

# Endline Evaluation on the Impact of CLID Project Implementation

**Project:** Improving capacity on integrated coastal management with low impact development considering environmental sustainability and climate change in coastal area of Cambodia (CLID)

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## Introduction

### Background

- Current issues: climate change, lack of data set of sectoral development understanding on LID concepts, and decision making.
- Studied areas: Koh Kong (Khemara Phumincity), Preah Sihanouk (Krong Preah Sihanouk), Kampot (Krong Kampot), and Kep cities (Krong Kep).
- Baseline Result: Stakeholders and local people do not have much knowledge on the concept of LID.
- Workshop: Consultative workshop and Training workshop.
- Conducted Endline survey: To make resilient and sustainable cities through implementation and capacity-strengthening urban planners and local government need to improve the capacity on integrated coastal management (ICM) with low impact development (LID)

### Objective of Endline survey

Our Endline survey has 3 main specific objectives:

1. To understand the behaviours and knowledge of stakeholders on LID and climate change in comparison to BEFORE and AFTER the project
2. To examine the willingness to engage in LID implementation
3. To understand the policy recommendation to response the LID and Climate Change

## Materials and Methods

### Study area

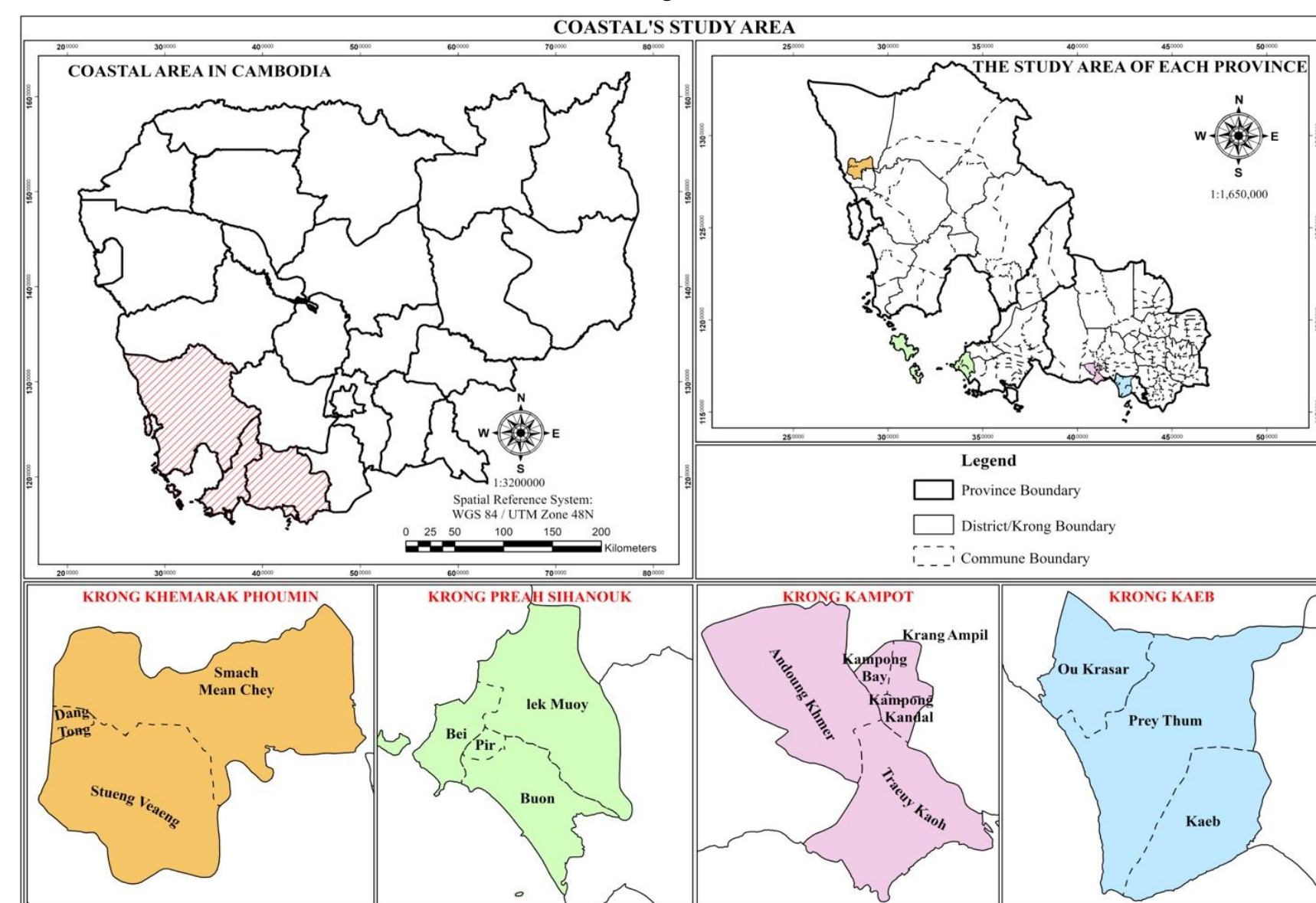


Figure 1 Map of Study area

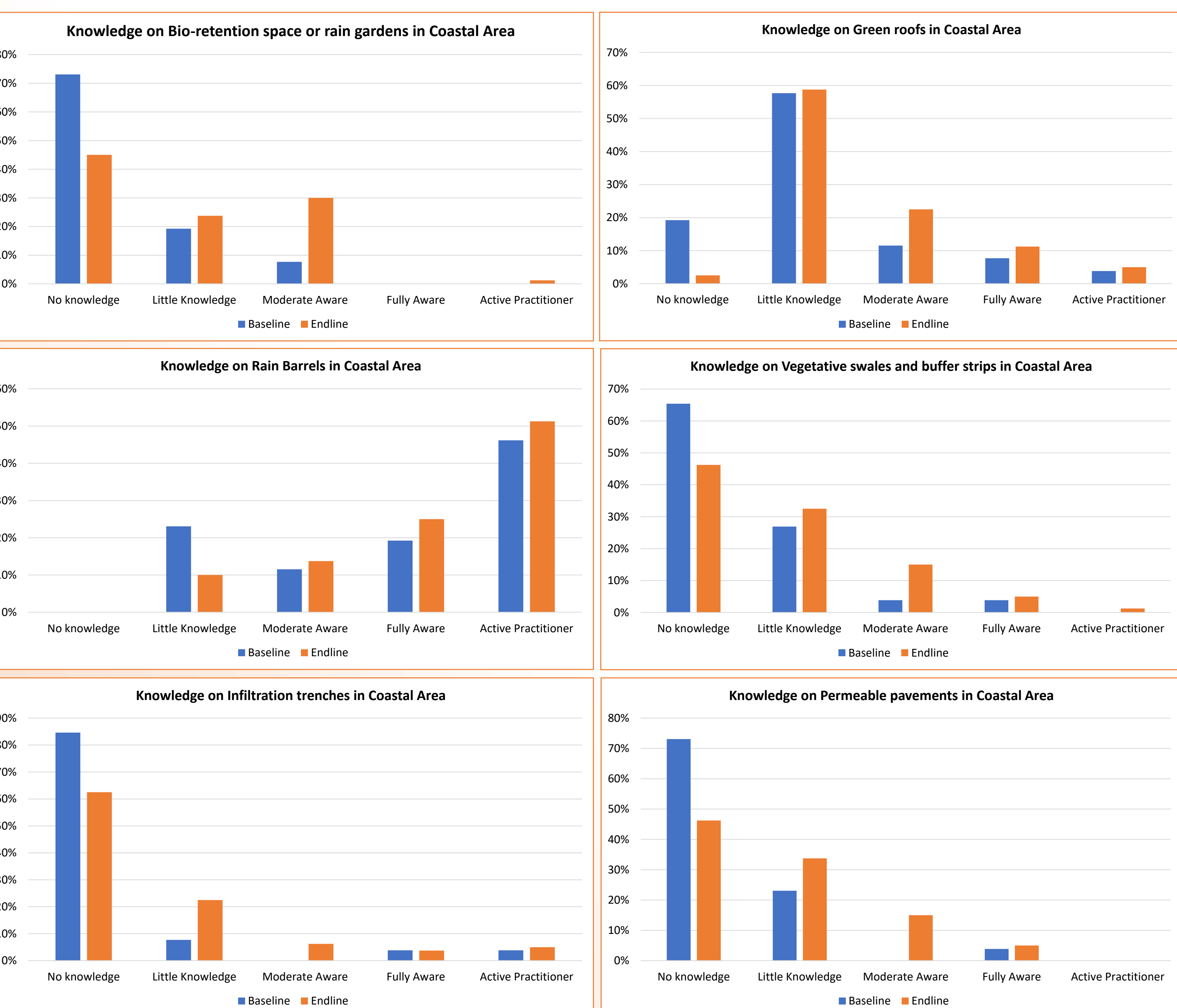
### Data collection

No	Province	NL	FGD	Pro	DP	LC	PS
1	Preah Sihanouk	-	1	11	2	0	7
2	Kep	-	1	10	0	1	9
3	Kampot	-	1	11	0	0	9
4	Koh Kong	-	1	11	0	1	8
5	Phnom Penh	1	0	0	0	0	0
Total		1	4	43	2	2	33

