

Connecting **Blue** and **Green** Space to Create a More Resilient Future

UI Lakes & Surroundings

**Garbage everywhere?
Playing in the dirty water?**



Goal

Improve the water and its surrounding environments through social and physical interventions.

Methodology

15/01 Interview with residents in the area
16/01 Interview with the market inhabitants
18/01 Questionnaires
19/01 Data analysis

Participants

The community leader,
A family living in the informal house,
Residents in the community

Hypothesis

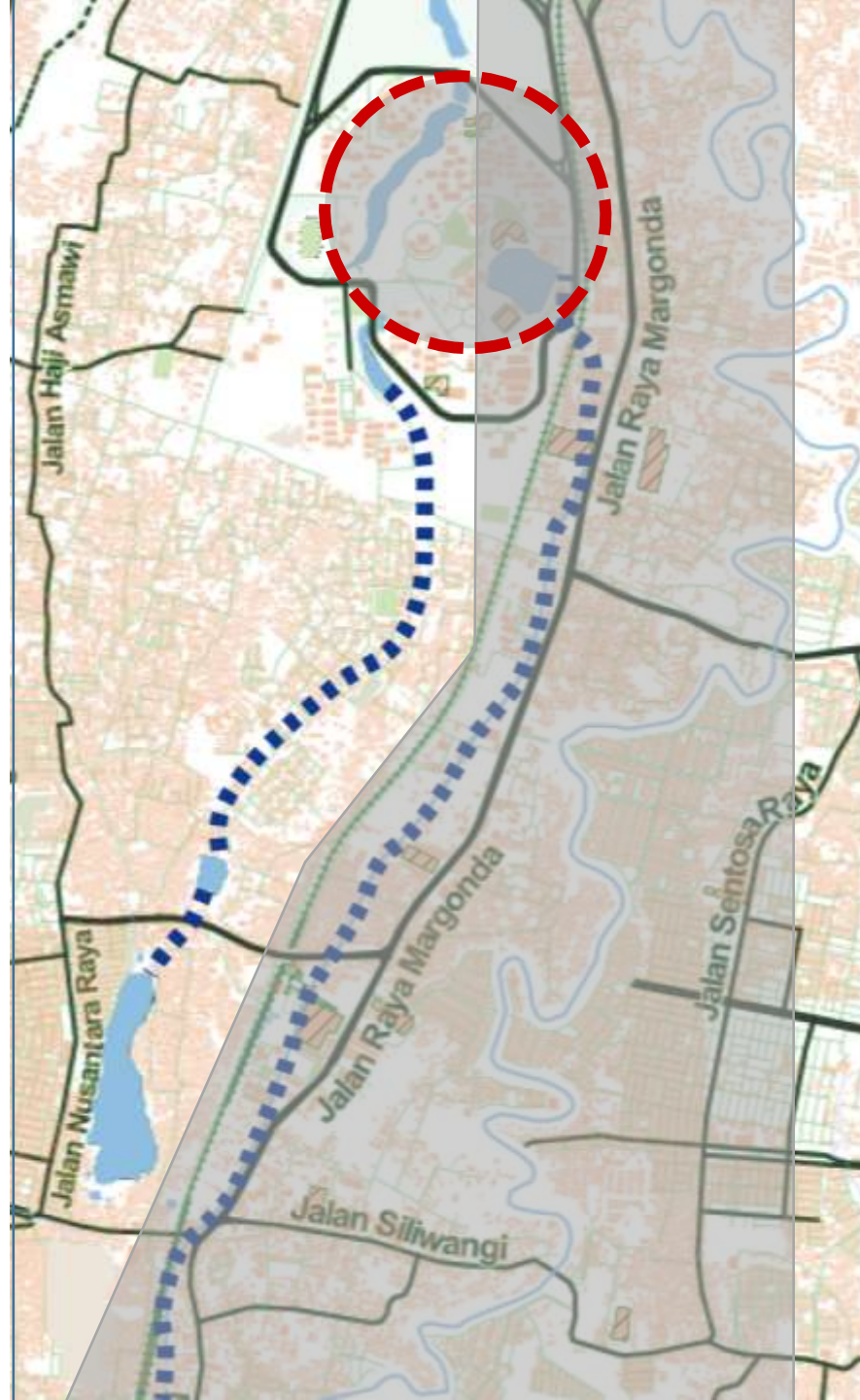
This project design and research hypothesizes that the whole water system and management **would be more dynamic if both eastern and southern upstream areas are re-managed and connected with the UI campus lake.** Various circumstances in sites recently **have positive and negative aspects,** and to search best solution is to consider both aspects.

