



## **TERMS OF REFERENCE** **FOR INDIVIDUAL CONTRACT**

<b>POST TITLE:</b>	National Consultant-Climate Change Modelling Expert
<b>AGENCY/PROJECT</b>	UNDP Thailand/GCF NAP Marine Project
<b>NAME:</b>	
<b>COUNTRY OF</b>	Bangkok, Thailand
<b>ASSIGNMENT:</b>	
<b>EXPECTED DURATION:</b>	Max. of 80 working days from 1 July 2021 to 30 April 2022

### **1) GENERAL BACKGROUND**

The GCF NAP Readiness and Preparatory Support project titled 'Increasing resilience to climate change impacts in marine and coastal areas along the Gulf of Thailand' will be an important contribution to the implementation of Thailand's National Adaptation Plan (NAP), prepared by the Office of Natural Resources and Environmental Policy and Planning (ONEP), which provides an overarching planning framework for addressing climate change adaptation.

This project focuses on advancing climate change adaptation planning in relation to marine and coastal areas in the Gulf of Thailand ("the Gulf"). Anticipated extreme events, sea-level rise, climate induced erosion, drought, and flooding are expected to affect local tourism, agriculture, fisheries, aquaculture, and natural resources as well as create additional stress on land and water resource management.

The project is complementary to other initiatives supporting the NAP implementation in Thailand. Thailand's NAP identified six key sectors/ thematic areas, namely: (i) water management; (ii) agriculture and food security; (iii) tourism; (iv) public health; (v) natural resource management; and (vi) human settlement and security. This project will focus on addressing gaps of current support programs. The project will work towards improving climate-responsive 'natural resource management' (thematic NAP area v) through the integrative approach of enhancing adaptation planning and budgeting in key marine and coastal economic sectors, e.g. targeting agriculture and fisheries (thematic NAP area ii) and tourism (thematic NAP area iii). It will be implemented in close collaboration with the Department of Marine and Coastal Resources, under the Ministry of Natural Resources and Environment (MoNRE). The overall timeline of Thailand's NAP implementation allows this project to utilise best-practices and information from the other interventions, and to meaningfully expand the knowledge-base and regulatory framework, particularly for the sub-national level. Also, in perspective to revise and update Thailand's NAP.

In this context, the project objective is to “Integrate climate change adaptation into marine and coastal area related planning and budgeting”. GCF resources will be used to address barriers that hinder information, knowledge, and coordination for adaptation planning; technical capacities for integration of risk informed approaches in planning and budgeting; and a lack of options to attract financing for climate change adaptation, particularly from the private sector.

The project will be nationally executed as per UNDP Direct Implementation Modality (DIM) procedures and adhering with Readiness and Preparatory Support Framework Agreement reached between GCF and UNDP.

The results of the projections will advance adaptation planning in Thailand with a focus on most vulnerable six key economic sectors (e.g. agriculture, fisheries, tourism) and ecosystem services upgrading the knowledge base for adaptation, prioritizing adaptation interventions for the medium term, building institutional capacities for integrating climate change adaptation and demonstrating innovative ways of financing adaptation at the local communities, sub-national/local and central government levels.

## **2) OBJECTIVES OF THE ASSIGNMENT**

The objectives of the assignment are to provide technical support on developing sub-national level climate change projections/modelling in specific provinces in 4 coastal zones to provide localized trends in climate variability, main analysis on changes in annual and seasonal (dry and wet season) to key economic sectors namely: agriculture, fisheries, tourism along the coastal zone in 4 selected coastal provinces, mean changes of Essential Climate Variables (ECVs) temperature and precipitation and provide an updated assessment of climate changes in Thailand, create a knowledge base and provide recommendations for further updating national adaptation planning in marine and coastal areas of Thailand.

