ព្រះរាជាណាចក្រកម្ពុជា
Kingdom of Cambodia
ជាតិ សាសនា ព្រះមហាក្សត្រ
Nation Religion King

ទីស្តីការគណៈរដ្ឋមន្ត្រី
Concil Of Ministers
គណៈកម្មាធិការជាតិគ្រប់គ្រងគ្រោះមហន្តរាយ
National Committee for Disaster Management
លេខ (No) .....គ.ជ.គ.ប

រាជធានីភ្នំពេញ, ថ្ងៃទី..ខែ..ឆ្នាំ២០..
Phnom Penh...../...../.....

គោរពជូន
ឯកឧត្តម រដ្ឋមន្ត្រីក្រសួងបរិស្ថាន

កម្មវត្ថុ៖ ផែនការសកម្មភាពប្រែប្រួលអាកាសធាតុសម្រាប់វិស័យគ្រប់គ្រងគ្រោះមហន្តរាយ របស់គណៈកម្មាធិការជាតិគ្រប់គ្រងគ្រោះមហន្តរាយ ។

យោង៖ យោងលិខិតលេខ ៣១៤ សជណ ប.ស្ត ចុះថ្ងៃទី ១៣ ខែមីថុនា ឆ្នាំ២០១៣ របស់ក្រសួងបរិស្ថាន។

តបតាមកម្មវត្ថុ និងយោងខាងលើ ខ្ញុំសូមជម្រាបជូនឯកឧត្តម រដ្ឋមន្ត្រី មេត្តាជ្រាបថា៖ គណៈកម្មាធិការជាតិគ្រប់គ្រង់គ្រោះមហន្តរាយ ដោយមានក្រុមការងារប្រែប្រួលអាកាសធាតុរបស់ខ្លួន សហការជាមួយក្រុមទីប្រឹក្សារៀបចំផែនការសកម្មភាពប្រែប្រួលអាកាសធាតុរបស់ក្រសួងបរិស្ថាន បានរៀបចំផែនការសកម្មភាពប្រែប្រួលអាកាសធាតុសម្រាប់វិស័យគ្រប់គ្រងគ្រោះមហន្តរាយ និងបានសម្រេចលទ្ធផលដូចមានឯកសារជូនភ្ជាប់ ដែលជាផ្នែករបស់ផែនការយុទ្ធសាស្ត្រការប្រែប្រួលអាកាសធាតុសម្រាប់វិស័យគ្រប់គ្រងគ្រោះមហន្តរាយ និងដាក់ជូនក្រសួងបរិស្ថាន ដើម្បីពិនិត្យ ប្រើប្រាស់ និងដាក់បញ្ចូលក្នុងការរៀបចំផែនការសកម្មភាពប្រែប្រួលអាកាសធាតុជាតិ។

អាស្រ័យហេតុនេះ សូមឯកឧត្តម រដ្ឋមន្ត្រី មេត្តាជ្រាប និងទទួលយក និងដាក់បញ្ចូលក្នុងការរៀបចំផែនការសកម្មភាពប្រែប្រួលអាកាសធាតុជាតិដោយអនុគ្រោះ។

សូមឯកឧត្តមរដ្ឋមន្ត្រី ទទួលនូវការគោរពរាប់អានដ៏ស្មោះអំពីខ្ញុំ។

ត.ប ទេសរដ្ឋមន្ត្រី អគ្គលេខាធិការ
អនុប្រធានទី១ គ.ជ.គ.ម.
អគ្គលេខាធិការ

ប៉ុន ឈាវឆ្លើ

PREFACE

The purpose of formulation the Five-year Climate Change Action Plan for Disaster Management Sector is to attain the successful Strategic Plan on Climate Change for Disaster Management Sector. It is a principle of enhancing an implementation of disaster risk reduction as being directly linked with the occurrence of unsecured climate and the upcoming climate change in the field of disaster management. These should also be included in the precise identification of disaster risk which linked to climate and transparent risk reduction measures scheme by strengthening the capacity, an awareness-raising from national to local community levels through the National Committee for Disaster Management' existing mechanism. These could help local community safer and resilient capacity to disasters. An identification of climate change in the field of disaster management at the community level is the best and most important mean to alleviate the poverty rate and enrich the people welfare in conformity with the Rectangular Strategy of the Royal Government of Cambodia.

The lack of awareness on disaster risk reduction would lead the people inevitably being suffered by the disaster impact. Hence, the disaster risk reduction is a long-term process which required the participation from all concerned ministries-institutions and other relevant stakeholders in order to expedite the utmost efforts in the disasters management.

The disaster risk reduction and climate change adaptation are the common issues implemented in two different directions, thus the reason that climate change be identified in the field of disaster management because flood, drought, storm, diseases, and various epidemics are frequently occurring and causing severe damages as the result of climate change. In summary, the disaster risk reduction and climate change adaptation are the linkage matters between sustainable development context and require the local community incentive to implement preparedness measure that enable them to resilient to the disasters.

Taking this opportunity, I would like to express my profound appreciation to the Ministry of Environment, National Committee for Climate Change Management, Cambodia Climate Change Alliance, Climate Change Department and EU, UNDP, Danida, Sida for their strong support and contribution to the accomplishment of Climate Change Action Plan for Disaster Management Sector.

Phnom Penh, 3 April 2014

PONN NARITH
Secretary-General
National Committee for Disaster Management

Climate Change Action Plan for Disaster Management

I. Background

Cambodia is one of the countries in South East Asia most vulnerable to disasters caused by climate change and man-induced development. Floods, droughts, and typhoons now become more frequent inflicting serious damage to physical infrastructure, the country economy, and disrupting rural livelihoods. Major floods in 2000, 2011, and 2013 with alternate droughts and typhoons (such as Ketsana) caused death and injuries to individuals, affected million people and handicapped socio-economic infrastructure. In recognition of the disaster hazards, NCDM has put into implementation the Strategic National Action Plan for Disaster Risk Reduction (SNAP-DRR 2009-2013). Recently, the Climate Change Strategic Plan has been adopted, providing key strategic direction for formulation of concrete measures and actions as specified in the current Climate Change Action Plan for Disaster Management (CCAPDM). This CCADDM will further strengthen the resilience capacity and coordination role of NCDM with government agencies, authorities, and communities in disaster management, preparedness and emergency response.

a. Policy

Prior to the preparation of its Climate Change Strategic Plan (CCSP 2012) and this associated Climate Change Action Plan (CCAP), the National Committee for Disaster Management (NCDM) had been implementing the 5-year Strategic National Action Plan for Disaster Risk Reduction aimed at reducing the vulnerability of people in local communities, especially the poor.

The role of NCDM is:

- To coordinate with the Ministries of the Royal Government, UN agencies, IOs, NGOs, International Communities, National Associations, and Local Donors in order to appeal for aid for Emergency Response and Rehabilitation.
- To make recommendations to the Royal Government and to issue principles, main policies and warnings on Disaster Preparedness and Management together with the measures for Emergency Response and interventions in evacuating people to safe havens.

The CCSP for Disaster Management provides the strategic framework for the CCAP which puts into practice the strategic objectives identified under the CCSP. The CCSP sets out the vision, mission and goals for climate change response in relation to disaster management as follow:

Vision

To build communities that are resilient to disasters caused by climatic hazards.

Cambodia can build the resilience of communities to disasters caused by climatic hazards by launching a set of integrated measures to mitigate climate change risks and vulnerabilities.

Mission

To adhere to the HFA (Hyogo Framework for Action) and maximise the use of existing knowledge and experience on Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA).

DRR and CCA are key to sustainable development. Information about disaster risks, climate change and prevention measures should be easily accessible and understood to enable people in highly vulnerable areas to readily apply appropriate measures to mitigate their risks and build resilience.

Objectives

In the next 5 years, NCDM's primary objective will be to reduce people's vulnerability to climate change hazards by strengthening the Disaster Management system and being actively involved in Disaster Risk Reduction (DRR) activities.

b. Situation

The CCSP and the CCAP for Disaster Management provide the platform for mitigating disaster risk caused by increasingly climate affected natural hazards such asfloods, droughts, storms and pandemics.

Flood

Climate change contributes to frequent Mekong river floods and flash floods that affect anddamage public property, housing and crops, kill people and animals, and seriously affectinfrastructure.

In 2011, floods affected Phnom Penh and 17 provinces, equating to 122 districts/khans-towns and 687 communes-sangkats, and some 354,217 households, equating to 1,771,085 people. Among them, 51,950 households, equating to 25,750 people, were evacuated to safe areas. And in total,250 people died. The floods submerged transplanted rice seedlings on 431,476hectares, while 267,184 hectares of transplanted rice seedlings were damaged. In addition, 360km of national and provincial roads were damaged, and 4,469 km of dirt roads were damaged.There were 1,360 schools submerged during the flood.

In 2013, flooding caused by heavy rain and the seasonal swell of the Mekong River has had severe impacts on Cambodia. On 18 October 2013, NCDM reported that 20 out of 24 provinces in the country have been affected by the flood, which has resulted in the death of 160. Some 1.7 million people have been affected and 27,185 families were forced to evacuate to safety areas. In addition, nearly 297,600 hectares of rice field have been inundated. More than 28,100 hectares of rice have already been damaged, depriving the farmers of the much-needed income to support their families.

Drought

Climate change contributes to frequent and prolonged drought. Cambodia's monsoon climategives it two distinct seasons - a dry season from November to April, followed by six months ofrainy season. Rainfall is highest between May and June, and September and October. In general,there is a dry spell for about two to three weeks in July and August. Drought occurs when there isa lack of water in a particular area, usually caused by reduced rainfall.Drought can have a major impact on subsequent availability of water for crop growth, and itcan cause widespread disease; people can easily die from dehydration. In 2011, although it rainedcontinuously in the first week of May, and rice was planted faster than the previous year, therewas drought in a number of places. In some areas, it rained only at thebeginning of the rainy season, and in other areas, it did not rain until July or October. Some3,500 hectares of land in

Battambang province and 300 hectares of land in Takeo province wereaffected by lack of water. In addition, the districts of SamakyMeanchey and Boseth in theprovinces of KompongChhnang and KompongSpeu province were also affected.

Storm

Cambodia's climate, like that of the rest of Southeast Asia, is dominated by monsoons, which areknown as tropical wet and dry. Recently, Cambodia has been affected by strong winds exacerbated by climate change. On 29 September 2011, Typhoon Ketsana hit Cambodia, causingwidespread damage. At least 43 people died, 47 people were injured, and about 49,787households lost their homes and livelihoods. Some 180,000 people were directly affected and1.4% of the population was indirectly affected by the storm; in total, damages were estimated at over US$131million.

Lightning

Lightning strikes are becoming more severe from year to year:

- In 2007: 5 people were killed, and 51 people were wounded
- In 2008: 95 people were killed, and 22 people were wounded
- In 2009: 140 people were killed, and 59 people were wounded
- In 2010: 114 people were killed, and 58 people were wounded
- In 2011: 165 people were killed
- In the first semester of 2012, 63 people were killed by lightning.

Pandemics and Epidemics

Tropical disease pandemics, such as cholera, malaria and dengue, can be worsened by changing climatic conditions and constitute substantial threats for Cambodia.

