

## Climate vulnerability study helps prioritise investments in four Cambodian cities

In examining risk related to climate change, the project made recommendations for effective adaptation strategies, resilient infrastructure and inclusive urban development.



The project aims to ensure city livability, promote social and economic inclusiveness, improve infrastructure rehabilitation and strengthen tourism and economic activities.



**Ms Jessica Melati Olsson**  
Project Manager  
T: +95 940 722 1508  
jmol@niras.com

Cambodia’s provincial cities have experienced sustained urban growth, and it is critical to address their infrastructure to improve capacity to adapt to projected climate change impacts. As a result, Cities Development Initiative for Asia (CDIA) selected four provincial cities (Battambang, Kampt, Kratie and Chhlong) to be part of the Climate Vulnerability and Adaptation Assessment of Cambodian Secondary Cities (CVAA) project.

CVAA assessed the nature and spatial location of climate hazards, vulnerabilities, and risks given current climate change projections and adaptive capacities. The four cities were selected as they are located on major rivers and highly susceptible to increased flood risks, leading to an urgent need for investment to improve resilience.

The resulting study informed the identification, prioritisation and design of proposed investments in the four cities.

The recommendations were integrated with the closely related feasibility study on the technical assessment of infrastructure, public space and landscaping. The CVAA project has thus been important to assess vulnerability and risk related to climate change and to provide recommendations for effective adaptation strategies, resilient infrastructure and inclusive urban development.

### Climate vulnerability assessment

In our climate assessment, we compared two different projections to see how the climate is estimated to change and to define the full range of possible climate change impacts and risks. The findings suggested that there will be an increase in temperature, evaporation and rainfall. There will also be an intensity increase of the frequency and severity of a num-



4 cities with a combined population of 290,000 inhabitants will reap the benefits of the enhanced climate resilient infrastructure



Detailed climate vulnerability risk maps were produced for the 4 cities informing the development of resilient priority investment options

ber of hazards that cause disruption in Cambodia, the main ones being floods, typhoons, storm surge, droughts, and fires. Sea level rise, which is occurring globally due to climate change, will also impact the Cambodian coastline.

The increased frequency and severity of these hazards will have subsequent adverse effects on aspects such as water supply, food availability, public he-

#### Donors

Agence Francaise de Developpement (AFD) and the European Union

#### Client

Cities Development Initiative for Asia (CDIA)

#### Location

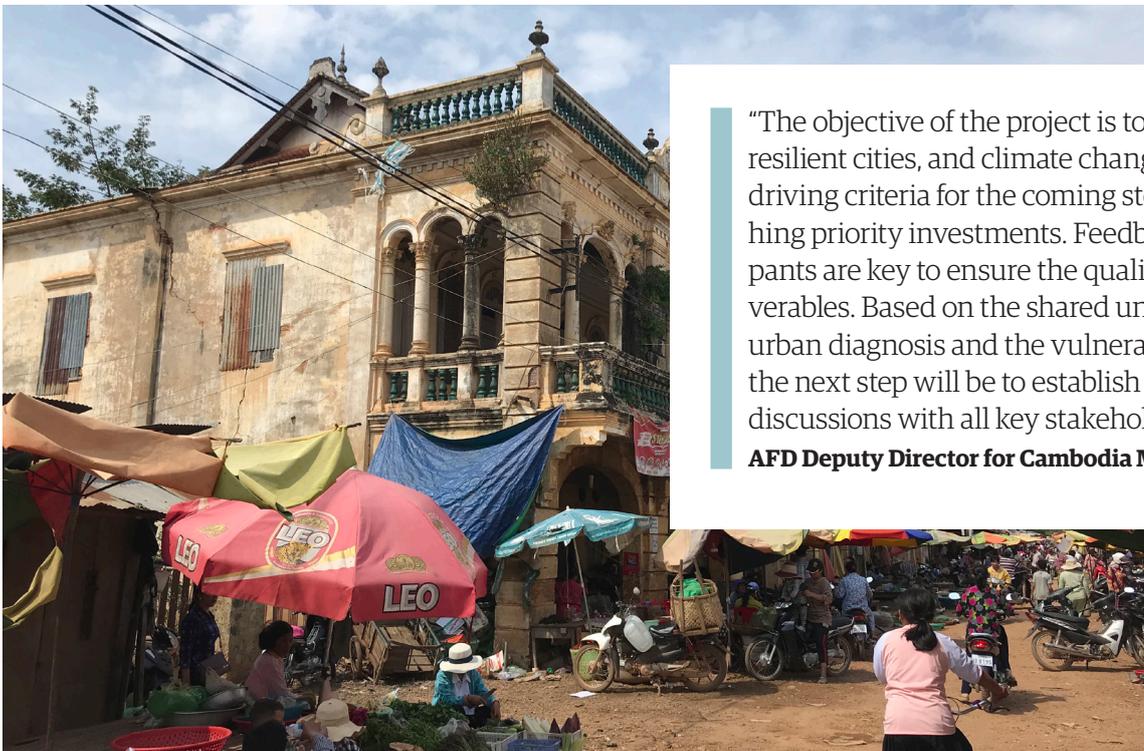
Battambang, Kampt, Kratie and Chhlong

#### Contract value

€218,390

#### Duration

July 2019-April 2020



“The objective of the project is to develop livable and resilient cities, and climate change will be one of the driving criteria for the coming steps when establishing priority investments. Feedback from participants are key to ensure the quality of the final deliverables. Based on the shared understanding of the urban diagnosis and the vulnerability assessment, the next step will be to establish priorities through discussions with all key stakeholders of the project.”

**AFD Deputy Director for Cambodia Ms. Anne Chaplain**

## Project scope

- + Inclusive urban climate change adaptation
- + Participatory planning and stakeholder engagement
- + Flood protection and economic development
- + Public spaces upgrade
- + Urban ecosystem-based adaptation (EbA)
- + Climate change vulnerability assessment
- + Climate vulnerability and risk maps
- + Institutional capacity development
- + Development of adaptation options

alth and riverbank erosion, all of which are already being experienced in Cambodia. These hazards are most likely to have the greatest impact on the most vulnerable people since climate vulnerability is amplified by extreme poverty, and social and gender inequality.

### Project recommendations

Our recommendations were developed in close consultation with local stakeholders through a number of workshops and field visits. Even though most of the climate risks are similar between all four cities, individual recommendations with project options were developed based on the particular conditions in each city.

The project options included both structural works for reduced flooding, institutional strengthening activities, integrated spatial planning, and other cross-cutting projects. Below are a few examples of the type of projects recommended to the cities:

- Establish eco-recreation facilities with lakes and green parks to maintain the natural flood storage area while at the same time increasing the green recreation space for the local community.

- Structural works such as levees, sluice gates, riverbank protection, and floodwalls for better flood protection.
- Rehabilitation of canals to capture local stormwater runoff, which will lead to reduced flooding and improved drainage.
- Installation of flood forecasting and warning systems for increased warning lead time and capacity for flood emergency response.
- Capacity building of national and sub-national stakeholders for sustainable urban planning for more effective and holistic climate adaptation solutions.

These recommendations have formed an integral-part of the project preparation process as it will assist the Ministry of Public Works and Transport to formulate and prepare the components of the upcoming AFD loan with a consideration for climate change.

**#11**  
Sustainable cities  
and communities



**#6**  
Clean water  
and sanitation

**#13 #15**  
Climate  
action Life