### Data analysis

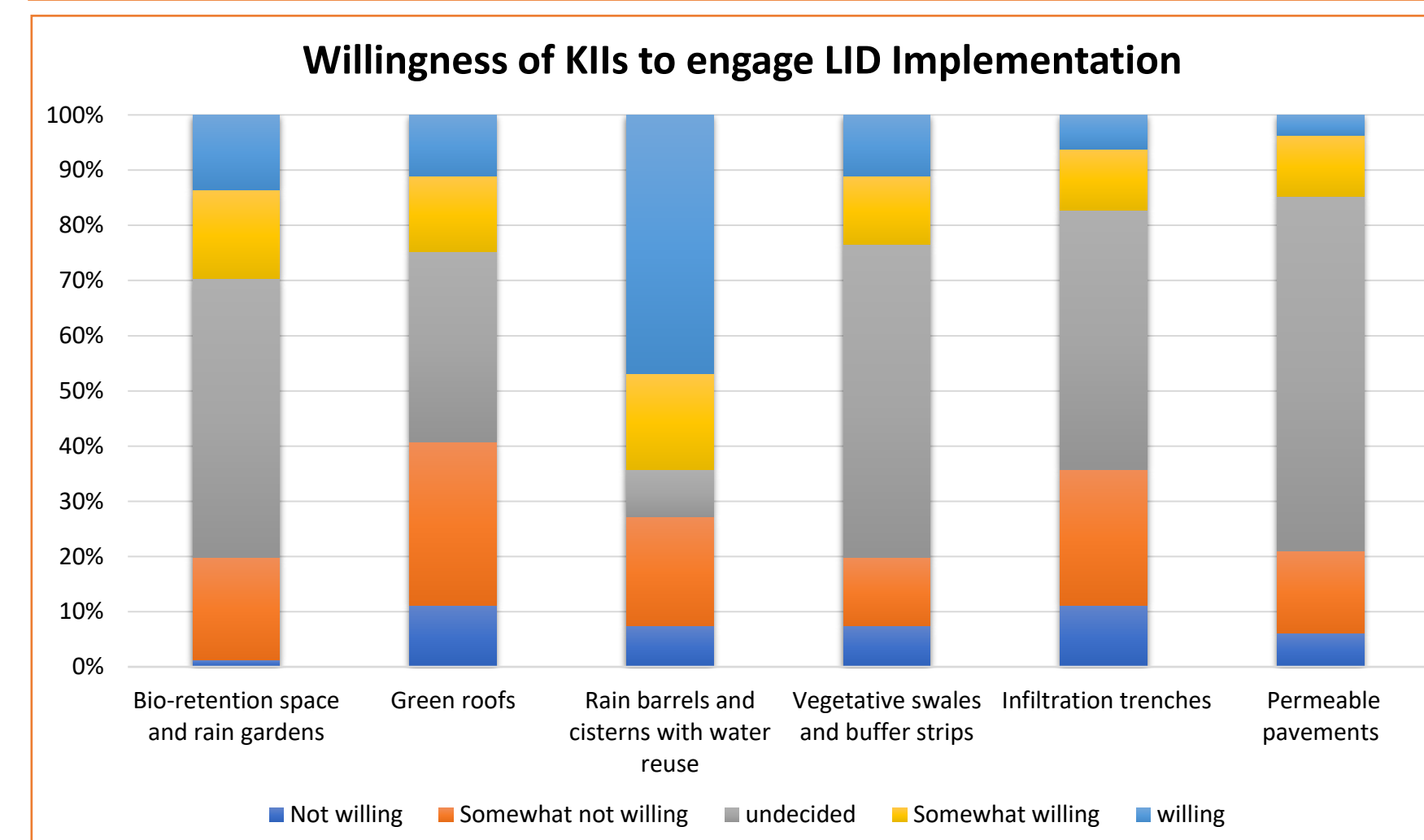
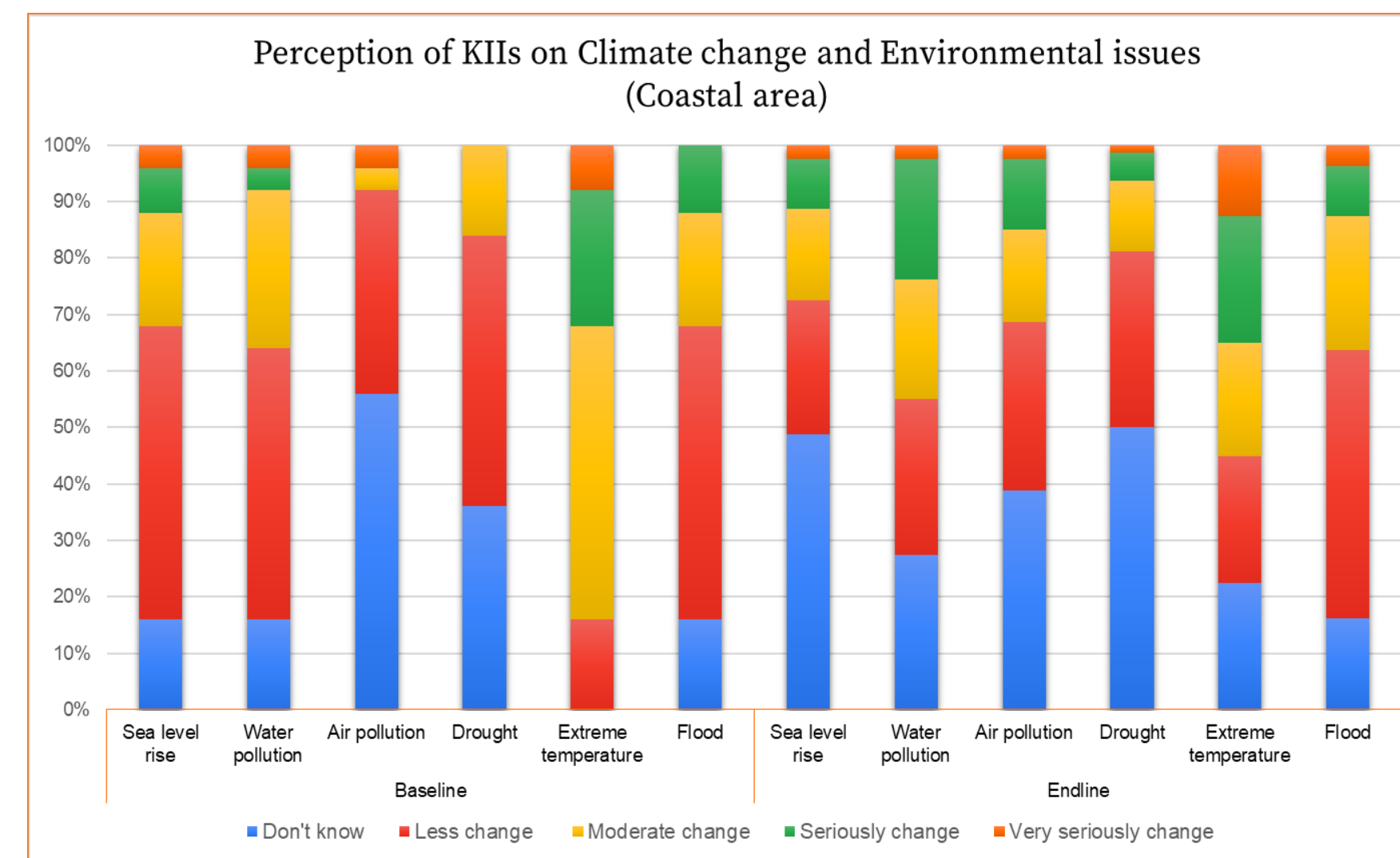
Descriptive statistics will be used for data analysis, Microsoft Excel and SPSS. Likert scale was applied to respond to the objectives of this research.