To respond to extreme climate impacts, NCDM has implemented its 5-year Strategic National Action Plan for Disaster Risk Reduction, that identified the hazards caused by extreme climate events, and supports the National Adaptation Programme of Action (NAPA) with 5 main objectives:

1. To strengthen the disaster management system
2. To develop human and institutional resources
3. To strengthen the disaster management information system
4. To strengthen disaster preparedness and response capacities
5. To integrate disaster risk reduction perspectives into policies, strategies and plans of the government in all sectors at levels.
6.

c. Priority Issues

In the next five years and within the framework of the CCSP, NCDM will respond to climate change in the context of its responsibilities for disaster management by addressing two main issues:

1. The vulnerabilities of people at sub-national levels
2. The limited knowledge on DRR and adaption

II. Strategies

Strategies for addressing climate change in relation to disaster management are:

1. Strengthening NCDM institutional capacity in disaster risk management and reduction, food and health security planning
2. Building resilience capacity for disaster risk reduction at the sub-national levels
3. Promoting awareness and education campaign on DRR and Adaptation

III. Action Plan

a. Summary of Scope of Planning

The climate change action plan for disaster management focuses on reducing vulnerabilities of people at sub-national levels to climate change and promote awareness on DRR and adaptation through institutional capacity building, setting up grass root early warning system and communication, promoting resilient community, developing atlas maps on disaster prone areas for monitoring and development plans, promoting public campaign, Mainstreaming DRR into university and setting up DRR insurance scheme.

b. Action plan Matrix

Strategy 1. Strengthening NCDM's institutional capacity in disaster risk management and reduction, food and health security planning

1. Integration of DRR and Emergency Response and Rehabilitation planning into NSDP and Sector Development Planning;
2. Strengthening capacity of NCDM at all levels, especially at the sub-national levels, in coordination and implementation of Disaster Preparedness and Response Plans with agencies concerned;
3. Development of atlas maps of disaster prone areas as the knowledge base for monitoring and planning of DRR and Preparedness and Response Plans;
4. Setting up an appropriate DRR Insurance Scheme in cooperation with the Ministry of Economy and Finance as means to mobilize funding for emergency response and rehabilitation and to distribute disaster impacts among population.

5.

Strategy 2.Building resilience capacity for disaster risk reduction at the sub-national levels

6. Setting up or strengthening sub-national early warning system and communication mechanisms in cooperation with concerned ministries, agencies, mobile phone companies and commune councils
7. Promoting the integration of DRR and Climate Change Adaptation into commune development plans and commune investment plans;
8. Piloting community-based disaster reduction, preparedness and response plans;
9. Setting up a disaster database system recording disaster events, impacts, and damage.

Strategy 3: Promoting awareness and education campaign on DRR and Adaptation

10. Mainstreaming DRR into school curriculum (primary school, secondary school and higher education) in cooperation with MoEYS;
11. Mainstreaming DRR into royal administration school curriculum
12. Implementing education and public awareness campaigns on DRR and Climate Change Adaptation at all levels.

Table 1. Scoring of actions

	Effectiveness			Co-benefits			Feasibility		
	Scale of climate risk	Cost per beneficiary	Mitigation cost effectiveness	Economic	Social	Environmental	Political commitment	Capacity	Ease to implement
	-1 – 3	0 – 3	-1 – 2	0 – 2	0 – 2	0 – 2	Green /Yellow/ Red		
Action									
1. Integration of DRR and Emergency Response and Rehabilitation planning into NSDP and Sector Development Planning;	2	3	1	2	2	1	G	Y	Y
2. Strengthening capacity of NCDM at all levels, especially at the sub-national levels, in coordination and implementation of Disaster Preparedness and Response Plans with agencies concerned;	2	3	1	2	2	1	G	Y	Y

3. Development of atlas maps and disaster prone areas as knowledge base for monitoring and planning of DRR and Preparedness and Response Plans	2	1	0	1	1	1	Y	Y	Y
4. Setting up appropriate DRR Insurance Scheme in cooperation with the Ministry of Economy and Finance as means to mobilize funding for emergency response and rehabilitation and to distribute disaster impacts among population.	0	3	0	1	2	1	Y	Y	Y
5. Setting up or strengthening sub-national early warning system and communication mechanism in cooperation with concerned ministries, agencies, mobile phone companies and commune/Sangkatcouncils	2	2	0	2	2	1	G	Y	Y
6. Promoting the integration of DRR and Climate Change Adaptation into commune development plans and commune investment plans;	2	3	1	2	2	1	G	Y	Y
7. Piloting community-based disaster reduction, preparedness and response plans;	2	3	1	2	2	1	G	Y	Y
8. Setting up disaster database system recording disaster events, impacts, and damage.	2	2	1	2	2	1	G	Y	Y
9. Mainstreaming DRR into school curriculum (primary school, secondary school and higher education) in cooperation with MoEYS;	2	2	2	2	2	2	G	Y	Y
10. Mainstreaming DRR into royal administration school curriculum	2	2	2	2	2	2	Y	G	Y
11. Development and Implementing education and public awareness campaigns on DRR and Climate Change Adaptation at all levels.	2	2	2	2	2	2	G	G	G

Table 2. Planning Matrix

CCSP Strategy #	Ministry CCSP Strategy #	Action Number	NCDM Actions	Activities for Costings	Category of action	Responsible department(s)	Preliminary Estimated budget (USD'000) (note: present costs to the nearest 1000 USD)					
							2014	2015	2016	2017	2018	Total
			Strengthen NCDM institutional capacity in DRMR, food and health security planning									
		1	*Integration of DRR and Emergency Response into NSDP and sector planning*				25	100	25	25	25	200
		2	*Strengthen capacity of NCDM at all levels, esp. sub-national, for coordination and implementation of DP & R plans*				100	200	200	250	250	1,000
		3	*Mapping of disaster prone areas as knowledge base for monitoring and planning of DRR and P and R Plans*				200	450	450	450	450	2,000
		4	*Setting up DRR Insurance Scheme*						50	100	100	250
			SubTotal				325	750	725	825	825	3,450
			Building Resilience capacity for DRR at the sub-national levels									
		5	*Strengthening sub-national EWS and communication mechanisms*				100	200	200	200	200	900
		6	*Promoting integration of DRR and CCA into commune development and investment plans*				100	100	100	100	100	500
		7	*Piloting community-based disaster reduction, preparedness and response plans*				750	1,250	1,250	1,250	1,500	6,000
		8	*Setting up disaster database system*					150	150			300
			SubTotal				950	1,700	1,700	1,550	1,800	7,700
			Promoting awareness and education campaign on DRR and Climate Change adaptation									
		9	*Mainstreaming DRR and CCA into primary, secondary and higher education curricula in cooperation with MoEYS*					100	100	100		300
		10	*Mainstreaming DRR and CCA into royal administration school curriculum*				25	25				50
		11	*Development and implementation of education and public awareness campaigns on DRR and CCA*				50	50	50	50	50	250
			SubTotal				75	175	150	150	50	600
			Grand Total				1,350	2,625	2,575	2,525	2,675	11,750
			Ceiling				2,000	2,000	2,000	3,000	3,000	12,000

c *Expected benefits from the Implementation of the Action Plan*

The cost benefit analysis (CBA) of the CCAPDM can be conducted by comparing the total cost of CCAPDM to the benefits in terms of avoided or reduced physical, economic and social damage and impacts which can be measured in monetary values. No CBAhas ever been conducted for SNAP-DRR by NCDM, perhaps due to the lack of sufficient data and capacity. Given high economic cost of disasters experienced in Cambodia, it is certain that low cost of disaster preparedness such as community based disaster preparedness, land use planning with flood prone map, sea water protection dike,awareness raising and early warning system can reduce health risks, protect agricultural produces and save many lives. NCDMinclude the need for improving data management system which can serveas an information base for CBA following the implementation of several actions of CCAPDM. Experience of CBA in polder development in Peru indicated a benefit-cost ratio of 3.8 over 30 years of project life (ReinhardMechler, Aug 2005). The benefit-cost ratio of dike protection against floods and storm in Samarang of Java, Indonesia was estimated at 2.0-2.2, indicating a viable investment as part of disaster management.

IV. Management and Financing Mechanism

Analysis of existing management and financing mechanisms

NCDM operates based on the Strategic National Action Plan for Disaster Risk Reduction (2008-2013), and is currently finalizing a National Action Plan for Disaster Risk Reduction (2014-18). This provides the overall framework for planning and budgeting of resources. There is currently no annual planning exercise, the 5-year action plan serves as the reference. The new action plan is currently being finalized, but it has not yet been costed.

Contacts with donors to date have been on an ad hoc, project-by-project basis, Current donors to NCDM include ADB (under the SPCR project, mostly for sub-national capacity development), UNDP (disaster database), and EU/ECHO (disaster awareness activities). NCDM also has partnerships with NGOs.

NCDM is not currently a budget entity within the national budget, its budget is determined on an annual basis, and allocated under the budget of the Office of the Council of Ministers. The national budget mostly finances recurrent expenditures (personnel and other operational costs). Programme activities are almost exclusively funded from external resources.

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

Actions included in the planning matrix are broadly in line with the low-growth financing scenario over the next five years, with a total of 11, 750, 000MUSD. Most actions are related to capacity development and the establishment of systems for disaster preparedness and response. This reflects the coordination mandate of NCDM. Large disaster preparedness or response investments are channelled through line ministries or agencies, under NCDM coordination. Some of the proposed actions are already partly financed by existing NCDM donors in particular for the establishment of the national disaster database, training of staff and piloting of disaster preparedness approaches at sub-national level.

Based on estimates that the frequency of floods and drought will roughly double by 2050 due to climate change, NCDM could justify sourcing around 50% of its required resources under the 5-year action plan from dedicated Climate Finance. The costs associated with capacity development are relatively limited and the various activities not covered by existing donors could be grouped under a single programme of support, for resource mobilization purposes. Potential donors include the existing partners of NCDM, in-country climate finance facilities (such as CCCA), and international mechanisms (such as the Adaptation Fund).

Entry points for climate change mainstreaming in management and financing mechanisms

Proposed climate actions are already being integrated in the new five-year action plan. A Task Force mechanism will be established to coordinate resource mobilization for the next 5-year plan, and mobilization of climate finance should be integrated in the work of this task force.

Annual planning and budgeting has so far been limited to the domestic budget portion of NCDM funding, focused mostly on recurrent expenditures. As Government resources are expected to grow, members of the NCDM Climate Change working group should ensure that annual budget requests of NCDM take into account the requirements for climate change actions.

As much of the external funding to NCDM is likely to be channelled through individual projects, NCDM should systematically engage its donors in a discussion at project formulation stage on potential climate finance top-up to their traditional disaster management funding.

V. 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; it will also align to the international reporting requirements of the HFA (Hyogo Framework for Action). The department/office of planning will be responsible for managing the monitoring, reporting and evaluation process with the technical support of the NCDM Climate Change working group. It will carry out these tasks with the support and in coordination with the NCCC and MoP. Relevant data and indicators will be shared with NCCC for the preparation of CCCSP progress reports.

Progress in the implementation of the CCAP will be reviewed on an annual basis in the framework of the Annual Progress Review of National Action Plan for Disaster Risk Reduction; a specific chapter reviewing the CCAP progress will be included. The CCAP indicator framework will be integrated within the indicator framework of NCDM and relevant indicators for climate change will be also included in the NSDP submission.

A mid-term evaluation will be organized in year 2016 and a final evaluation in 2018. The evaluations will assess the progress in implementing the CCAP and CCSP, its relevance and contribution in improving DRM of climate related disasters and achieving the objectives foreseen in the Strategic National Action Plan for Disaster Risk Reduction and NSDP, the effectiveness in terms of mainstreaming of DRMacross the RGC ministries, and its integration in planning and monitoring systems. The evaluations will also assess the alignment and contribution towards achieving the objectives set in the CCCSP[1], and will provide recommendations for future adjustment of the policy response. To this effect it will be important that 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 that sufficient resources for monitoring and evaluation are budgeted in the actions.