## **3) SCOPE OF WORK**

Key duties and responsibilities include:

Task 1: Prepare an Inception Report which includes a summary of the context, the scope of the analyses and detailed methodology of sub-national level climate change projection/modelling on key economic sectors (e.g. agriculture, fisheries, tourism and coastal resource and ecosystem, including gender and vulnerable groups) to be used as agreed by the initial scoping with key sector stakeholders and based on an initial review of data:

- Desktop reviews of relevant documentation and reports;
- Identify the prevailing climate change hazards at sub-national level, their associated impacts on key economic sectors (agriculture, fisheries, tourism and coastal resource and eco-/social systems, including gender and vulnerable groups);
- Prepare a draft of the context, the scope of the sub-national level climate change projection/modelling covering:

- a) Climate/disaster risk to key economic sectors;
  - b) Priority climate/disaster risk mitigation actions for key economic sectors;
  - c) Climate/Disaster risk management mainstreamed into the planning and regulatory processes of coastal zones along the Gulf of Thailand;
  - d) Socio-economic resilience of the poor, gender and most vulnerable group in selected projection areas along the Gulf of Thailand; and
  - e) Local knowledge management (KM) systems for communities around the selected sites and detailed methodology of the projection/modelling for up to 4 selected areas and by economic sectors (e.g. fisheries, agriculture, tourism along the Gulf of Thailand). The exact locations and the scope of the 4 areas will be jointly agreed upon among project partners and shall cover those areas not covered in previous assessments that are potentially highly exposed to climate change impacts.
- Develop methodologies to undertake the modelling (propose use of adequate climate data, e.g. from latest global circulation models (GCMs) or regional climate models (RCMs), and approach, e.g. downscaling of existing models to cover provincial/local context); and
  - Prepare an inception report, summary, the scope of analyses, detailed methodology of the projection/modelling approach, including power point presentations both in Thai and English languages.

Task 2: Conduct Climate Change projection/modelling for up to 4 selected areas and by economic sectors (e.g. fisheries, agriculture, tourism along the coastal zone):

- Review existing assessment reports including the Thailand National Adaptation Program of Action as well as reports from associated pilot adaptation interventions and assessments of climate change scenarios in Thailand (if available);
- Review existing data of Thailand's weather pattern including rainfall, temperature as well as trends of key hazards including floods, and droughts especially in the selected project areas;
- Conduct the Climate Change projection/modelling based on the designed tools and methodologies at 4 selected sites;
- Subject to chosen methodology, assess current coping mechanisms and overall adaptive capacity of communities in the selected project areas and their extent of effectiveness to identify a climate change adaptation activities of the communities;
- Manage, analyze and interpret the analytical data and result of the Climate Change projection/modelling of the 4 selected sites to support setting and implementation of Climate Information System supported to Thailand Climate Change Adaptation Information Platform (T-PLAT); and
- Work with ONEP, DMCR and UNDP and communities, include seeking recommendation with potentially ongoing works of other international organizations, such as UN agencies, ADB, WB, GIZ, etc. to propose adaptation\mitigation actions for the respective climate change hazards and develop a plan for the implementing the actions to manage the associated risks;
- Prepare the Climate Change projection/modelling reports and summary including power point both in Thai and English languages; and
- Consult with Project Management Unit (PMU), ONEP and UNDP for technical guidance.

Task 3: Prepare and conduct an analysis of gender and vulnerable groups in the 4 target areas to complement the data of the climate projections:

- Desktop reviews of relevant documents and information;
- Prepare concept note of the analysis of gender and vulnerable groups in the 4 target areas;
- Manage, analyze data collected from the 4 selected sites and interpret the analytical data and result of the Climate Change projection/modelling to support setting and implementing Climate Information System;

- Prepare the projection/modelling reports including power point both in Thai and English languages;
- Provide recommendation based on the Climate Change projection/modelling reports to enable the development of holistic and gender-sensitive risk assessments; and
- Consult with Project Management Unit (PMU), ONEP, and UNDP for technical guidance.

Task 4: Present key findings and recommendations to key stakeholders. As a complement to the Climate Change projection/modelling report, prepare a presentation and policy brief that delivers the Climate Change projection/modelling results/findings and recommendations in a simplified manner and with an eye toward actionable decision making:

- Prepare key findings and recommendation to support setting and implementing Climate Information System (T-PLAT), including design of local marine and coastal resources management and conservation measure, prioritization/selection of vulnerable areas risk to threaten biodiversity, draft local integrated plan to safeguard, protect and enhance marine and coastal areas for incorporating in subnational or national adaptation plan; and
- Prepare key findings and recommendation and reports including power point both in Thai and English languages.

