

# ANCIENT SALINATION-P5

A generator for a sustainable development of salt villages in Danzhou.

Circular Water Story Lab

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Landscape Architecture MSC 2021

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- **CONTEXT** – Salt villages in Danzhou, Hainan
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- **CONCEPT + STRATEGIES** – Creating a new salt narrative by intervening in landscape layers
- **DESIGN** – Through a story
- **REFLECTION** – Conclusion & Reflection of the project



# Introduction

## Background | Water heritage



Water Market, Thailand



Polder, Netherlands



Salt Fields, China

WATER COURSE, FORM, AND FUNCTION —————> CULTURE | CHARACTER | STORIES



# Introduction

Background | Water heritage

**VALUABLE BUT VULNERABLE TOWARDS FUTURE.**

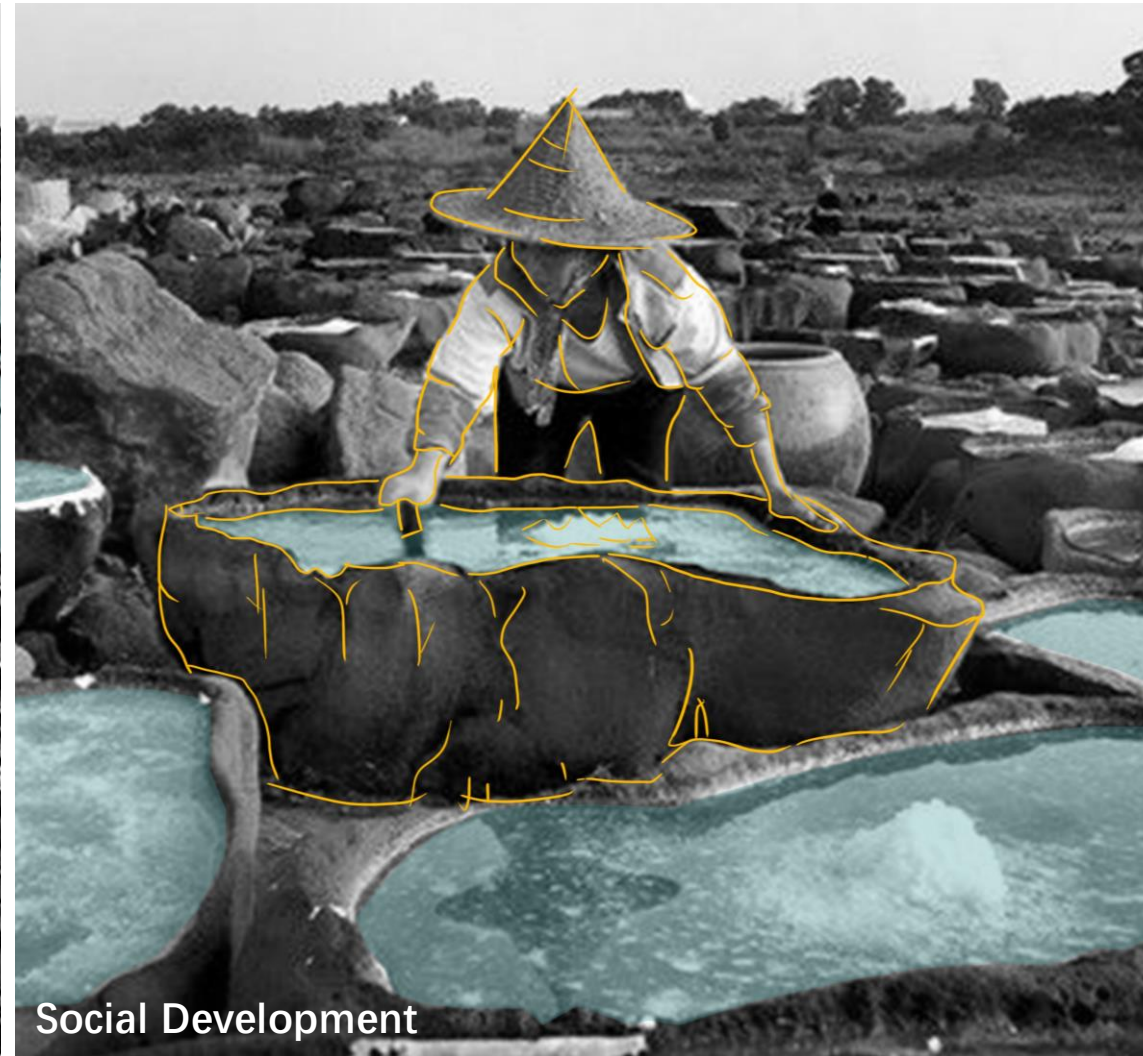
# Introduction

Motivation | Why VALUABLE but VULNERABLE?