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

Indicator Type	Purpose	Frequency
1. CCAP delivery and mainstreaming	Tracking the progress in fundamental aspects of CCAP implementation, such as fund mobilization.	Annual
2. Institutional readiness[2]	Tracking the progress in improving capacities	Annual

[1] The national framework for M&E of climate change response foresees the establishment of a Long Term National Evaluation Program. Evaluations of the CCAP as a whole and of specific actions will be organized in coordination with the national evaluation program.

[2] These indicators will be using a qualitative assessment based on scorecards.

	and integration of climate change into sectoral policies and planning.	
3. Results	Assessing the results of Actions.	Annual or depending on the nature of the action[3].
4. Impact	Assessing the progress towards ultimate climate policy and development objectives.	Annual, ad-hoc for indicators that require specific studies (e.g. sectoralclimate change vulnerability assessments).

To minimize costs and improve mainstreaming, whenever possible indicators will be based on relevant indicators already being monitored[4]. Baseline and targets for indicators for CCAP delivery and mainstreaming, and for impact indicators will be established by the end of 2014, and will be included in the first CCAP progress report. Result indicators will be finalized, and respective baselines and targets established as the actions are financed. The indicator framework will be reviewed in 2016 during the mid term evaluation.

1. CCAP delivery and mainstreaming indicators	
1. Funds planned and actually disbursed, compared with the CCAP planning matrix[5] 2. Proportion of actions funded from national budget, which will indicate the progress in mainstreaming financing into national budgets	
2. Institutional readiness indicators	
3. Integration of Climate Change into sectoral policy and budgeting 4. Capacities for climate change mainstreaming 5. Availability and use of data and information	
3. Results indicators	
Actions	*Indicators*
1. Integration of DRR and Emergency Response ...	1 National and 9 sector plans include concrete measures for disaster risk reduction. Number of ministries that allocate resources to implement the DRR actions in their budgets Proportion between overall allocation for DRR and resource needs estimated in the national and sectoral plan.
2. Strengthening capacity of NCDM at all levels...	24 Disaster and Response plans are developed considering effectively climate change and climate related disasters.
3. Development of atlas maps...	Number of local and national plans that are developed based on the information provided by the atlas.
4. Setting up appropriate DRR Insurance...	Approval of a sub-decree for establishing an insurance scheme for climate

[3] Given that most actions will require formulation of project proposals to access the funds required for implementation, the indicators identified are preliminary and will be updated to reflect the actual scope of the action. Only indicators related to actions that have been funded for implementation will be monitored.

[4] Additional processing and analysis of existing indicators will often be required to address the climate change aspects; this might include classifying the data according to the vulnerability analysis included in the Draft SNC to the UNFCCC and subsequent vulnerability assessments.

[5] This indicator will be calculated as the ratio of actual funds allocated and the budget foreseen in the planning matrix. For example if by 2016 the total funds actually allocated are 28 M (10 M in 2014, 8 M in 2015, 10 M in 2016) and the total budget is of 35.7 M (11.9 for each year), the indicator will be 78%.

	related disaster risk management. % of loss and damage to property offset by insurance for climate related disasters.
5. Setting up or strengthening sub-national early warning system...	Number of early warning systems established and operational at the provincial, district and commune levels. Change in the number of casualties due to climate related disasters.
6. Promoting the integration of DRR and Climate Change...	Percentage of commune development plans and commune investment plans integrating the DRR and climate change adaptation for 2014-2018.
7. Piloting community-based disaster reduction...	Percentage of pilot communes that have completed at least 80% of the actions planned in the disaster reduction, preparedness and response plan within 2014-2018. Change in loss and damage in the pilot communes.
8. Setting up disaster database	A database system on disasters is established and functional, and can be easily accessed by end users to retrieve information in user-friendly formats. Frequency of update and quality of data. Number of RGC ministries, agencies, development partners and NGOs using data from the NCDM disaster database for their
9. Mainstreaming DRR into school curriculum	Updated curriculum including DRR is integrated in the school program. Numbers of teachers trained on DRR and curriculum. Percentage of students with sufficient knowledge of appropriate behaviours in case of climate related disasters. Change in number of casualties (in less than 18 year old age class) during floods.
10. Mainstreaming DRR into royal administration school curriculum	DRR is integrated in curriculum of Royal Administration School. Percentage of students and officers with satisfactory knowledge of DRR.
11. Development and Implementing education and public awareness	Percentage of people by age class and social group with sufficient knowledge of appropriate behaviours to reduce risk to life, health and property in case of climate related disasters.
4. Impact indicators	
Damage and loss (USD) from extreme climatic events (household assets, farm assets, public infrastructure, natural assets, crop loss, investment loss)	
Number of deaths from extreme climatic events by gender and type of event	
Average lead time (hours) for flood and tidal surge warning	

VI. Legal Requirement

The NCDM is now preparing a draft law on Disaster Risk Reduction which serves as a legal platform for effective implementation of disaster response in cooperation with other line ministries. This draft law

can include some clauses supporting implementation of some actions, which enables development ofa sub-decree for the establishment of DRR insurance schemes and a Declaration on institutional mechanism for early warning system.

VII. Conclusion

Adverse impacts of disasters and environmental change on many sectors and across Cambodia as a whole have been increasingly observed for the last decade and they are projected to intensify in the future as climate continues to warm our planet. The economic loss from natural disasters can reduce the country GDP and implicate country poverty reduction performance. The NCDM is an inter-ministerial body established to response to all natural and man-made disasters, and is in the forefront of many disaster relief and recovery work in cooperation with line ministries and authorities at all levels. The CCAPDM will further strengthen our capacity in three phases of disaster management – prior, during and post disaster. Better preparedness plan, relief and emergency response, and post disaster management are important areas under management of NCDM. In this respect coordination should be further improved as the CCAPDM cannot be successfully achieved without active participation of line ministries, development partners and NGOs.

VIII. Annex: Action Fiches

ACTION FICHE No 1

Action 1	Integration of DRR and Emergency Response into NSDP, Programs and Plans of the concerned ministries/institutions
CCCSP and Sector CCSP Strategic Objective	This action will contribute to: a. CCCSP SO2: Reduce sectoral, regional and gender vulnerability to climate change impacts SO6: Promote adaptive social protection and participatory approaches in reducing loss and damage. b. SCCSP for Disaster Management Sector Strategy 1: Links between Climate Change Adaptation and Disaster Risk Reduction.
Rationale	This action has clear link with the National Strategy for Disaster Risk Reduction 2008-2013, the CCSP of NCDM and the NSDP update 2009-2013 This action will reduce damage and cost resulting from natural disaster and climate change impacts such as floods, storm surges, and epidemic diseases through integration of DRR into national and sector development planning and budgeting process.
Category of climate change action	Cat 2 – Modified
Type of action	adaptation
Short description of the action and expected results and benefits	*Short description* a. Consultancy to develop guidelines on how to integrate DDR and disaster preparedness plans into development planning. b. Training for ministerial planning and technical staff; c. Follow-up/refresher workshops to monitor and support the integration of DDR into planning. *Expected results and benefits, including number of beneficiaries and type of impact on beneficiaries* The end result would be the incorporation of disaster risk reduction into national and sector plans. Beneficiaries include: a. planning staff of NCDM b. concerned ministries/institutions and c. a large proportion of vulnerable groups, especially women

	and children. The benefits include: a. participation of sector agencies in DRR planning and implementation and b. improve coordination between NCDM and line ministries
Cost effectiveness of the action	The cost for coordination and development of specific DRR for each sector would be approx $22,000 per Ministry over two years at the end of NSDP cycle.This action can have a catalytic impact by helping direct sector resources towards.
Preconditions needed for successful implementation	a. Commitment of concerned ministries/institutions in incorporation of DRR in their Programs and Plans. b. Coordination role of NCDM would be improved through this action. c. Knowledge on DRR and response plan of line ministries and NCDM.
Indicator(s) of success	*a.* 1 National and 9 sector plans include concrete measures for disaster risk reduction. b. Number of ministries that allocate resources to implement the DRR actions in their budgets c. Proportion between overall allocation for DRR and resource needs estimated in the national and sectoral plan.
Implementation arrangements	*Responsible department(s)* NCDM in cooperation with concerned ministries/ institutions *Other Government and external stakeholders involved in implementation (if already identified, mention the name of the partners)* MOE, MoEYS, MOWA, MOH, MAFF, MOWRAM, MRD, MIME, MPWT, MEF and MOP.
Estimated total cost	USD200,000
Possible funding sources	Funding could be sought from existing NCDM donors (ADB/SPCR in particular), or CCCA.
Timeframe	*Indicate the start and end year* 2017 - 2018

ACTION FICHE No 2

Action 2	Strengthening capacity of NCDM and PCDM to supportcoordination and implementation of Disaster Preparedness and Response Plans.
CCCSP and Sector CCSP Strategic Objective	This action will contribute to: a. CCCSP SO2: Reduce sectoral, regional and gender vulnerability to climate change impacts. SO6:Promote adaptive social protection and participatory approaches in reducing loss and damage. b. SCCSP for Disaster Management Sector Strategy 1: Links between Climate Change Adaptation and Disaster Risk Reduction.
Rationale	This action is designed to improve the quality of disaster risk planning and management within NCDM at national and sub-national levels. This action has clear link with the National Strategy for Disaster Risk Reduction 2008-2013, the CCSP of NCDM and the NSDP update 2009-2013. This action will enable NCDM national and sub-national offices and staff to integrate disaster risk management, caused by climate risk and change, into NCDM regular development planning processes. Development plans will then take account of climate change and associated risk as a routine activity.
Category of climate change action	Cat 2 – Modified
Type of action	Mitigation and adaptation
Short description of the action and expected results and benefits	*Short description* a. Training needs assessment for improved skilling of staff in disaster risk management and climate change; b. Review role and mandate of provincial offices in relation to risk management and climate change; c. Plan and implement disaster risk management and climate change training programmes for 24 provinces, *Expected results and benefits, including number of beneficiaries and type of impact on beneficiaries* The end result would be the incorporation of climate change and disaster risk management into NCDM routine national and provincial

	planning processes. Beneficiaries would be more than 480 NCDM officers in 24 provincial offices. The benefits include: a. the transfer of knowledge and skills to NCDM staff and b. empowering NCDM provincial offices to integrate climate change and disaster risk management into routine NCDM planning processes.
Cost effectiveness of the action	The cost of transfer of skills, incorporation of climate change and disaster risk management into routine planning processes, and follow-up for 24 sub-national offices, would be approx $40,000 per provincial office over five years.
Preconditions needed for successful implementation	a. Commitment of the concerned agencies in incorporation of disaster preparedness plan and response in their development planning. b. Knowledge on DRR and response plan of the concerned agencies and NCDM. c. Effectively functioning central Preparedness and Training Department to organise and implement the action.
Indicator(s) of success	24 Disaster and Response plans are developed considering effectively climate change and climate related disasters.
Implementation arrangements	*Responsible department(s)* Preparedness and Training Department *Other Government and external stakeholders involved in implementation (if already identified, mention the name of the partners)*
Estimated total cost	USD1,000,000
Possible funding sources	*This support could be funded under ADB/SPCR support. Alternatively, donors could be approached as part of resource mobilization for the new 5-year action plan on disaster risk management.*
Timeframe	*Indicate the start and end year* 2014-2018

ACTION FICHE No 3

Action 3	Development of atlas maps and disaster prone areas as knowledge base for monitoring and planning of DRR Preparedness and Response Plans.
CCCSP and Sector CCSP Strategic Objective	This action will contribute to: a. CCCSP SO2:Reducesectoral, regional and gender vulnerability to climate change impacts. SO6Promote adaptive social protection and participatory approaches in reducing loss and damage. b. SCCSP for Disaster Management Sector Strategy 1: Links between Climate Change Adaptation and Disaster Risk Reduction.
Rationale	This action has clear link with the National Strategy for Disaster Risk Reduction 2008-2013, the CCSP of NCDM and the NSDP update 2009-2013 Atlas maps specifying areas vulnerable to climate related disasters would help better planning of preparedness and emergency response plans, which would reduce damage and cost resulting from natural disaster and climate change impacts such as floods, storm surges, and epidemic diseases.
Category of climate change action	Cat 1 – Rescaled
Type of action	Adaptation
Short description of the action and expected results and benefits	*Short description* a. Compilation and analysis of existing information on locations and scale of disasters happening in Cambodia b. Developing attribute data with coordinates and preparing atlas maps in 18 most affected provinces in coordination with MOWRAM, Red Cross and local authorities c. Holding consultation with stakeholders to review the atlas maps (iv) and publication of atlas maps, the task force will be created to collect information and update the maps every 5 years. *Expected results and benefits, including number of beneficiaries and type of impact on beneficiaries* The end result would be the production of atlas maps and disaster prone areas as knowledge base for monitoring and planning of DRR and Preparedness and Response Plans.

