

Please fill in the form in the grey spaces, by following the instructions in italic.

<b>Requesting country:</b>	Lao PDR
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<b>Request title:</b>	City Climate Vulnerability Assessment and Identification of Ecosystem based Adaptation Intervention
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**Contact information:**

{Please fill in the table below with the requested information. The request proponent is the organization that the request originates from, if different from the National Designated Entity (NDE).}

	<b>National Designated Entity</b>	<b>Request Applicant</b>
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**Technology Needs Assessment (TNA):**

- The requesting country has conducted a TNA in .... (please insert date of TNA completion)
- The requesting country is currently conducting a TNA
- The requesting country has never conducted a TNA

**CTCN Request Incubator Programme:**

- Yes
- No

**Geographical focus:**

{Select below the most relevant geographical level for this request:}

- Community-based
- Sub-national
- National
- Multi-country

The specific areas concerned are six cities. These are: Vientiane, Kaysone Phomvihane, Luang Prabang, Paksé, Thakhek, Paksan

**Theme:**

- Adaptation to climate change
- Mitigation to climate change
- Combination of adaptation and mitigation to climate change

**Sectors:**

Agriculture, fisheries and aquaculture, forestry, water, ecosystem/biodiversity, infrastructure/human settlement, early warning/disaster reduction

**Problem statement (up to one page):**

Lao PDR is still a predominantly rural country but urbanization is growing rapidly, currently at a rate of 4.9%, the fifth-highest in the world. In 2015, estimates suggest 38.5% of Lao PDR's population live in urban areas in compared to 17% in 1995. The urban population is expected to more than double between 2010 and 2030 - from 2.14 Million to 4.70 Million (approx. 61% of total population).

Still relatively small (only 10 urban areas with a population of over 20,000 ) and with low development densities, cities in Laos have so far not experienced the range of problems associated with urbanization in other parts of Asia. The situation however is beginning to change with significant urban development taking place with minimal coordination, inadequate infrastructure, and insufficient regard for environmental impacts. Problems of disorganized growth, inefficient land use, damage and loss of natural resources, and inadequate access to urban services are emerging. High urban growth is anticipated along the Greater Mekong economic corridors where the rapid growth of border towns and other urban areas risks degrading ecosystems and increasing exposure of urban populations to climate risks.

In the context of rapid urbanization, Lao PDR is assessed as a country highly vulnerable to climate change. Climate change will have impacts on hydrology, ecology, agriculture, fisheries and aquaculture, navigation and hydro-power development, all of which are core interests to the Mekong River countries including Lao PDR. Significant damages are expected from climate-induced extreme events, mainly: floods, drought and soil erosion. The Human Development Report states that persistent vulnerability to climate change threatens human development in Laos. Fast growing urban populations along the Mekong River are particularly at risk of climate change, especially from extreme events such as storms and flooding. The Mekong River is considered to be one of the most vulnerable rivers in Southeast Asia to global change (flash floods and base flows). At city scale, the major potential climate induced threats include:

- More intense and frequent floods (river flooding, rainwater and storm water flooding) as a result of erratic rainfall and changes in landuse;
- More intense and frequent drought (water and food security) due to rise in temperature and rainfall variability
- Extreme temperature (urban heat island effect)
- Soil erosion and subsidence (landslides)

The occurrence, frequency, and gravity of the city scale threats are highly context-specific. A characterization of city specific climate threats to determine how people and ecosystems are (and will be) impacted by climate change can be obtained only from city scale vulnerability and ecosystem assessment. Quantitative assessment of climate risks at the local level is currently unavailable. Appropriate city level adaptation response plans cannot therefore be developed without data on how urban populations, as well as ecosystems that provide urban areas with goods and services, are being impacted by climate change. City level vulnerability and ecosystem assessments are therefore required at six of Laos' most socio-economically important cities, to determine local climate impacts on people and ecosystems so that ecosystem based adaptation responses can be identified and this data/knowledge transferred into on-the ground actions.

**Past and ongoing efforts** (up to half a page):

A National Adaptation Program of Action (NAPA) was approved in 2009 (45 projects identified and 12 classified as urgent and immediate); a strategy on climate change was issued in 2010, complemented by a climate change action plan for the 2013-2020 period. Sectoral climate change action plans for the period 2013-2020 define mitigation and adaptation actions in the sectors of agriculture, forestry, land use change, water resources, energy, transportation, industry and public health although requisite strengthening of core sectoral institutions and governance structures needed to deploy adaptation action on the ground, remains largely absent. Encouragingly, legislation combining disaster risk reduction and climate change adaptation is under development. Addressing climate change adaptation at the sub-national level is found to have predominantly occurred in rural areas focusing on agriculture and forests. Urban climate vulnerability is now a pressing concern for the government in view of the country's urbanization trends and lack of city level adaptation action.

