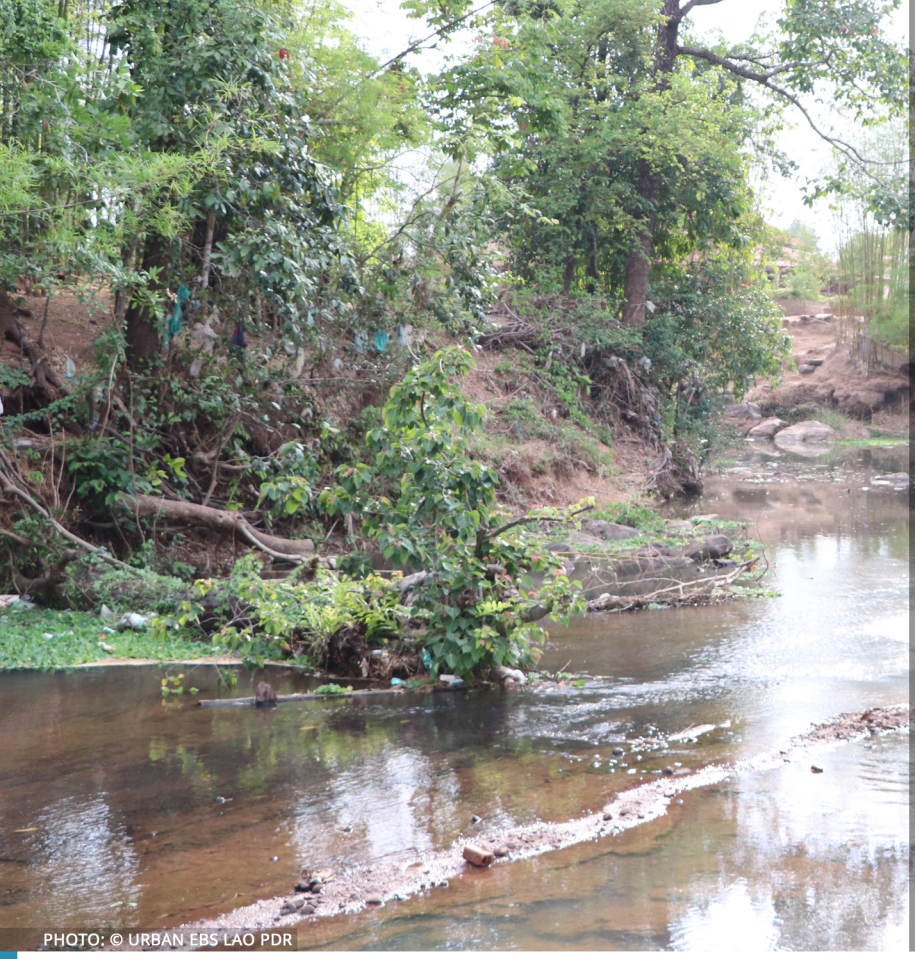

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LAO PDR

BUILDING RESILIENCE OF URBAN POPULATIONS WITH ECOSYSTEM-BASED SOLUTIONS

PROJECT SUMMARY

Funding Agency	Green Climate Fund
Accredited Entity	United Nations Environment Programme
Executing Entity	Ministry of Natural Resources and Environment and Ministry of Finance
GCF Result Areas	Most vulnerable people and communities; Ecosystem and ecosystem service
Beneficiaries	Direct: 74,600 Indirect: 825,000
Total area of ecosystem restoration	Wetland: 800 ha Urban streams: 700 ha
Project sites	Pakse, Paksan, Savannakhet and Vientiane
Total duration	5 years from June 2020
Executing Total Funding	GCF grant: 10 million USD Government of Laos: 1.5 million USD

INTRODUCTION

Approximate 40% of the population in Laos live in urban areas with an annual average growth rate of 4%. These urban areas have been experiencing extreme flooding annually. Being among the most vulnerable areas to flooding in South East Asia, the magnitude and frequency of the flooding is expected to increase because of climate change. The impacts of flooding are exacerbated by the country's rapid rate of urbanisation, which is expanding without comprehensive urban planning that addresses increasing flood impacts under climate change. The overall economic losses from flood-related disasters in Laos is estimated to be around 2.8–3.6% of the GDP annually[1].

Current urban planning and flood risk management approaches are not adequate to address increasing climate-induced flood risks in urban areas. Traditional drainage systems were designed and constructed without considering the changing climate and are inadequate in reducing flood impacts under climate change conditions. Moreover, as cities grow and become more dense, urban wetlands, natural streams and other green areas that are critical for reducing flood risk are being lost. With the total area of impermeable surfaces increasing, the infiltration of rainwater into soils and drainage into groundwater is also reducing.