Climate Change

Salt village, China



Social Development

Salt village, China

# Introduction

Motivation | What to do?

Make **heritages** more resilient to both **natural conditions**  
and **social development** for the future.





# Context

## Ancient salination



China



Hainan

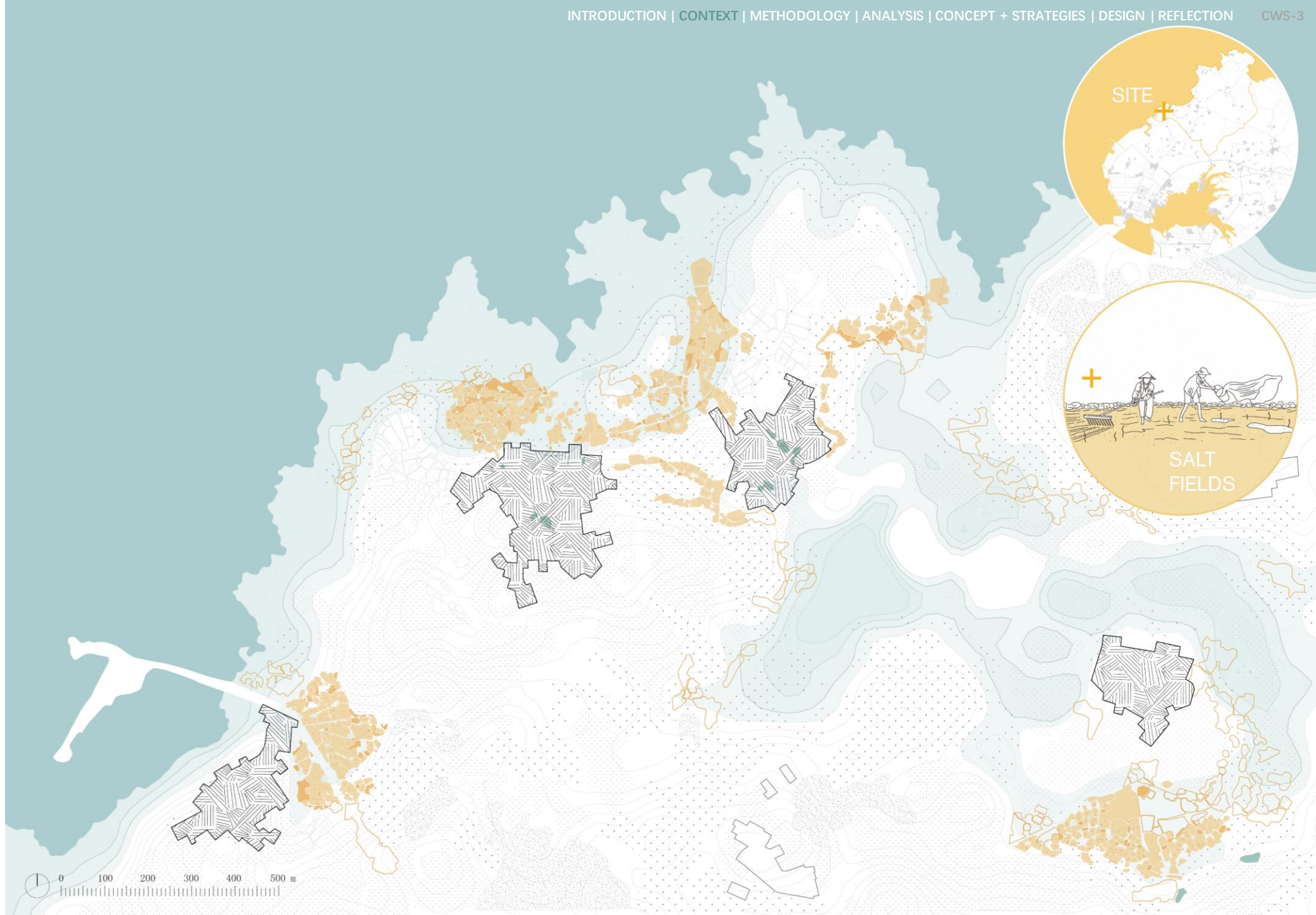




# Context

## Salt villages

-  The Sea
-  0m
-  1m
-  2m
-  3m
-  Salt fields
-  Abandoned Salt field
-  Fresh water forest
-  Mangrove forest
-  Farmland
-  Salt villages
-  Other villages

