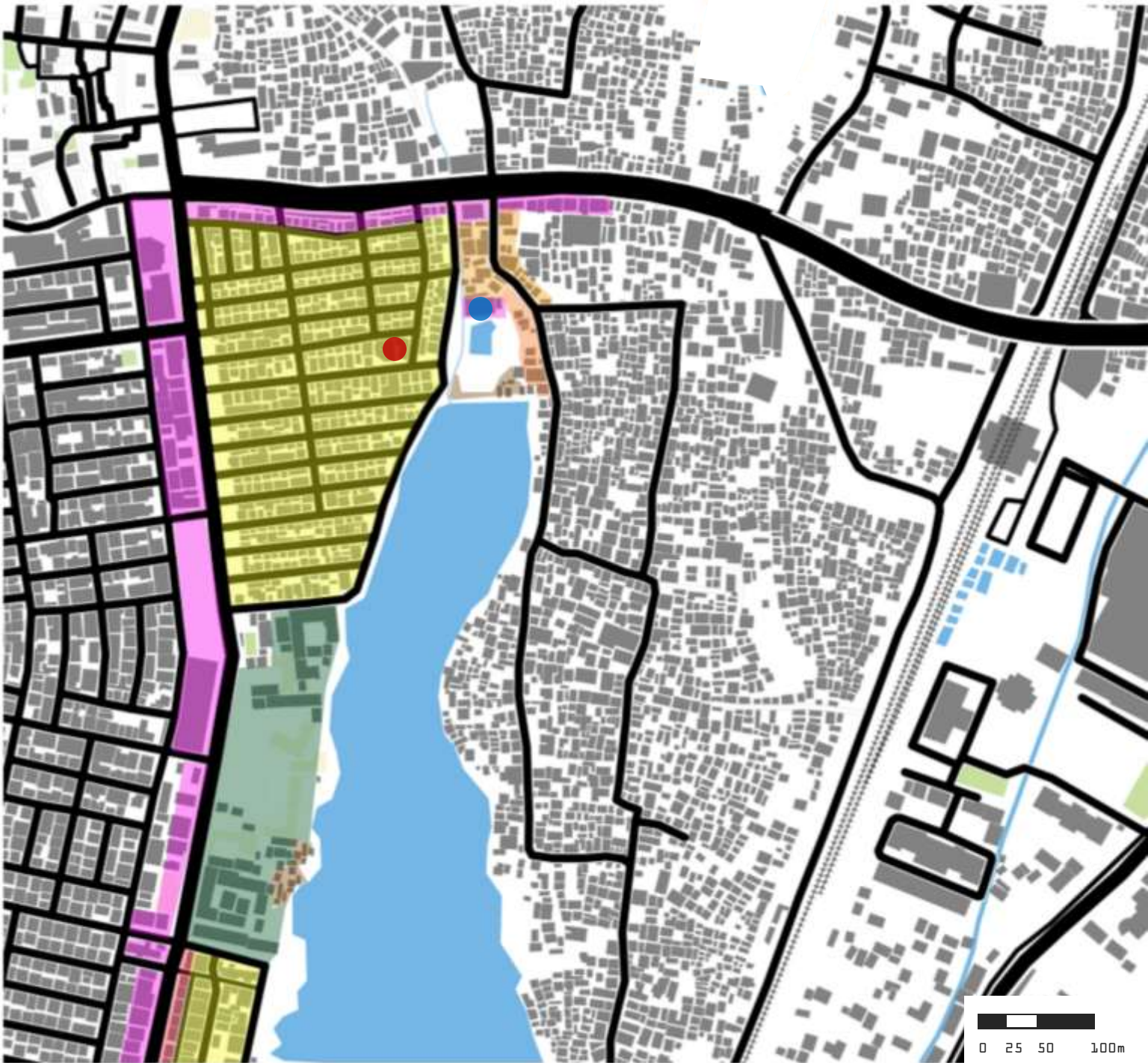




SETU RAWA BESAR

Living side by side with setu// turning water into opportunity



ACCESSIBILITY

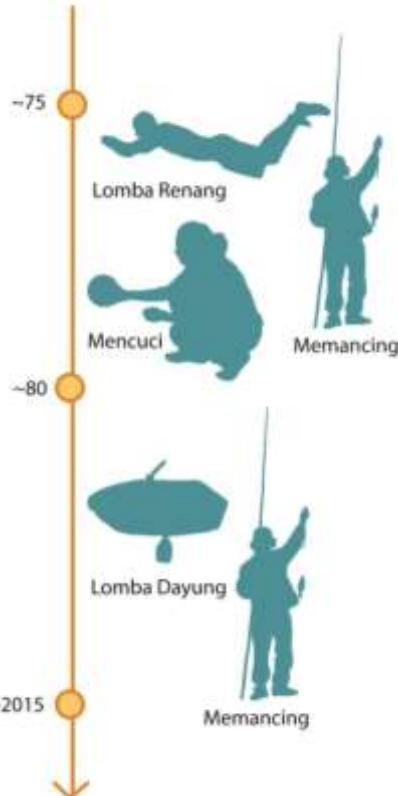
- water boundaries
- vehicle access
- pedestrian access

EXISTING LAND USE

- setu rawa besar
- formal housing (perumnas)
- informal housing
- formal housing
- schools
- retails
- mosque
- retails

PAST

settlement
pollution
industry
etc



PRESENT

LOST CONNECTION

If still no connection, What will happen?
→ flood, env. Degradation, etc

Keep the connection,
What will happen?