A paradigm shift is required for integrated urban development approach in Lao PDR that: i) benefits from improved planning and developed knowledge

1 World Bank, 2018. Post-Disaster Needs Assessment: 2018 Floods, Lao PDR.

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INTRODUCTION

base; ii) includes an Ecosystem-based Adaptation (EbA) approach to managing floods; and iii) reduces, retains and attenuates runoff at the source as opposed to increasing the discharge capacity of drainage systems. However, there are technical, financial and institutional[2] barriers to implement integrated flood management approaches including (i) lack of data for modelling climate impacts to inform climate change adaptation solutions for flood management; (ii) limited technical and institutional capacity of provincial and national government for climate-resilient flood management; (iii) lack of integrated, climate-resilient flood management approaches; and (iv) limited knowledge about EbA and the valuation of ecosystem services.

To address the barriers, the Green Climate Fund (GCF) approved the project "Building resilience of urban populations with ecosystems-based solutions in Lao PDR" on 14 November 2019. The project has been implemented since June 2020. The project aims to shift the paradigm of urban flood management in Laos from a limited, hard infrastructure approach towards an integrated approach that enhances climate resilience. This will be achieved by mainstreaming integrated climate-resilient flood management strategies into planning frameworks and implementing urban ecosystem-based adaptation to decrease climate-in duced flooding. The project will be implemented in four provinces namely Vientiane Capital, Borikhamxay, Savannakhet and Champasack Provinces that are the most vulnerable to climate change based on climate modelling and consultations with relevant institutions in Laos.

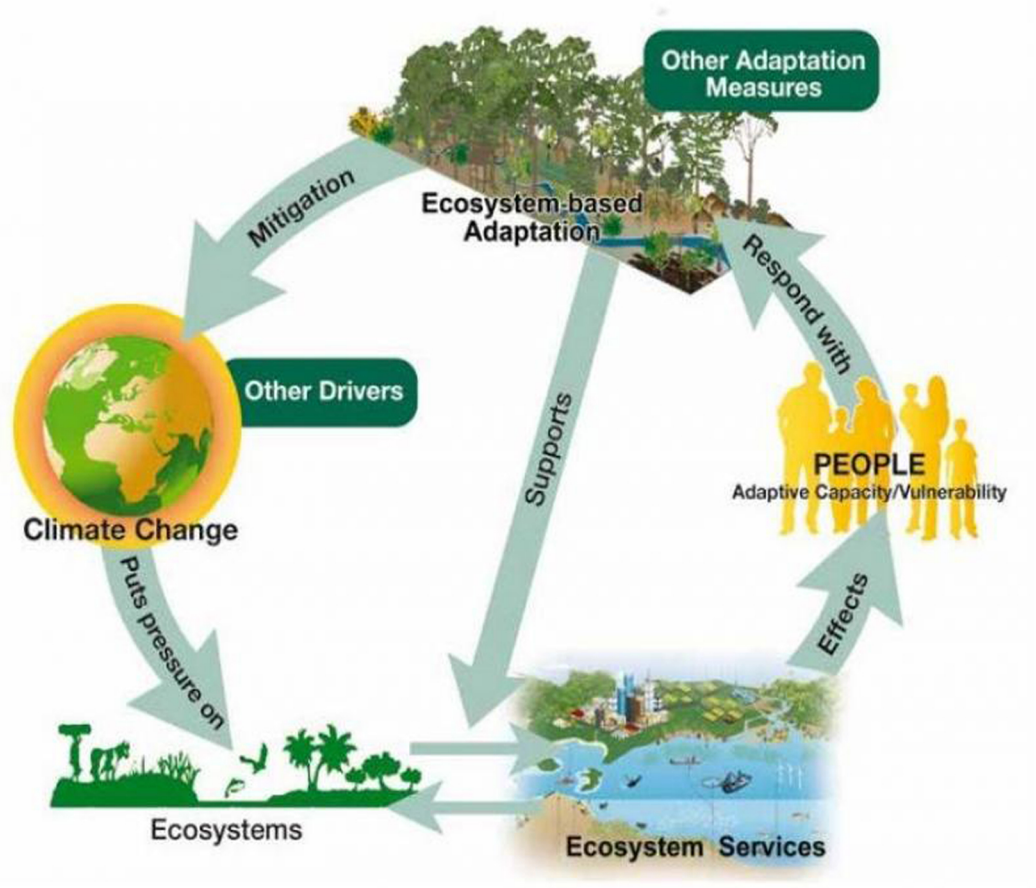

Figure 1: EbA model[2]