## Results and Discussion



The comparison between Baseline and Endline surveys shown that Endline had remarkable on “No Knowledge” decreasing and “Active Practitioner” increasing. In addition, Rain Barrels concept is preferable in Coastal Area. Particularly, even though there is clean water system, but people still tend to use rain water for consumption mainly in dry season. Likely, many private sectors (Hotel, Boutique and Restaurant) have practiced a few LID concepts (Bio-retention, Green roofs, Vegetative swales and Infiltration trenches) to improve their green space environment and avoiding from Climate change. By contrast, the Permeable pavements concept were well known from Highways in Phnom Penh. Therefore we assume that most of stakeholders has good knowledge on LID concepts after the workshops.

## Results and Discussion



- Climate change and environmental issues: Sea level rise, Water pollution, air pollution, drought, extreme temperature and flood.  
 ❖ Cause and Effect  
 => Dues to natural disaster and human activity condition are the causes which effect on the environmental condition.

- Mostly, LID concepts have to make the priority decision between National and Sub-National.  
 - Rain barrels and cisterns with water reuse concept is the highly willingness because they recently use it for consumption mainly in dry season.

### LID Implementation

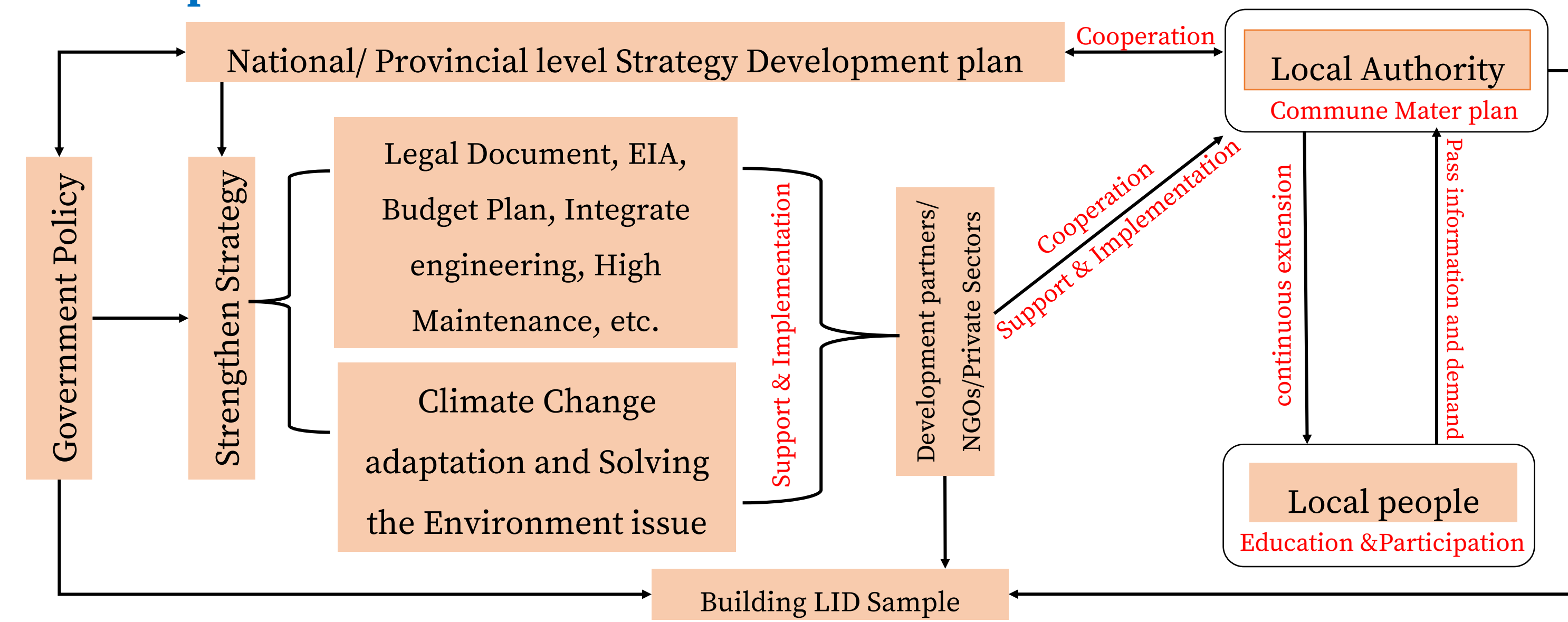


Figure 2 The structure of policies should be improved on LID

### ❖ The study give recommendations below for improving the LID are

1. Capacity building: strengthening on strategy development such as the legal document for LID, technical skill, human resource, etc. should be done to National and sub-national levels;