Methodology

Literatures Review, Preliminary Site Visit & Observations, In-depth Interviews, Questionnaires, Focus Groups Discussion (FGD), Findings & Data Analysis
Keywords & Solutions

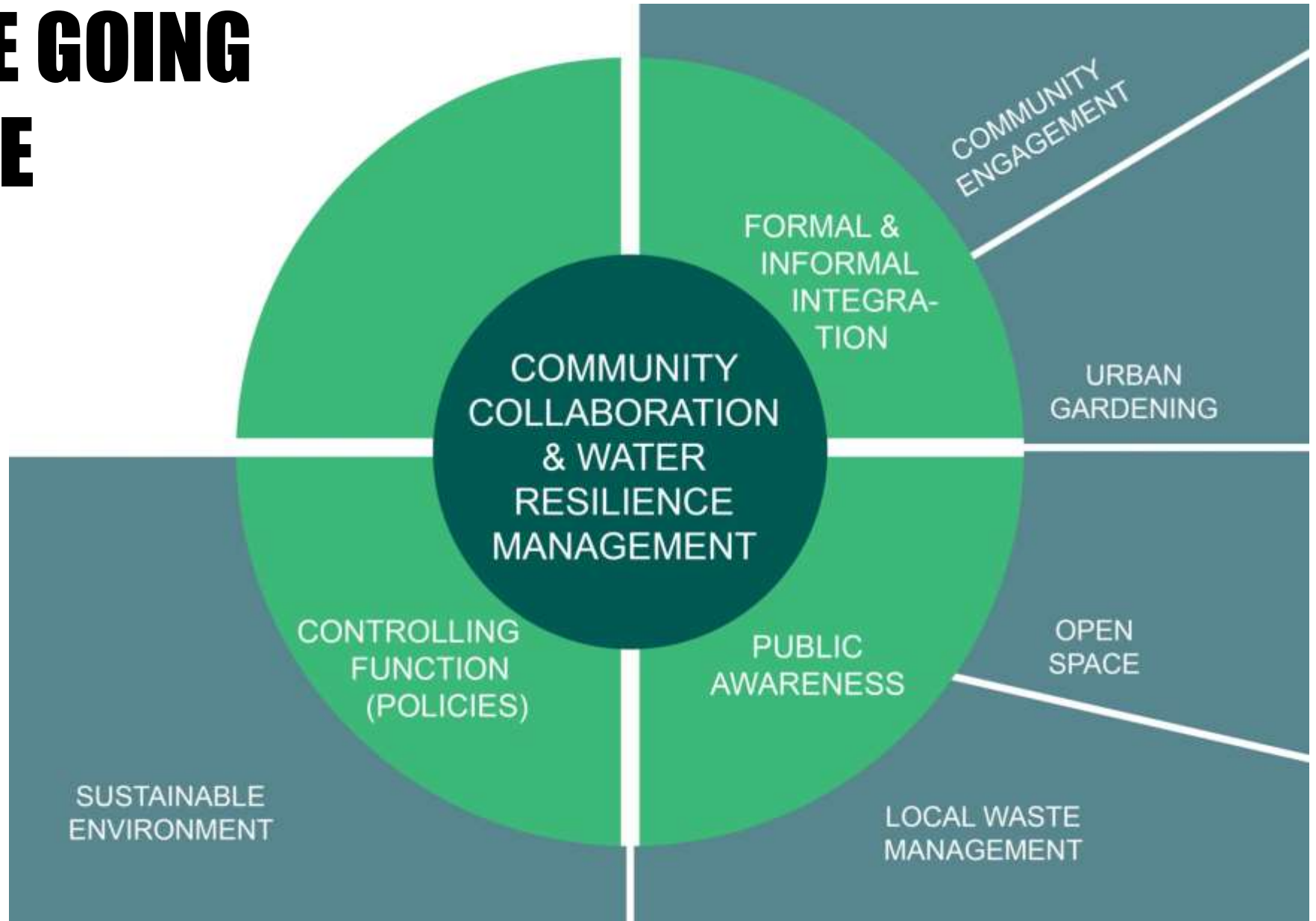


**Western up-stream
area of Agathis Lake**



**Eastern up-stream area
of Kenanga Lake
(Kali baru river)**

HOW WE ARE GOING TO SOLVE THE ISSUES



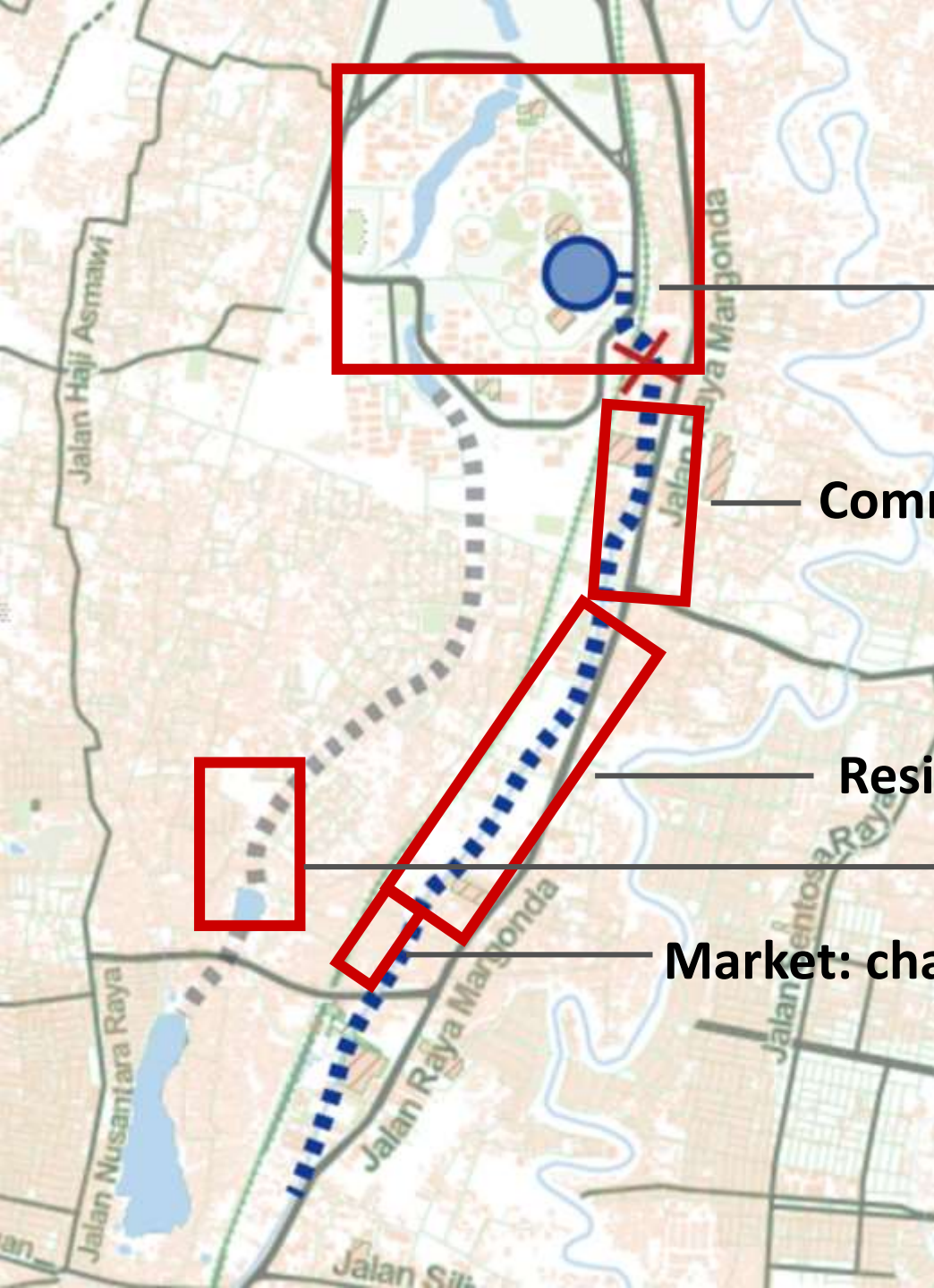


BACKGROUND

The Kalibaru and Agathis creek are two upstream rivers. Each area has special features.

For The Kalibaru, it was discovered that the main pollution source comes from the Kemiri Muka market, which is the largest market in this area. The components of this place are fairly complicated. The riparian area of the Kalibaru River contains two parts: commercial and residential. Thus, the problems are complicated, but a majority of them can be solved through physical means.

For example, in market, we found the main reason that some sellers throw garbage into river is there are not many garbage bins around them. And for part of the residential area, what surprised us most was some little children play in the dirty river because they have no open space for outdoor activities.