2 Issues Brief (IUCN) https://www.iucn.org/resources/issues-briefs/ecosystem-based-adaptation-

PROJECT COMPONENTS AND OUTPUTS

Component1: Technical and institutional capacity building to plan, design, implement and maintain integrated urban Ecosystem-based adaptation (EbA) interventions for the redution of climate change-induced flooding

- **Output 1.1** Strengthening of institutional capacity for integrated flood risk management and implementation of urban Ecosystem-based adaptation and males and females with increased awareness of climate threats.
- **Output 1.2** Integrated Climate-resilient Flood Management Strategies and urban EbA guildelines developed for Vientiane, Paksan, Savannakhet and Pakse, and effective Flood Risk Management Committees as coordination mechanisms.

Component 2: Rehabilitation and protection of ecosystem in response to climate variability and change.

- **Output 2.1** Area of wetland restored contributing to flood reduction and sustainable management of the Nong Peung wetland in Paksan.
- **Output 2.2** Area of urban streams restored contributing to flood reduction and sustainable management of urban streams in Savannakhet and Pakse.
- **Output 2.3** Area of permeable paving solutions installed in public areas contributing to flood reduction in Vientiane, Paksan, Savannakhet and Pakse.

PROJECT OBJECTIVES AND EXPECTED RESULTS

The project contains two components, five outputs and several activities to promote EbA solutions for urban resilience in Lao PDR. The first component focuses on technical and institutional capacity building to plan, design, implement and maintain integrated urban EbA interventions. The project will raise awareness and build capacity of government departments, the private sector and local communities by creating and sharing knowledge of urban EbA in Laos, and by engaging with communities and the private sector in the planning and implementation process. The project will develop Integrated Climate-resilient Flood Management Strategies (ICFMS) and urban EbA guidelines and mainstream them into relevant policies and plans for each of the four target cities. Flood Risk Management Committees will be formed to establish an effective coordination mechanism to respond adequately to increasing flood risk through an integrated approach.

Component two focuses on the rehabilitation and protection of ecosystems in response to climate variability and change. The project will develop and implement a wetland management plan to restore 800 hectares and sustainably manage the Nong Peung wetland to enhance its climate-adap tive ecosystem services and benefits to the citizens of Paksan. The wetland is an important habitat of many fish and bird species and restoration and rehabilitation of this wetland will contribute to flood reduction in urban areas and conserve wetland biodiversity. Similarly, the project will also restore and manage 700 hectares of urban streams in Savannakhet and Pakse to reduce flood risk. The project will promote natural vegetation in buffer areas to reduce the velocity of flash floods, protect riverbanks from erosion and reduce sedimentation. The project will also pilot permeable paving solutions, which will contribute to flood reduction in Vientiane, Paksan, Savannakhet and Pakse.

A KNOWLEDGE HUB WILL BE ESTABLISHED IN COLLABORATION WITH THE NATIONAL UNIVERSITY OF LAOS TO DOCUMENT AND DISSEMINATE KNOWLEDGE AND INNOVATIONS GENERATED BY THE PROJECT ON EBA AND INTEGRATED FLOOD MANAGEMENT, WHICH WILL BE USED FOR CAPACITY BUILDING AND PROVIDING FEEDBACK INTO POLICY RECOMMENDATIONS AND GUIDELINES AT THE NATIONAL LEVEL