FUTURE

WATER AS AN OPORTUNITY

LIVING SIDE BY SIDE WITH SETU RAWA BESAR

programme

SETU TO PEOPLE

PEOPLE TO SETU

leisure

economic

as a situ's warden

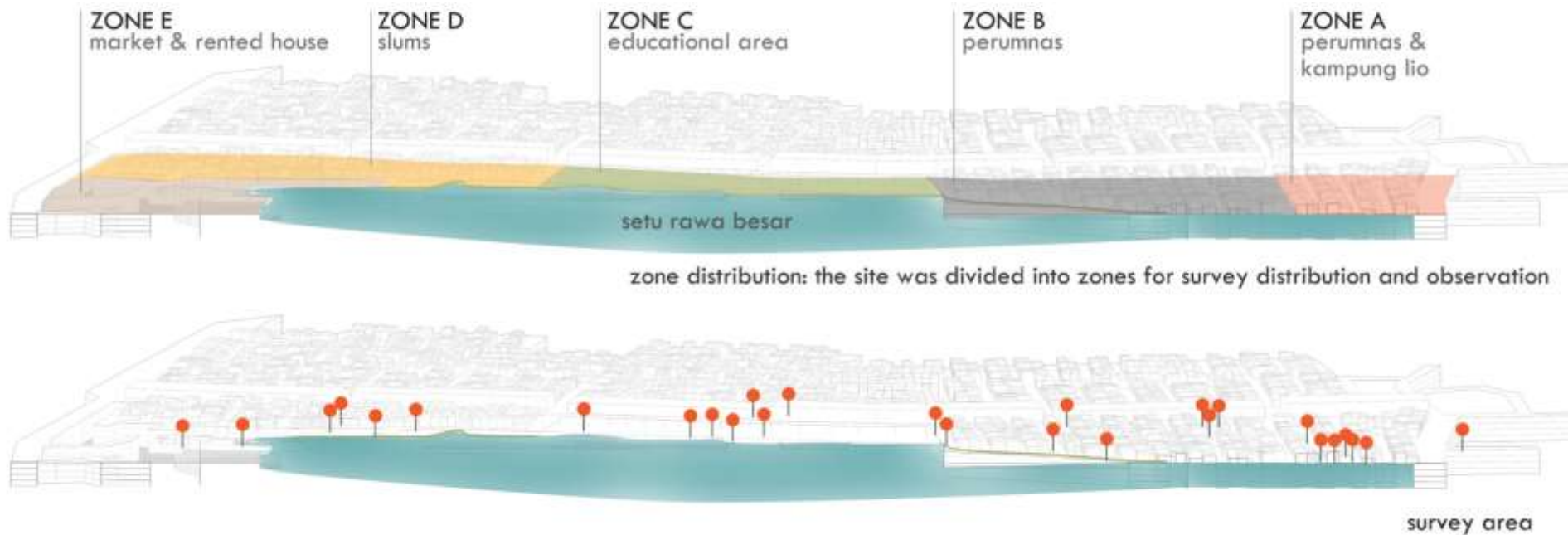


- From fishing
- From small shops
- Job as care-taker of setu

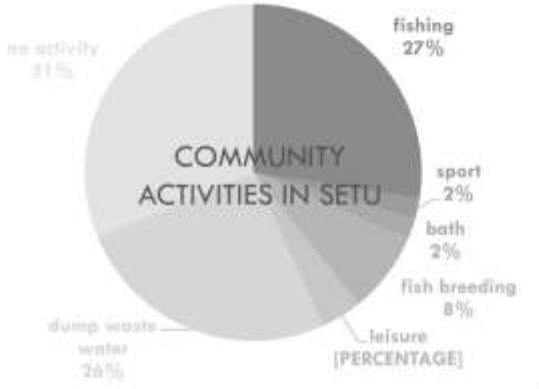
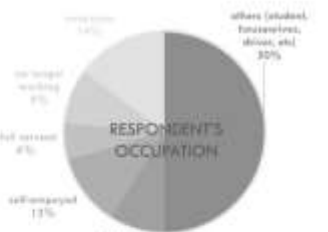
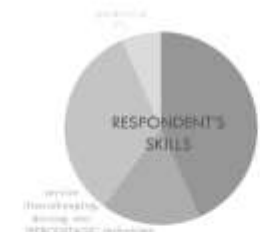
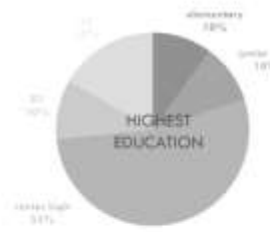
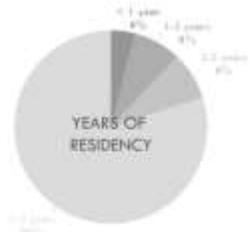
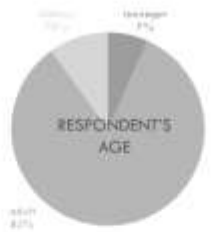
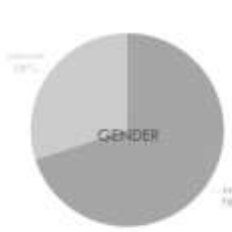


METHOD

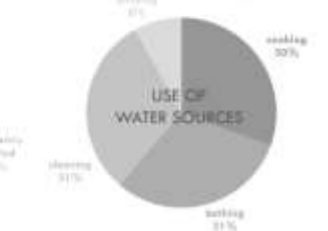
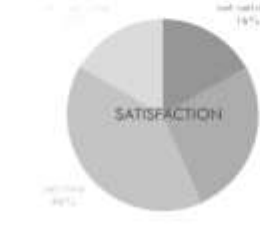
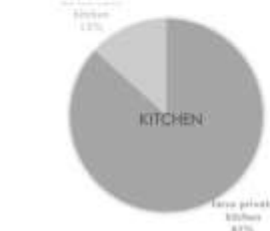
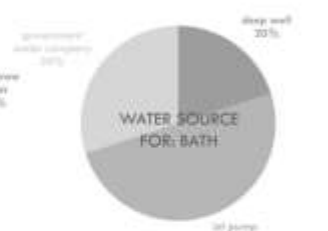
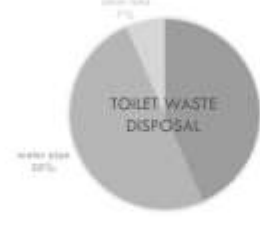
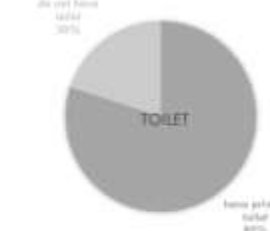
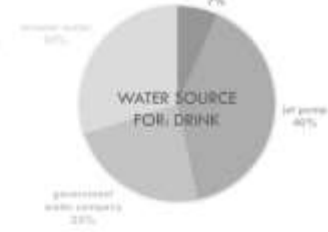
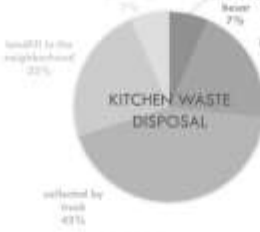
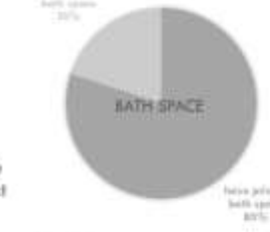
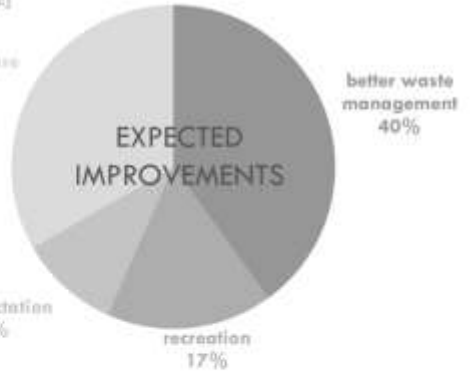
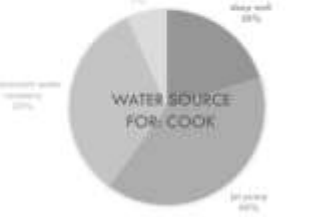
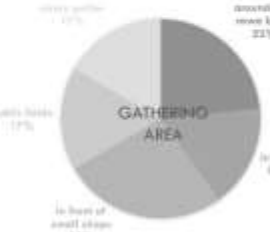
the survey and observation were conducted on monday, january 18, 2016 from 2:00-5:30 pm
34 survey results were gathered. the survey was administered using Fulcrum via mobile devices



