



## Regional: Greater Mekong Subregion Flood and Drought Risk Management and Mitigation Project (CAM)

Project Name	Greater Mekong Subregion Flood and Drought Risk Management and Mitigation Project (CAM)
Project Number	40190-013
Country	Regional
Project Status	Active
Project Type / Modality of Assistance	Grant Loan
Source of Funding / Amount	<b>Grant 0330-REG: Greater Mekong Subregion Flood and Drought Risk Management and Mitigation (CAM)</b> Strategic Climate Fund US\$ 5.80 million <b>Loan 2970-REG: Greater Mekong Subregion Flood and Drought Risk Management and Mitigation (CAM)</b> Concessional ordinary capital resources / Asian Development Fund US\$ 35.00 million <b>Loan 8262-REG: Greater Mekong Subregion Flood and Drought Risk Management and Mitigation (CAM)</b> Strategic Climate Fund US\$ 4.00 million
Strategic Agendas	Environmentally sustainable growth Inclusive economic growth Regional integration
Drivers of Change	Partnerships
Sector / Subsector	<b>Agriculture, natural resources and rural development</b> - Irrigation - Rural flood protection
Gender Equity and Mainstreaming	Effective gender mainstreaming
Description	The project will support the Government of Cambodia as it undertakes structural and nonstructural measures to prepare for and manage disaster risks linked to floods and droughts. Project interventions will (i) enhance the regional data, information, and knowledge base for the management of floods and droughts; (ii) upgrade or develop water management infrastructure; and (iii) prepare communities to manage disasters such as floods and droughts, and adapt to climate change. Improved drought management and irrigation water structures in Cambodia will benefit farmers on about 16,000 hectares (ha) of agricultural lands, and at least 10,000 people will benefit from improved flood management.

Project Rationale and Linkage to Country/Regional Strategy

The Mekong River is a major influence on the lives of the people in Cambodia. Annual floods are a source of livelihood and sustenance, but extreme flood events and droughts cause widespread hardship. The costs to the countries of the Lower Mekong basin (LMB), in terms of loss of life and damage to infrastructure by floods and economic losses from both flood and drought events are significant. In Cambodia, between 1987 and 2007, 15 flood events resulted in over 1,150 deaths, disrupted the lives of over nine million persons, and when combined with losses from five drought events, caused over \$465 million in damage to structures and crops. Although the annual average losses are relatively low, floods and drought events cause episodic losses as illustrated by Typhoon Ketsana in September 2009 which resulted in \$132 million losses in Cambodia. Flood damage and associated losses were estimated to range from 0.30 to 0.45% of gross domestic product in 2009 in the lower Mekong basin countries. There is a growing need for improved community preparedness to manage increasingly frequent and severe climatic extremes. Climate change is predicted to increase the frequency of extreme flood events. While drought events do not result directly in deaths or structural damage, the disruption to lives and livelihoods, and the economic loss of agricultural production is substantial and limits the ability of rural communities to avoid poverty. These weather extremes illustrate the growing need for improving community preparedness to manage increasingly frequent disaster risks. Updating of infrastructure design standards will contribute to reducing the risks in Cambodia. While many of the nonstructural problems of data, warning systems and coordination of agencies are generic to LMB countries, problems related to physical structures, including canals, drains, control structures, are site specific. Flood and drought risk management as well as building communities' resilience are identified as priorities in the national strategic development plans, sector strategies and national climate change adaptation plans. The proposed investment is one of the flagship programs of the 2002 Greater Mekong Subregion (GMS) Economic Cooperation Program Strategic Framework. Country agriculture and natural resources (ANR) sector assessments have confirmed drought and flood (extreme weather) events as key constraints to economies of the project countries and as contributing factors to persistent poverty in areas affected. Consequently, the proposed Project has two foci: (i) subregional activities to strengthen regional cooperation and integration (RCI) with regard to water resources management in general and flood/drought management in particular, and (ii) in country investments which combine structural and non-structural investments. Together, these will address the key subsector constraint of insufficient disaster preparedness of countries and communities to manage and mitigate the potential impacts of climate extremes.