UI: floating vegetation, rainwater treatment

Commercial area: trash thrown directly into the river

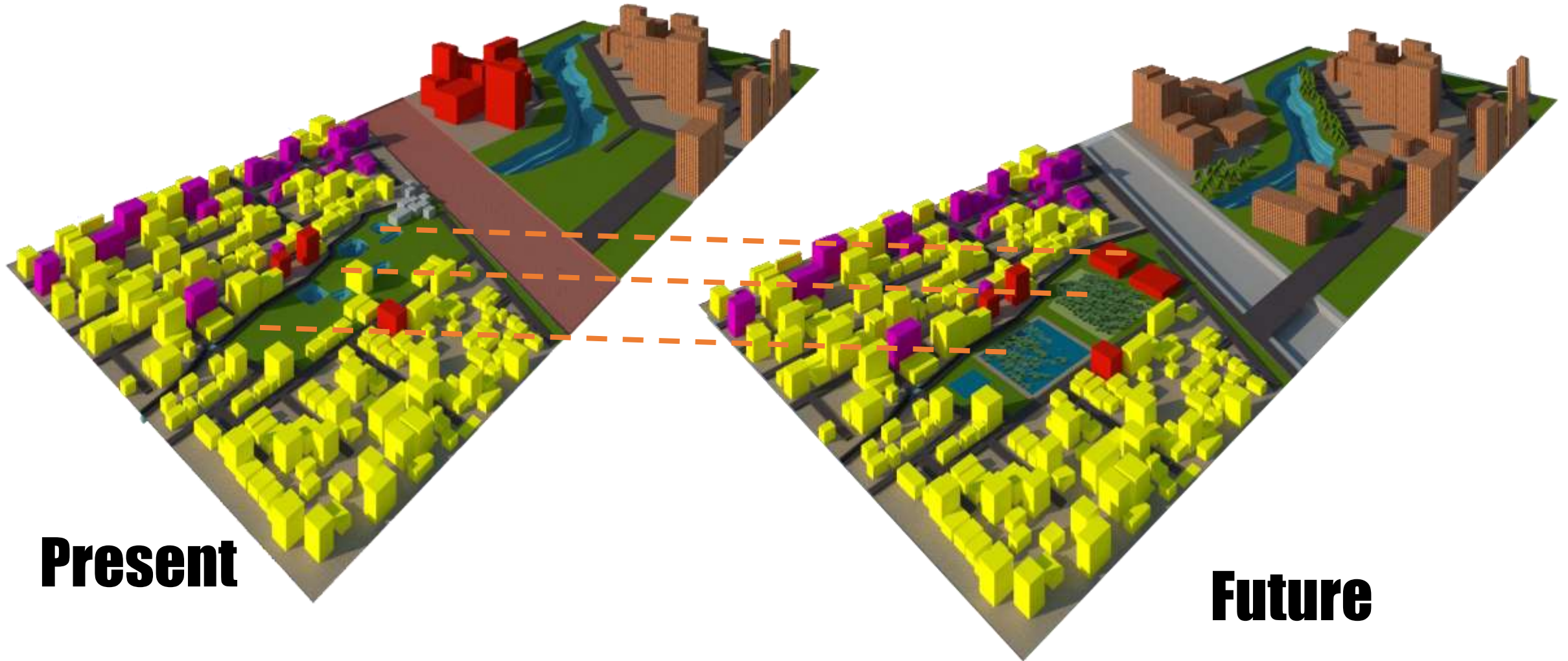
Residential area : impermeable pavement, little open space

