

TERMS OF REFERENCE

Individual Contractor

1. Assignment Information

Assignment Title:	International Specialist and Team Leader – Vulnerability Assessment and Adaptation Planning for Road Transport Master Plan
UNDP Practice Area:	Environment and Climate Change
Cluster/Project:	CCCA
Post Level:	Senior Specialist
Contract Type:	Individual Contractor (IC)
Duty Station:	Phnom Penh (with some home based)
Expected Place of Travel:	Phnom Penh and some selected Cambodian provinces
Contract Duration:	50 working days (over six months from February to August 2020)

2. Project Description

Cambodia is strongly affected by climate change (CC). As documented in a recent study on *Addressing Climate Change Impact on Economic Growth in Cambodia (CEGIM, 2018)*, economic impact will come mainly from reduced worker productivity and from loss and damage to infrastructure and other assets. Adaptation and mitigation measures involve both economic trade-offs and complementarities.

The government has responded to these challenges by participating in a range of pioneering activities, aimed at equipping itself with the ability manage these impacts. It has been engaged in a sustained programme of strengthening institutional practices for integrating climate change into existing planning and budgeting procedures. Most of this work has been supported by the Cambodia Climate Change Alliance, with financial support from UNDP, EU and Sweden, and by the regional UNDP programme on the governance of climate finance.

Capacity development work with line ministries in recent years has included techniques of Climate Change Impact Assessment (CCIA) which considers the implications of climate change for the effectiveness of public expenditure and policy in delivering growth. This has included some work using Cost Benefit Analysis (CBA) approaches and there is some wider international experience with rapid qualitative CCIA methods. This provides a valuable recent body of evidence of the way in which public expenditure and policy contributes to growth as well as to reducing loss and damage. Infrastructures projects funded by development partners have also implemented a variety of approaches and standards for vulnerability analysis and integration of adaptation measures in their design.

The Ministry of Economy and Finance (MEF), through its General Department for Policy, has expressed interest to explore further the impacts of climate change on key public investments plans and potential adaptation approaches, as part of its cooperation with the National Council for Sustainable Development (NCSD).

The Inter-Modal Transport Master Plan (2021-2030), currently in the final stages of drafting, is one of these key public investment plans. This assignment focuses on roads included in the Land Transport component of the Master Plan.

3. Scope of Work

The primary objective of the work is to support the Ministry of Economy and Finance in ensuring that road infrastructure is designed, built and operated in a way that anticipates, prepares for and adapts to changing climate conditions. A secondary but important objective is to ensure that capacity is developed in the General Department for Policy of Ministry of Economy and Finance to integrate a climate change adaptation perspective in the assessment of such infrastructure master plans.

Ministry of Economy and Finance requested that the assignment focus on three key components:

1. Vulnerability Analysis of the proposed master plan for roads and identification of adaptation options;
2. Cost and Benefit Assessment of the proposed adaptation options and business-as-usual options in the context of climate change;
3. Policy recommendations on financing options for the proposed measures, including specific recommendations on climate-resilient Public Private Partnerships (PPP) arrangements.

For the international Team Leader / Specialist key objectives and tasks are as follows:

- Leading the overall design and implementation of the exercise, in consultation with counterparts in Ministry of Economy and Finance, including:
 - Refining the methodology and scope of the exercise so that they are relevant for the Cambodian context, taking into account MEF and NCS D policy priorities as well as any constraints related to data availability and national capacities;
 - Ensuring that the exercise is nationally owned and results in effective transfer of capacities to the General Department of Policy in MEF, through initial training, direct engagement and mentoring of MEF designated staff;
 - Coordinating the team of consultants mobilized for this assignment (one international specialist on Public Private Partnerships and Climate Change Adaptation, one national specialist on climate-sensitive cost-benefit analysis);
 - Overall responsibility for the quality standards of the final findings and recommendations, presented in a report.
- Be directly in charge of the first component of the assignment, focused on vulnerability assessment and identification of adaptation options. This includes:
 - Data Collection and Consultations: the Consultant will gather available current and historical climate, geological, hydrological, and socio-economic information, including projections of future climate under different scenarios. The Consultant will collect and collate available information about climate threats, climate impacts and climate resilience. This data may include rainfall, temperature, geological information, flood data. Historical data will provide clues as to how road infrastructure assets may withstand future climate stressors; while projected climate information would be useful to estimate future climate conditions to plan for;