Impact Reduced economic losses resulting from flood and droughts

**Project Outcome**

Description of Outcome Improved capacity and preparedness to manage and mitigate the impacts of flood and drought events

Progress Toward Outcome Project implementation has gradually been improved particularly for activities under Component 1. As of 28 February 2017, the physical progress was estimated at 40% against an elapsed time of 51% from the loan/grant effective date. Cumulative contract awards of loans and grant were \$2.80 million and \$4.70 million, equivalent to 8% and 81% of the total loans and grant proceeds, respectively. Cumulative disbursements of the loans and grant including advance to the imprest accounts were \$1.31 million and \$1.32 million, about 4% and 23% of the total loan and grant proceeds. The project is expected to award two large contracts amounting to around \$20 million in the first half of 2017.

**Implementation Progress**

Description of Project Outputs Enhanced regional data, information, and knowledge base for the management of flood and drought  
Upgraded water management infrastructure  
Enhanced capacity for community-based disaster risk management  
Effective project implementation

Status of Implementation Progress (Outputs, Activities, and Issues) National Flood Forecasting Centre (NNFC): Physical progress of this component is estimated as 38%. Three trainings for 22 participants in total (19% women) have been completed and five more trainings with 10 to 15 participants in each are planned until the end of 2017. 50% of the work on NNFC forecasting model is completed. The EA/IA as well as the consultants start to communicate with Project Director and Team Leader of the Project in Viet Nam to find a way on how to collaborate with each other on this cross-border assessment works.  
Design and Construction Supervision Consultant (DDCSC): Physical progress of this component is estimated as 29%. The detailed design and cost estimates of the Barrage and Main Canal of the Damnak Chheukrom Irrigation schemes are completed. Bidding for Package 1 (Barrage) was unsuccessful and it is being rebid. Bids of Package 2 (Main Canals) are being evaluated and expect to submit to ADB for no-objection in the end of March 2017. Detailed design and cost estimates of the Secondary and Tertiary Canals are completed with minor work on drawings are on-going and will be completed by the end of March. Bidding for the secondary and tertiary canals will be started in April 2017.  
Community based Disaster Risk Management (CBDRM): Physical progress of this component is estimated as 62%. The CBDRM team has selected and training a group of master trainers and initiated an intensive capacity building program of the communities in the command area. As of 7 March 2017, 42 out of 50 communities (84% of the total) have been trained in CBDRM through intensive 5-6 days participatory training sessions with 630 community members including 50% women. CBDRM has focused its activities in 5 communes with 50 villages instead of 6 communes as stated in the indicators of the DMF because the command areas located in only 5 communes.

Geographical Location Regional

## Safeguard Categories

Environment	B
Involuntary Resettlement	A
Indigenous Peoples	C

## Summary of Environmental and Social Aspects

Environmental Aspects	An Initial Environmental Examination (IEE) was prepared for the rehabilitation of the Damnak Chheukrom Irrigation scheme in 2012. Following completion of detailed engineering design, updated Environmental Management Plans (EMP) for Package 1 (Barrage and intake structure) and Package 2 (Main Canal and associate structure) were prepared. The revised versions of EMPs were submitted to ADB in January 2017.
Involuntary Resettlement	The project is categorized as A for IR, and a Land Acquisition and Resettlement Plan (LARP) has been developed (dated August 2012). A combined bi-annual report on land acquisition and resettlement covering the period from March 2016 to February 2017 was submitted in March 2017 which the mission reviewed, commented on and discussed with the EA, IRC and the PIC, this has been finalized and will be disclosed on the ADB website. The replacement cost survey necessary to calculate the entitlements is yet to be conducted. Given that the project aims to award the civil works contract in September 2017. A meeting was held during the mission with IRC, ADB and MOWRAM to discuss the timing of each step in RP1 and RP2, and the use of Corridor of Impact vs. Right of Way, MEF's willingness to provide the budget for RP2 which runs through all privately owned land and will involve significant land acquisition from approximately 650 AH.
Indigenous Peoples	No indigenous people maintaining distinct cultural identities or separate cultural traditions were found to reside in the project area.