	The benefits include: a. this map information will be used for proper planning of disaster risk reduction responses by concerned agencies for integration in their sector plans b. reduced physical damage and loss of life . Beneficiaries include: a. planning staff of NCDM b. other development agencies c. indirect beneficiaries would include a large proportion of population; especially the vulnerable groups.
,Cost effectiveness of the action	This action would guide NCDM and line agencies in planning but benefits would be part of the effective implementation of DRR response plans that uses the atlas maps.
Preconditions needed for successful implementation	a. Participation of the concerned agencies in providing relevant information and cooperation in developing the atlas maps. b. Knowledge on DRR and climate change of the concerned agencies and NCDM.
Indicator(s) of success	Number of local and national plans that are developed based on the information provided by the atlas.
Implementation arrangements	*Responsible department(s)* NCDM in cooperation with concerned ministries/institutions *Other Government and external stakeholders involved in implementation (if already identified, mention the name of the partners)* MOE, MoEYS, MOWA, MOH, MAFF, MOWRAM, MRD, MIME, MPWT, MEF and MOP.
Estimated total cost	USD2, 000,000
Possible funding sources	*UNDP could be approached to add this component of support for mapping to their existing support for the database. Alternatively ADB/SPCR could be approached.*
Timeframe	*Indicate the start and end year* 2014 - 2018

ACTION FICHE No 4

Action 4	Setting up appropriate DRR Insurance Scheme in cooperation with the Ministry of Economy and Finance as means to mobilize funding for

	emergency response and rehabilitation and to distribute disaster impacts among population.
CCCSP and Sector CCSP Strategic Objective	This action will contribute to: a. CCCSP SO2: Reduce sectoral, regional and gender vulnerability to climate change impacts. SO6: Promote adaptive social protection and participatory approaches in reducing loss and damage. b. SCCSP for Disaster Management Sector Strategy 1: Links between Climate Change Adaptation and Disaster Risk Reduction.
Rationale	This action has clear link with the National Strategy for Disaster Risk Reduction 2008-2013, the CCSP of NCDM and the NSDP update 2009-2013 This action will help share the cost of damages of disasters among population and promote social protection through transferring of risks and funding mobilization among private sectors. The IPCC fourth assessment report recognizes the increasing role of public-private partnership for dealing with disaster risk reduction and management.
Category of climate change action	Cat 3 – Dedicated
Type of action	Adaptation
Short description of the action and expected results and benefits	*Short description* a. Conducting feasibility study on appropriate scheme to social safety net, including existing practice during emergency relief in Ketsena. b. Piloting the scheme. *Expected results and benefits, including number of beneficiaries and type of impact on beneficiaries* The end result would be the setup of workable DRR insurance scheme. The benefits include: a. the distribution of the cost of impacts of climate related disasters among the population b. increased involvement of private sector in transferring risks c. sustainable financing for DRR response. Beneficiaries include: a. NCDM b. private sector and general population, especially those in the disaster prone areas.
,Cost effectiveness of the action	To be completed.

Preconditions needed for successful implementation	a. An insurance scheme must be established by a sub-decree in collaboration with MEF. Participation of the concerned agencies, private sector, and the population in sharing the cost through the DRR insurance scheme and support from the Ministry of Economics and Finance. b. Knowledge on DDR and experience of climate change insurance scheme in other countries.
Indicator(s) of success	a. Approval of a sub-decree for establishing an insurance scheme for climate related disaster risk management. *b.* % of loss and damage to property offset by insurance for climate related disasters.
Implementation arrangements	*Responsible department(s)* NCDM in cooperation with the Ministry of Economics and Finance and line ministries. *Other Government and external stakeholders involved in implementation (if already identified, mention the name of the partners)* MoE and UNDP.
Estimated total cost	USD250,000
Possible funding sources	UNDP
Timeframe	*Indicate the start and end year* 2016 - 2018

ACTION FICHE No 5

Action 5	Setting up or strengthening sub-national early warning system and communication mechanism in cooperation with concerned ministries, agencies, mobile phone companies and commune/Sangkat councils.
CCCSP and Sector CCSP Strategic Objective	This action will contribute to: a. CCCSP SO2: Reduce sectoral, regional and gender vulnerability to climate change impacts SO6: Promote adaptive social protection and participatory approaches in reducing loss and damage. b. SCCSP for Disaster Management Sector Strategy 2:Promote the early warning system. Strategy 3: Building disaster resilience and climate change adaptation capacity at all levels through education.
Rationale	This action has clear link with the National Strategy for Disaster Risk Reduction 2008-2013, the CCSP of NCDM and the NSDP update 2009-2013. Early warning system about potential disasters and extreme weathers can enhance coping capacity of the population before disasters taking place as it helps prevent and reduce loss of lives and injuries, including damage to household property and assets. It also can improve disaster risk preparedness and response plans before and after the disasters.
Category of climate change action	Cat 1 – Rescaled
Type of action	Adaptation
Short description of the action and expected results and benefits	*Short description* a. Set up early warning system at sub-national level (province to commune) in cooperation with MOWRAM. b. Provide human resources and early warning system equipment (walkie talkie, computer, fax machine, transportation...) to 171 districts and provincial offices. *Expected results and benefits, including number of beneficiaries and type of impact on beneficiaries* The end result would be the functional early warning system at sub-national level set up. The benefits would be timely information on extreme weather for DRR response and preparedness plans. Beneficiaries would be general population, especially those in the disaster

	prone areas.
Cost effectiveness of the action	To be completed.
Preconditions needed for successful implementation	a. Support and coordination from MOWRAM, provincial offices, development agencies and mobile phone companies. b. Knowledge on DRR and climate change of the concerned agencies and NCDM.
Indicator(s) of success	a. Number of early warning systems established and operational at the provincial, district and commune levels. *b.* Change in the number of casualties due to climate related disasters.
Implementation arrangements	*Responsible department(s)* NCDM in cooperation with the MoWRAM. *Other Government and external stakeholders involved in implementation (if already identified, mention the name of the partners)* MOE, MOWRAM, Cambodian Red Cross
Estimated total cost	USD900,000
Possible funding sources	*Possible contribution may come from Climate Adaptation Fund, Green Climate Fund, UNDP/GEF, Caritas, bilateral donors and CCCA.*
Timeframe	*Indicate the start and end year* 2014 - 2018

ACTION FICHE No 6

Action 6	Promoting the integration of DRR and Climate Change Adaptation into commune development plans and commune investment plans.
CCCSP and Sector CCSP Strategic Objective	This action will contribute to: a. CCCSP SO2: Reduce sectoral, regional and gender vulnerability to climate change impacts SO6: Promote adaptive social protection and participatory approaches in reducing loss and damage. b. SCCSP for Disaster Management Sector Strategy 2:Promote the early warning system. Strategy 3: Building disaster resilience and climate change adaptation capacity at all levels through education.
Rationale	This action has clear link with the National Strategy for Disaster Risk Reduction 2008-2013, the CCSP of NCDM and the NSDP update 2009-2013 This action will help reduce the impact of disaster and improve preparedness plans at the commune levels.
Category of climate change action	Cat 1 – Rescaled
Type of action	adaptation
Short description of the action and expected results and benefits	*Short description* a. Identification and selection of most vulnerable communes based on severity of disaster and vulnerability indices developed by CCD; organizing training for commune councils and clerks for forintegration of DRR and climate change adaptation into commune development plans and commune investment plans. b. Implementation of specific DRR and climate change adaptation in selected communes of high climate change risks; and developing monitoring and evaluation mechanism for DRR integration. *Expected results and benefits, including number of beneficiaries and type of impact on beneficiaries* The end result would be damage to physical and social infrastructure will be reduced through implementation of DRR and adaptation projects by the commune councils across the country. The benefits would be community resilience to disaster risk and climate change. Beneficiaries would be commune people, especially those in the disaster - prone areas.

,Cost effectiveness of the action	Community of selected communes will have better capacity to cope with disasters.
Preconditions needed for successful implementation	a. Support and coordination from Ministry of Interior, NCDD, provincial offices, commune councils and development agencies. b. Knowledge on DDR and climate change of the commune councils and NCDM.
Indicator(s) of success	Percentage of commune development plans and commune investment plans integrating the DRR and climate change adaptation for 2014-2018.
Implementation arrangements	*Responsible department(s)* NCDM in cooperation with the Ministry of Interior and NCDD. *Other Government and external stakeholders involved in implementation (if already identified, mention the name of the partners)* MOE, MEF and the Ministry of Planning.
Estimated total cost	USD500,000
Possible funding sources	*Potentially through the NCDD-S/UNCDF support for climate change mainstreaming in local planning.*
Timeframe	*Indicate the start and end year* 2014 - 2018

ACTION FICHE No 7

Action 7	Piloting community-based disaster reduction, preparedness and response plans.
CCCSP and Sector CCSP Strategic Objective	This action will contribute to: a. CCCSP SO2: Reduce sectoral, regional and gender vulnerability to climate change impacts SO6: Promote adaptive social protection and participatory approaches in reducing loss and damage. b. SCCSP for Disaster Management Sector Strategy 2:Promote the early warning system. Strategy 3: Building disaster resilience and climate change adaptation capacity at all levels through education.
Rationale	This action has clear link with the National Strategy for Disaster Risk Reduction 2008-2013, the CCSP of NCDM and the NSDP update 2009-2013 This action is designed to pilot community based disaster reduction, preparedness and response plans by implementation of a number of will help reduce the impact of disaster and improve preparedness plans at commune level.
Category of climate change action	Cat 3 – Dedicated
Type of action	Adaptation
Short description of the action and expected results and benefits	*Short description* a. Mapping of the vulnerable communes to disasters and selecting two communes per province for piloting community-based disaster preparedness and response plans b. Developing guidelines and template for preparation of the the plans c. Implementation of specific activities of the plans, including investment proposals such as building high ground, drainage and flood control infrastructure, digging wells and sanitation...etc. d. Administration and logistic arrangement, including training for commune council members. *Expected results and benefits, including number of beneficiaries and type of impact on beneficiaries* The end result would be the communities with strong resilience to climate related disasters. The benefits would be knowledge and improved resilience capacity of

	community to cope with disasters through community based disaster reduction, preparedness and response plans, which are integrated in the commune development plans and commune investment programs. The ultimate result would be reduced damage and cost resulting from disasters for the affected population.
Cost effectiveness of the action	To be completed.
Preconditions needed for successful implementation	Support and coordination from Ministry of Interior, NCDD, provincial offices, commune councils, and concerned development agencies. Knowledge on DDR and climate change of the sub-national administrations, NGOs and NCDM.
Indicator(s) of success	a. Percentage of pilot communes that have completed at least 80% of the actions planned in the disaster reduction, preparedness and response plan within 2014-2018. b. Change in loss and damage in the pilot communes.
Implementation arrangements	*Responsible department(s)* NCDM in cooperation with the Ministry of Interior and NCDD. *Other Government and external stakeholders involved in implementation (if already identified, mention the name of the partners)* MOE, MOWRAM, MEF and the Ministry of Planning.
Estimated total cost	USD6, 000,000
Possible funding sources	ADB/SPCR
Timeframe	*Indicate the start and end year* 2014 - 2018