survey on chart



SURVEY RESULTS: on resident's awareness and on condition towards setu rawa besar



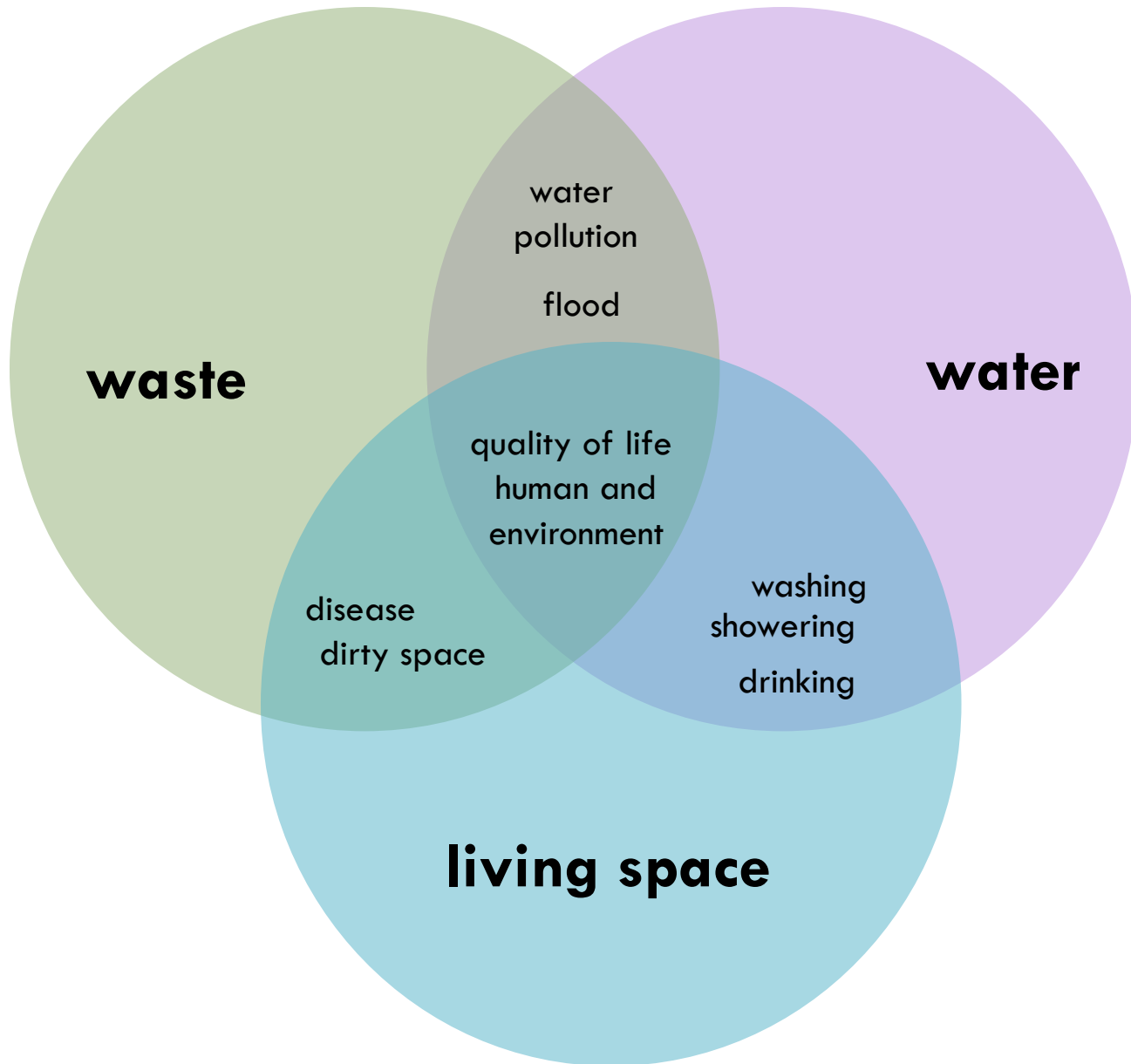
survey is conducted on monday, jan 18th. the results gathered from 34 random respondents we interviewed.



photos of site



problem identification





land use



landfill



water flow



wetland



masterplan



BEFORE



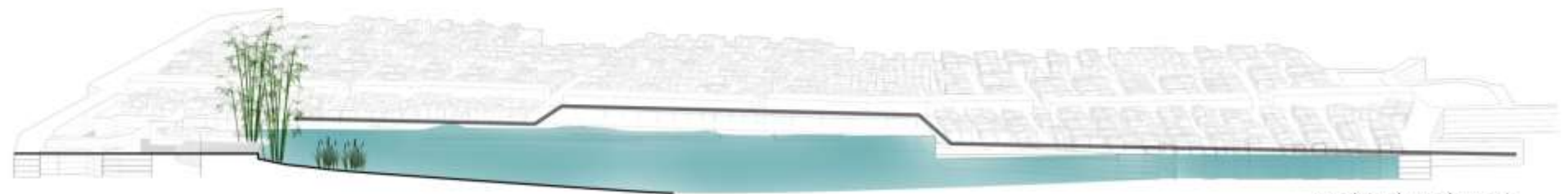
AFTER



living spaces



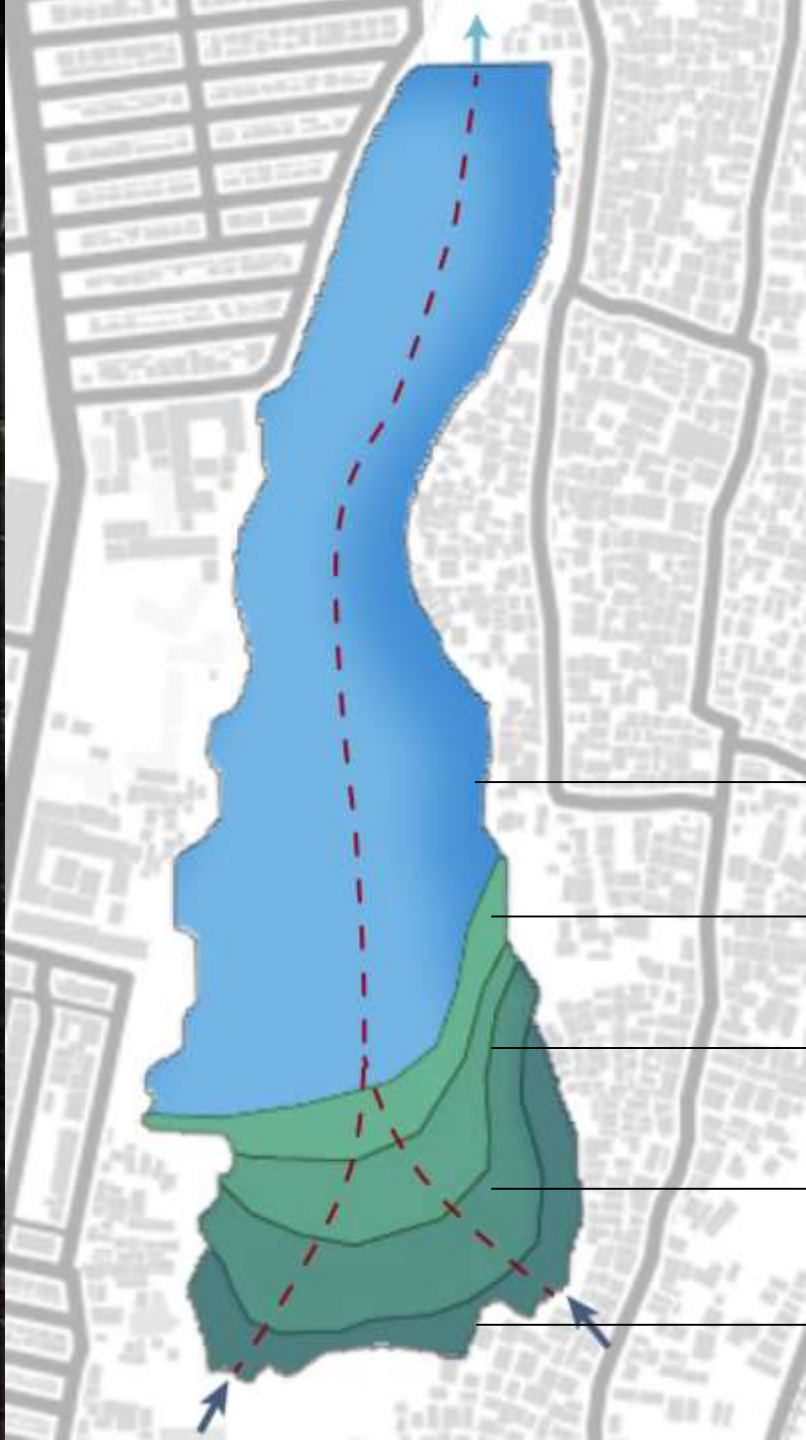
solid waste management



water treatment

water management





Water Quality Stabilization and Control

Nutrient Removal

Metal Removal and Bio-Purification

Water Precipitation

Water Screening

In order to solve water pollution, we can use **eco-wetland** as solution.