- Socio-economic data review: the Consultant will collect and review demographic and socioeconomic data and identify areas with high densities of population, especially the poor or other groups of vulnerable people; collect and review the existing data and Government development plans and identify the location of critical services and major economic activities, existing and planned; undertake a critical assessment of the economic potential of high-risk areas and rank these on a rigorous (but appropriate in the context of Cambodia) methodological analysis that the Consultant proposes;
- Assessment of severity and frequency of climate change risks: the Consultant will review information on the existing road network and assess existing and forecasted traffic data that will help identify critical transport links for local socioeconomic development. The Consultant will identify the links that were disrupted in recent severe weather events or considered to be susceptible to disruption during disasters. In addition, the Consultant will identify critical transport links that could serve as important means of escape, access to emergency relief or for the transport of agricultural or other economic assets. This information will be shared with the National Specialist in charge of Cost Benefit Analysis, in order to assess the impact of loss of connectivity and access to critical services and facilities on the lives and livelihood of vulnerable population and overall economic activities.
- Assessment of the vulnerability to climate change impacts and natural hazards based on a multi-criteria analysis: The Consultant may propose and use any methodology for assessment of natural hazard and disaster risks that is appropriate in the context of Cambodia. In addition to assessing specific climate risk, the Consultant will prepare tools to assess the vulnerability of the master plan corridors to current and future climate events, including methodologies for determining the adequacy to resist or adapt to climate impacts.
- Identification of adaptation options: In consultation with relevant stakeholders /engineers and based on a review of existing practices in Cambodia and in the region, the Consultant will formulate recommendations on adaptation options / measures for the assessed vulnerabilities, based on a transparent decision framework (criteria), highlighting the strengths and weaknesses of each option.
- Provide technical inputs and advice on the remaining components of the assignment, including:
 - Technical inputs into the cost-benefit analysis work led by the national specialist, including climate change risk and vulnerability information, and technical inputs on adaptation measures;
 - Review and advice to the national Specialist on the methodology and results of the Cost-Benefit Analysis;
 - Technical inputs and contribution to the analysis and recommendations on financing the proposed adaptation measures, in cooperation with the international specialist leading the work on Public Private Partnerships.

4. Expected Outputs and Deliverables

N	Deliverables/Outputs	Estimated Duration Complete to	Target Dates	Due	Review and Approvals Required <i>(Indicate designation of person who will review outputs and confirm acceptance)</i>
1	Inception report including initial desk review and data availability assessment, the selected methodology and work plan (after consultations/validation with MEF staff)	12 working days	Mid-March 2020		CCCA Chief Technical Adviser
2	Interim report including a full draft of the first component of the assignment, and a status report on components 2 and 3	28 working days	End-May 2020		CCCA Chief Technical Adviser
3	Consultations on draft report held and final report submitted, including comments received from stakeholders	10 working days	End-July 2020		CCCA Chief Technical Adviser
Total # of Days:		50 days			

5. Institutional Arrangement

The international team leader will coordinate the work of the consulting team, including an international Public-Private Partnerships Specialist and a national Cost-Benefit Analysis Specialist. He/she will work on a day-to-day basis with a team of MEF staff (2-3 economists, to be confirmed). He/she will work under the direct supervision of the CCCA Chief Technical Adviser, with guidance from MEF and NCS D leadership.

6. Duration of the Work

The assignment is expected to include 50 working days over a six month period (February 2020 - August 2020).

7. Duty Station

Phnom Penh, Cambodia. Some work may be home-based but it is expected that at least 30 days will be required in-country, with three in-country missions (one for the inception phase, one for the main data collection phase and production of the interim report, one for presentation of the final report).

8. Minimum Qualifications of the Individual Contractor

Education:	Master's degree in engineering, environmental sciences, development economics or a closely related subject. PhD preferred.
Experience:	- At least 10 years' experience in conducting vulnerability assessments for road infrastructure, including at least 5 years

	<ul style="list-style-type: none"> in developing country contexts; - Proven experience in incorporating climate change in vulnerability assessments; - Proven experience in designing solutions for climate-resilient roads; - Experience in Asia-Pacific region or Cambodia will be a strong advantage.
Competencies:	<ul style="list-style-type: none"> - Knowledge of climate change vulnerability assessment methodologies, and adaptation solutions for roads; - Ability to interact with senior government officials; - Team leadership experience in a multicultural context with strong communication skills; - Excellent written and oral communication skills.
Language Requirement:	<ul style="list-style-type: none"> - Fluency in English is required. - Knowledge of Khmer would be an advantage
Other Requirements (if any):	N/A

9. Criteria for Evaluation of Level of Technical Compliance of Individual Contractor

Technical Evaluation Criteria	Obtainable Score
At least 10 years' experience in conducting vulnerability assessments for road infrastructure, including at least 5 years in developing country contexts;	40
Proven experience in incorporating climate change in vulnerability assessments; Proven experience in designing solutions for climate-resilient roads	30
Experience in Asia-Pacific region or Cambodia	10
Ability to interact with senior government officials; Team leadership experience in a multicultural context with strong communication skills; Excellent written and oral communication skills.	20
Total Obtainable Score:	100

10. Payment Milestones

The consultant will be paid on a lump sum basis under the following installments.

N	Outputs/Deliveries	Payment Schedule	Payment Amount
1	Inception report including initial desk review and data availability assessment, the selected methodology and work plan (after consultations/validation with MEF staff)	15 March 2020	20%
2	Interim report including a full draft of the first component of the assignment, and a status report on components 2 and 3	31 May 2020	40%
3	Consultations on draft report held and final report submitted, including comments received from stakeholders	30 July 2020	40%

11. Annexes

Concept note from Ministry of Economy and Finance