Waste management and social engagement

Market: chaotic functional divisions, lacking needed infrastructure

KEY PROBLEMS

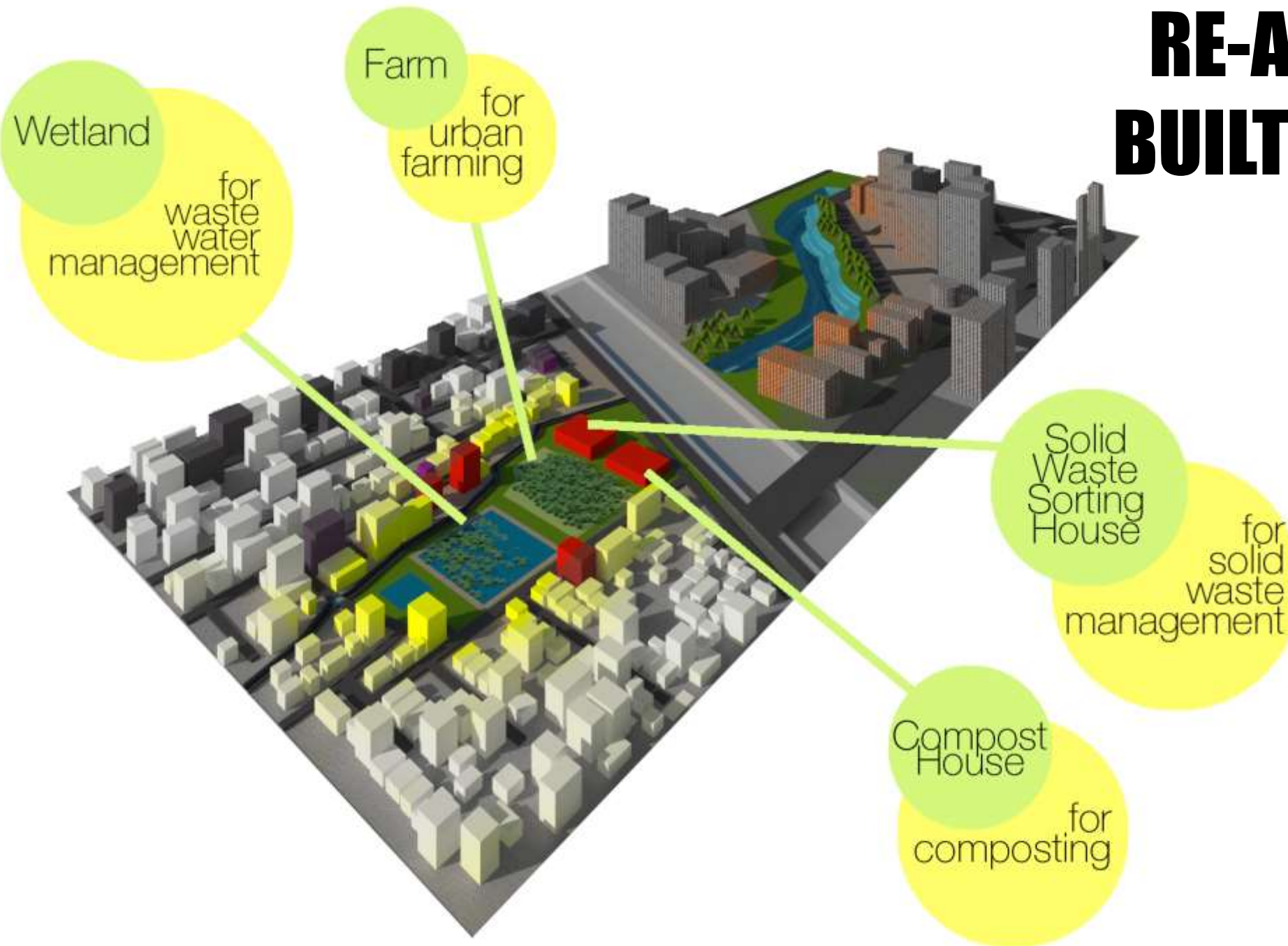
RE-ARRANGING THE BUILT ENVIRONMENT



Present

Future

RE-ARRANGING THE BUILT ENVIRONMENT



LOCALIZED SOLUTIONS-MARKET

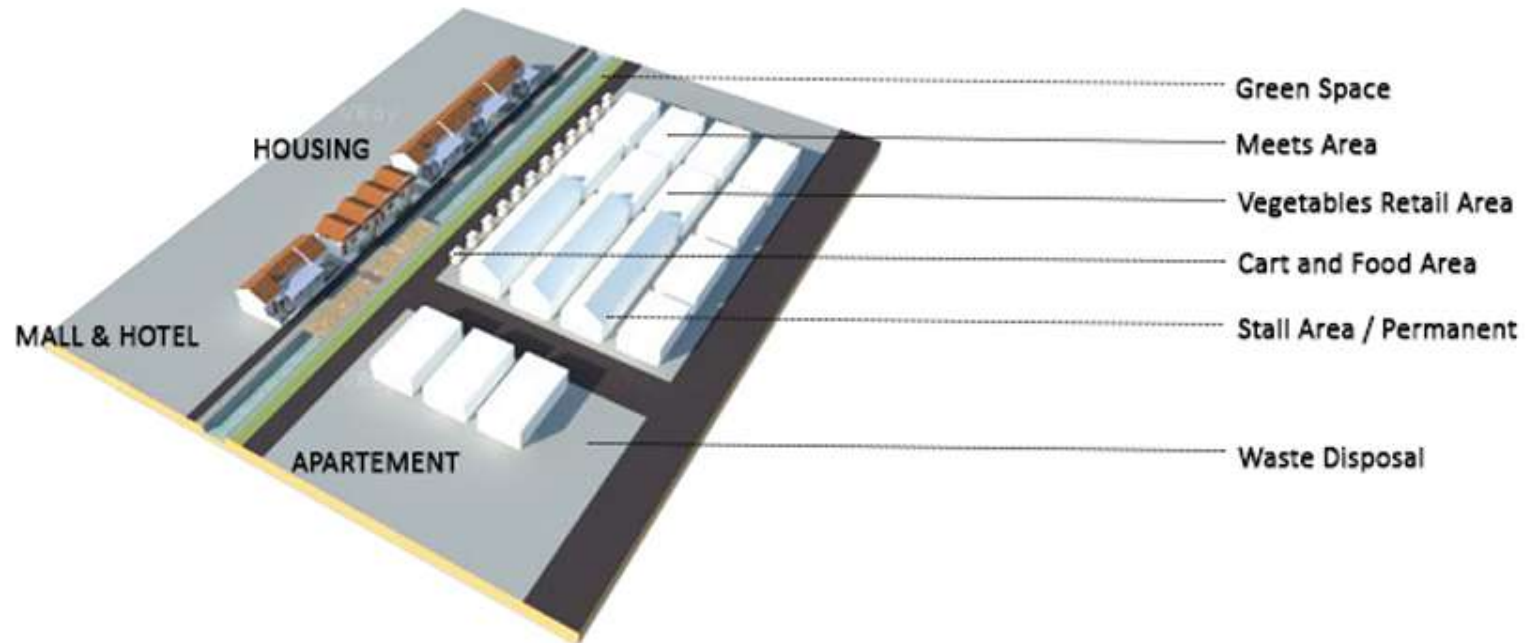
HOUSES

GARBAGE N



- 1 Market existing has a random zone and the river behind the market .
- 2 Maintain the permanent building.
- 3 Laying the new retail for vegetables and meet near the road and and cart areas facing the river
- 4 Greening the open space around the river and make some communal area.
- 5 Zoning the market area:
 - Cart and Food Area
 - Stall Area
 - Vegetables Area
 - Meets Area
 - Waste Disposal