## Stakeholder Communication, Participation, and Consultation

During Project Design	Stakeholder consultations were conducted during the Project preparation, including during resettlement plan preparations and socio economic surveys in all areas covered by the Project District governments and officials of the communes, representatives of Women's Unions, Youth Organizations and potential affected people participated in various consultations. Focus group discussions with women were also conducted. Project Information Booklets written in the local languages were distributed and explained to the participants during those meetings. During inventory of losses the potential Affected Peoples were consulted on their initial preferences for resettlement and informed of the compensation and entitlement.
During Project Implementation	Consultation and participatory design of interventions and processes will commence starting from the preparation and implementation of land acquisition and resettlement plans towards the technical design and implementation of subprojects, in collaboration with displaced persons and stakeholders. Consultation will also be conducted during the process of updating the resettlement planning documents and participatory monitoring tools will be used throughout the project period. Community based disaster risk management actions will be supported in parallel to each infrastructure investment to ensure maximum ownership and understanding of the investments in each community. Careful communications and participatory approaches will be used extensively to facilitate the develop of the capacity of each community to prepare for and recover from flood and drought events, and to manage the sustainable operation and maintenance of the infrastructure developed through the project.

## Business Opportunities

Consulting Services	All consultants and nongovernment organizations (NGO) to be financed by the ADB loan will be recruited according to ADB's Guidelines on the Use of Consultants. The project implementation consultants will assist the CPMU with project implementation support, such as, (i) build the capacity of CPMU and PIUs in project management, procurement, and financial management; (ii) assist in updating the resettlement plan and environmental management plans based on the approved detailed engineering design; and (iii) assist in monitoring, evaluation and reporting.
Procurement	Procurement of civil works packages and goods and services following international competitive bidding and national competitive bidding procedures will be carried out by the CPMU. The EA will undertake procurement following ADB Procurement Guidelines.

## Responsible Staff

Responsible ADB Officer	Long, Piseth Vou
Responsible ADB Department	Southeast Asia Department
Responsible ADB Division	Cambodia Resident Mission
Executing Agencies	<i>Ministry of Water Resources and Meteorology 364 Monivong Blvd, Khan Chamkamorn Phnom Penh, Cambodia</i>

## Timetable

Concept Clearance	05 May 2011
Fact Finding	28 Mar 2011 to 31 May 2011
MRM	06 Jul 2012
Approval	12 Dec 2012
Last Review Mission	-
Last PDS Update	23 Mar 2017

## Grant 0330-REG

Milestones					
Approval	Signing Date	Effectivity Date	Closing		
			Original	Revised	Actual
12 Dec 2012	17 Jan 2013	23 Jun 2014	30 Sep 2019	-	-

Financing Plan			Grant Utilization			
	Total (Amount in US\$ million)		Date	ADB	Others	Net Percentage
Project Cost	8.75		Cumulative Contract Awards			
ADB	0.00		12 Dec 2012	0.00	4.70	81%
Counterpart	2.95		Cumulative Disbursements			
Cofinancing	5.80		12 Dec 2012	0.00	1.94	33%

## Loan 2970-REG

Milestones					
Approval	Signing Date	Effectivity Date	Closing		
			Original	Revised	Actual
12 Dec 2012	17 Jan 2013	23 Jun 2014	30 Sep 2019	-	-

Financing Plan			Loan Utilization			
	Total (Amount in US\$ million)		Date	ADB	Others	Net Percentage
Project Cost	35.00		Cumulative Contract Awards			
ADB	35.00		12 Dec 2012	0.00	2.79	9%
Counterpart	0.00		Cumulative Disbursements			
Cofinancing	0.00		12 Dec 2012	0.00	1.47	5%

## Loan 8262-REG

Milestones					
Approval	Signing Date	Effectivity Date	Closing		
			Original	Revised	Actual
12 Dec 2012	17 Jan 2013	23 Jun 2014	30 Sep 2019	-	-

Financing Plan			Loan Utilization			
	Total (Amount in US\$ million)		Date	ADB	Others	Net Percentage
Project Cost	4.00		Cumulative Contract Awards			
ADB	0.00		12 Dec 2012	0.00	0.00	0%
Counterpart	0.00		Cumulative Disbursements			
Cofinancing	4.00		12 Dec 2012	0.00	0.00	0%

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Project Page	<a href="https://www.adb.org/projects/40190-013/main">https://www.adb.org/projects/40190-013/main</a>
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