ACTION FICHE No 8

Action 8	Setting up disaster database system recording disaster events, impacts, and damage.
CCCSP and Sector CCSP Strategic Objective	This action will contribute to: a. CCCSP SO2: Reduce sectoral, regional and gender vulnerability to climate change impacts SO6: Promote adaptive social protection and participatory approaches in reducing loss and damage. b. SCCSP for Disaster Management Sector Strategy 2:Promote the early warning system. Strategy 3: Building disaster resilience and climate change adaptation capacity at all levels through education.
Rationale	This action has clear link with the National Strategy for Disaster Risk Reduction 2008-2013, the CCSP of NCDM and the NSDP update 2009-2013 This action will help collect and analyse data on disaster events, impacts, and damage for development agencies, would be used for planning of DRR preparedness and response plans.
Category of climate change action	Cat 2 – Modified
Type of action	Adaptation
Short description of the action and expected results and benefits	*Short description* a. Review the existing database system of NCDM b. Consultancy to develop database system and data collection tools c. Organizing training for staff at national and provincial levels d. Provide resources and communication equipment and e. Administration and logistic arrangement. *Expected results and benefits, including number of beneficiaries and type of impact on beneficiaries* The end result would be the accessible, compatible and user-friendly data systemfor recording disaster events, impacts, and damage. The benefits would be availability of reliable data on disaster events, impacts and damage for development agencies and the public in general. Beneficiaries include: a. NCDM program staff are trained in data collection and management b. Other concerned ministries and development agencies can

	benefit from that data.
,Cost effectiveness of the action	To be completed.
Preconditions needed for successful implementation	a. Support and coordination from the line ministries, NCDD, provincial offices, commune councils, and concerned development agencies. b. Knowledge on database, DDR and climate change of the concerned agencies and NCDM.
Indicator(s) of success	a. A database system on disasters is established and functional, and can be easily accessed by end users to retrieve information in user-friendly formats. b. Frequency of update and quality of data. c. Number of RGC ministries, agencies, development partners and NGOs using data from the NCDM disaster database for their respective development work within 2014-2018.
Implementation arrangements	*Responsible department(s)* NCDM in cooperation with line ministries and NCDD. *Other Government and external stakeholders involved in implementation (if already identified, mention the name of the partners)*
Estimated total cost	USD 300,000
Possible funding sources	UNDP
Timeframe	*Indicate the start and end year* 2015 - 2016

ACTION FICHE No 9

Action 9	Mainstreaming DRR into school curriculum (primary school, secondary school and higher education) in cooperation with MoEYS.
CCCSP and Sector CCSP Strategic Objective	This action will contribute to: a. CCCSP SO5: Improve capacities, knowledge and awareness for climate change response. b. SCCSP for Disaster Management Sector Strategy 3: Building disaster resilience and climate change adaptation capacity at all levels through education.
Rationale	This action has clear link with the National Strategy for Disaster Risk Reduction 2008-2013, the CCSP of NCDM and the NSDP update 2009-2013 Integration of DRR in the school programs will promote country-wide awareness and knowledge among school children and will improve public participation in contribution to the DRR strategy. .
Category of climate change action	Cat 1 – Rescaled
Type of action	Adaptation
Short description of the action and expected results and benefits	*Short description* a. Review the existing curriculum having climate change topics b. Updating or developing DRR curriculum for mainstreaming into school programs c. TOT training for teachers for delivery of the curriculum d. Administration and logistic arrangement. *Expected results and benefits, including number of beneficiaries and type of impact on beneficiaries* The end result would be the DRR-sensitive school curricula. The benefits include: a. education officers and teachers and school students gain knowledge on DRR. Beneficiaries include: a. NCDM program staff b. education officers c. school teachers

	d. students.
,Cost effectiveness of the action	To be completed.
Preconditions needed for successful implementation	a. Support and coordination from the Ministry of Education, Youth and Sports as it may require adjustment of existing education program to include DRR. b. Support and provision of information on DRR from concerned ministries. . c. Knowledge on DDR of education officers and NCDM.
Indicator(s) of success	a. Updated curriculum including DRR is integrated in the school program. b. Numbers of teachers trained on DRR and curriculum. c. Percentage of students with sufficient knowledge of appropriate behaviours in case of climate related disasters. *d.* Change in number of casualties (in less than 18 year old age class) during floods.
Implementation arrangements	*Responsible department(s)* NCDM in cooperation with MOEYS. *Other Government and external stakeholders involved in implementation (if already identified, mention the name of the partners)* MOE, MoEYS, MOWA, MOH, MAFF, MOWRAM, MEF and MOP.
Estimated total cost	USD 300,000
Possible funding sources	*Major source of funding would come from MoEYS, government budget, UNICEF, JICA, UNDP/GEF with possible contribution from CCCA.*
Timeframe	*Indicate the start and end year* 2015 - 2017

ACTION FICHE No 10

Action 10	Mainstreaming DRR into Royal Administration School curriculum.
CCCSP and Sector CCSP Strategic Objective	This action will contribute to: a. CCCSP SO5: Improve capacities, knowledge and awareness for climate change response. b. SCCSP for Disaster Management Sector Strategy 3: Building disaster resilience and climate change adaptation capacity at all levels through education.
Rationale	This action has clear link with the National Strategy for Disaster Risk Reduction 2008-2013, the CCSP of NCDM and the NSDP update 2009-2013 This action will mainstream the concept of DRR into Royal Administration School curricula.
Category of climate change action	Cat 1 – Rescaled
Type of action	Adaptation
Short description of the action and expected results and benefits	*Short description* a. Consultancy to develop DRR curriculum for mainstreaming into Royal Administration School curricula b. TOT training and follow-up. *Expected results and benefits, including number of beneficiaries and type of impact on beneficiaries* The benefits would be education officers and lecturers of the Royal University of Administration and government officers gain knowledge on DRR. Beneficiaries would be NCDM program staff, education officers, school lecturers and students.
,Cost effectiveness of the action	To be completed.
Preconditions needed for successful implementation	a. Support and coordination from the Ministry of Education, Youth and Sports, Royal School Administration and MOE. b. Knowledge on DRR of education officers and NCDM.

Indicator(s) of success	a. DRR is integrated in curriculum of Royal Administration School. b. Percentage of students and officers with satisfactory knowledge of DRR.
Implementation arrangements	*Responsible department(s)* NCDM in cooperation with Royal Administration School. *Other Government and external stakeholders involved in implementation (if already identified, mention the name of the partners)* MOE, MoEYS
Estimated total cost	USD50,000
Possible funding sources	*Major source of funding would come from government budget, UNICEF, UNISDR, UNDP/GEF with possible contribution from CCCA.*
Timeframe	*Indicate the start and end year* 2014 - 2015

ACTION FICHE No 11

Action 11	Development and Implementing public awareness campaigns on DRR and Climate Change Adaptation at all levels.
CCCSP and Sector CCSP Strategic Objective	This action will contribute to: a. CCCSP SO5: Improve capacities, knowledge and awareness for climate change response. b. SCCSP for Disaster Management Sector Strategy 3: Building disaster resilience and climate change adaptation capacity at all levels through education.
Rationale	This action has clear link with the National Strategy for Disaster Risk Reduction 2008-2013, the CCSP of NCDM and the NSDP update 2009-2013 Improved knowledge of the public would enhance public participation in disaster risk reduction thus contributing to the overall achievement of DRR strategy and goals.
Category of climate change action	Cat 2 – Modified
Type of action	Adaptation
Short description of the action and expected results and benefits	*Short description* a. Consultancy to develop campaign material such as TV/radio drama, documentary, debate on TV, IEC materials, website and training/workshop materials. b. Training and workshop. c. Administration and logistic arrangement. *Expected results and benefits, including number of beneficiaries and type of impact on beneficiaries* The benefits would be general public gain knowledge on DRR and climate change adaptation. Beneficiaries include: a. NCDM program staff b. education officers and c. general public.
,Cost effectiveness of the action	To be completed.
Preconditions needed for successful implementation	a. Support and coordination from the Ministry of Education, Youth and Sports, Royal School Administration and MOE. b. Knowledge on DDR and climate change adaptation of

	education officers and NCDM.
Indicator(s) of success	Percentage of people by age class and social group with sufficient knowledge of appropriate behaviours to reduce risk to life, health and property in case of climate related disasters.
Implementation arrangements	*Responsible department(s)* NCDM *Other Government and external stakeholders involved in implementation (if already identified, mention the name of the partners)* MOE, MoEYS, MOWA, MOH, MAFF, MOWRAM, MEF and the MOP.
Estimated total cost	USD 250, 000
Possible funding sources	Partly funded by ECHO, NGO partnerships *Major source of funding would come from government budget, Climate Adaptation Fund, bilateral donors with possible contribution from CCCA.*
Timeframe	*Indicate the start and end year* 2014 - 2018

ព្រះរាជាណាចក្រកម្ពុជា
ជាតិ សាសនា ព្រះមហាក្សត្រ

គណៈកម្មាធិការជាតិគ្រប់គ្រងគ្រោះមហន្តរាយ

ផែនការយុទ្ធសាស្ត្រការប្រែប្រួលអាកាសធាតុ
សម្រាប់វិស័យ
គ្រប់គ្រងគ្រោះមហន្តរាយ

(ការកសាងសមត្ថភាពនៅថ្នាក់ជាតិ រហូតដល់ថ្នាក់សហគមន៍)

២០១៤-២០២៣

២០១៣

អារម្ភកថា

ផែនការយុទ្ធសាស្ត្រការប្រែប្រួលអាកាសធាតុសម្រាប់វិស័យគ្រប់គ្រងគ្រោះមហន្តរាយ ដែលបានបង្កើតឡើងនេះ គឺជាគោលគំនិតមួយលើកកម្ពស់ការអនុវត្តការកាត់បន្ថយហានិភ័យនៃគ្រោះមហន្តរាយ ភ្ជាប់ជាមួយការកើតមានអស្ថិរភាពអាកាសធាតុ និងការប្រែប្រួលអាកាសធាតុនៅពេលខាងមុខសម្រាប់ការគ្រប់គ្រងគ្រោះមហន្តរាយ ដោយរួមបញ្ចូលនូវការកំណត់ច្បាស់លាស់ហានិភ័យនៃគ្រោះមហន្តរាយ ទាក់ទងនឹងអាកាសធាតុ និងគម្រោងវិធានការកាត់បន្ថយហានិភ័យជាក់លាក់ដោយពង្រឹងសមត្ថភាព ការយល់ដឹងទូលំទូលាយពីថ្នាក់ជាតិរហូតដល់មូលដ្ឋានសហគមន៍ តាមយន្តការដែលមានស្រាប់របស់គណៈកម្មាធិការជាតិគ្រប់គ្រងគ្រោះមហន្តរាយ ជួយឲ្យមូលដ្ឋានសហគមន៍មានសុវត្ថិភាព និងសមត្ថភាព ធន់ទ្រាំបានទៅនឹងគ្រោះមហន្តរាយ។ ការកំណត់យកការប្រែប្រួលអាកាសធាតុសម្រាប់វិស័យគ្រប់គ្រងគ្រោះមហន្តរាយនៅមូលដ្ឋានសហគមន៍ ជាមធ្យោបាយមួយដ៏ល្អ និងសំខាន់បំផុតសម្រាប់ការកាត់បន្ថយភាពក្រីក្រ និងបង្កើនសុខុមាលភាពរបស់ប្រជាជនស្របតាមយុទ្ធសាស្ត្រចតុកោណរបស់រាជរដ្ឋាភិបាល។