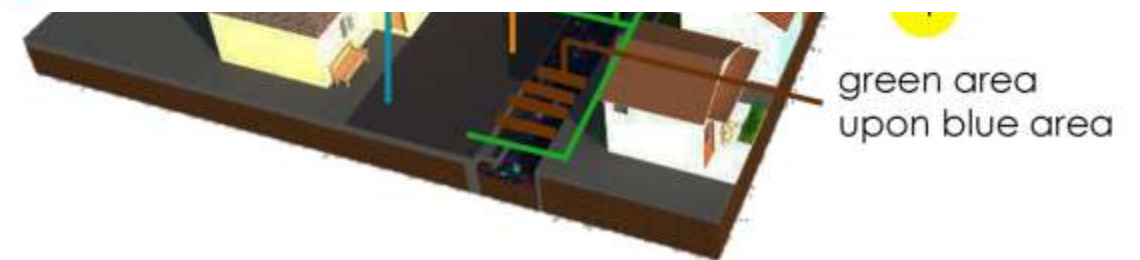
MARKET LAYOUT PROCESSING



LOCALIZED SOLUTIONS - RESIDENTIAL

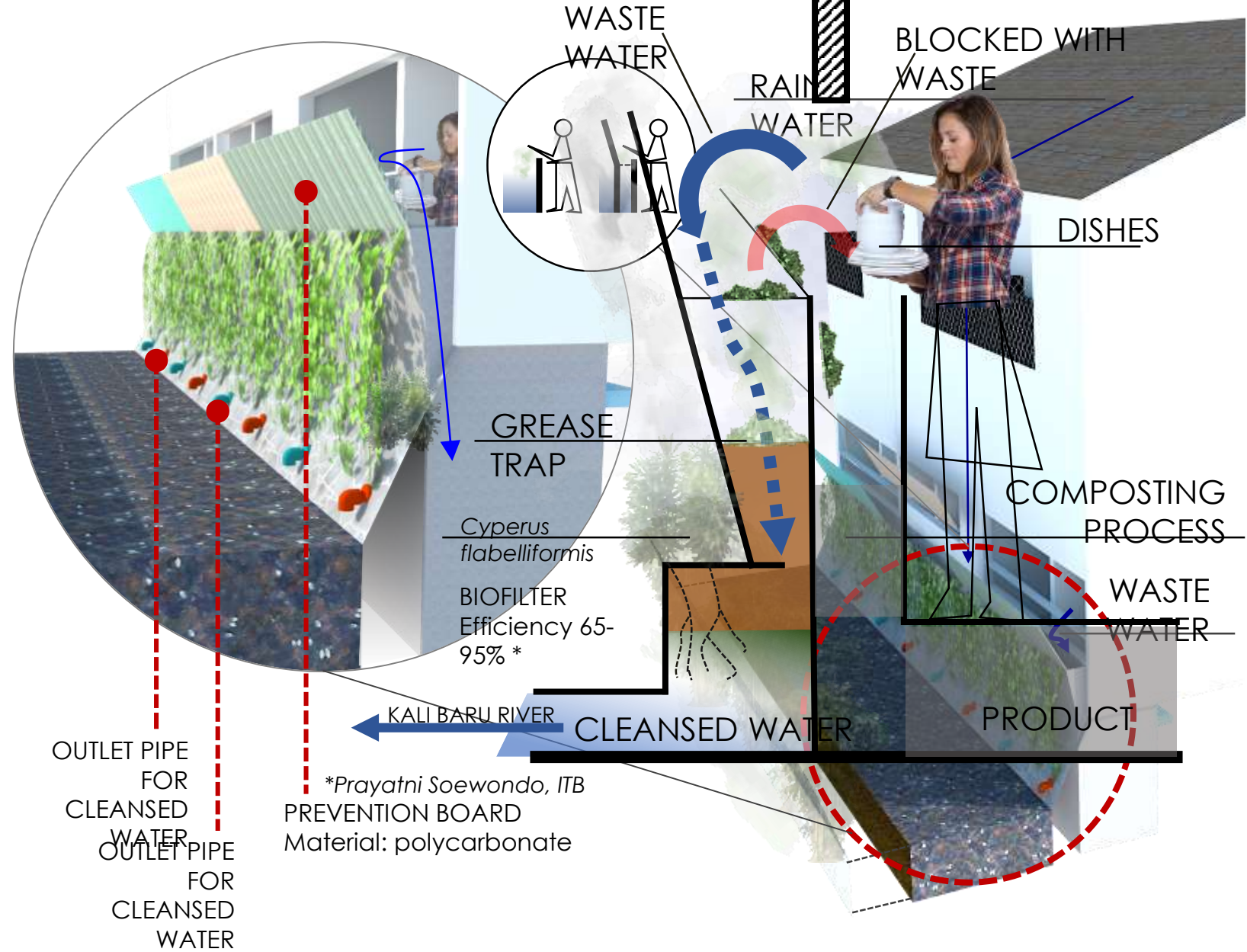


- gate system
- purifying system
- open area for activities





LOCALIZED SOLUTIONS - COMMERCIAL



UI CAMPUS

Reconnect