Task 5: Organize training and consultation workshops on design, implementation and validation of Climate Change projection/modelling to local officers of ONEP, DMCR and other relevant line agencies:

- Design training and materials on design and utilization of Climate Change projection/modelling;
- Take a key role as an instructor of the training and consultation workshops;
- Prepare training's materials (PPT), documents, manual and its evaluation report both in Thai and English languages; and
- Validate Report of findings from Climate Change projection/modelling and consultations.

#### **4) INSTITUTIONAL ARRANGEMENTS**

The Climate Change Projection/Modelling Expert will work under the direct supervision of Project Management Unit (PMU), ONEP and UNDP for technical guidance.

#### **5) DURATION OF ASSIGNMENT, DUTY STATION AND EXPECTED PLACES OF TRAVEL**

This assignment is anticipated to take place between 1 July 2021 – 30 April 2022, for a maximum of 80 working days.

Duty Station: Home-based with potential travels in Bangkok and to the four selected areas to conduct consultations with institutions and staffs.

For any unforeseen official mission apart from this TOR mentioned, the Consultant will be requested to submit the concept note of mission for approval by UNDP prior to undertaking any mission. Travels will be authorized by UNDP as and when required.

## 6) EXPECTED OUTPUTS AND DELIVERABLES

All the outputs/deliverables as stipulated below needs to be reviewed and certified by ONEP/the Project Manager at UNDP prior the payment is released.

1. An Inception Report which includes a summary of the context, the scope of the Climate Change Projection/Modelling and detailed methodology to be used as agreed by the initial scoping with key sector stakeholders and based on initial review of available climate data and models;
2. The climate change projection/modelling for the target areas, containing:
  - 2.1 Findings from thematic areas as listed below;
    - a) Climate/disaster risk vulnerabilities to six key sectors
    - b) Priority climate/disaster risk mitigation actions for six key sectors
    - c) Climate/Disaster risk management mainstreamed into the planning and regulatory processes of coastal zones along the Gulf of Thailand;
    - d) Socio-economic resilience of the poor, gender and most vulnerable group in selected projection areas along the Gulf of Thailand; and
    - e) Local knowledge management (KM) systems for communities around the selected sites.
3. Model of the potential future climate change adaptation change in temperatures, rainfall and frequency of extreme weather events in conjunction with changing economic, demographic, environmental and other conditions;
4. Summary of key training provided including objectives, participants, topics and outcomes;
5. Draft, Validated and final Reports of findings from Climate Change projection/modelling and consultations; and
6. Presentation and policy brief summarizing the finding of the Climate Change Projection/Modelling and recommendations targeting decision makers at national and local level.

Specific deliverables during the assignment are as follows:

No	Deliverables/ Outputs	Estimated Duration to Complete	Review and Approvals Required
1	An Inception Report which includes a summary of the context, the scope of the Climate Change Projection/Modelling and detailed methodology to be used as agreed by the initial scoping with key sector stakeholders and based on initial review of data.	16 July 2021	UNDP
2	Reports and maps of findings from thematic areas as mentioned in section 2.	25 December 2021	UNDP

3	Model of the potential future climate change adaptation change in temperatures, rainfall and frequency of extreme weather events in conjunction with changing economic, demographic, environmental and other conditions;	15 April 2022	UNDP
4.	Summary of key training provided including objectives, participants, topics and outcomes.	15 April 2022	UNDP
5.	Final Report of findings from Climate Change projection/modelling and consultations	15 April 2022	UNDP
6.	Presentation and policy brief summarizing the finding of the Climate Change Projection/Modelling and recommendations targeting decision makers at national and local level.	15 April 2022	UNDP

## 7) QUALIFICATIONS

### Education:

- At least Master's degree in Environmental Sciences, Climate Change, Geography, Economics, Social Sciences or its equivalent relevant to Climate Change Modeling.