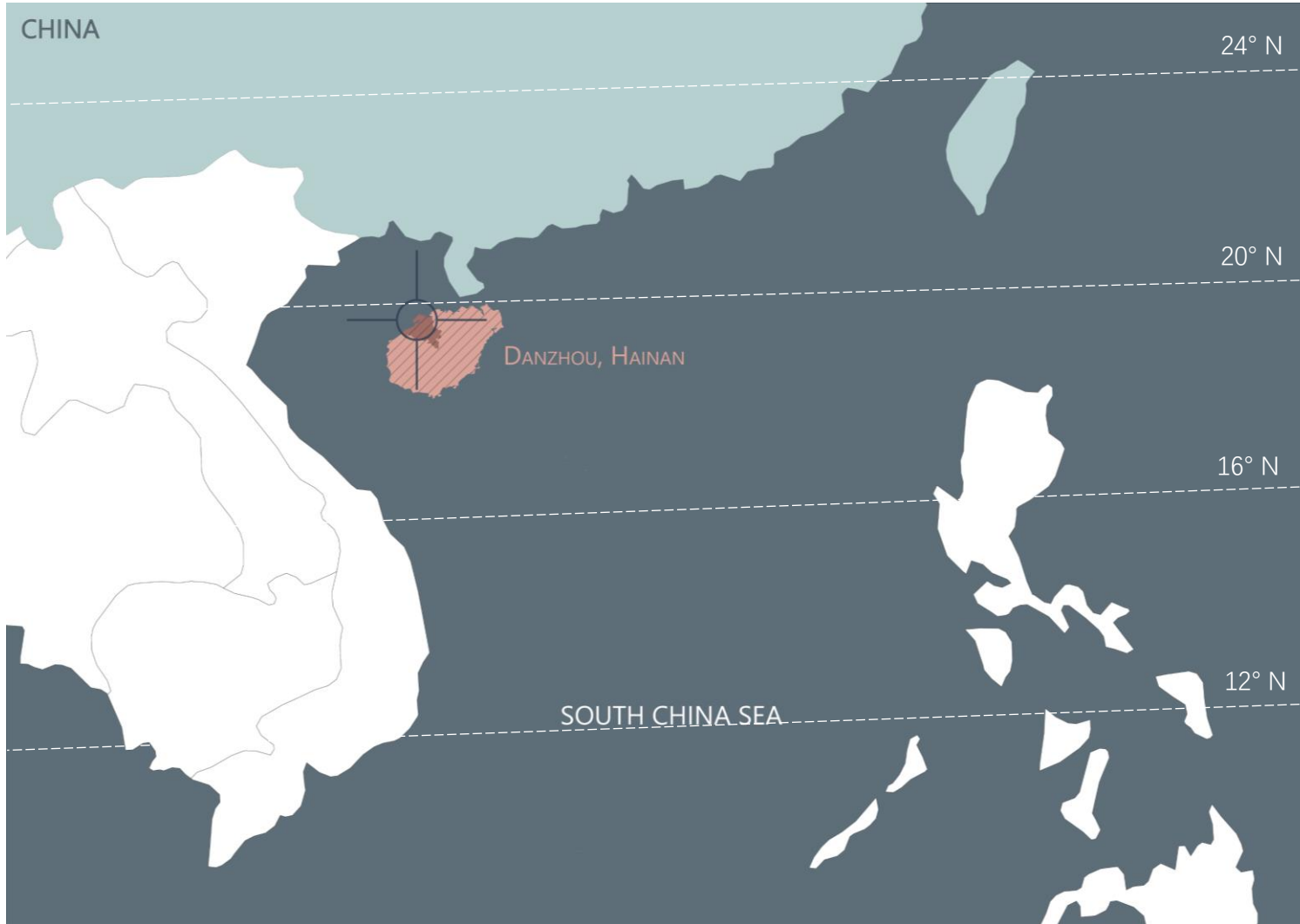


# Context

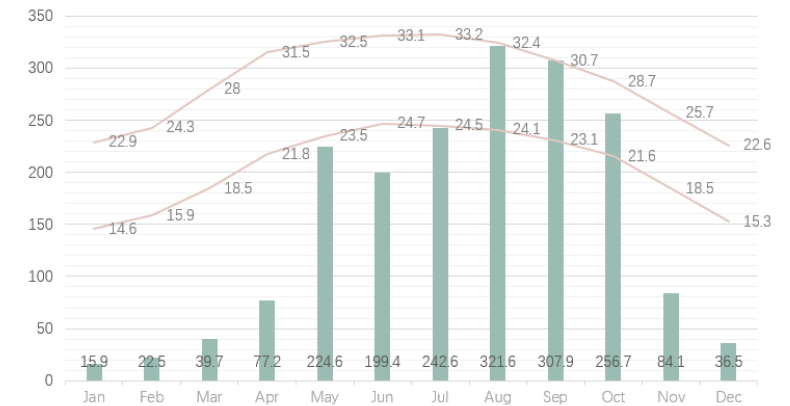
Over 1200 years? Why harvest sea salt here?