Water system
Rain water management



Filtration

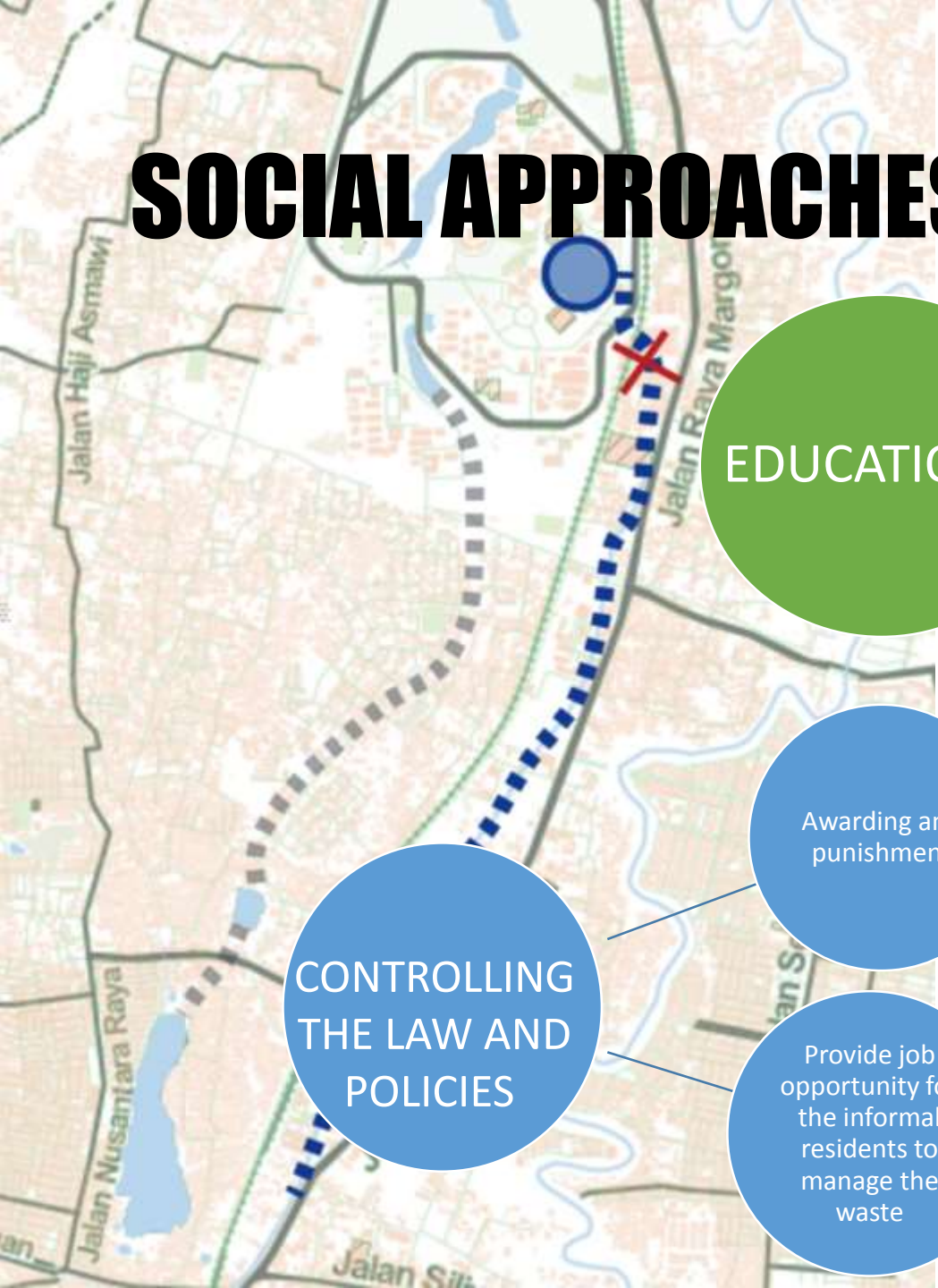


Collection



Reuse

SOCIAL APPROACHES



EDUCATION

Eventual activities

- Gardening regularly
- Family gathering
- Games
- Discussion
- Interactive class
- Watching educational movies