ការខ្វះខាតការយល់ដឹងពីការកាត់បន្ថយហានិភ័យនៃគ្រោះមហន្តរាយ ពិតជាអាចបង្កនូវផលប៉ះពាល់ពីគ្រោះមហន្តរាយមកលើយើងទាំងអស់គ្នាមិនខាន ដូច្នេះហើយការកាត់បន្ថយហានិភ័យនៃគ្រោះមហន្តរាយគឺជាដំណើរការរយៈពេលវែង ដែលតម្រូវឲ្យមានការចូលរួមពីគ្រប់ក្រសួងស្ថាប័ន និងគ្រប់អ្នកដែលមានការពាក់ព័ន្ធជួយបង្កើនកិច្ចខិតខំប្រឹងប្រែងក្នុងការគ្រប់គ្រងគ្រោះមហន្តរាយ។

ការកាត់បន្ថយហានិភ័យនៃគ្រោះមហន្តរាយ និងការបន្សាំទៅនឹងការប្រែប្រួលអាកាសធាតុគឺជាបញ្ហាតែមួយដែលដើរនៅលើផ្លូវពីរផ្សេងៗគ្នា ដូច្នេះហើយការកំណត់យកការប្រែប្រួលអាកាសធាតុសម្រាប់វិស័យគ្រប់គ្រងគ្រោះមហន្តរាយពីព្រោះគ្រោះទឹកជំនន់ រាំងស្ងួត ខ្យល់ព្យុះ ជំងឺ និងរោគរាតត្បាតផ្សេងៗដែលពាក់ព័ន្ធនឹងការប្រែប្រួលអាកាសធាតុបានកើតមានកាន់តែញឹកញាប់ និងខ្លាំងក្លាបង្កឲ្យមានការខូចខាតយ៉ាងធ្ងន់ធ្ងរ ដែលសរុបមកវិញការកាត់បន្ថយហានិភ័យនៃគ្រោះមហន្តរាយ និងការបន្សាំការប្រែប្រួលអាកាសធាតុ ជាបញ្ហាដែលជាប់ទាក់ទងក្នុងបរិបទនៃការអភិវឌ្ឍប្រកបដោយចីរភាព ដែលត្រូវលើកទឹកចិត្តដល់មូលដ្ឋានសហគមន៍ក្នុងការអនុវត្តការត្រៀមបង្ការ ដើម្បីភាពធន់ទ្រាំទៅនឹងគ្រោះមហន្តរាយ។

ខ្ញុំយកឱកាសនេះសូមថ្លែងអំណរគុណក្រសួងបរិស្ថាន, គណៈកម្មាធិការជាតិគ្រប់គ្រងការប្រែប្រួលអាកាសធាតុ, សម្ព័ន្ធភាពប្រែប្រួលអាកាសធាតុកម្ពុជា, នាយដ្ឋានប្រែប្រួលអាកាសធាតុ និង EU, UNDP, Danida, Sida ដែលបានរួមចំណែក និងឧបត្ថម្ភគាំទ្រដល់ការរៀបចំឯកសារផែនការយុទ្ធសាស្ត្រប្រែប្រួលអាកាសធាតុសម្រាប់វិស័យគ្រប់គ្រងគ្រោះមហន្តរាយនេះឡើង។

រាជធានីភ្នំពេញ, ថ្ងៃទី ២៣ ខែ កុម្ភៈ ឆ្នាំ២០១២

ញឹម វណ្ណដា

ទេសរដ្ឋមន្ត្រី ទទួលបន្ទុកជាអនុប្រធានទី១

នៃគណៈកម្មាធិការជាតិគ្រប់គ្រងគ្រោះមហន្តរាយ

Strategic Plan on Climate Change for Disaster Management Sector

(Capacity Building for National and Sub-National Level)

I. Background

Climate change will be a serious obstacle for hindering the development of the countries; if we ignore it and don't have any joint efforts together. Over the last few years, natural disasters were hitting and increasing worldwide, and resulted with loss of lives of people and properties and seriously affected to the economy as a whole. Cambodia has been affected by a series of severe floods, droughts and storms. The severe flooding that hit Cambodia previously, were flood in 2000, 2001 and 2002, and the major droughts that hit Cambodia were in 2003 and 2004. In 2009, for instance, an unexpected tropical storm **Ketsana** affected Cambodia which caused hundreds of casualties and damaging housings and other properties and in the end of September 2011, Cambodia seriously suffered from bothMekong and flash floods.

Apparently, we has observed that the subsequent and unexpected natural disasters are affecting many countries across Asia, and those countries face with similar risks which increase vulnerability to the social economy and livelihoods, and especially for women and children. The hardship caused by the disaster has added a burden on the government which requiredundertaking disaster risk reduction measures.In order to cope with this issue, the Royal government of Cambodia has established the National Committee for Disaster Management (NCDM) under the leadership **of SamdechAkkaMohaSenaPadeiTecho Hun Sen**, the Prime Minister of the Kingdom of Cambodia. Along with this, based on the prediction, climate change will incur adverse consequences by affecting on water resources, agriculture, food security, eco-system, sea, sea eco-system, and human health. Climate change also contributes to more frequent, severe and unpredictable hazards such as cyclones, drought, floods, heat waves, and any other extreme weather events. In short, we can conclude that floods and droughtsoccurring in Cambodia are the negative impacts of the climate change. In this regard, building linkage between disaster risk reduction and climate change adaptation is a top priority.

Climate Change Adaptation (CCA) and Disaster Risk Reduction (DRR)are the responsibility of Government at all levels. Hence, it is not able to be addressed by a single institution or agency but collectively. It is not possible for a single government institution to comprehensively addressing DRR and CCAas it should be viewed as a cross-cutting issue which is jointly addressed by all stakeholders. Strategic Plan on Climate Change for Disaster Management Sector immensely contributes to climate change adaptation in principle and it is appropriate to raise this issue at the community level because when the hazards happened, people in the communities will directly suffer from that. Addressing this problem should be done at the community level because experience shows that local governments and communities are the main actors that immediately respond to disaster events. The first response to emergencies is crucial for saving human lives as external assistance many not immediately come. Furthermore, community-based disaster risk reduction and climate change adaptation can contribute significantly to the attainment of poverty reduction policy of the government. A yardstick that can be used for implementing the community-based disaster risk reduction is building the resilience capacity of nations and communities to disasters requiring more understanding in identifying, assessing and monitoring disaster risks. In other words, understanding the reasons behind the vulnerabilities, including the lack of physical infrastructures, social and economic services, and improper settlement, is extremely crucial.

Climate change adaptation and disaster risk reduction are essential starting point to help make the communities to be safe and resilient to the natural hazards. In order to ensure the achievement of sustainable long term result, the active contribution from disaster-affected local people should be promoted, and promoting and strengthening the capacity building and providing resources to local communities are priority. Along with assisting the local communities, it is necessary to strengthen sense of responsibility of the sub-national administration and communities in promoting participation in the improvement of the vulnerable communitiesby integrating disaster risk reduction and climate change adaptation measures into development, investment, and poverty reduction plans. Multi-stakeholder participation is a key to durable achievement of such projects.

II. Introduction

From theory into action for the Guideline to implement Hyogo Framework for Action (HFA).
As an essentially agrarian country, the Kingdom of Cambodia is highly vulnerable to the impacts of climate change. Adverse impacts could possibly include increased flood and drought magnitude and damages, reductions in crop yields, decrease water availability, and increase in the number of people exposed to vector and water-borne disease. According to the Intergovernmental Panel on Climate Change, climate change will increase vulnerabilities to social economy, and it will result in the shortage of rain water in this century. People will face multiple challenges caused by natural disaster emergency that cannot be avoided. Intergovernmental Panel on Climate Change stated that climate change adaptation can be accomplished through building resilience capacity to climate change. Climate change adaptation requires early warning system, risk assessment, and using the natural resources in a sustainable manner in implementing disaster risk reduction measures.

Climate change adaptation and building resilience capacities are the 4th priority set forth in the Hyogo Framework for Action (HFA) that encourages the highly sustainable use and management of economic systems, natural resources and land use, and integrating various strategies into disaster risk reduction and climate change adaptation.

Hyogo Framework for Action (HFY) echoes the promotion of food security for building resilience capacities by integrating disaster risk reduction into health sector and promoting hospital security.It is important in safeguarding public means, recovery plans, and social safety nets. Furthermore, the 4th priority lays out the ideas for promoting the alternative of income generation, financial risk sharing mechanisms, and creating partnership with private and public sector. Finally, there is a need to take into high consideration of land use planning, house building codes and mainstreaming risk assessment into rural development plans.

Strategic plan on climate change for disaster management sector aims to act and strengthen capacity and comprehensive understanding at the national level down to the local level meeting the existing NCDM's mechanisms in an attempt to shore up attention and cooperation through the linkage between disaster risk reduction and climate change adaption.

It is necessary to pay great attention to the importance of cooperation and partnership between National Committee for Disaster Management and partner NGOs that are responsible for sustainable development. NCDM has to work very closely with partner NGOs to take urgent measure in order to address the disaster risk reduction and climate change adaptation. Addressing this, protecting people in their territory, infrastructures, and public properties are needed to be focused up on.

There is a need to promote the culture of prevention through finding additional resources to mitigate disaster risk for achieving sustainable development. Assessing risks and early warning system are vital elements for saving human lives, livelihood and properties that contributes to sustainable development.

III. Disaster Risk Condition

Strategic plan on climate change for disaster management sector has very close relationship with training programs conducted to strengthen the resilience capacity to climate change:

- Prepare training plans to strengthen capacities at the national and local level in order to promote awareness of hazards, vulnerabilities, and capacities in mitigating impacts caused by climate change.
- Contribute to sharing knowledge and public awareness of resilience capacity to climate change adaptation and disaster risk reduction.
- Contribute to achieving the government's development plan in sustainable manner, in particular, poverty reduction.

IV. Disaster Impacts and Climate Risk in Cambodia

Strategic plan on climate change for disaster management sector is regarded as prominent point to mitigate disaster risk caused by natural or man-made hazards such as: floods, droughts, storms, and pandemic...etc.

4.1. Flood

Affected by climate change, it contributes to frequent Mekong river floods and flash floods that affect and damage people and public properties, housing, crops and kill people and animal and seriously affect infrastructures. Apparently, in 2011, the flood affected Phnom Penh and 17 provinces equating to 122 districts-Khans-Towns and 687 communes-Sangkats. 354,217 households equating to 1,771,085 people were affected. Among them, 51,950 households equating to 25,750 people were evacuated to the safety areas; and in total, 250 people died. The floods submerged transplanted rice seedling on the areas of 431,476 hectares, and transplanted rice seedlings on the areas of 267,184 were damaged. In addition, 360 km of national and provincial roads were damaged, and 4,469 km of dirt road were damaged. In parallel, 1,360 schools were submerged during the flood in 2011.

