Improving capacity on integrated coastal management with low impact development considering environmental sustainability and climate change in coastal area of Cambodia

ITC (Cambodia), IRD (France), Kyoto University (Japan), and RUA (Cambodia)

Background

- The relationship between cities and climate change has been under discussion by researchers and policymakers
- Urbanization is related to the climate change issue in at least two ways (WMO, 1996):
  1. A major source of greenhouse gases through energy consumption and transportation
  2. The rapidly increasing urban populations use more and more marginal land, it is augmenting the potential impacts of climate change
- Integration of climate change mitigation and adaptation into urban planning
- Maintains the sustainable development of emerging cities (i.e., coastal area)
- Need to improve the capacity on integrated coastal management (ICM) with low impact development (LID).
- The urban planning process to integrate with green infrastructure, ecosystem-based adaptation, and LID in order to improve the living conditions and renature the city landscape.

Objectives

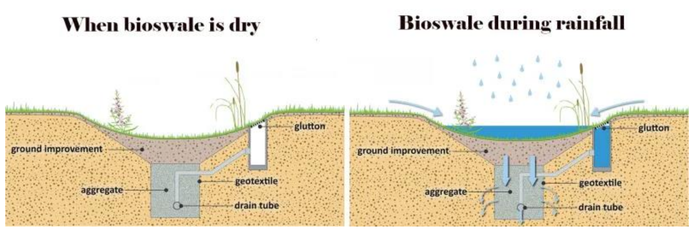
To support the integration of best practices in LID with urban planning process through scenario evaluation platform, workshops, and instruction materials that involve the participation of city planners, policymakers, practitioners, and citizens.

In order to address in-depth, the aforementioned needs, the project aims to:

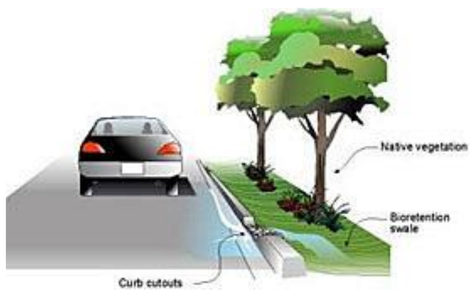
1. Develop resources to support the decision-making process (in the analysis of the best and suitable LID scheme to implement and integrate into the urban planning process in the coastal area of Cambodia);
2. Improve the participation of urban residents in evaluating suitable LID and its practices for the urban environment;
3. Support dissemination of best practice in the integration of LID in urban planning process focused on climate change mitigation and adaptation and efficient water management;
4. Foster knowledge exchange forum among academia, practitioners, decision-makers, and local people through a discussion forum in the dissemination workshop.

Key technologies and approaches introduced

1. Apply scientific modeling tool for scenario analysis on land-use and climate change impact.
2. Propose the scenario analysis (land-use change + climate change impact scenarios) of the applying LID or SCC in study area.
3. Sea-level rise estimation for Cambodian coastline based on Climate Model output.
4. Construct sea-level rise inundation maps based on the elevation data and sea-level rise estimated.
5. Dissemination, forum discussion, engagement, and training workshops.
6. Baseline and Endline survey of LID concept among practitioners, urban planners, decision-makers, local governors, and local people => track the impact of the project and awareness raising on LID concept through interaction with interviewers
7. Scientific publication + model manual for scenario evaluation + LID practice manual + urban planning policy



The Constructor: Building Idea



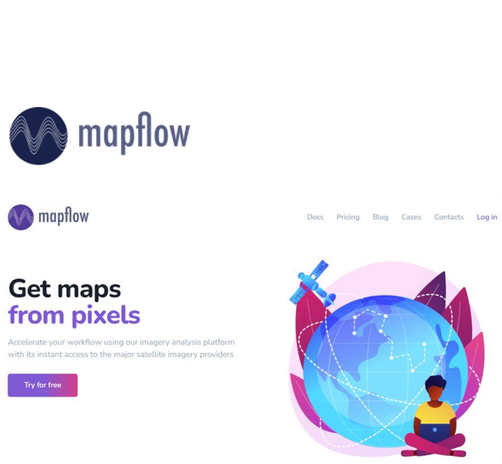
Courtesy Pierce County, Washington and AHBL, Inc.

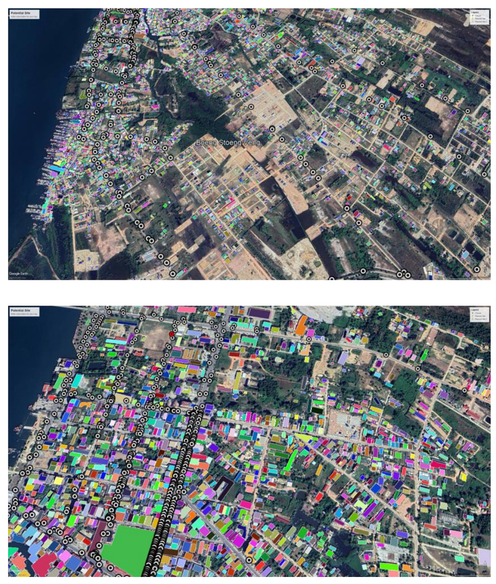
Outputs and key activities

- Water level sensor installation for sea level data collection at Kep, Kampot, Preah Sihanouk
- Drainage surveying data for Khemera Phumin city, Koh Kong provice
- PCSWMM purchased and set-up
- Forum discussion, dissemination, and training workshops
  - Baseline survey on knowledge of LID among related people
  - Forum discussion + Dissemination Workshop in Kampot (Preparing)

Implementation progress

- Three water level sensor have been installed in 3 different location of Kep and Kampot province to record the 15 minute-water level data.
- The sea level data at Preah Sihanouk province will be provided from the another project with IRD
- About 50 percent of drainage and street elevation data of Khamera Phumin city have been surveyed in May and plan to finish in next field work.
- Had collected 209 households for baseline survey among the four provinces: Preah Sihanouk, Kep, Kampot, and Koh Kong province
- Interviewed with 28 key stakeholders such as government and sub-national government, NGOs and development agencies
- Had written transcripts of Key informant interview
- Entry, cleaned, and analyzed data
- Preparing the first draft of baseline survey report
- Preparing for coming of consultative workshop (21st to 23rd of July 2022)





Key challenges and lessons leant

- The location for water level sensor installation need to meet the criteria such the strength of structure, the effect of tidal, and accessibility.
- Private properties tend to have a better security to prevent from stolen; however, it is quiet challenging to get the permission and collaboration from the owners.
- The drainage, elevation survey during rainy season slow down the progress since the equipment has less water resistance
- Processing of administrative documents in some provinces were very slow
- Difficult to make appointment with some Provincial Departments, private sectors, and National Institutions
- Have some challenges regarding the survey with households because city people have no time for interviewing

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