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| <b>Title</b>                    | National Climate Change Modelling Expert (NCME): 04/2020 EbA  |
| <b>Project</b>                  | Building climate resilience of urban systems through Ecosystem-based Adaptation in the Asia-Pacific region (Urban EbA Asia) |
| <b>Classified Level</b>         | Senior Specialist   |
| <b>Contract Type</b>            | Individual Contract (IC)  |
| <b>Duration of the Contract</b> | Up to (30) working days   |
| <b>Duty station</b>             | Mandalay  |

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| <b>I. Brief description of project:</b>   |
| <p>Building climate resilience of urban systems through Ecosystem-based Adaptation in the Asia-Pacific region (Urban EbA Asia) is a four-year regional GEF-funded project of the Least Developed Countries Fund (LDCF), that will be implemented by United Nations Environment Programme (headquarters) and under the supervision on a regional level by UNEP's Asia and the Pacific Office located in Bangkok, Thailand, which will work with each of the beneficiary countries to set up a national project management unit. The aim of the project is to reduce the vulnerability of poor urban communities in Asia-Pacific Least Developed Countries (LDCs) to climate change impacts using Ecosystem-based Adaptation (EbA), with interventions in selected municipalities in Cambodia, Lao PDR, Bhutan and Myanmar. Each of the four countries will benefit from the regional components that will include institutional strengthening and capacity building of city management authorities in pilot cities to plan and implement urban EbA; and disseminating knowledge and raising public awareness on urban EbA in pilot cities.</p> <p>The Climate Change Division of Environmental Conservation Department, Ministry of Natural Resources and Environmental Conservation will be the executing agency at the national level which will work to set up a national project management unit consisting of a National Technical Expert and an Administrative and Finance Officer.</p> <p>In Myanmar, Mandalay will get benefits from specific EbA interventions under the second component of the project. Interventions will be implemented to reduce the vulnerability of communities living and biodiversity habituating in and around the areas surrounding Taung Tha Man Lake in Mandalay to reduce frequency and severity of floods and droughts. In addition, associated environmental problems of water drainage, water quality, solid waste, waste water management, and eco-tourism will be addressed. The proposed interventions will include:</p> <ul style="list-style-type: none"> <li>i) restoration of the wetland area;</li> <li>ii) climate-resilient and organic farming; and</li> <li>iii) urban forestry using multi-purpose and beneficial tree species as well as drought- and flood-tolerant species.</li> </ul> <p>The planned interventions will contribute towards improving the livelihoods of the local communities and enhancing the ecosystem functioning of the Taung Tha Man Lake and surrounding area by: i) reducing pollution; ii) increasing infiltration of rainwater and recharge of groundwater; and iii) improving agricultural productivity for targeted peri-urban communities.</p> |

## **II. Organizational Context**

In Myanmar, Mandalay will benefit from specific EbA interventions under the component two of the project outcome. The demonstration of the EbA interventions will contribute towards improving the livelihoods of the local communities and enhancing the ecosystem functioning of the Taung Tha Man Lake by: i) reducing pollution; ii) increasing infiltration of rainwater and recharge of groundwater; and iii) improving agricultural productivity for targeted peri-urban communities. The proposed interventions will include watershed restoration using climate-resilient species of trees and erosion and/or sedimentation control approaches. Flood-resilient species will be used in the restoration of riparian areas. The restoration of watershed areas will increase the infiltration of rainwater and groundwater recharge, as well as increase the available supply of water, decrease erosion and sedimentation. In addition, medium- and long-term planning will take into account both climate change and urban development considerations and culminate in the development of management plans for the protection of watershed areas. The management plans will adopt an EbA approach ensuring the long-term conservation of watershed areas under changing climatic conditions.

The EbA interventions will be implemented to improve ecosystem services and livelihoods of local communities within the proposed area. The adoption of an EbA approach and the implementation of watershed restoration measures will support the development of alternative livelihoods. Additional income streams will be developed through the establishment of nurseries for the supply of climate-resilient and multi-beneficial tree species and the promotion of ecotourism initiatives. The EbA interventions will be based on the recommendation from this assignment relate to the ecosystem assessment, livelihood improvement potential, socio-economic impacts including impacts on vulnerable groups, water shortage, proofing of infrastructure in the city, sustainable city and so on.

## **III. Objective of the Assignment**

A National Climate Modelling Expert is required to develop time series climate data analysis, climate scenario from 1990 - 2050, short- to medium-term climate risk and vulnerability maps for Taung Tha Man Lake and surrounding area of Mandalay including development of climate change models, using updated climate models and socio-economic research.

The project is looking for 3 separate consultants to (1) conduct the climate change risk and vulnerability assessment, (2) collect and update data and information on biodiversity and ecology for the urban EbA intervention areas, (3) undertake assessments to identify risks and adaptation needs of the urban communities to the effects of climate change in Taung Tha Man Lake and surrounding area of Mandalay.

