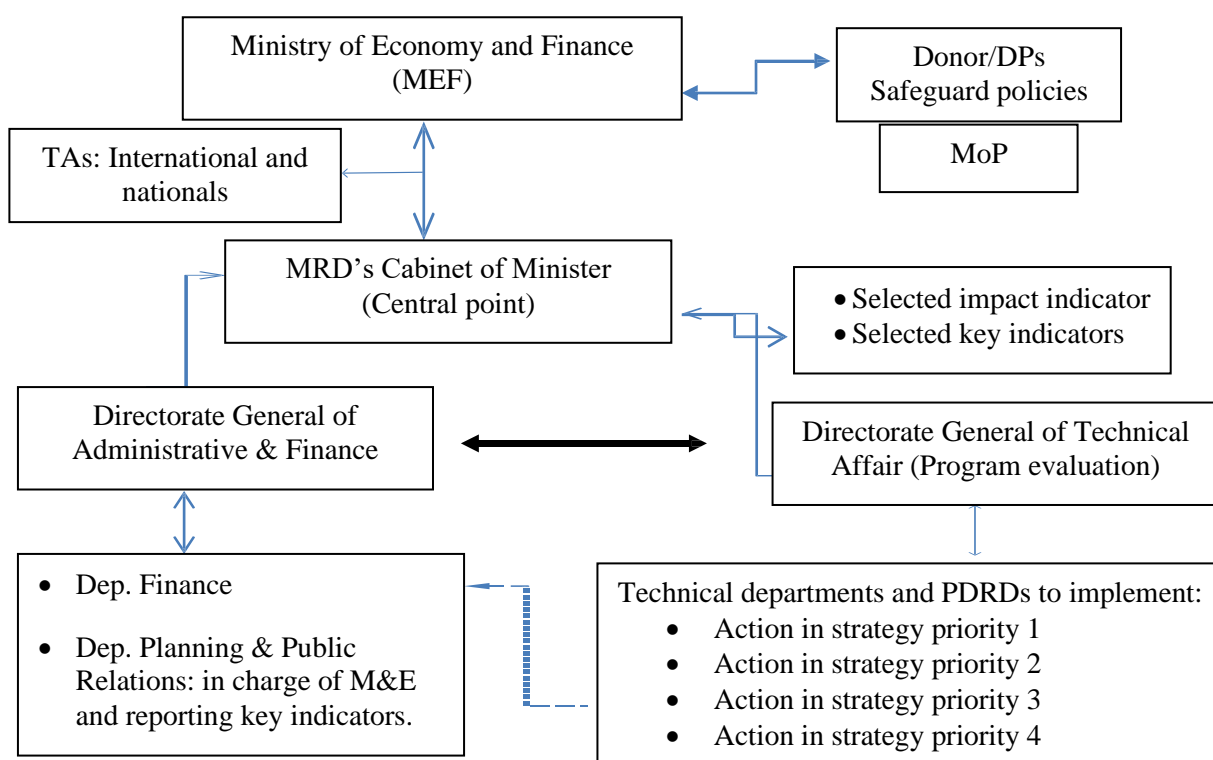
points for improving policies and actions. A precondition for organization of quality evaluations at program (CCAP) and action levels will be sufficient resources for monitoring and evaluation are budgeted in the actions.

The monitoring of the CCAP will be based on the following indicators framework:

1. CCAP delivery and mainstreaming indicators
<ol style="list-style-type: none"> 1. Funds planned and actually disbursed, compared with the CCAP planning matrix⁷ 2. Proportion of actions funded from national budget, which will indicate the progress in mainstreaming financing into national budgets
3. Institutional readiness indicators
<ol style="list-style-type: none"> 3. Integration of Climate Change into sectoral policy and budgeting <ul style="list-style-type: none"> • Knowledge Level of village development committee on climate change, climate resilience and infrastructure planning after awareness raising delivery at sub national level. 4. Capacities for climate change mainstreaming <ul style="list-style-type: none"> • Capacity Development of technical staffs who are in charge of infrastructure designing at both levels, nationally and sub nationally. • Development of technical guidelines, project manuals, and other related tools that assist the infrastructure design be resilient to climate change • Percentage of rural water supply allocation and length of rural roads and small scale irrigation that designed and constructed resilient to climate change • Availability and use of data and information • Four assessments will be first year conducted that include climate change vulnerability assessment, vulnerability mapping, and capacity need assessment, and socioeconomics survey of vulnerability group and gender. Technical guidelines for designing infrastructure will be completed during the first 2-year that include project manual, technical guidelines, checklist of climate change risk reduction.

a) Monitoring diagram and procedure

Figure 3: MRD's monitoring and evaluation framework



8. Conclusion

The identification of priority actions for CCAP is one of mechanisms in mainstreaming climate change into the institutional development plan. It is important that these actions included with the next or on-going and rolling plan for public investment program PIP of the ministry.