4.2. Drought

Affected by climate change, it contributes to frequent drought that has unusually prolonged. Cambodia's monsoon climate gives it two distinct seasons - a dry season from November and April followed by six months of rainy season. Rainfall is highest between May and June, and September and October. In general, a dry spell for about 2 to 3 weeks in between July and August.Drought occurs when there is a lack of water in particular area and usually caused by reduced amount of rainfall over that particular area. Drought can have a major direct impact upon subsequent availability of water for crop growth, and it can cause the widespread of diseases; people can easily die because of dehydration. In 2011, although, it rained continuously in the first week of May, and rice was planted faster than the previous year, there was drought in a small number of places due to lack of rainfall; in some areas, it rained only at the beginning of the rainy season, and in some other areas, it did not rain until July or October, but it rained a little. 3,500 hectares of land in Battambang province and 300 hectares of land in Takeo province were affected by lack

of water. In addition, the districts of SamakyMeanchey and Boseth in the provinces of KompongChhnang and KompongSpue province were also affected.

4.3. Storm

Cambodia's climate, like that of the rest of Southeast Asia, is dominated by monsoons, which are known as tropical wet and dry. Recently, due to the effect of climate change, Cambodia was affected by strong win. Obviously, on 29 September, 2011, Typhoon Ketsana hit Cambodia, causing widespread damage. At least 43 people die and 47 people injured, and about 49,787 households lost their homes and livelihoods to the destructive storm. 180,000 people were directly affected and 1.4% of the populations were indirectly affected by the storm; in total, the costs of damages were estimated at about USD 131,996,415.

4.4. Lightning

Lightning are more sever from year to year:

- In 2007: 5 people were killed, and 51 people got wounded.
- In 2008: 95 people were killed, and 22 people got wounded.
- In 2009: 140 people were killed, and 59 people got wounded.
- In 2010: 114 people were killed, and 58 people got wounded.
- In 2011: 165 people were killed.
- In the first semester of 2012, 63 people were killed by lightning.

4.5. Pandemics and Epidemics

Pandemics remain substantial threats to Cambodia such as: cholera, malaria, dengue...etc, which called tropical diseases by World Health Organization (WHO). Recently, there is outbreak of influenzas such as: H5N1, H1N1, A/H1N1...etc. From 2005 to 2012, there are 21 cases of bird flu human infection, in which 18 people died and 2 people were rescued.

Just over the last few years, we have witnessed a number of unprecedented natural disasters, and each disaster has caused loss of life, destroyed livelihoods, and increased poverty rates.

4.6. Gender issues resulted from climate change impacts

The main gender issues resulted from impacts of climate change which are to be addressed by Disaster Management Sector include:

- Increasing exposure and sensitivity of the vulnerable communities, especially rural women, children and elderly, to climate change risks and disaster
- Vulnerable households are susceptible to assets hazard
- Women have low adaptive capacity to flood and drought risks (Resources, tools and know how), their preparedness for coping with hazard is low

V. Climate Change Response Strategy and Policy

5.1. Integration into Relevant National Strategies and Policies

- Strategic National Action Plan for Disaster Risk Reduction (2008-2013) (SNAP)was developed under the cooperation between NCDM and Ministry of Planning (MoP), and it was formallyendorsed and launched by the National Government in 2009. SNAP is used as a guide to strengthen the responsibilities in mitigating disaster risk in Cambodia and contribute to achieving the government's development plan in a sustainable manner, particularly, poverty reduction.
- The primary motivation of the Royal Government of Cambodia in the formulation of

an Action Plan for Disaster Risk Reduction (DRR) is to reduce the vulnerability of itspeople in the local communities, especially the poor. On top of that, SNAP has also identified the hazards caused by climate change and fully supported the NAPA.

- We still do not have disaster management law, contingency plan, national policy for disaster management, and standard operating procedure in place.In short, laws and policies assist the government and local authorities to be well prevented and prepared to timely and effectively respond to hazards, including climate change. Therefore, NCDM has preparednew draft law on disaster management and a few draft policy documentsthat can be used as tools to check and monitor disaster situation to provide assistance to people and communities which are in risk. Promoting and supporting the recognition of disaster risk reduction and climate change adaptation are very helpful for climate change adaptation as soon as disaster risk reduction is comprehensively addressed.
- Hyogo Framework for Action (HFA) 2005-2015, which was adopted by World Conference in Kobe, Japan, in 2005, was established for responding to disasters affecting people and communities. Hyogo Framework for Action (HFA) sets out that disaster risk reduction is a major challenge for development policy, and it also benefits science, humanitarian, and environment ...etc. Disasters devastate the development of the nation, cause the impact on people and increase poverty. In this sense, without serious efforts, disaster will increasingly become a serious obstacle to the achievement of the country's development aspirations.

According to the document published by United Nations International Strategy for Disaster Reduction (UNISDR), disaster and climate change pose two major threats:

1. Increase in the frequency and intensity of weather and climatic hazards, such as floods, tropical cyclones, heat waves and droughts.
2. There are some changes such as the loss of eco-system, decrease in water resources, increase in the impacts on livelihood, and reduce the capacity of the communities in responding to the hazards caused by nature, particularly, in some less developing countries.

Through the study based on the previous experience related with disaster management sector, we have achieved a few remarkable results, in particular, the community understanding of disaster risk reduction. However, some communities have neglected the importance of disaster risk reduction, some activities are remained unimplemented.

To achieve to expected objectives and goal of the strategic plan on climate change for disaster management sector, some activities should be focused up on:

- Promote the participation of the media such as TV, radio, newspaper, and magazine to widely disseminate the prevention measures and activities needed to be implemented before, during and after the disaster by making sure that the information reaches the vulnerable communities.
- Publish and distribute the posters related to disaster prevention and disaster risk reduction to the local communities.
- Some communities are less affected by the disaster because the communities have much understanding of disaster preparedness, and good management and responsibilities of the community leaders are also appreciated. Strengthening the capacities of the community leaders living with vulnerable groups to understand well and disseminate the strategic plan for disaster risk reduction is extremely crucial. Besides, it would be wise topublish and distribute manual books on the strategic plan to all communities.
- Mainstreaming the understanding means the mitigating of the major impact of the disasters. So far, NCDM in cooperation with relevant ministry-institutions and partner organizations has implemented a few measures:

- ◆ Mainstream DRR/CCA into commune development plan
- ◆ Mainstream DRR/CCA into school curriculums

- To make these tasks highly effective, there is a need to strengthen the cooperation with stakeholders at all levels through coordination.
- Strategic National Action Plan for Disaster Risk Reduction (SNAP) was endorsed and launched in order to achieve goals laid out in the Rectangular Strategy and step up to achieve Millennium Development Goals.In this regards, National Strategic Development Plan Update 2009-2013 has clearly identified natural disaster such as: flood, drought, storm, and pandemics, which Cambodia faces so far.
- To be well prevented to respond to natural disasters, in 1995, the Royal Government of Cambodia (RGC) has established NCDM. NCDM Organizational structure has been established from the national, provincial and down to the commune levels for mitigating disaster risks.

SamdechAkkaMohaSenaPadeiTecho Hun Sen, the Prime Minister of the Kingdom of Cambodia, is the president of NCDM and the honorable president of Committee for Climate Change Management.Based on this, it clearly reflects the government's attention to the disaster management and climate change sector.

5.2. Gender Responsive Framework

The vulnerability and adaptation assessment of Cambodia indicates that the poor and rural populations, most of them being women, are the most vulnerable to climate change because they depend mainly on rainfed agriculture and natural resources. These vulnerable groups are very susceptible to diseases and illness, have limited resources and capacity to adapt to the climate change impacts and their preparedness to cope with climate risks and hazards is very limited. Protecting the Cambodian people through disaster management is the important role and responsibility of the NCDM. Understanding the status of women and their important roles in the Cambodian society and their vulnerability from climate change impacts, the gender and climate issues will be mainstreamed into the Climate Change Strategic Plan for Disaster Management Sector by aligning with the RGC's relevant national strategies (NSDP, RS II, CMDG and SDPs) and ensuring that:

i) Gender vulnerability (IPCC defines it based on: exposer, sensitivity and adaptive capacity) to climate change impacts and disaster are identified and addressed;
ii) Gender is integral part of the disaster management and climate change response strategies; and
iii) Gender equality and sensitive performances in disaster management and climate change response strategic actions are monitored.

VI. Responding Measure for Disaster Risk Reduction to Climate Change

6.1. Vision

Build resilient communities to disasters caused by climatic hazards.

The Kingdom of Cambodia can build the resilience capacities to disasters caused by climatic hazards by launching common measures to mitigate risks and vulnerabilities. This vision focuses on mitigating risks and vulnerabilities caused by natural and climatic hazards.

6.2. Mission

Adhere to Hyogo Framework for Action and knowledge on disaster risk reduction and climate change adaptation.

Disaster risk reduction and climate change adaptation relate to sustainable development and provide information about disaster risks and prevention measures that are easy to understand to people in the highly vulnerable areas in order for them to cling highly to measures to mitigate risks and build resilient capacities.

6.3. Objectives and Purposes

Strategic Plan on CCA by reducing Disaster risks focus on reducing people vulnerability from CC hazard through strengthening of the Disaster Management system and actively involved in Disaster Risk Reduction activities which are the core element of CCA.

Strategic Plan has specific purposes as follow:

1. Promote the relationship between disaster risk reduction and climate change adaptation.
2. Promote the attention on disaster risk management by focusing on vulnerabilities, poverty and the cause of the disaster.
3. Show benefits of promoting capacities in adapting to climate change.
4. Promote the management on unprecedented events and uncertainty of climate change.

6.4. Strategy

6.4.1. Strategy 1: Linkages between Climate Change Adaptation and Disaster Risk Reduction

Climate change adaptation and disaster risk reduction share another common feature – they are not sectors in themselves but must be implemented through the close collaboration with potential national and local level, local communities, NGOs, and organizations that provide technical and financial support.

Activities must be carried out base on the creation of laws, policies, regulations, and revising the existing principles to assist the government's institutions, civil societies, and private sector in strengthening the relationship between SNAP and NAPA.

Due to the lack of understanding of CCA and DRR, capacity building among the local people, relevant organizations including provincial and district level, especially the communities and households that are most vulnerable to the climate change is the priority.In addition, the lack of human resource and funding is also a big challenge.

6.4.2. Strategy 2: Promoting the early warning system

If the cultures of prevention and disaster resilience are promoted and disaster information is provided to people in timely manner, the adverse impact caused by natural disaster and climate change can be reduced. Along with this, raising awareness and reminding people of the hazards, vulnerabilities, coping capacities, and disaster response are regarded as vital.

To cope with urgently emerging problems caused by climate change, high-tech equipment and systems that could provide accurate warning information are required. The National Committee for Disaster Management (NCDM) works very closely with the Ministry of Water Resources and

Meteorology in receiving and disseminating the warning information to the local people because in Cambodia, the government considers community based disaster risk reduction (CBDRM)as an important measure to alleviate poverty.In this regard, establishing specialized teams and mechanisms that are responsible for analyzing information regarding climate risk is also required; warning information should be disseminated to decision makers, in particular, the local communities that need to make itself resilience to climate change and natural disaster.

6.4.3. Strategy 3: Building disaster resilience and Climate Change Adaptation capacity at all levelsthrough education

It is necessary to develop disaster and climate risk, and community information. However, historical data and lessons from the past experiences should also be compiled. Climate information should be created in line with NAPA.

To ensure the effectiveness of the above mechanisms, there is a need to conduct the training of trainers on the related topics. Based on this, we will have more man-powers to educate and promote public awareness in local communities through the cooperation with multi-agencies and multi-sectors among the relevant institutions, NGOs, development partners, and stakeholders at all levels.