Encourage community to follow 3R

Campaign
Info graphic

- Info graphic:
- Poster, publicity, graffiti

CONTROLLING THE LAW AND POLICIES

Awarding and punishment

Provide job opportunity for the informal residents to manage the waste

FINANCIAL SUPPORT

Sewage treatment infrastructure

Closing the bad outlets from the residential area

Clean the stream

Introducing and installing green infrastructure

SOCIAL APPROACHES TO WASTE MANAGEMENT

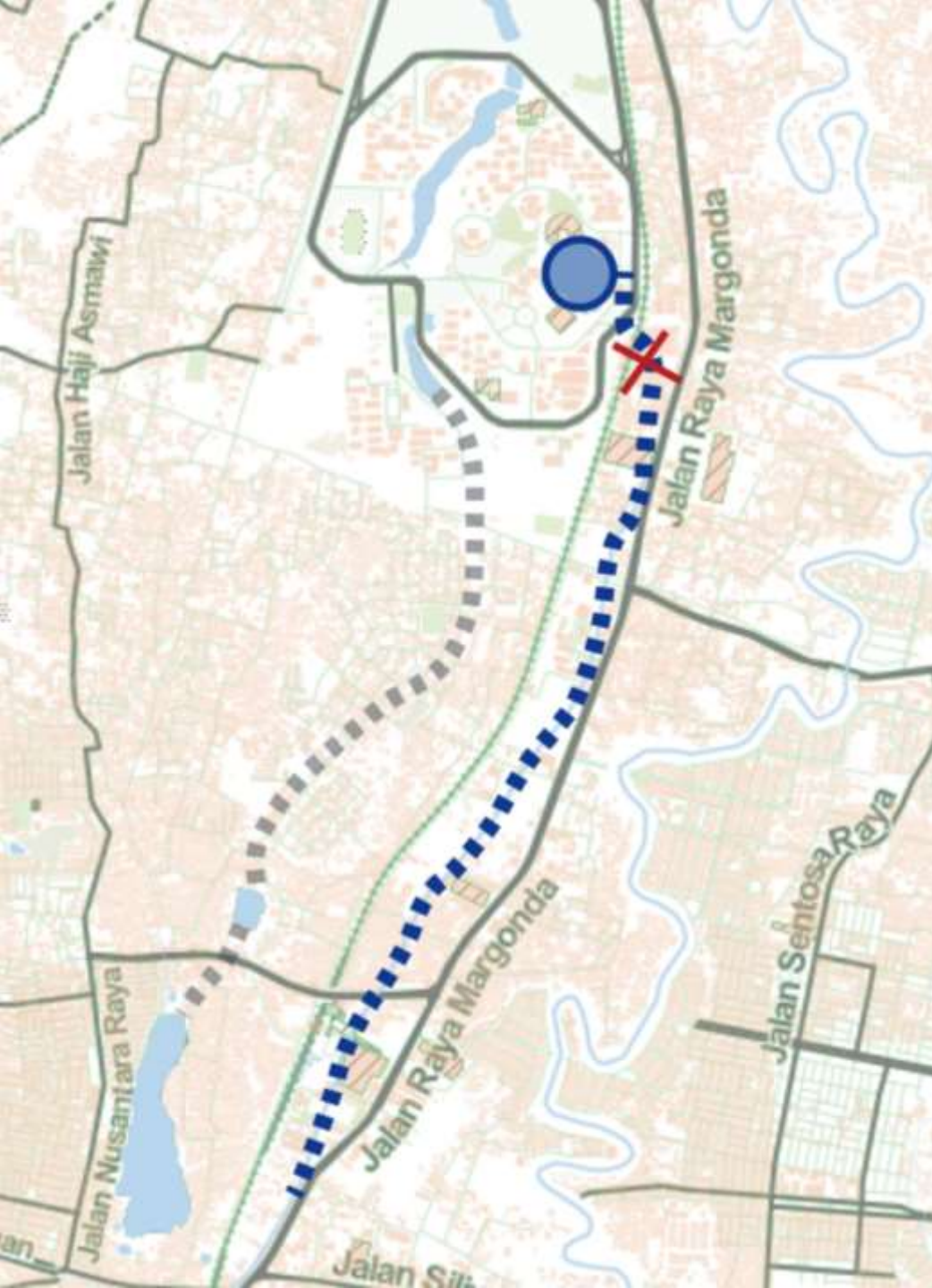


future



present





CONCLUSION

- solutions for residential areas can also be applied to commercial areas in riparian zones).
- little awareness of proper waste management practices
- implementation of solutions should depend on public support and government policies

There are some problems when integrating informal and formal settlements that we found in neighborhoods near the river. Therefore, all solutions should have specific characteristics to match different physical contexts.