The CCAP can be a very effective instrument to mobilize national and international resources. These ministerial action plans need to be presented and showcased to other ministries, national and international partners, and related parties so that assistance and coordination in form of funding and technical support can be offered.

The following are the points suggested on how domestic resource mobilization in the budget in favour of those ministries, departments and actions that provide the most effective contribution to adaptation and mitigation:

- Relevance of climate change in ministry budget submissions: improved adaptation and mitigation and the value of this improvement to the country.
- Implementation of a screening system for project preparation in which PIP submissions include a statement of the adaptation and mitigation benefits of all climate relevant projects. This could use the Action Fiches in the CCAP, though modification of the PIP template to take more account of climate change would also be useful.
- CCCA as the multi-trust fund coordination will also provide overall assistant to the ministry in identifying the potential sources of funding allocation and additional policy and capacity development for the officials from the working group of climate change on agriculture, forestry and fisheries.

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10. List of Annexes

Annex I: The proposed action and costing for 2021-2023 (USD, 000)

CCCSP Strategy #	CCCSP Strategy #	NDC activity #	MRD Climate Change Action	Target	Preliminary Estimated budget (USD'000)			
					<i>(note: present costs to the nearest 1000) USD</i>			
					2021	2022	2023	Total
			1 Reconstruction and Rehabilitation of Resilient Rural Road					
		1	Reconstruction and rehabilitation of resilient rural roads supporting production, value chain Infrastructure. (SAMBAT)		27,500	27,500	27,500	82,500
		2	Reconstruction and rehabilitation of resilient Rural Road connectivity along Mekong provinces Climate Change Resilience (DRM)		20,000	20,000	21,500	61,500
		3	Reconstruction and rehabilitation of resilient rural roads for Ecotourism development in Cardamom Area (2019-2025) (CSLEP)		2,000	10,000	13,000	25,000
		4	Improving laterite road to DBST or Concrete payment to be resilient to Climate Change (RRD)		76,580	37,260	44,640	158,480
		5	Climate Resilient Rural Infrastructure Development Project (CRIDP) 2019-2025 (150 Km)		1,100	2,000	2,000	5,100
		6	Rural Road Improvement Project RRIP-III (720 Km)		70,000	25,000	25,000	120,000
		7	Increase the scope of climate-resilient rural roads and provide comfort to rural communities		0	0	57,000	57,000
		8	Ensure normalization and reconnection of roads cut off by disasters and climate change		33333.33	33333.33	33333.33	100,000
		9	Increase maintenance and repair of rural road to be climate-resilient rural transport network		33333.33	33333.33	33333.33	100,000
			Sub-total		263,847	188,427	255,807	708,080

Table 10: Adaptation action No (58)	2 Rural Water Supply and Sanitation for Climate Change Resilience						
	10	Resilient and Adaptive rural water supply and sanitation construction		12,233.33	12233.33	12233.33	36,700
	11	Carry out risk assessment and management for the improvement of water supply and sanitation (WATSAN) in the Tonle Sap Great Lake provinces.		700	500	800	2,000
	12	Water and Sanitation Service Development Program Phase III (2020-2023)		100,000	150,000	200,000	550,000
	13	Building Climate Change Resilience for Rural Water Supply Infrastructure in Cambodia (CCR-WS)		100	100	50	250
	14	Development of Technical guide book for household water supply system using surface water/underground water and spring water (for 200, 500 and 700 households) (DRWS)		20	20	20	60
	15	Water and Climate Change Day (DRWS)		20	20	20	80
Table 11: Enabling action No. (23 & 24)	Sub-total			213,093	162,873	213,123	589,090
	3 Capacity Building in Climate Change and Disaster Risk Deduction in Rural Development Sector						
	16	Developing a Training Manual for building adaptive and resilient capacity for MRD officer at national and sub-national level for mainstreaming climate change into rural		70	50	50	170
	17	Build adaptive capacity on Climate Change for Village leaders (Village Development Committees, VDCs)		100	50	50	200
	18	Developing a Training Manual and providing Training on Approaches for Development of Climate-Smart and Sustainable Livelihood to Rural Poor People		70	50	50	170
	Sub-Total			240	150	150	540
	4. Mainstreaming Climate Change						
	19	Supporting resource mobilization for MRD climate change programme through integration of climate change budget.		6,000	10,000	10,000	26,000

		20	Mainstreaming Climate Change concept into rural development policy		6,000	10,000	10,000	26,000
		21	Small-scale irrigation system that resists climate change, and promotes sustainable use of renewable energy		200,000	300,000	300,000	800,000
		22	Develop guidelines and technical standards on small-scale irrigation systems that is climate change resilient and on renewable energy.		30,000	30,000	30,000	90,000
			Sub-total		252,000	350,000	350,000	942,000