Women will be promoted to participate in this capacity building program, as they are the most vulnerable, so that they can help themselves, their own families and others in the community.

Information provided through radio, TV, and education systems are easy to be accessed by the local people. In parallel, the idea of promoting the education in information technology among the young generation should be put forward for consideration.

6.4.4. Strategy 4: Developing by paying more attention on risk

Disaster risk reduction will be integrated into all development plans. Regarding this point, land use regulation and settlement by local people are needed to be focused upon. For that, development plans must walk hand in hand with climate change adaptation and disaster risk reduction.Social safety net can be formulated through the development of health services, career opportunities, micro finance and insurance institutions.

It is necessary to assess the impact on environment to better enforce the law and other activities such as trash disposal, air pollution, drainage pollution, etc.

6.5. Disaster risk reduction activitiesin response toclimate change

6.5.1 The formulation of law and policy

- The formulation of laws and policies is a key challenge for relevant ministry-institutions and all stakeholders to undertake the joint initiation of disaster risk reduction.

6.5.2. Strengthening institution's capacity in disaster risk management contributing to climate change adaptation

- As soon as the DM law is enacted, it is necessary to publicly disseminated it to all stakeholders. At the same time, it is also necessary to create mechanisms that assist in managing disaster at national, sub-national, and community level in addition to the existing structure.

- Formulate coordination team to follow-up and check the implementation of action plans and disaster risk reduction.

6.5.3. Building preparedness capacity in Response to disaster

- Review the disaster response capacities
- Develop National Contingency Plan in collaboration with UNDMT, IFRC, CRC, and NGOs.
- Introduce Contingency plan at the sub-national level.
- Formulate SOPs for natural hazards.
- Create and build the capacities of national response team.
- Promote awareness to the Committee for Disaster Management at the provincial and community level about the preparedness for climate change and natural disaster.
- Promotewomen participation

6.5.4. Improving early warning system

- Conduct risk assessment at community level
- Establish disaster management information system
- Establish early warning system on climate hazard
- Cooperate with AHA Center and international organizations to exchange information on climate change.

6.5.5 Strengthening the community based disaster risk reduction

- Assess the impact on hazards in addition to the geography, weather, and instability of weather.
- Shore up attention on raising awareness of natural and environmental management through the development plan to reduce disaster risk and vulnerability.
- Apply structural and non-structural measures to mitigate the disaster risk in natural and environmental management.
- Promote the integration of disaster risk reduction and climate change adaptation into specific risk reduction projects.
- Improve the traditional methods used by local people to sustain their livelihood with climate change.
- Promote food security and ensure the resilience capacity of the communities to hazards caused by climate change.

6.5.6. Building capacity on disaster management and climate change

- Based on national standard, prepare terminology and definition for disaster management in accordance with climate change management.
- Strengthen national forum on disaster risk reduction. (Theme will be connected with climate change).
- Launch the national forum regularly in a yearly manner.
- Conduct training courses on disaster risk reduction for municipal, provincial, district, and commune officials.
- Mainstream the disaster risk reduction into school curriculum.
- Promote cooperation, follow-up and check the trainings on disaster risk reduction supported by NGOs.
- Promote women participation in the climate change risks and disaster management

6.5.7. Promoting public awareness on disaster risk and climate change

- Conduct education and public awareness campaigns on disaster risk reduction and climate change adaptation at local communities.
- Create billboards and videos to promote the awareness on disaster preparedness and climate change.
- Promote participation from women and children in disaster risk reduction and climate change.

6.5.8. Applying scientific method to manage disaster risk

- Create and strengthen the partnership with national institutions, universities and NGOs to do the research on disaster risk reduction and climate change based on scientific methods.
- Promote gender sensitive methods in climate change risks and disaster management to increase women capacity in these activities
- Strengthen the role of media and private sectors to promote public awareness of disaster risk reduction together with climate change adaptation.

6.5.9. Strengthen the security for vulnerable communities and enhance people livelihoods

- Accelerate an implementation using existing and updated initiatives which focused on an integration of disaster risk reduction into land use planning, land title, building code, new established infrastructures and environmental impact assessment in communities based development.
- Disposal waste, poison gas released and sewage discharge.
- Creating vulnerable map reflecting multi hazards.
- Capacity building and improve effectiveness of understanding of emergency planning at commune level.
- Indicate the source of poverty and vulnerability by creating partnership to ensure that vulnerable people has privilege in receiving basic service, developing village credit and acquiring vocational training to earn enough money.

VII. Monitoring and Evaluation

So far NCDM has no indicators that are incorporated into the National Monitoring and evaluation (M&E) framework of the National Strategic Development Plan (NSDP). It is expected that this will happen in the next coming NSDP through monitoring the Cambodia Climate Change Strategic Plan. For this purpose, NCDM will identify relevant indicators which will contribute to the achievement of the NSDP by following the criteria for inclusion of new indicators into the National M&E Framework. Some indicators defined in the Pilot Program for Climate Resilience (PPCR) Results Framework of the CIF (2012) will require data from NCDM, e.g. indicator "Damage losses from extreme climate events". NCDM may consider M&E Framework at the sub-national level if there will be critical requirement and resources and capacity will be available.

To develop M&E framework for measuring the climate change strategic plan for disaster management, the NCDM will consider the following actions:

- Agree on results and indicators by analyzing the strategic actions and follow criteria of the National M&E system and try to use the already existing database developed by NCDM, and database from the National Institute of Statistic (e.g. the Commune Database)
- Prepare baseline, set targets and means of verification for each indicator
- Identify strategy to measure performance
- Identify tasks and resources required
- Identify responsible team

Based on Gender Responsive Framework of the NCDM, the following indicators which help measuring the performance of gender responsive will be included:

- Increase no. of women participation in climate change risks and disaster management
- No. of vulnerable women with better preparedness for coping with climate change risks and disaster

VIII. Conclusion

Hyogo Framework for Action 2005-2015 is building the nation and communities more resilient and to disasters and attract our attention on the important of disaster risk reduction which required systematic efforts in line with policy, planning, sustainable development and poverty reduction programs. These are needed to be supported through both national and international cooperation as bilateral partners.

Climate change is our problem as a whole and the disaster caused by natural hazard and it happens frequently; thus the only solution that we have to encounter is disaster risk reduction and to adapt to the climate change. The linkage between disaster risk reduction and climate change adaptation is reasonable because whenever the disaster risk reduction is implemented smoothly; it would also help to support the adaptation to the climate change in the right manner as well. For instance, the climate is changed inducing severe heat wave, drought and causing uncertain rainfall and flood. This is the natural hazard which will caused disaster. If we select the disaster reduction in the right manners such as using appropriate tools, public awareness raising is widely disseminated, building dams, good irrigation system, building firm buildings, good preparation for community based and the early warning system is working very well; it would predominantly support to the climate change adaptation.

Strengthening the roles and responsibilities of sub-national and grass-root levels in dealing with all activities of vulnerable communities by integrating disaster risk reduction and climate change into the development planning; surely we protect vulnerable people against the climate change.

In summary, in order to achieve the vision of building community resilient to disaster caused by climatic hazards; we have to:

- Ensure that mainstreaming disaster risk reduction and climate change adaptation into development planning must be in effective and sustainable manners by focusing on preparedness, risk reduction, disaster preparation and vulnerable reduction measures.
- Develop and strengthen an institution and capacity at all levels and the communities building the resilient to hazards.
- Integrate risk reduction into implementing pilot program, emergency preparation, response, rehabilitation and reconstruction of affected communities by disasters.

ANNEX: Matrix of Strategic Plan on CC for Disaster Management Sector

(Capacity Building for National and Sub-National Level)

Strategic Plan Components	Planned Actions	Schedule for Implementation				
		Y1	Y2	Y3	Y4	Y5
Strategy 1: **Linkages between climate change adaptation and disaster risk reduction**	**1.1. The formulation of law and policy** • The formulation of laws and policies is a key challenge for relevant ministry-institutions and all stakeholders to undertake the joint initiation of disaster risk reduction.					
	1.2. Strengthening institution's capacity in disaster risk management contributing to climate change adaptation • As soon as the DM law is enacted, it is necessary to publicly disseminated it to all stakeholders. At the same time, it is also necessary to create mechanisms that assist in managing disaster at national, sub-national, and community level in addition to the existing structure. • Formulate coordination team to follow-up and check the implementation of action plans and disaster risk reduction.					
	1.3. Building preparedness capacity in Response to disaster • Review the disaster response capacities • Develop National Contingency Plan in collaboration with UNDMT, IFRC, CRC, and NGOs. • Introduce Contingency plan at the sub-national level. • Formulate SOPs for natural hazards. • Create and build the capacities of national response team. • Promote awareness to the Committee for Disaster Management at the provincial and community level about the preparedness for climate change and natural disaster.					
Strategy 2: **Promoting the early warning system**	**2.1. Improving early warning system** • Conduct risk assessment at community level • Establish disaster management information system • Establish early warning system on climate hazard • Cooperate with AHA Center and international organizations to exchange information on climate change.					
	2.2. Strengthening the community based disaster risk reduction					

Strategic Plan Components	Planned Actions	Schedule for Implementation				
		Y1	Y2	Y3	Y4	Y5
	• Assess the impact on hazards in addition to the geography, weather, and instability of weather. • Shore up attention on raising awareness of natural and environmental management through the development plan to reduce disaster risk and vulnerability. • Apply structural and non-structural measures to mitigate the disaster risk in natural and environmental management. • Promote the integration of disaster risk reduction and climate change adaptation into specific risk reduction projects. • Improve the traditional methods used by local people to sustain their livelihood with climate change. • Promote food security and ensure the resilience capacity of the communities to hazards caused by climate change.					
Strategy 3: **Building disaster resilience capacity and climate change adaptation through education**	**3.1. Building capacity on disaster management and climate change** • Based on national standard, prepare terminology and definition for disaster management in accordance with climate change management. • Strengthen national forum on disaster risk reduction. (Theme will be connected with climate change). • Launch the national forum regularly in a yearly manner. • Conduct training courses on disaster risk reduction for municipal, provincial, district, and commune officials. • Mainstream the disaster risk reduction into school curriculum. • Promote cooperation, follow-up and check the trainings on disaster risk reduction supported by NGOs.					
	3.2. Promoting public awareness on disaster risk and climate change • Conduct education and public awareness campaigns on disaster risk reduction and climate change adaptation at local communities. • Create billboards and videos to promote the awareness on disaster preparedness and climate change. • Promote participation from women and children in disaster risk reduction and climate change.					
Strategy 4: **Developing by paying more attention on risk**	**4.1. Applying scientific method to manage disaster risk** • Create and strengthen the partnership with national institutions, universities and NGOs to do the research on disaster risk reduction and climate change based on					

Strategic Plan Components	Planned Actions	Schedule for Implementation				
		Y1	Y2	Y3	Y4	Y5
	scientific methods. • Strengthen the role of media and private sectors to promote public awareness of disaster risk reduction together with climate change adaptation.					
	4.2. Strengthen the security for vulnerable communities and enhance people livelihoods • Accelerate an implementation using existing and updated initiatives which focused on an integration of disaster risk reduction into land use planning, land title, building code, new established infrastructures and environmental impact assessment in communities based development. • Disposal waste, poison gas released and sewage discharge. • Creating vulnerable map reflecting multi hazards. • Capacity building and improve effectiveness of understanding of emergency planning at commune level. • Indicate the source of poverty and vulnerability by creating partnership to ensure that vulnerable people has privilege in receiving basic service, developing village credit and acquiring vocational training to earn enough money.					