Cat Tail



Calamus

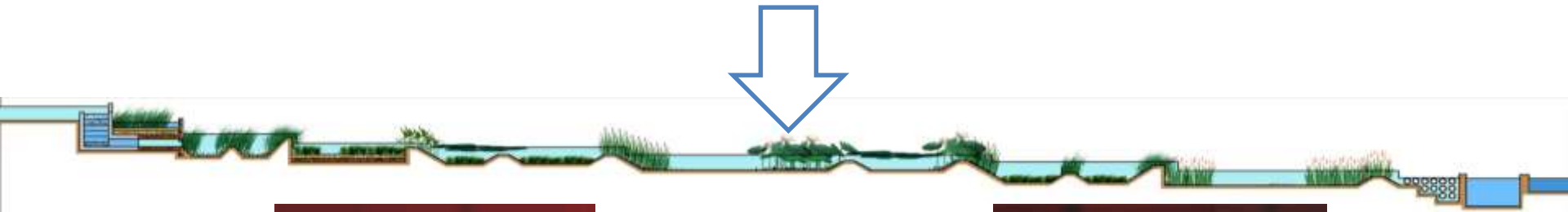
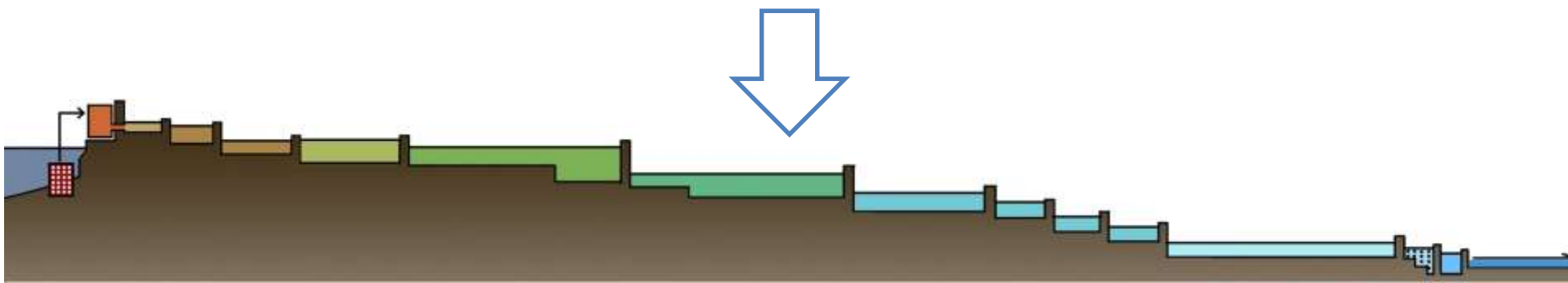


Arundo Donax

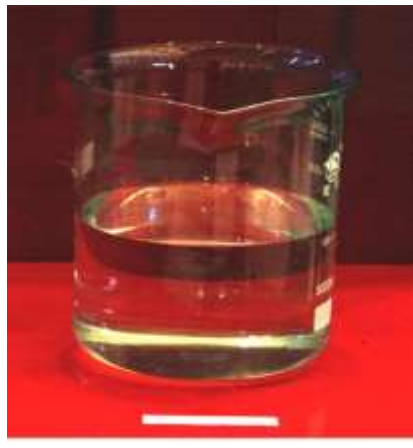
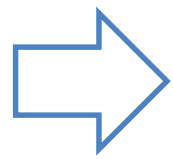


Scirpus Validus

Shanghai Dong tan wetland park :The water cleaning mechanism of man-made wetland



Class Minus V: highly polluted river water



Class III: Drinkable water, specifically used for rare aquatic organisms and animals