# Context

## Danzhou | Weather condition



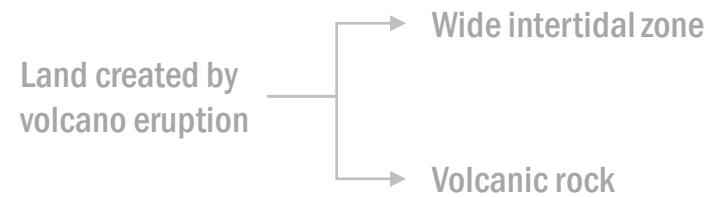
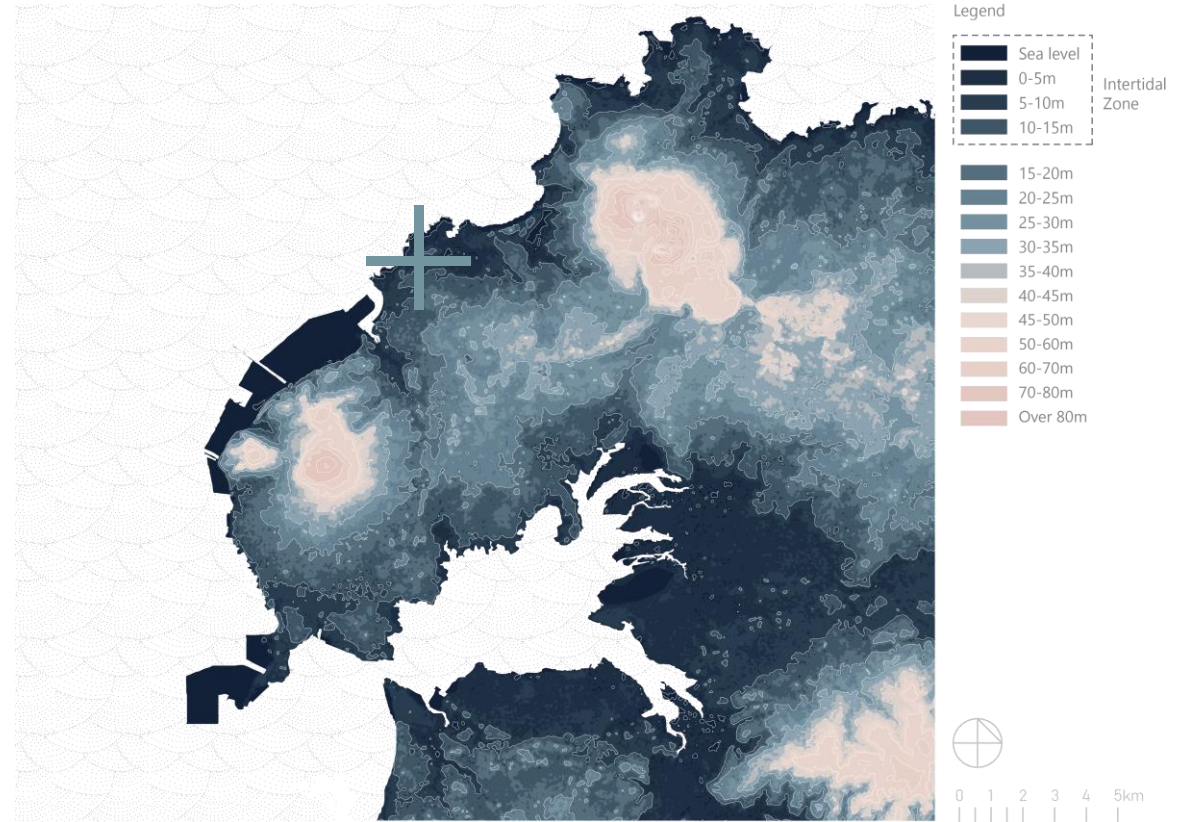
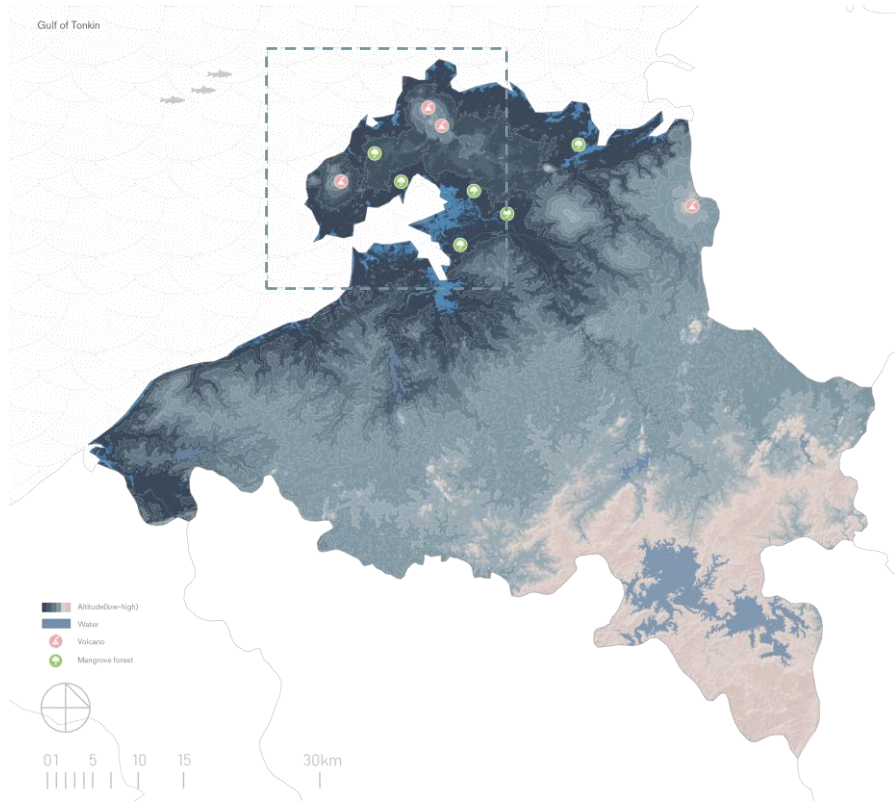
Temperature and Precipitation Graph





# Context

## Danzhou | Nature condition



# Context

## Problem field

What happened?