## **IV. Tasks and Responsibilities of the Consultants**

- Develop updated climate models to inform vulnerability mapping of Taung Tha Man Lake and surrounding area of Mandalay based on scientific time series climate data analysis, literature review and field mission, with a focus on services provided by the urban ecosystems

- Draft chapter summarizing climate change vulnerability of ecosystems and ecosystem services to be integrated into the climate change vulnerability and risk assessment
- Work with other consultants to lead preparation of the climate risk and vulnerability assessment and based on this a report on adaptation needs based on the results of the vulnerability mapping exercises, with a focus on the potential for urban ecosystems to contribute to meeting these needs.
- Prepare a report with recommendations for each intervention site and approaches
- Liaison with relevant stakeholders during the assignment including central and provincial government
- Consultation with EbA Technical Working Group to validate the results of assessments;
- Develop final report of assignment together with other consultants.
- All data collected and used in the assignment should be belong to the project particularly CCD, ECD
- Must be free from other assigned by other organizations rather than Environmental Conservation Department.

#### V. Deliverables

- Report summarizing what updated climate models have been used, downscaling and methodologies (including BAU and timescales, models and scenarios selected) used for identification and development of climate models for Taung Tha Man Lake and surrounding area of Mandalay;
- Report summarizing existing risks and vulnerabilities based on climate projections and how these are projected to change according to climate change modelling in Taung Tha Man Lake and surrounding area of Mandalay;
- Short- to medium-term vulnerability maps for Taung Tha Man Lake and surrounding area of Mandalay
- Using the updated climate models, have to collaborate with other two experts for completing climate models and vulnerability mapping
- Report summarizing adaptation needs for and potential for services from urban ecosystems to contribute to meeting these needs, based on the vulnerability maps developed for Taung Tha Man Lake and surrounding area of Mandalay;
- Summary reports and summary to be shared with biodiversity and socio-economic expert for their work;

| Deliverables   | Payment | Timeline   |
|--|---------|--|
| <ul style="list-style-type: none"> <li>- Up on sign contract agreement</li> <li>- Detailed Workplan</li> </ul>   | 20%     | After signing contract   |
| <ul style="list-style-type: none"> <li>- Report summarizing updated exposure and sensitivity, climate projection models and scenarios and social-economic research</li> <li>- Report with developing short- to medium-term vulnerability and risk information for Taung Tha Man Lake and surrounding area of Mandalay.</li> <li>- Summary reports to be shared with biodiversity and socio-economic expert for their work;</li> <li>- Minute of consultation on the result of the assignment with EbA TWG</li> </ul> | 40%     | After delivering draft report and minute of consultation of the assignment |
| <ul style="list-style-type: none"> <li>- exposure, sensitivity, and adaptive capacity, EbA adaptation options relate to the climate change</li> </ul>  | 40%     | After delivering final report  |

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| modelling for Taung Tha Man Lake and surrounding area of Mandalay;<br>- Final Report |  |  |
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| <b>VI. Duration</b>                                 |
| 30 working days over 3 months starting in Dec 2020. |

| <b>VIII. Recruitment Qualifications</b> |   |
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| Education:                              | <ul style="list-style-type: none"> <li>- Master's degree in environment, natural resources management, climate change, agriculture or a closely related field.</li> </ul>   |
| Experience:                             | <ul style="list-style-type: none"> <li>- A minimum of 6 years relevant work experiences related to climate change, Natural resource management, climate change adaptation and related subject</li> <li>- Demonstrated solid knowledge of Ecosystem-based Adaptation (EbA) to climate change, ecological restoration and sustainable use of natural resources;</li> <li>- Proven experience in working with and collaborating within the government of Myanmar.</li> <li>- Experience in the public participation development process associated with environment and sustainable development is an asset.</li> <li>- Experience managing GEF/environmental management project is an asset.</li> </ul> |
| Competencies                            | <ul style="list-style-type: none"> <li>- Experience using relevant software e.g. GIS, climate model analysis</li> <li>- Excellent facilitation and analytical skills</li> <li>- Excellent communication (verbal and written), interpersonal and reporting skills;</li> <li>- Ability to work in teams and accommodate multiple inputs</li> <li>- Strong client orientation;</li> <li>- Well-versed in results-based management;</li> <li>- Demonstrated planning and organizational skills;</li> <li>- Excellent skills in the usage of computers and office software packages, including Microsoft Office applications;</li> </ul>   |
| Language Requirements:                  | <ul style="list-style-type: none"> <li>- Fluent in English and Burmese, with excellent writing and verbal skills in both languages.</li> </ul>  |
| Finance Offer                           | Total fee for the assignment (lump sum) including VAT and any incidentals/travel costs  |
| Application Submission                  | <p>Apply including expression of interests; cover letter; CV</p> <p>Interested consultants need to submit the proposal/offers including schedule, Consultant fees and CV, two referee check person, the proposed methodology, team structure, work plan, budget and application form in the link and send to <a href="mailto:climatechange.ecd@gmail.com">climatechange.ecd@gmail.com</a>, <a href="mailto:khinmaungsoe.ecd@gmail.com">khinmaungsoe.ecd@gmail.com</a>,</p>  |

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|          | <a href="mailto:thithi.malun@gmail.com">thithi.malun@gmail.com</a> quoting "National Climate Change Modeling Expert (NCME) – 04/2020 EbA" in the subject line. |
| Deadline | 19th Nov 2020 (Thursday) before 12 AM.   |

Only shortlisted consultant will be notified.

Environmental Conservation Department is an equal opportunities employer. We welcome applications from all qualified candidates regardless of race, ethnic origin, religion, age, gender, sexual orientation or disability. In an effort to improve the gender balance within the organization, qualified female candidates are strongly encouraged to apply.