Bamboo



cat tail



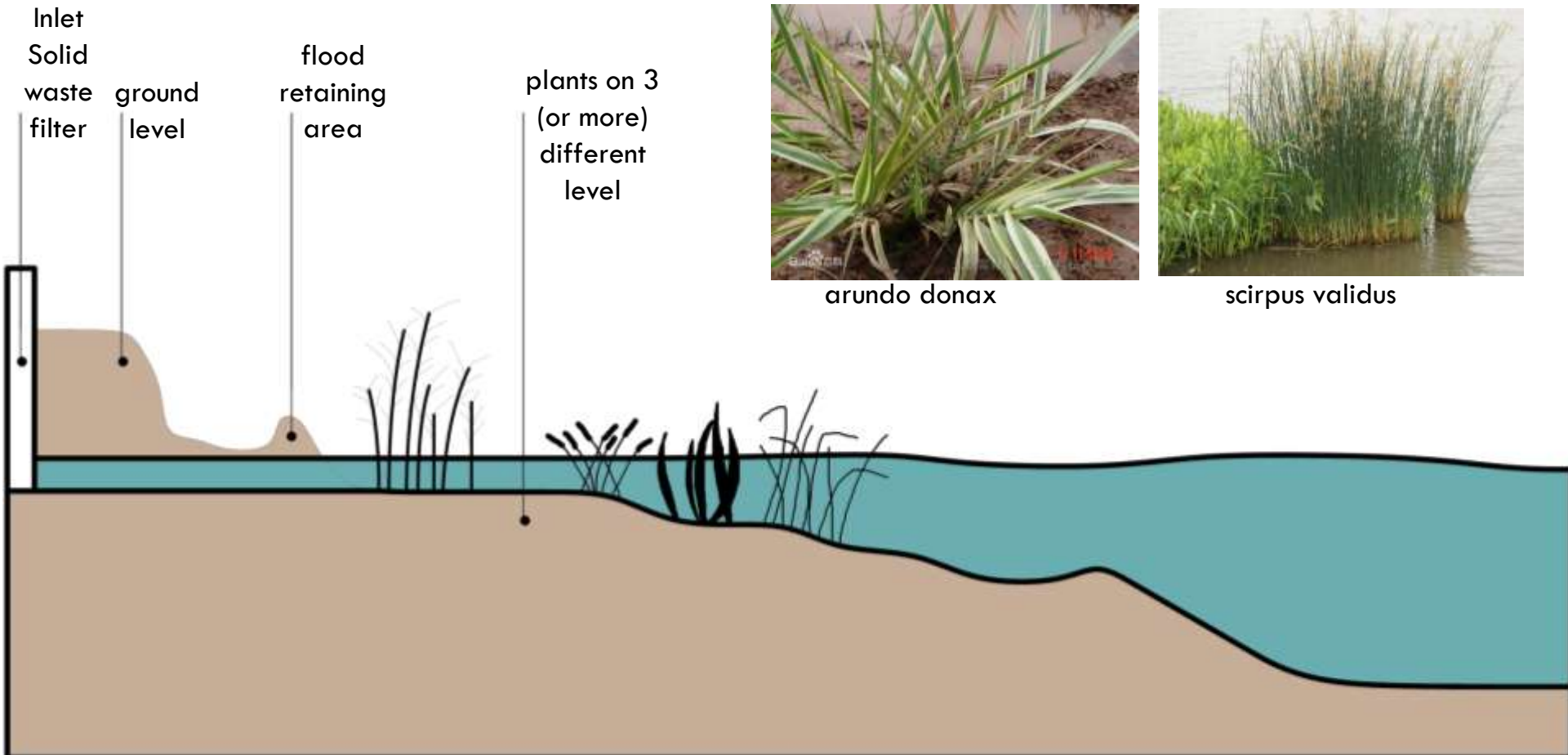
calamus

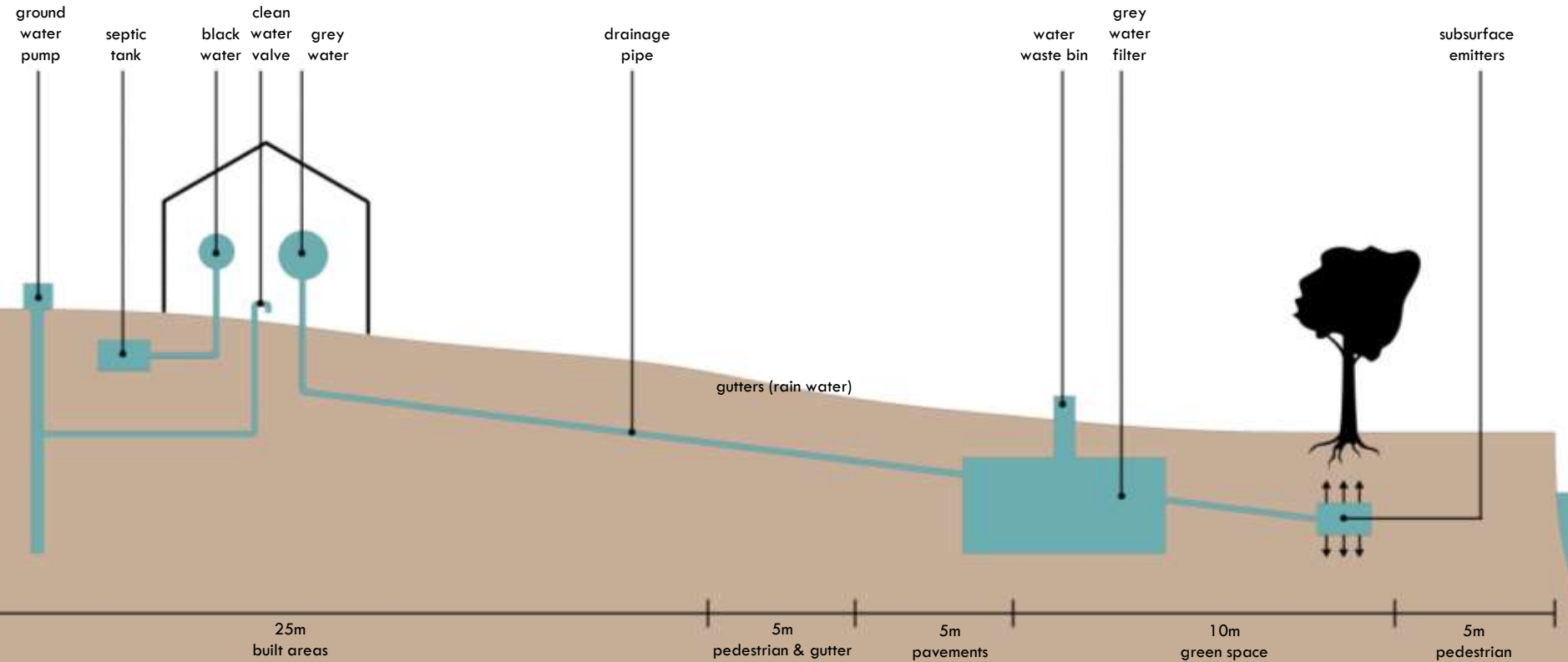
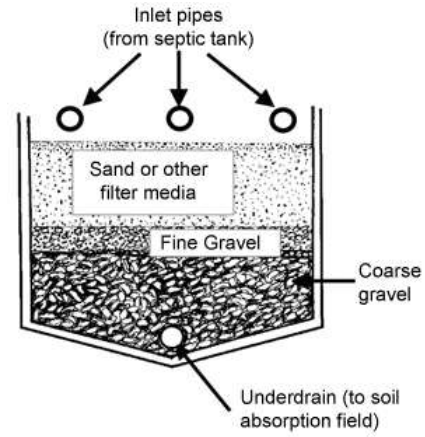
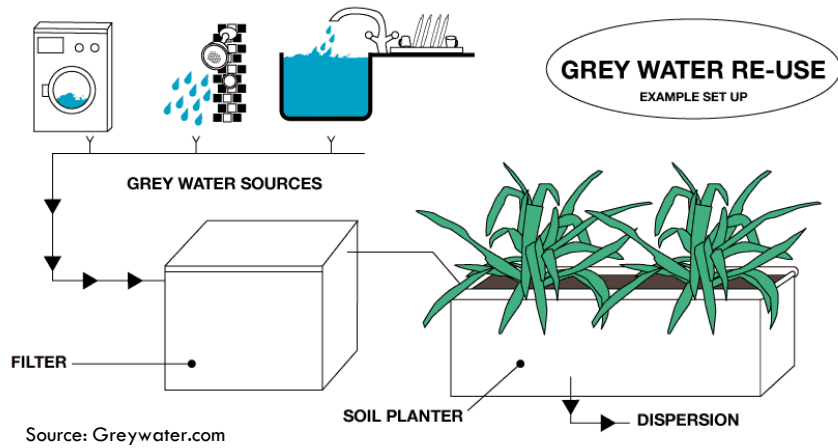


