ADB ASIAN DEVELOPMENT BANK

Cambodia: Irrigated Agriculture Improvement Project

Project Name	Irrigated Agriculture Improvement Project
Project Number	51159-001
Country	Cambodia
Project Status	Approved
Project Type / Modality of Assistance	Technical Assistance
Source of Funding / Amount	**TA: Irrigated Agriculture Improvement Project** Technical Assistance Special Fund — US$ 2.00 million Project Readiness Improvement Trust Fund — US$ 500,000.00
Strategic Agendas	Inclusive economic growth
Drivers of Change	Governance and capacity development Knowledge solutions Partnerships
Sector / Subsector	**Agriculture, natural resources and rural development** - Irrigation
Gender Equity and Mainstreaming	Effective gender mainstreaming
Description	The project will be a stand-alone investment project. The project cost is tentatively estimated at $82.0 million with ADB financing $75.0 million from concessional ordinary capital resources loan (COL) and $7.0 million counterpart financing by the government. Climate change adaptation is estimated to cost $15.0 million. ADB will finance 100% of adaptation cost. Impact of the project will be inclusive economic growth through agriculture and irrigation aligned with National Strategic Development Plan and Rectangular Strategy on Growth, Employment, Equity and Efficiency, Phase III, 2014 to 2018. Outcome will be: water and agriculture productivity in the project areas enhanced. The projects will deliver two outputs to achieve the desired outcome and impact including (i) Efficiency and climate resilience of irrigation systems enhanced; and (ii) Water resource management improved.