In addition the Government of Laos is pursuing a Green Climate Fund project proposal on Urban Ecosystem-based Adaptation. The technical assistance from CTCN would improve the foundations and accelerate the start up of the GCF project.

**Assistance requested** (up to one page):

Technical assistance is requested from CTCN to undertake city level climate vulnerability assessment of people and ecosystems at Laos' six most socio-economically important cities. This technical assistance is required so that city specific ecosystem based adaptation (EBA) responses can be identified and subsequently implemented as part of a proposed Green Climate Fund project. The knowledge and data obtained from the CTCN TA would improve the foundations and accelerate the start-up of the GCF project.

The requested city level vulnerability assessments should provide information and analysis on:

- how people living in the six cities are currently impacted by climate change and how they will be impacted under future climate scenarios;
- what ecosystem goods and services are being provided to the city populations; and what is the capacity of these ecosystems to provide services under future climate scenarios;
- identify and cost ecosystem-based adaptation interventions that would be able to respond sufficiently to reducing climate risks faced by cities
- validate the findings of the vulnerability and ecosystem assessments at each of the six cities as well as with national stakeholders

**Expected benefits** (up to half a page):

Benefits of CTCN assistance include state and municipal authorities in Laos being able to address national and sub-national adaptation priorities as a result of using the VA data to inform the design of on-the-ground adaptation action. For example, the technology transfer would inform the development of long term adaptation plans at each of the six cities by focusing on securing access to ecosystem goods and services for up to 820,000 people (total population of 6 cities).

Further, the TA will lead to environmental co-benefits such as ecosystems provide cities with freshwater for drinking and other human uses. Vegetation cover and forests in the city catchment influences the quantity of available water. Ecosystems filter out and decompose organic wastes from

urban effluents by storing and recycling waste through dilution, assimilation and chemical re-composition.

Direct social benefits can also be derived from securing adequate access to environmental goods and services to large numbers of people living in cities.

**Post-technical assistance plans** (up to half a page):

Based on the identified city specific ecosystem based adaptation (EBA) interventions and responses and cost estimation of such possible interventions, the proponent explore the possibilities of actual implementation of such interventions. For this purpose, the proponent will explore the opportunities with GCF and other District Development Funds available for the cities.

Further, once the relevant data related to impact of climate change on urban populations, as well as ecosystems that provide urban areas with goods and services are available, subsequently, the appropriate city level adaptation response plans will be developed and executed.

One of the post TA plans will also include (a) the dissemination of the findings to other urban areas and at the national level so that such strategies and interventions can be scaled up in future and development of a Urban EbA capacity building plan.

**Key stakeholders:**

{Please list in the table below the main stakeholders who will be involved in the implementation of the requested CTCN technical assistance, and what their role will be in supporting the assistance (for example, government agencies and ministries, academic institutions and universities, private sector, community organizations, civil society, etc.). Please indicate what organization(s) will be the main/lead counterpart(s) of CTCN experts at national level, in addition to the NDE.}

<b>Stakeholder</b>	<b>Role to support the implementation of the assistance</b>
Ministry of Natural Resources and Environment/Department of Disaster Management and Climate Change	National focal and coordinating institution (NDE)
Municipal Authority Representatives at each of the 6 cities	Coordinate the TA at each city
Department of Housing and Urban Planning	Urban development planning
Department of Land Planning and Development	Land use planning and titling, as well as land surveys and advice on concessions
Department of Water Resource	Management of water resources
Department of Meteorology and Hydrology	Weather changing record provide basic hydro meteorological services for disaster reduction purposes
Department of Forest Resource Management	Management of protection and conservation forest, define deforestation and restoration forest areas