arundo donax



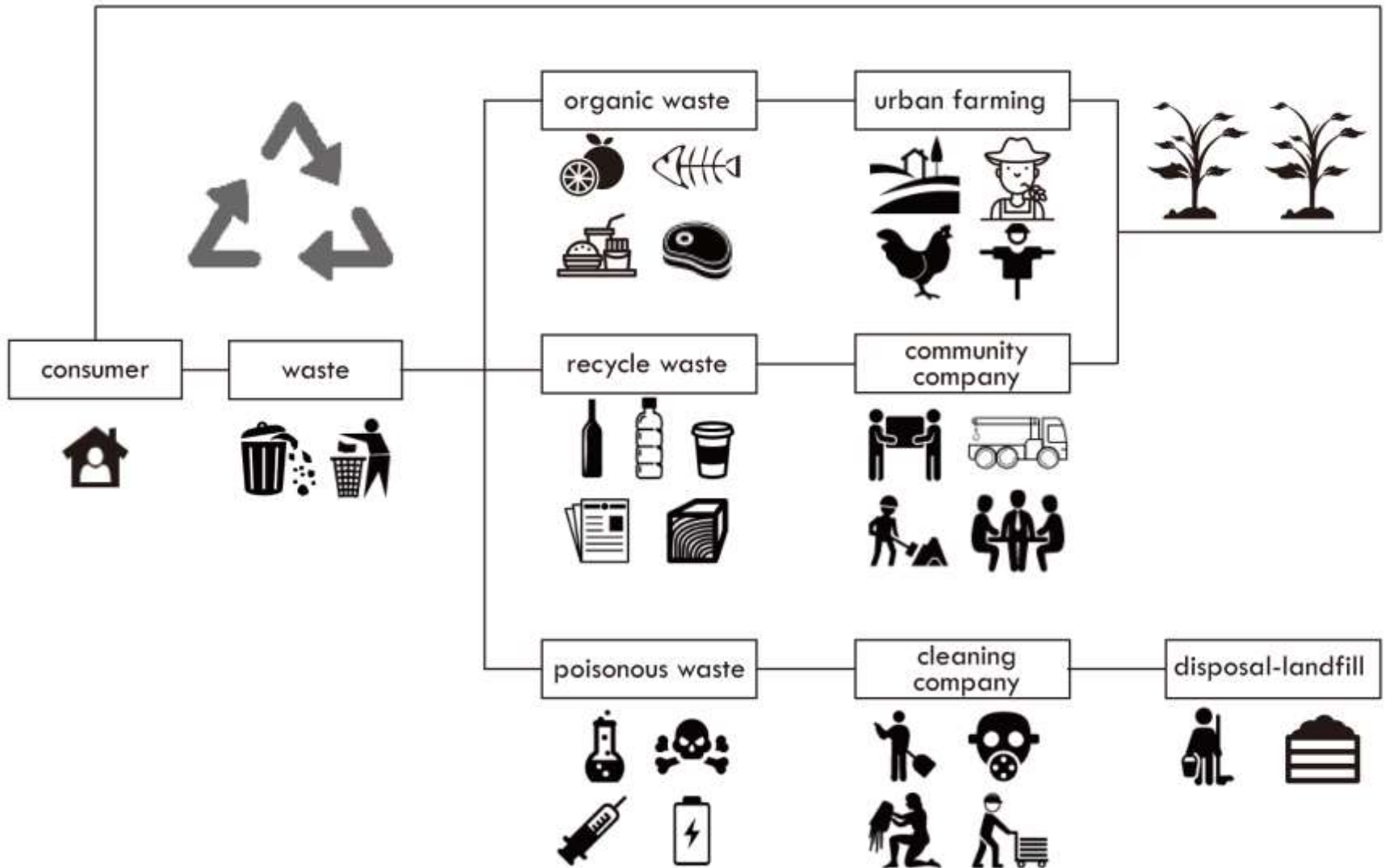
scirpus validus

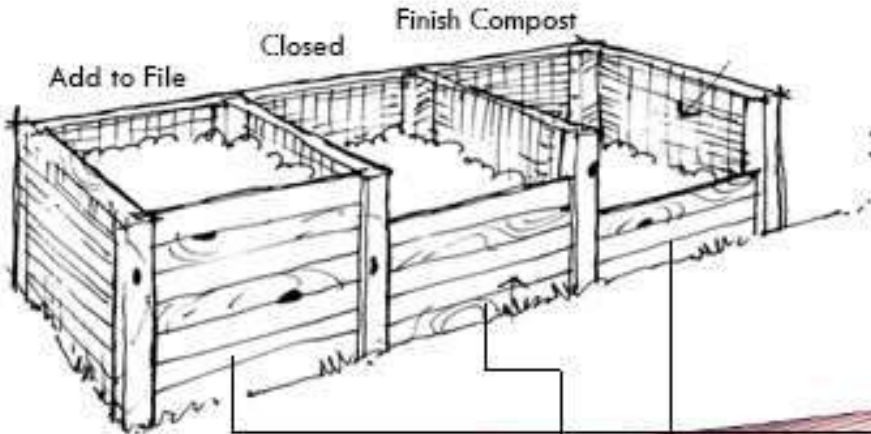




solid waste management



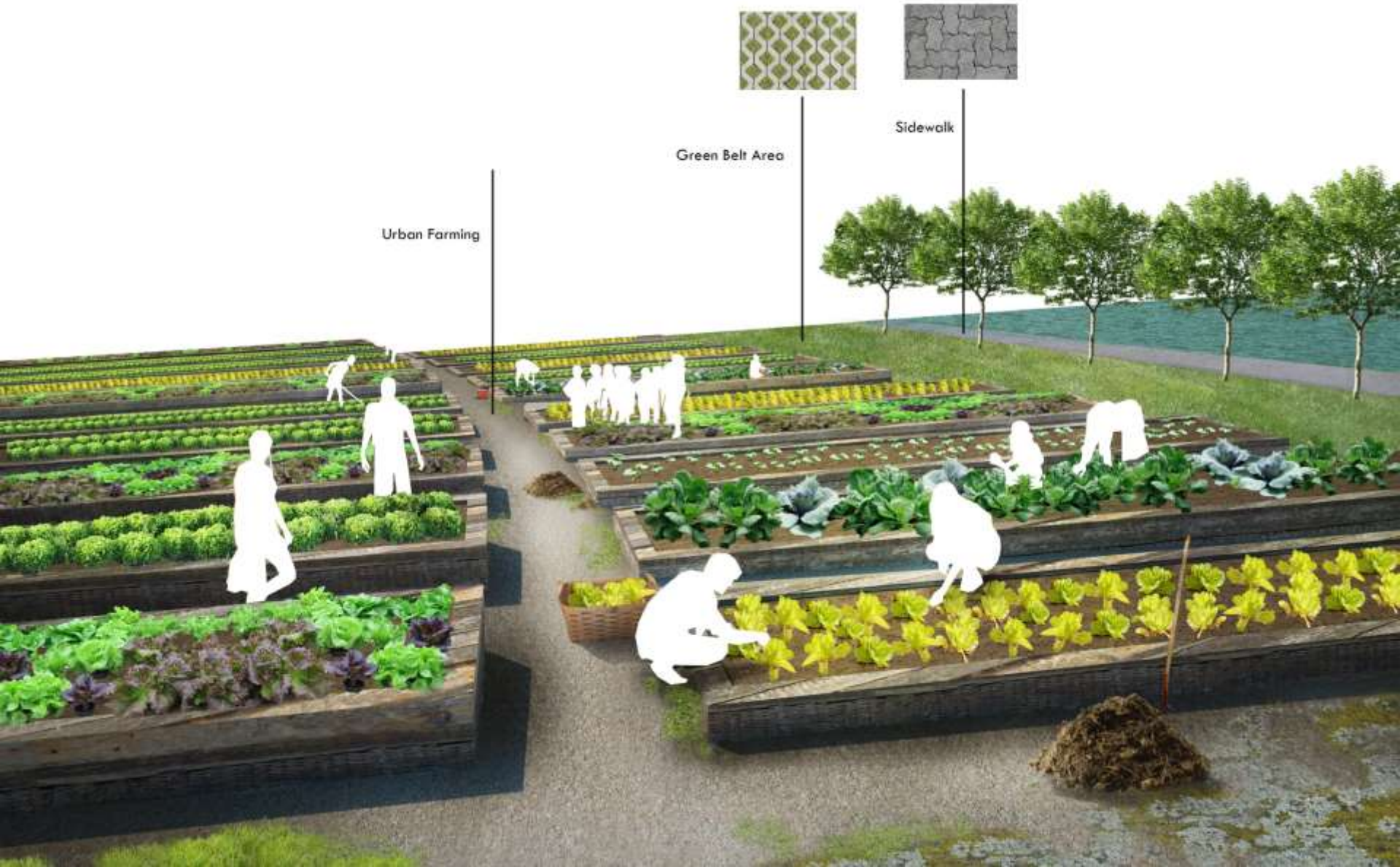




3-bin Compost System



urban farming



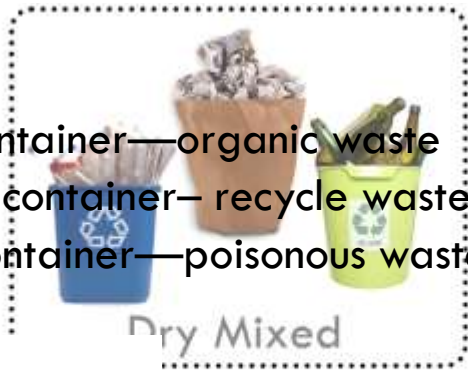
Urban Farming

Green Belt Area

Sidewalk

Waste management

Red container—organic waste