2. Budgeting: there is need budget on the professional expert, materials and labors on the LID implementation
3. Master plan: mainstreaming the LID concepts into Commune Master Plan 3 Years: case study in Krong Khemarak Phoumin, local authority mentioned the existing from nature where is the canal and should be propose in the Commune Master Plan
4. Cooperation: Need more responsible and participation among all sectors and development partners
5. Building LID sample: Choosing one location in the coastal

## Conclusion

Therefore, regarding to both CLID workshops, the majority of the participants have had knowledge on LID concepts. With the remarkable of climate change and environment issues, they thought that LID is really important as urgent solution for city. However, they still need support from national and development partner in order to improve their willingness to engage on LID. Along these, the capacity building and budget are important elements for LID implementation.

## Suggestion and Recommendations

- As seen most of stakeholders are lacking of technical skill on LID concepts => Provide the technical training workshop than theory.
- This concept should be begun from small size in the suitable region in coastal=> All relevant stakeholders and local authorities consider to insert a few LID in Commune Master Plan.
- Garbage and Plastic bags is an environmental issue which is very serious affect on the procedure of LID implementation => All relevant stakeholders must involve to reduce issues.
- Many stakeholders are misunderstanding the LID concepts dues to the language barriers => Translate into Khmer and distribute publicly the LID documents

## Acknowledgement

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- Thanks to all key stakeholders for actively participate in the survey.

