



TERMS OF REFERENCE **FOR INDIVIDUAL CONTRACT**

POST TITLE: International Consultant-Climate Change
Modelling Expert

AGENCY/PROJECT NAME: UNDP Thailand/GCF NAP Marine Project

COUNTRY OF Bangkok, Thailand

ASSIGNMENT:

EXPECTED DURATION: 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 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 including inception reports of four key national consultants for stocktaking, reports covering risk and vulnerability and climate change projections/modelling, and climate information system;
- 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 presentation in 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 all relevant deliverables produced by key four national consultants of the Project;
- 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;
- 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 presentation in 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 and by key economic sectors to complement the data of the climate projections with information to enable the development of holistic and gender-sensitive risk assessments:

- Desktop reviews of relevant documentation;
- Prepare concept note of the analysis of gender and vulnerable groups in the 4 target areas and by key economic sectors;
- 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 presentation in 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: 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 in English languages; and
- Validate Report of findings from Climate Change projection/modelling and consultations.

Task 5: 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 presentation in English languages.

Task 6: Provide technical advice to key national consultants, ONEP, DMCR and relevant line/implementing government agencies to incorporate all deliverables, assessment and project/modelling reports, guidelines into the development of the National Adaptation Plan:

- Provide technical advice to national consultants to conduct stocktaking, risk and vulnerability assessment, climate change project/modelling and climate information system;
- Review scopes of the assessment, projection/modelling, deliverables, training module, guideline/guidance, manual and provide technical advice, comment and recommendation for further develop these mentioned documents; and
- Provide technical advice to relevant officers of ONEP, DMCR and line/implementing government agencies to prepare, develop and update the National Adaptation Plan.

4) INSTITUTIONAL ARRANGEMENTS

The Climate Change Projection/Modelling Expert will work under the direct supervision of Project Management Unit (PMU), ONEP and Project Manager and Programme Analyst, 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 intermittently travels to Thailand 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 a)-e) at District level of selected sites as listed below:
 - a) Climate/disaster risk vulnerabilities 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.
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	18 July 2021	UNDP

	stakeholders and based on initial review of data.		
2	Report and maps of findings from thematic areas a-e at District level of selected sites as listed below as mentioned in Section 6;	15 November 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 December 2021	UNDP
4.	Summary of key training provided including objectives, participants, topics and outcomes and delivering a presentation at the training.	15 January 2022	UNDP
5.	Draft, validated and final Report of findings from Climate Change projection/modelling and consultations	15 February 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:

- A minimum of 5 years of working experience and research in marine and coastal resources, hydrometeorology;
- A minimum of 3 years of experience or research in seasonal marine prediction, analysis of coastal water levels changing marine resources, hydrometeorological modelling;
- Demonstrable knowledge of methodologies including climate change modeling, empirical data-based analysis, scenario-based sector risk/hazards projections;
- 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	10%
2	Report and maps of findings from thematic areas a-e at District level of selected sites as listed below as mentioned in Section 6;	15 November 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;	to 15 April 2022	UNDP	20%

	<p>Summary of key training provided including objectives, participants, topics and outcomes.</p> <p>Draft, validated and final Report of findings from Climate Change projection/modelling and consultations</p> <p>Presentation and policy brief summarizing the finding of the Climate Change Projection/Modelling and recommendations targeting decision makers at national and local level.</p>			
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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 US dollars.

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: Working experience and research in marine and coastal resources, hydrometeorology – Max-30%
- Criteria 3: Experience or research in seasonal marine prediction, analysis of coastal water levels changing marine resources, hydrometeorological modelling - Max 20%
- Criteria 4: Demonstrable knowledge of methodologies including climate change modeling, empirical data-based analysis, scenario-based sector risk/hazards - 20 %
- Criteria 5: Language requirement – 15%

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