### Experience:

- Experience in climate change modeling and research in marine and coastal resources, hydrometeorology;
- A minimum of 5 years of working experience in an area relevant to Climate Change Modeling or research in seasonal marine prediction, analysis of coastal water levels changing marine resources, hydrometeorological modelling;
- Demonstrated ability of analytical and drafting reports;
- Computer skills and skills in data processing tools; and
- Experience of working under similar research projects with international organizations; working for UNDP is considered an advantage.

### Language Requirements:

- Excellent oral and written communication skills in English

## 8) SCOPE OF PRICE PROPOSAL AND SCHEDULE OF PAYMENT

Consultant must send a financial proposal based on Lump Sum Amount. The total amount quoted shall be all-inclusive and include all costs components required to perform the deliverables identified in the TOR, including professional fee, travel costs, living allowance (if any work is to be done outside the IC's duty station) and any other applicable cost to be incurred by the IC in completing the assignment. The contract price will be fixed output-based price regardless of extension of the herein specified duration. Payments will be done upon completion of the deliverables/outputs and as per below percentages.

The method of payment is an output-based lump-sum scheme. The payments shall be released upon UNDP's satisfaction of the consultant's submission of each deliverable by or before the due dates as agreed with the UNDP Thailand team.

No	Deliverables/ Outputs	Estimated Duration to Complete	Review and Approvals Required	Payment
1	An Inception Report which includes a summary of the context, the scope of the Climate Change Projection/Modelling and detailed methodology to be used as agreed by the initial scoping with key sector stakeholders and based on initial review of data.	16 July 2021	UNDP	20%
2	Reports and maps of findings from thematic areas as mentioned in section 2.	25 December 2021	UNDP	70%
3	Model of the potential future climate change adaptation change in temperatures, rainfall and frequency of extreme weather events in conjunction with changing economic, demographic, environmental and other conditions; Summary of key training provided including objectives, participants, topics and outcomes; Final Report of findings from Climate Change projection/modelling and consultations; Presentation and policy brief summarizing the finding of the Climate Change Projection/Modelling and recommendations targeting decision makers at national and local level.	15 April 2022	UNDP	10%

## 9) RECOMMENDED PRESENTATION OF OFFER

Interested candidates must submit the following documents/information to demonstrate their qualifications. Please group them into one (1) single PDF document:

- a) **Personal CV**, indicating all past experience from similar projects, as well as the contact details (email and telephone number) of the Candidate and at least three (3) professional references;
- b) **Letter of Confirmation of Interest and Availability and Financial Proposal** that indicates the daily rate/fee of the candidate, in Thai Baht.
- c) **Supportive documents namely:**
  - a. **Brief description** of why the individual considers him/herself as the most suitable for the assignment and a methodology on how they will approach and complete the assignment.
  - b. **Examples of prior** relevant work at least one sample/publications in Thai and one sample in English.

Incomplete proposals may not be considered. The shortlisted candidates may be contacted, and the successful candidate will be notified.

## 10) CRITERIA FOR SELECTION OF THE BEST OFFER

The criteria which shall serve as the basis for evaluating offers is as follows:

Combined Scoring method – where the qualifications and methodology will be weighted 70% and combined with the price offer which will be weighted 30%.

Technical criteria for evaluation (Maximum 100%)

- Criteria 1: Education - Max 15%
- Criteria 2: Experience in climate change modeling and research in marine and coastal resources, hydrometeorology - Max 20%
- Criteria 3: Working experience in an area relevant to Climate Change Modeling or research in seasonal marine prediction, analysis of coastal water levels changing marine resources, hydrometeorological modelling - Max 20%
- Criteria 4: Demonstrated ability of analytical and drafting reports - Max 15%
- Criteria 5: Computer skills and skills in data processing tools- Max 15%
- Criteria 6: Experience of working under similar research projects with international organizations; working for UNDP is considered an advantage- Max 10%
- Criteria 7: Language requirement – Max 5%

Only candidates obtaining a minimum of 70% of the total technical points would be considered for the Financial Evaluation.

**This TOR is approved by:**

Signature

Name and Designation: Lovita Ramguttee, Deputy Resident Representative

Date of Signing