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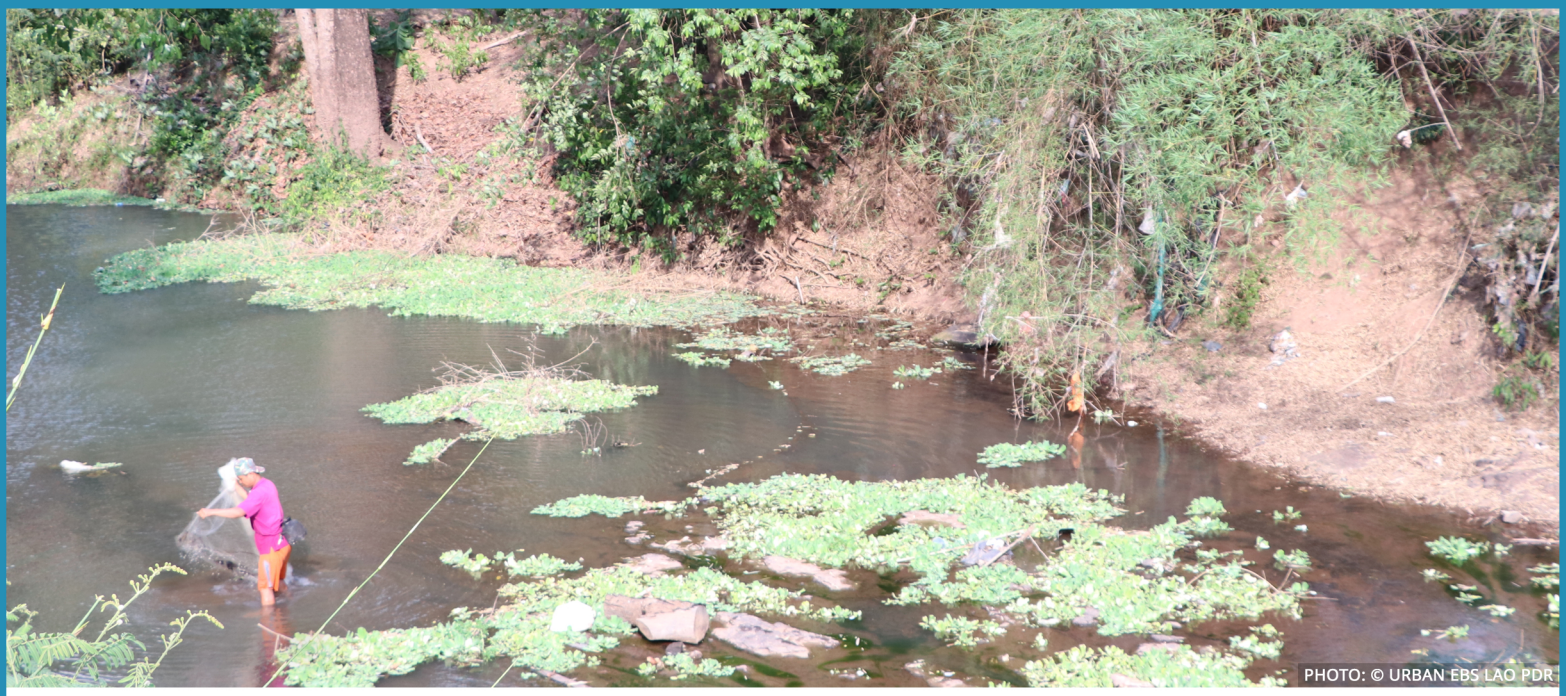
PHOTO: © URBAN EBS LAO PDR

PROJECT IMPLEMENTATION APPROACH

To achieve its goal, the project will build on and scale up proven interventions on ecosystem-based approaches leveraging the established global practice on urban EbA and integrated flood management and test how these interventions will be contributed in the target cities considering local rainfall regimes, hydrology and governance systems. The Department of Climate Change (DCC), Ministry of Natural Resources and Environment (MoNRE) will work in close cooperation with the Provincial Office of Natural Resource and Environment (PONRE) in Vientiane Capital, Borikhamxay, Savanhnakheit and Champasack Provinces. The project will establish partnership with National University of Laos, Environmental Protection Fund, UN Habitat, Ministry of Public Works and Transport (MPWT) and other development partners to effectively deliver project activities. The United Nations Environment Programme (UNEP), as GCF Accredited Entity, will supervise project implementation and provide necessary technical support.

PROJECT OBJECTIVES AND EXPECTED RESULTS

The National Project Steering Committee (NPSC), which was established on 26 May 2021 under the leadership of the Vice Minister of MONRE, will provide overall guidance to the project. The NPSC comprises the representatives of MONRE; Ministry of Planning and Investment (MPI); Ministry of Finance; Ministry of Public Works and Transport (MPWT); The National University of Laos; Ministry of Agriculture and Forestry (MAF); National Women's Union; and Environmental Protection Fund. The Provincial-level Project Steering Committees (PPSCs) have been formed in all four provinces for more effective organization along with the governance structures in Laos. The PPSCs are headed by the Director of Provincial of Natural Resources and Environment and comprise of representatives from various departments.

A Project Management Unit (PMU) headed by a National Project Director has been established in 2020. A project manager has been assigned from the Department of Climate Change (MONRE) to support the Project Director to oversee the project activities. At the provincial level, Project Implementation Units (PIU) have been established to effectively coordinate activities at the provincial and city levels. The MONRE has established a technical working group on hydrological modelling that comprises four departments:Department of meteorology and hydrology, Department of Climate Change, Department of Water Resource and Lao National Mekong Committee Secretariat.

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