**Alignment with national priorities** (up to half a page):

The climate change strategy, published in 2010, which highlighted the following priorities (covering mitigation and adaptation): Agriculture & Food Security, Forestry and Land Use Change, Water Resources, Energy and Transport, Industry, Urban Development, Public Health. Concerning urban

development, actions initially identified concerned mainly the climate-proofing on urban development plans and of infrastructure. Reducing the impact of disasters in Lao PDR and preventing damages from climate change is now a priority of the government due to the increasing number of persons affected and economic development impacted by natural disasters. The government is aware of climate issues and has shown a strong commitment to addressing them. A National Adaptation Program of Action (NAPA) was approved in 2009 (45 projects identified and 12 classified as urgent and immediate); a strategy on climate change was issued in 2010 and a climate change action plan for the 2013-2020 period. Sectoral climate change action plans for the period 2013-2020 define mitigation and adaptation actions in the sectors of agriculture, forestry, land use change, water resources, energy, transportation, industry and public health. Recent reorganization of the institutional landscape led to the integration of Disaster Risk Reduction and Climate Change Adaptation approaches under MONRE. A law on DRR and climate change adaptation is under development, as previously commented.

The National Socio-Economic Development Plan (NSEDP) - integrated in a National Strategy on Socio-Economic Development until 2025 and a Vision until 2030 – defines the strategic guidelines for the country development. The next Five Year National Socio-Economic Development Plan VIII (2016-2020) (8th NSEDP) is currently under definition and stresses the need for ensuring quality growth. Outcome 3 (“Reduced effects of natural shocks as required for LDC graduation and sustainable management of natural resources exploitation”) is particularly in line with a wide scale implementation of EbA solutions within the country, highlighting the following outputs:

-Output 1 – Environmental Protection and Sustainable Natural Resources Management: To ensure sustainable development, initiatives on environmental protection and disaster risks management are essential. Develop green, clean and beautiful economy for the people’s well-being, health and pollution free by sustainable urbanization. Increase capacity. (Includes the development of mechanisms for” green and clean cities”)

-Output 2 – Preparedness for Natural Disasters and Risk Mitigation: Further develop sustainable ownership to protect the environment, ready to cope and reduce the risk of various disasters, economic green people live a good, healthy, strong and safe from pollution of water, sound and air. Increase and improve the ability to adapt, to reduce the impact of climate change by reducing greenhouse gas emissions to a minimum.

**Development of the request** (up to half a page):

The specific knowledge gaps for identifying the EbA interventions were realized at the city levels as well as with the national levels through various stakeholders consultation’ workshops organized at the national levels. That leads to generation of interest at the city levels to address these knowledge gaps so that actual implementation of such interventions can take plan and subsequently it can be scaled - up. In addition, the Government of Laos is pursuing a Green Climate Fund project proposal on Urban Ecosystem-based Adaptation and national stakeholders has felt that bridging such knowledge gaps would complete and facilitate GCF support in future.

Based on this, the request was generated at the city levels (as the request proponents). Preliminary discussion with CTCN team has also taken place Subsequently, NDE team has internally reviewed it and approved it before officially submit it to CTCN

**Expected timeframe:**

May 2016 – Dec 2016

**Background documents:**

Urban adaptation is a high priority for the Government of Lao PDR. Achieving sustainable urban development is an explicit strategic objective of the Lao PDR government. Specific priorities are already identified by the government and are detailed in

**(a) Intended Nationally Determined Contributions (INDC) (b) National Strategy on Climate Change (c) climate change action plan for the 2013-2020 period (d) the 8th National Social and Economic Development Plan, and (e) A National Adaptation Program of Action (NAPA).**

Besides this the following background documents are referred while preparing the request.

- USAID / CIFOR, Motivation for payments for ecosystem services in Laos - The essential alignment, 2014
- National Biodiversity Strategy and Action Plan, 2004;
- GIZ, PROCEED brochure, 2014 USAID, Valuing Ecosystem Services in the Lower Mekong Basin: Country Report for Lao PDR, 2015
- ADB, LA PDR - Urban Development Sector Assessment, Strategy, and Road Map, 2012

**Monitoring and impact of the assistance:**

{Read carefully and tick the boxes below.}

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

I understand that, after the completion of the requested assistance, I shall support CTCN efforts to measure the success and effects of the support provided, including its short, medium and long-term impacts in the country.

**Signature:**

NDE name: Syamphone SENGCHANDALA

Date: 8 April 2016

Signature:



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

Need help? The CTCN team is available to answer questions and guide you through the process of submitting a request. The CTCN team welcomes suggestions to improve this form.

>>> Contact the CTCN team at [ctcn@unep.org](mailto:ctcn@unep.org)