Green container—recycle waste
Blue container—poisonous waste



Disposed by local community company



Disposed by outer cleaning company



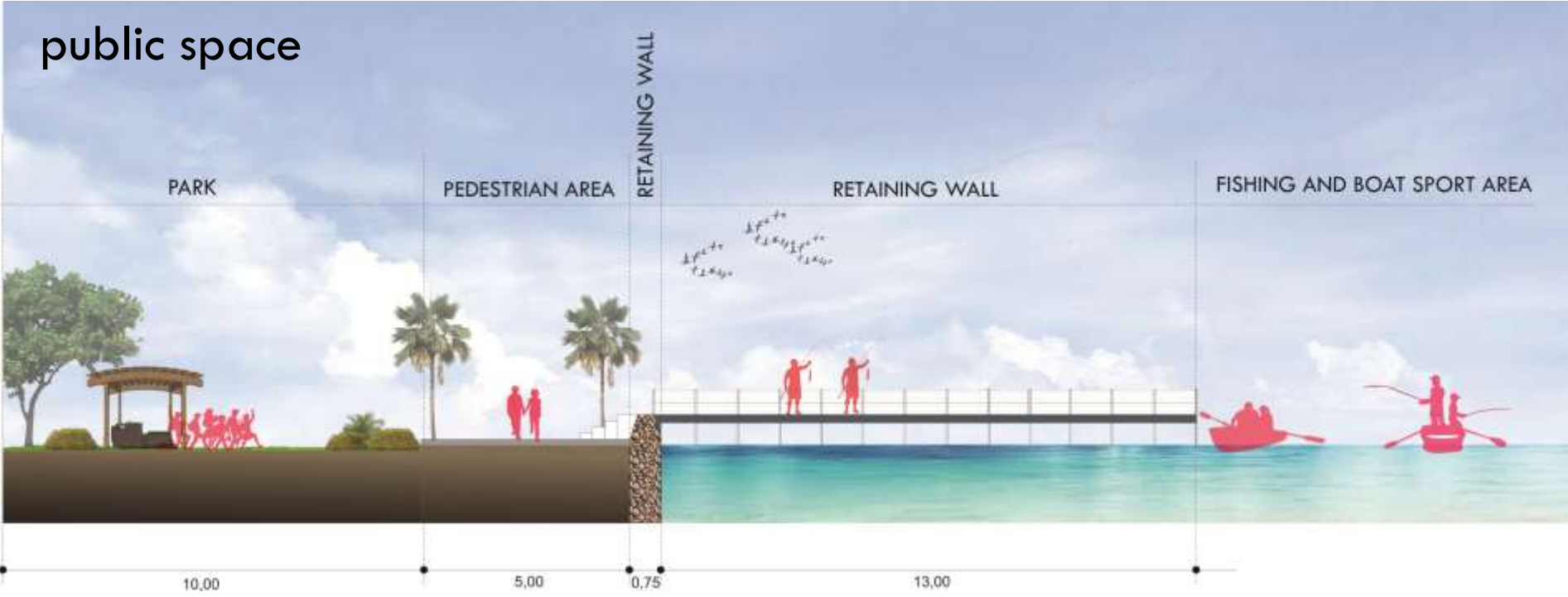
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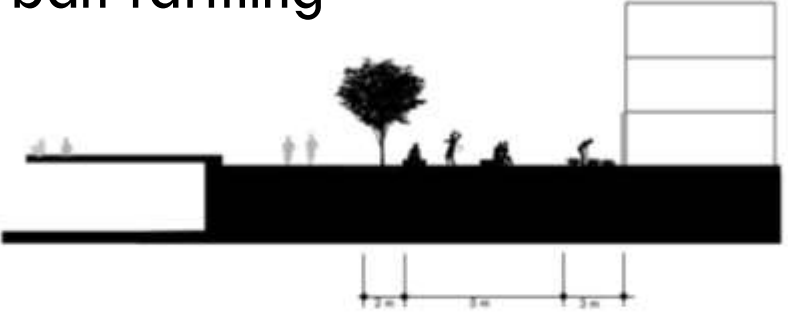
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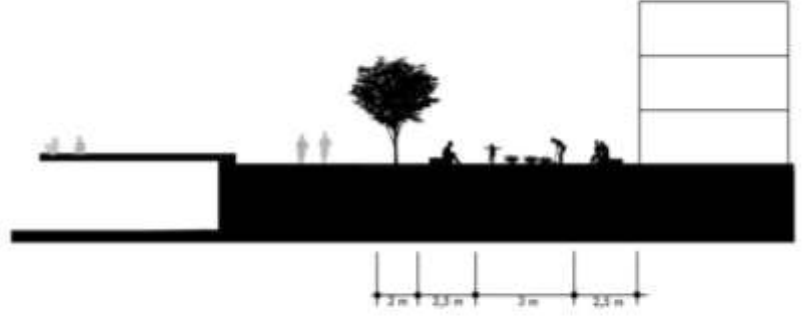
public space



