

**Terms of Reference for**  
**Assessment of Climate Change Impacts on the Agriculture Sector in the**  
**Greater Mekong Subregion**

**Expertise:** Climate Change Adaptation Specialist / Consultant

**1. Background**

The recently completed CEP-BCI study on biodiversity, food security, water resources and rural livelihoods in the GMS have identified impacts of climate change on agriculture and rural livelihoods as a main issue which needs to be intervened in the development process, specifically in the program activities.

A set of activities have been proposed for considering the impacts of climate change on agricultural system, especially on rice production. Xepian Dong Hua Sao in Lao PDR, Tenasserim in Thailand, and Quang Nam Province in Viet Nam have been selected as pilot sites. It is expected that the background rice production systems, biophysical and socioeconomic conditions, future yield of rice production in the study sites will be fully understood. It also establishes and assesses adaptation options for rice production system in the study sites based on risk and vulnerability of climate change analyzed. Furthermore, capacity building and sharing lesson learnt on climate change risk assessment and adaptation planning will be implemented at both regional and local levels.

**2. Objective/Purpose of the Assignment**

The purpose of this assignment is to implement GMS CEP activity on “Assessment of Climate Change Impacts on the Agriculture Sector”. This particular activity focuses on impacts of climate change on rice production system in selected sites.

**3. Scope of Work**

The Climate Change Adaptation Specialist will work closely with the Chief Technical Advisor (CTA) and Energy/Climate Change Coordinator at the EOC in the planning, design and implementation of the project. As the team leader for this module, s/he will be managing a team of national consultants, providing inputs to and carrying out study working closely with relevant stakeholders. S/he will coordinate the outputs of the team (national) and will be responsible for the final report for this project.

The Specialist will primarily be responsible for the study to assess the current rice production system, climate change risk and vulnerability; search for adaptation options as well as build regional and local capacity on climate change adaptation.

#### **4. Tasks and Activities**

The scope of this assignment will be circumscribed by the available time and budget. The key tasks and activities listed below shall be undertaken. Additional tasks may be considered during the course of the work, the details of which shall be discussed between the consultant and staffs at EOC.

More specifically, the Climate Change Adaptation Specialist with the support from national consultants will be carrying out the following activities:

- i. Produce overall guidance and detailed work plans for the team members (national consultants: Climate Change Adaptation Expert) with timetables and deliverables.
- ii. Identify and coordinate relevant stakeholder participation to ensure proper consultation within and successful completion of the project
- iii. Conduct the scoping workshop for conducting training needs assessment and identifying regulatory, institutional and technical gaps to implement the project
- iv. Collect and summarize current and historical data and information on wet and dry rice production; including the background of rice production systems, biophysical and socioeconomic conditions
- v. Analyze baseline agricultural practice: yield / cost of production / return on investment and assess climate change in the study areas
- vi. Assess climate change impacts on rice productivity based on spatial model, simulation and projection scenario analysis
- vii. Draft the report on future yield of rice production for the study sites
- viii. Assess climate change risks on rice production system, vulnerabilities of rice production and key sectors in the study areas from the risks based on different scenarios
- ix. Identify and evaluate potential adaptation options for local communities to cope with impact of climate change on rice production in the study sites
- x. Conduct capacity training on climate change assessment and adaptation as requirements identified
- xi. Conduct/facilitate a stakeholder consultation meeting/ workshop to involve stakeholders in the assessment process, finalize the reports and disseminate the project results
- xii. Finalize the reports; including reports on lessons learnt, capacity gaps and outreach activities
- xiii. Present process and results of study at regional outreach forums and prepare materials for delivery at the WGE, SOM, EMM and GMS Summit meetings.

#### **5. Deliverables**

All written deliverables are to be produced in English.

- i. Detailed work plans including TORs for the National Consultants two weeks after project inception;
- ii. Progress reports along with any other technical documents for reporting to ADB and the GMS Working Group on Environment every six months after project inception;
- iii. Scoping workshop and report; 3 months after project inception
- iv. Capacity and training needs assessment report focusing on climate change assessment and adaptation planning; 4 months after project inception
- v. Reviewing report on the background of rice production systems, biophysical and socioeconomic conditions; 6 months after project inception
- vi. Report on future yield of rice production for the study sites, including climate change impacts on rice production system in the study area; 8 months after project inception
- vii. Reports on climate change adaptation options for local communities to cope with climate change impacts on rice production, including risk and vulnerability; 10 months after project inception
- viii. Stakeholder consultation meetings/workshop to finalize the reports and disseminate the project results; 14 months after project inception
- ix. Reports on lessons learnt and outreach activities; 14 months after project inception
- x. Final reports and power point presentation for delivery at the WGE, SOM, EMM and GMS Summit meetings; 15 months after project inception.

## **6. Reporting Arrangement and Time Commitment**

The Climate Change Adaptation Specialist will serve as the **lead consultant** of the project. S/he will coordinate closely with the Chief Technical Advisor (CTA) and Energy/Environment Coordinator at the EOC and will be responsible for the implementation and completion of the project.

The expected level of effort to complete this task is up to 44 working days, subject to possible extension, intermittently from April 2010 – July 2011. The work will include field trip(s) and consultations with coordinating organizations in the GMS countries, especially Lao PDR, Thailand and Vietnam.

## **7. Qualifications**

The specialist should have a background in agriculture, environment, climate change

planning; have at least 12 years of experience in project management, agriculture planning and rural development, environment and climate change. Related experience in the GMS countries is preferable. The consultant should hold a Masters level degree and is expected to be proficient in written and spoken English.

## **8. Consultant Recruitment**

The consultant will be recruited by Asian Development Bank (ADB) on an individual basis. Consulting firms can submit applications for consideration. However, recruitment will be carried out on an individual basis as required under Regional Technical Assistance (RETA 6289).