

**Presentation of the Fast Technical Assistance**

The Fast Technical Assistance (FTA) is the Climate Technology Centre & Network (CTCN) short time response to requests referring to technology prioritisation, endogenous technologies assessment, policies and measures that are immediate priorities for the requesting country. FTA has duration **up to 2 months** and a total value typically **up to USD 15,000** (it may include a scoping mission, only if strictly necessary). The FTA is implemented by means of an international expert.

**Guidelines:**

- This Request Submission Form should be completed by the organisation requesting technical assistance from the Climate Technology Centre & Network (CTCN) in collaboration with the National Designated Entity (NDE) of the country in question
- The Form must be signed by the NDE. Please see updated contact list of NDEs here: <http://unfccc.int/ttclear/support/national-designated-entity.html>
- The Form can be submitted as a Word file containing a digital signature or as a signed and scanned PDF file in combination with an unsigned Word file

<b>Requesting country:</b>	Lao, People's Democratic Republic
<b>Fast Request title:</b>	Designing ecosystem-based solution for building resilience of urban populations in Lao PDR
<b>NDE</b>	Mr. Syamphone Sengchandala syamphone.s@gmail.com Deputy Director General Department of Climate Change, Ministry of Natural Resources and Environment
<b>Request Applicant:</b>	Mr. Syamphone Sengchandala syamphone.s@gmail.com Deputy Director General Department of Climate Change, Ministry of Natural Resources and Environment

**Climate objective:**

Adaptation to climate change

Mitigation of climate change

Combination of adaptation and mitigation of climate change

**Geographical scope:**

Community level

Sub-national

National

If the request is at a sub-national level, please describe specific geographical areas (provinces, states, countries, regions, etc.).

**Sectors:**

Please indicate the main sectors related to the request:

- |   |   |                                       |   |
|---|---|---------------------------------------|---|
| <input type="checkbox"/> Coastal zones        | <input type="checkbox"/> Early Warning and Environmental Assessment | <input type="checkbox"/> Human Health | <input checked="" type="checkbox"/> Infrastructure and Urban planning |
| <input type="checkbox"/> Marine and Fisheries | <input checked="" type="checkbox"/> Water                           | <input type="checkbox"/> Agriculture  | <input type="checkbox"/> Carbon fixation                              |
| <input type="checkbox"/> Energy Efficiency    | <input type="checkbox"/> Forestry                                   | <input type="checkbox"/> Industry     | <input type="checkbox"/> Renewable energy                             |
| <input type="checkbox"/> Transport            | <input type="checkbox"/> Waste management                           |                                       |   |

**CONTEXT OF THE ASSIGNMENT** (up to half page):

Over the past 40 years, 33 extreme climate events have occurred in Lao PDR, with the majority being floods. The cumulative economic damages from these events amount to over US\$400 million. It is predicted these impacts will be exacerbated by climate change and the abovementioned sectors have therefore been identified as priority areas for adaptation in the country.

Urban areas in Laos experience negative impacts from rainfall-related events. During the rain season, heavy rainfall in catchments with low infiltration rates causes large volumes of rapidly-flowing runoff. This results in flash floods in urban and peri-urban streams and canals. These flash floods damage urban infrastructure as well as agricultural areas. In areas with inadequate drainage, runoff accumulates and causes ponding that results in disruptions to business, damage to property and agricultural losses.

In four of the six target cities, the above negative effects of flooding are intensified by the rising of the Mekong River water levels preventing urban streams and canals from draining adequately. Where floodgates are either non-functional or non-existent, backwater from the Mekong River drains into urban streams and canals, causing flooding in the cities. When the Mekong River water levels rise, floodwaters cannot drain into the river and water remains stagnant. Water standing for long periods exacerbates agricultural losses, causes health risks and interrupts business activities.

As flooding risks increase globally, it is becoming more and more apparent that natural drainage runs need to be preserved and enhanced, not destroyed. Engineered solutions require considerable capital investment and then require on-going, indefinite maintenance. This maintenance has frequently proved problematic.

To address the above, the Government of Lao, PDR and UN Environment prepared a Funding Proposal for the GCF, 'Building resilience of urban populations with ecosystem-based solutions in Lao PDR'. The review of the proposal revealed the need for a number of additional inputs related to engineering outlines and cost / avoided loss estimates of the six proposed project sites in Luang Prabang, Vientiane, Paksan, Thakek, Savannakhet and Pakse.

**Alignment with national priorities :**

The Government of Lao, PDR has developed several national and local policies, strategies and plans pertaining to climate change adaptation. The proposed project will be closely coordinated with the mid- and long-term priorities related to climate change. These include priority activities and approaches promoted by relevant national strategies and action plans on climate change, including the NAPA, NCCS, Draft Decree on Climate Change, and the Strategic Plan on Disaster Risk Management in Lao PDR until 2020. For example, the NCCS outlines the need for climate-proofing urban development plans and infrastructure; the project will contribute to achieving such goals through implementation of urban EbA interventions. Furthermore, the project is aligned with the NCCS objective of increasing stakeholder buy-in through strengthening the awareness and understanding of: i) the impacts of climate change; and ii) the negative effects of climate change on the development of a country.