Project Rationale and Linkage to Country/Regional Strategy	Agriculture accounts for 29.0% of gross domestic product and employs 72.3% of the country's work force, or about five million people. Farming in Cambodia is mostly subsistence-level, rain-fed, and devoted to paddy rice production. With Cambodia being self-sufficient in rice and becoming a rice exporter, there is great potential for crop diversification. Domestic fruits and vegetables production accounts for about 30% of Cambodia's consumption, and their cultivation is increasing to meet domestic demand. Production of cassava, sugarcane, and maize, for example, have grown more than 20% per year, but still there is huge gap between demand and production. Fruits and vegetables are the most profitable crops to produce in Cambodia. Agriculture sector, in Cambodia, is far below its productive capacity and generates low income mainly because of lack of water availability during dry season that restricts crop diversification and cropping intensity. Nearly one-quarter of the provinces have food deficits due to low agricultural productivity, and 16.1% of the population is undernourished, even though the annual paddy surplus now stands at 3.3 million tons. Of the 3.98 million hectares (ha) of agricultural land in Cambodia, only about 1.3 million ha are within the command area of 2,730 irrigation systems. Most of these systems are either underperforming or dysfunctional due to various reasons such as (i) those irrigation systems were constructed without proper design not taking into account crop water requirements, water availability, and hydraulic considerations, and many of those did not have distribution system; and (ii) most of the systems are aged and need upgrading and remodeling that is restricted by lack of resources. As a result, water is not made available for irrigation during dry season and irrigation systems are supplementing current farming that revolves around growing wet season rice leading to cropping intensity of about 100%. Significant seasonal variations in rainfall and river discharges make sustained year-round agricultural production difficult. Cambodia has five major river basins and average annual surface water volume flowing through the rivers is about 472 billion cubic meters (BCM), of which about 437 BCM (92.5%) discharges out of country to Mekong Delta. Out of the remaining 35 BCM (7.5%), productive consumption by all users is estimated about 10 BCM (only about 2% of the total surface water). Agriculture is the biggest user and utilizes about 95% of the total water consumed annually in Cambodia. The huge gap between water availability and water consumption reflects great potential for developing water resources to ensure supplies for irrigation, particularly during dry season, that can increase cropping intensity of 3.98 million ha of agricultural land from about 100% to 200%-300%. Out of total 472 BCM, only about 105 BCM (22%) is yielded in dry season. Cambodia is among the top ten countries that are expected to be most severely affected due to climate change. Water availability in the future is expected to have more pronounced seasonal variability, with few months of floods and long spells of drought, warranting introduction of climate-resilience in the design of subprojects. The timely availability and efficient management of water is of prime importance for enhancing agriculture productivity and crop diversification. Efficient, effective, and sustainable management of the country's water resources largely depends upon how efficiently irrigation systems are managed. Operation and maintenance (O&M) of irrigation systems has been a challenge in Cambodia like many other developing countries mainly because there was no mechanism to (i) identify the systems requiring O&M or rehabilitation or replacement; (ii) estimate the financial and in-kind resource requirement; and (iii) involve water users. These issues have been addressed under Asian Development Bank (ADB) financed policy based loan, approved in 2010 for Water Resources Management Sector Development Program, that supported the government in: (i) strengthening legal framework for O&M; (ii) adopting the guidelines for division of asset responsibility between the government and farmer water user communities (FWUCs); (iii) assigning appropriate responsibilities and rights for irrigation infrastructure to respective FWUCs; (iv) strengthening O&M planning processes by adopting policy and implementation manual and guidelines for O&M, and preparing a comprehensive O&M plan; and (v) carrying out condition survey of the irrigation canals and updating Cambodia Irrigation Schemes Information System. A sub-decree was issued by the government in 2015 for implementing these O&M reforms. Forming a FWUC for each irrigation system and assigning the responsibilities is made mandatory in the sub-decree. This is a major institutional reform to sustainably manage irrigation systems, which ADB is incorporating in new projects since 2015. To manage the water sector and irrigation subsector in particular with modern approaches commensurate with the present and future best practices, real-time river flow and rainfall data is an essential pre-requisite. At present, many rivers and sub-basins are not gauged. ADB and other development partners are investing on installing hydro-meteorological stations with the aim of covering all basins and rivers with automated gauging stations and using remote sensing for water accounting. It is expected that Cambodia's entire water basins and rivers would be gauged in the next five years. A common platform is required to scientifically compile, analyze and disseminate the recorded data for planners, designers, decision makers, managers, and water users. The investments by the government, with support from ADB and other development partners, have been focusing mainly on the rehabilitation of irrigation. There is need to shift the focus to integrated approach for modernizing operational management, upgrading/remodeling, and building resilience against natural disasters. There is a large gap between the available and required resources for that purpose. ADB has been providing support to the Government for both financing as well as technical guidance for sustainable management of the sector. ADB has been supporting the government in implementing institutional, policy, and legal reforms and innovations. The recent innovation introduced by ADB in Cambodia, under Uplands Irrigation and Water Resources Management Sector Project approved in 2015, is a new approach for sustainable management of irrigation systems that integrates modernizing operational management, upgrading and remodeling infrastructure, increasing irrigation efficiency, enhancing water productivity, and building climate resilience. This is a major shift from conventional investment model that focused mainly on rehabilitation of canals. The proposed Irrigated Agriculture Improvement Project will replicate and scale up the approach and new investment model introduced under the Uplands Irrigation Project. It shall support implementation of the government's National Strategic Development Plan (NSDP) on Water Resources and Meteorology and ADB's sector strategy to enhance agricultural and rural economic productivity. The project will contribute to achieving targets defined in NSDP that is derived from the government's rectangular strategy. The strategy aims to develop and expand the country's irrigated land and manage its water resources more effectively by improving existing irrigation systems, making water user communities more efficient, building capacity of the water users, and reducing the vulnerability of the Cambodia's people to natural disasters. The project will also incorporate findings and recommendations of ADB's sector strategy including (i) enhancing agriculture productivity, (ii) promoting diversification, (iii) environmental sustainability and climate change, (iv) gender development, and (v) addressing institutional constraints. It shall be consistent with two of the major strategic thrusts and components of the Country Partnership Strategy 2014-2018, i.e. agriculture and physical infrastructure. It shall also conform to ADB's Water Operational Plan and Irrigation Subsector Guidance Note, 2017 that focus on increasing irrigation efficiency and water productivity; and Agriculture and Natural Resources Operational Plan that focuses on increasing agricultural productivity and improved management of natural resources.
Impact	

Project Outcome
Description of Outcome
Progress Toward Outcome
Implementation Progress
Description of Project Outputs
Status of Implementation Progress (Outputs, Activities, and Issues)
Geographical Location

Summary of Environmental and Social Aspects
Environmental Aspects
Involuntary Resettlement
Indigenous Peoples
Stakeholder Communication, Participation, and Consultation
During Project Design
During Project Implementation

Business Opportunities	
Consulting Services	The Asian Development Bank will recruit the consultants as per the Project Administration Instructions. One consulting firm will be recruited by using quality- and cost-based selection method at a ratio of 90:10 based on a full technical proposal. Four experts including (I) international procurement specialist, (ii) international environment specialist, (iii) international social development/safeguards specialist; and (iv) international gender specialist will be recruited as individual consultant.

Responsible ADB Officer	Farrukh, Raza M.
Responsible ADB Department	Southeast Asia Department
Responsible ADB Division	Environment, Natural Resources & Agriculture Division, SERD
Executing Agencies	*Ministry of Water Resources and Meteorology* *364 Monivong Blvd, Khan Chamkamorn Phnom Penh, Cambodia*

Timetable	
Concept Clearance	29 Jun 2017
Fact Finding	-
MRM	-
Approval	31 Jul 2017
Last Review Mission	-
Last PDS Update	04 Aug 2017

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