urban farming

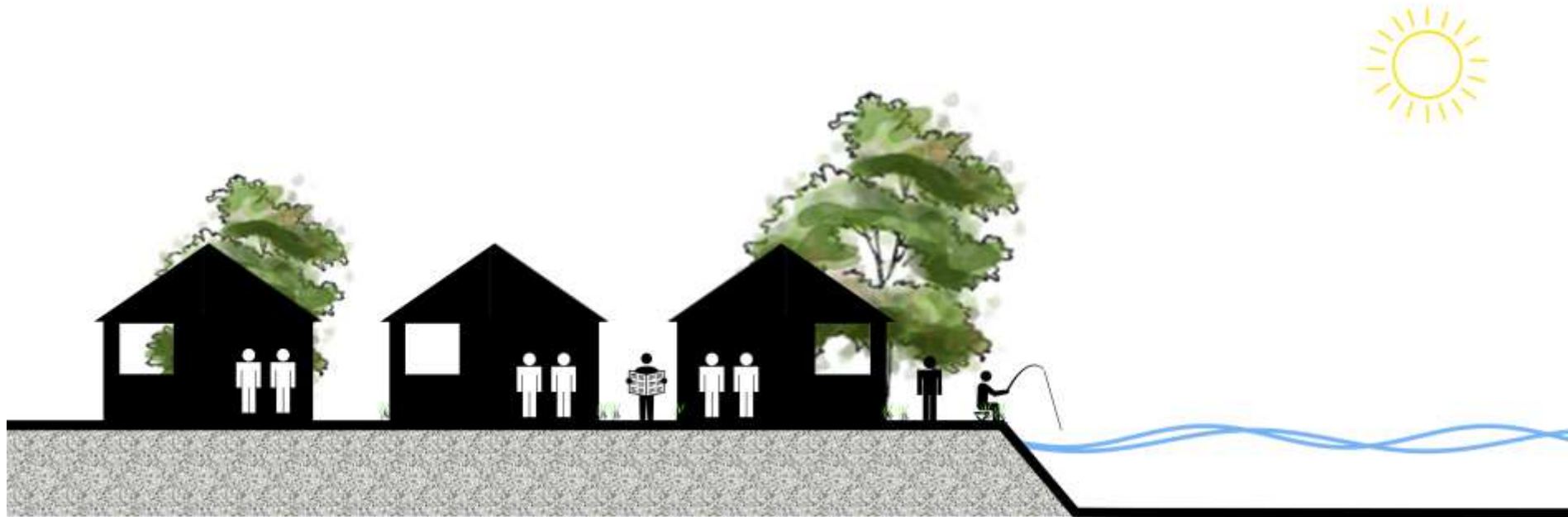


EDUCATION by urban farming in school backyard
urban farming => sit chat => get some fresh air
=> side table is our place, then we have to take care of it



EDUCATION by urban farming in "additional terrace" of vertical housing
urban farming => sit chat => get some fresh air
=> side table is our place, then we have to take care of it

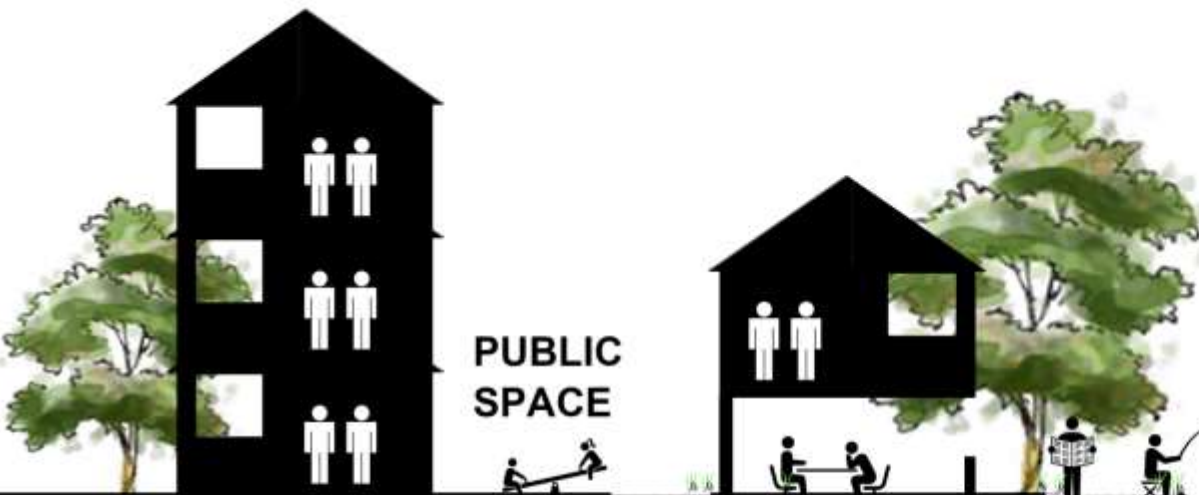




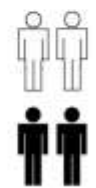
RESIDENT



PEDESTRIAN



**PUBLIC
SPACE**



RESIDENT

PEDESTRIAN

Goals, Objectives and Policies

policy and guidelines:

1. **water treatment** - the following policies should be considered to treat wastewater from all commercial and residential activities:

- a. commercial wastewater: an artificial wetland should be created in inlet areas around setu rawa besar. water coming through inlets is primarily contaminated wastewater from commercial activities upstream. the wetlands will serve as a filtration mechanism for wastewater disposal into the setu and should contain the following elements:

- wetland plants and grasses, such as alang-alang and bamboo, which could be beneficial in filtering water contaminants such as: metals, sediments, toxic chemicals, excess nutrients, etc.
- wetland plants should be installed in a manner that controls shoreline erosion
- wetland plants should add aesthetic value for visitors to the setu
- the setu's elevation should be transformed in order to provide effective water filtration. by planting different plants on each level, varying intensities of filtration will be provided for different contaminants. the transformed elevation will also serve as protection against flooding
- the diversion of incoming water through an artificial wetland to the setu will improve overall water quality

2. **solid waste management**- the following should be considered to manage solid waste disposal around the setu:

- a. separate types of solid waste
 - each house must separate their household waste into the three types of waste: organic, non-organic, and B3 (hazardous and toxic materials)
 - households must be educated on how to separate their waste correctly, through public outreach initiatives by the government

- b. residential wastewater:
 - collective septic tanks should be installed for all proposed vertical housing settlements.
 - each house should be connected to a communal grey water filtration system, and there should be multiple filtration systems throughout settlements around the lake. the greywater will then flow through channels around the setu, and the greywater will be released and infiltrate as groundwater, and provide water for surrounding trees and green spaces
- c. small vendor wastewater:
 - small vendors will be able to dispose of their wastewater in the communal grey water filtration systems, which will be in close proximity to the separated solid waste bins.

3. **living space**- the following should be considered to improve living spaces around the setu:

- a. setback transitional zone
 - the 50 m transitional zone between the setu and the residential zone should serve a multitude of purposes including: green spaces, pedestrian walkways, tree planting areas, and small vendor areas.
 - the 50 m transitional zone will serve as a buffer between residential and commercial land uses and the setu, and will thus improve the quality and health of the setu
 - can improve the living space quality for people around the setu

- install larger communal separated trash bins where households and small vendors can dispose of their waste throughout settlements around the lake.
 - trash bins should be placed in increments of 50 m
 - organic waste will be used for urban farming/community gardens throughout settlements around the lake
 - composting stations will be located in close proximity to vertical housing, and should be managed by vertical housing residents
 - non-organic and B3 waste will be collected and disposed of in landfills or other appropriate disposal sites. appropriate non-organic wastes (glass, plastic, paper) should also be recycled.

4. **community groups**

- a. restore defunct community groups (kelompok ker(a)): role would be to encourage community participation and address key topics such as: safety, neighbor relations, community activities
- identify key community members—ensure they are residents of the settlements
 - leaders
 - active participants
 - various stakeholders of different backgrounds
- b. utilize community groups as medium for the government and citizens to effectively collaborate and communicate

- b. vertical housing slum dwellers who do not have legal land rights and are displaced should be offered rental vertical housing options
 - in order to afford these vertical housing options, employment opportunities should al
- so be created and offered to former slum-dwellers

- Urban Renewal, 2007, Ministry of Public Work
- BLH
- BMSDA
- Depok Government
- tanahairku.indonesia.go.id
- depok.go.id
- www.agry.purdue.edu
- greywater.com