Reference document (please include date of document)	Extract (please include chapter, page number, etc.).
Nationally Determined Contribution (NDC)	The NDC acknowledges that climate change is already affecting the livelihoods, food security, water supply and health of the country's population. Climate change impacts such as increases in intensity and frequency of floods are predicted for Laos and adaptation efforts need to be enhanced across all sectors to strengthen the local population's resilience to climate change. To achieve this, relevant adaptation projects are mandated in the seven key sectors to: i) enable urban development and infrastructure to withstand climate change impacts; and ii) build climate change adaptation capacity in the water resources sector.
Technology Needs Assessment	
National Adaptation Plans	Ecosystem-based Adaptation (EbA) has been identified as a cost-effective measure for reducing the impacts of floods on Laotian cities. Because of the high level of external debt, the Government of Laos (GoL) is constrained in its ability to fund investments into climate change adaptation. Although the GoL has allocated US\$4.5 million towards implementing urban EbA, it is only through additional GCF grant financing that the envisioned integrated approach to flood management can be implemented.
Nationally Appropriate Mitigation Actions	
Add others here as relevant	

**OBJECTIVE OF THE FTA (up to 5,000 characters):**

The FTA will contribute to the revision and re-submission of the GCF Funding Proposal 'Building resilience of urban populations with ecosystem-based solutions in Lao PDR'.

In particular, the FTA will respond to comments / questions from the GCF Secretariat on the funding proposal and will result in the provision of text for inclusion in the revised submission.

**SCOPE AND ACTIVITIES OF THE PROPOSED FTA (up to one page):**

**Activity 1: Economic Analysis**

The review of the GCF funding proposal noted that each specific EBA intervention needs to be assessed on its own merits. Their economic and financial returns, and their residual flood risks will vary from site to site and, as such, the economic internal rate of return (EIRR) of the interventions should be estimated at each site, based on the losses avoided. As such, the FTA will:

- Conduct a cost-benefit of each intervention where benefits are calculated from the avoided losses due to floods
- Identify the expected number of beneficiaries from the project.

**Deliverables:**

Estimated economic internal rates of return for the 6 proposed interventions

One page summary of the estimated economic internal rates of return for inclusion in the GCF proposal

One paragraph on the expected number of beneficiaries for inclusion in the GCF proposal

**Activity 2: Engineering Analysis**

The review of the GCF funding proposal noted that further consideration of the proposal is reliant upon the provision of expected outline designs of the infrastructure showing the type, scale and location of all ecosystem-based adaptation works proposed in Luang Prabang, Vientiane, Paksan, Thakek, Savannakhet and Pakse. Furthermore, based on outline designs, cost estimates are required to understand the ecosystem-based adaptation approaches selected. Finally, a summary of the expected maintenance requirements for each proposed intervention is required in order to assess the sustainability of the project. As such the FTA will

- Describe the topography in each intervention site
- Identify whether any of the proposed sites have potential pollution remediation issues
- Describe which flood events the proposed interventions will address: flash floods or long duration floods including the flood levels that the interventions would mitigate and the residual flood risks (and what level of loss would this imply)
- Produce outline designs including sketches with rough estimates on diameter and height which can be calculated through backwater curves, mass balances, time for floods to peak.

In completing the outline designs, the FTA will be guided by drainage outline design good practices including: <http://flood.essex.gov.uk/new-development-advice/how-to-design-suds-in-essex/outline-drainage-design-checklist>

**Deliverables:**

Detailed mission plans for site visits

Design mock ups for the 6 proposed interventions including the topography, flood remediation impacts and residual flood risks

Analysis of the potential pollution remediation issues

**Activity 3: Evaluation and communication**

The CTCN FTA Closure report will be completed at the end of the FTA (a template will be provided).

**Deliverable:**

FTA Closure report

**GENERAL TIME SCHEDULE OF EXPERT AND ACTIVITY/DELIVERY PLAN:**

The activities under this contract must be completed within a period of 2 months with the detailed mission plans submitted within one week of the commencement of the contract and the remaining engineering analysis deliverables completed within one month of the commencement of the contract

to facilitate the economic analysis activity completion within two months of commencement of the contract.

**Monitoring and impact of the assistance:**

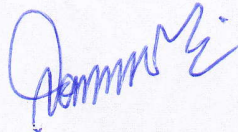
By signing this request, I affirm that processes are in place in the country to monitor and evaluate the technical assistance provided by the CTCN. I understand that these processes will be explicitly identified in the CTCN Response Plan and that they will be used in the country to monitor the implementation of the technical assistance following standard CTCN procedures.

**Signature:**

NDE name: Mr. Syamphone Sengchandala

Date: 21 May 2010

Signature:



THE COMPLETED FORM SHALL BE SENT TO THE [CTCN@UN.ORG](mailto:CTCN@UN.ORG)