

**Terms of Reference Feasibility Study and Project Preparation (FIRM)
Climate Adaptive Irrigation Supporting Agricultural Resilience (CAISAR)
INF1 – Cambodia – Package _____
PPSF Grant S0452A**

I. Background

The Government of Cambodia (GoC) requested AIIB assistance to finance an estimated USD 200 million “Climate Adaptive Irrigation Supporting Agricultural Resilience (CAISAR)” Project. AIIB approved in January 2021 a grant from AIIB’s Project Preparation Special Fund (PPSF) to assist the GoC with preparing the Project.

Cambodia’s rural livelihood and food security, which depends heavily on local agriculture as the primary source of food and income, have been under increasing pressure due to climate uncertainties. Climate change has increased the intensity, frequency, and unpredictability of extreme weather events, leading to amplified risks of flooding during monsoon (May to October) and drought during dry season (November to April). Coupled with the irrigation infrastructure’s suboptimal condition and performance of irrigation and flood protection infrastructures, small-scale farmers struggle to produce enough food to sustain livelihood. This has been exacerbated by the COVID19 pandemic which adds additional health risks on farming and related market activities. Non-Government Organizations (NGOs) place food security and livelihood support of the vulnerable population as the top priority action for Cambodia in the context of the COVID-19 pandemic.

The proposed Project will support the GoC’s efforts to sustain food security during expected climate related challenges through restoration and enhancement of smart and climate resilient irrigation systems, including associated Ecosystem based Adaptation (EbA) to strengthen the banks of the irrigation channels and flood control management to improve disaster resilience of the population in four provinces namely Kampong Speu, Kampong Chhnang, Kandal and Pursat.

II. Objective of this assignment

The objective of this assignment is to conduct the CAISAR project Feasibility Study (FS) in sufficient detail to meet all the requirements for the financings of AIIB, IFAD, GoC and Green Climate Fund (GCF); and the requirements of the Implementing Entity (IE), the Ministry of Water Resources and Meteorology (MOWRAM). The FS includes:

- (i) Component 1: Rural Infrastructure:**
 - a. Irrigation**
 - b. Flood Control**
- (ii) Component 2. Institutional Development:**
 - a. Project Implementation Support**

- b. **Farmers Water User Groups**
- c. **Income Generation Activities**

III. Tasks and Deliverables

1. Task 1: Background review, stakeholders' consultation, project definition and inception report. The following are subtasks for the inception report:

- Review Project Context and Rationale
- Stakeholders' consultation at both national and local level to confirm the scope of the Project
 - Review market demand and supply analysis
 - Review project rationale
 - Confirm project objectives
 - Draft outline climate rationale for adaptation and for mitigation
 - Review the state and performance of the existing irrigation and flood protection systems
 - Review the existing and projected water usages for irrigation
 - Review the existing and projected flooding risks
 - Estimate project output and outcome
 - Assess potential for coordination with the development partners
 - Confirm with MOWRAM; IFAD and AIIB the final Project Context and Rationale,
 - Development coordination
- Finalize Inception Report:
 - Draft Inception Report with recommended revisions to tasks, staff assignments, lump sum purchases and project schedule
 - Organize an Inception Workshop (virtual and physical in Cambodia) with the Project' Stakeholders, including the co-financiers.
 - Finalize the Inception Report for approval by MOWARM with AIIB no objection.

2. Task 2: Surveys and Modeling. The following are indicative of requirements for the survey and modeling:

- Mobilization
 - Purchase maps (scale suitable for FS)
 - Define needs analysis for the computational hydraulic model; propose and purchase computational hydraulic modelling software
- Topographic, land and infrastructure surveys
- Computational hydraulic modeling of the existing irrigation and flood protection systems
- Calibration of the model and simulation of scenarios

- Estimation of climate resilience improvements and related benefits of the proposed scenarios (e.g. increased agricultural output, reduction of flooding period and extent, etc.)
- Development of multiple climate-smart solutions / scenarios to improve the existing irrigation and flood protection systems
- Consultation of the survey and modelling results with key stakeholders
- Draft final report
- Final report

3. Task 3: Vulnerability Assessment. The following are the components of the vulnerability assessment:

- Background data on Cambodia greenhouse gases (GHG) profile
- Background data on Cambodia's pollution profile and *flood/drought* events
- *Analysis of Climate Change Vulnerability indexes*
- Prioritization exercise for mitigation & adaptation
- Review past and current GHG emissions performance and propose benchmarks
- Review & propose sectors cost-abatement benchmarks

4. Task 4: Project Components Basic Design

- Project Description
- Basic design for each task
- Project size, locations, and counterparts
- Specific technology, equipment, and method options
- Define the integration of the GCF proposal into the project components and outputs
- Draft basic design report

5. Task 5: Economic and Financial Assessment

- Cost Estimates
- Financing Plan
- Financial Analysis
- Economic Analysis

6. Task 6: Environmental and Social Analysis

- Environmental assessment
 - Environmental assessment
 - Environmental and Social Management Framework
- Social analysis
 - Project background and social setting
 - Social impact assessment

- Land acquisition and resettlement assessment, framework, and, when needed, preliminary action plan
- Indigenous people assessment, framework and when needed, preliminary action plan
- Gender assessment, framework, and, when needed, preliminary action plan
- Draft Stakeholder Engagement Plan (which also provides guidance on the conduct of stakeholder engagement during the current COVID-19 situation)
- Prepare Environmental and Social Impact Assessment (ESIA)

7. Task 7: GCF Application

- Review GCF concept note
- Consult with the stakeholders regarding GCF additionality
- Prepare draft GCF proposal for review by the stakeholders, GCF and AIIB
- Revise GCF proposal accordingly and produce final GCF application

8. Task 8: Draft Final Feasibility Study

- Project implementation plan
- Project and financial management
- Disbursement and audit framework
- Risk management plan
- MERV recommendations and plan
- Project Delivery Strategy, including Procurement Plan