# Context

## Problem field



SEA LEVEL RISE



ABANDONED  
SALT FIELDS



NEW BUILDINGS  
+  
PUBLIC SPACES



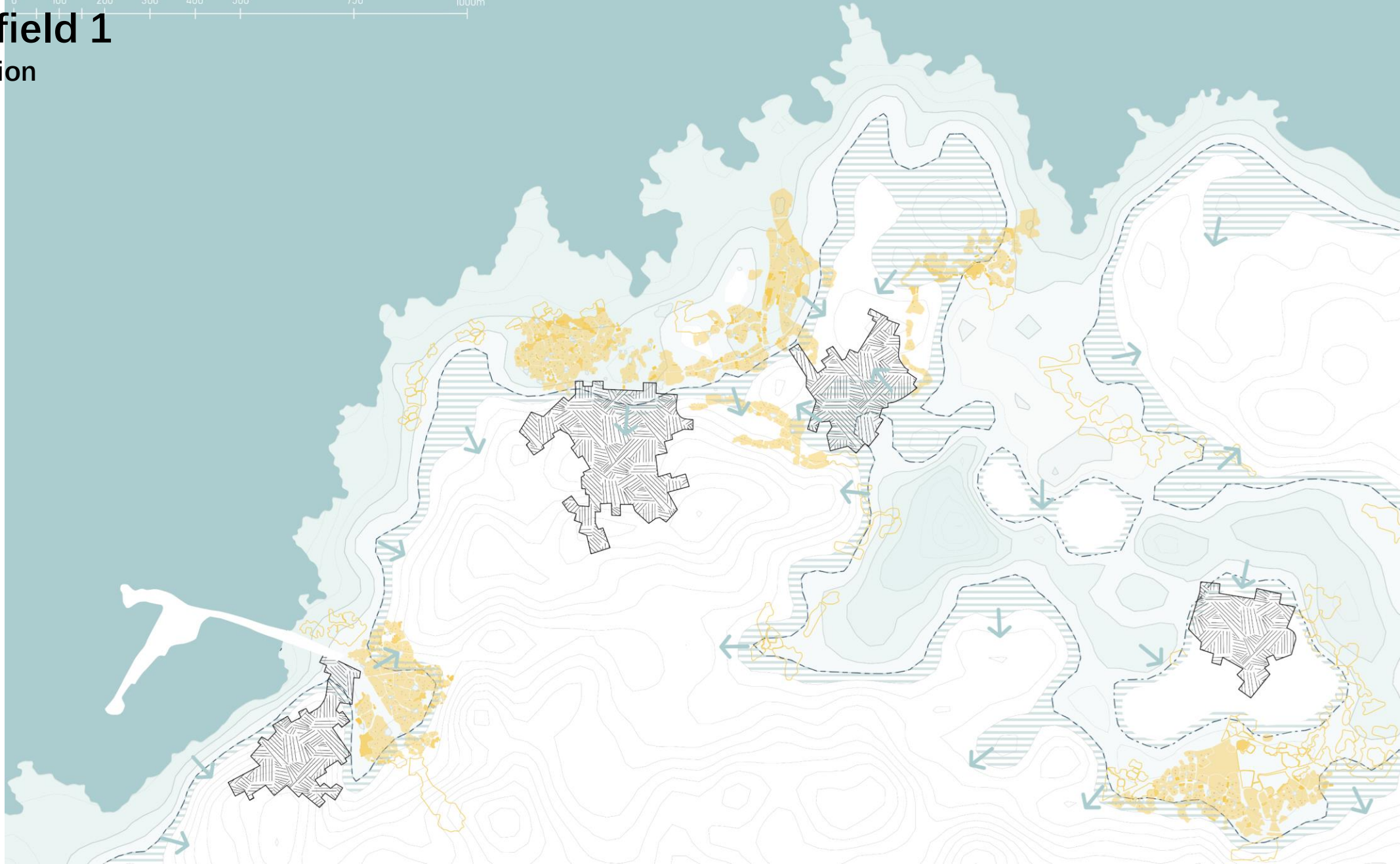
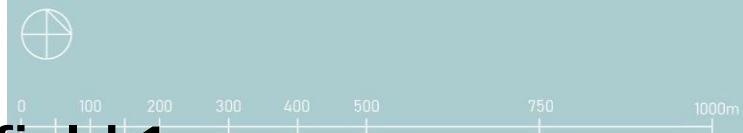
TOURISM  
PRESSURE



# Problem field 1

Nature condition

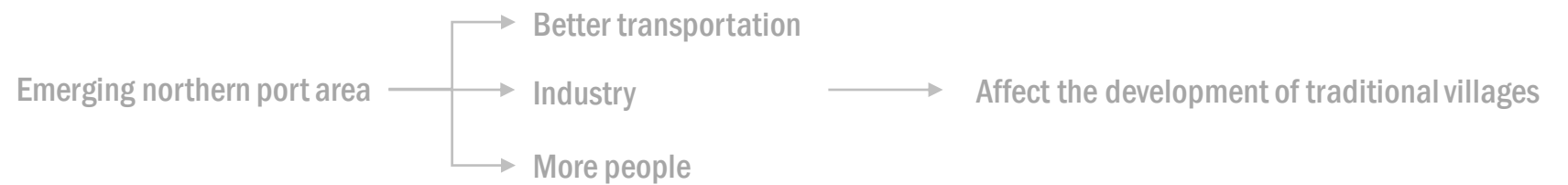
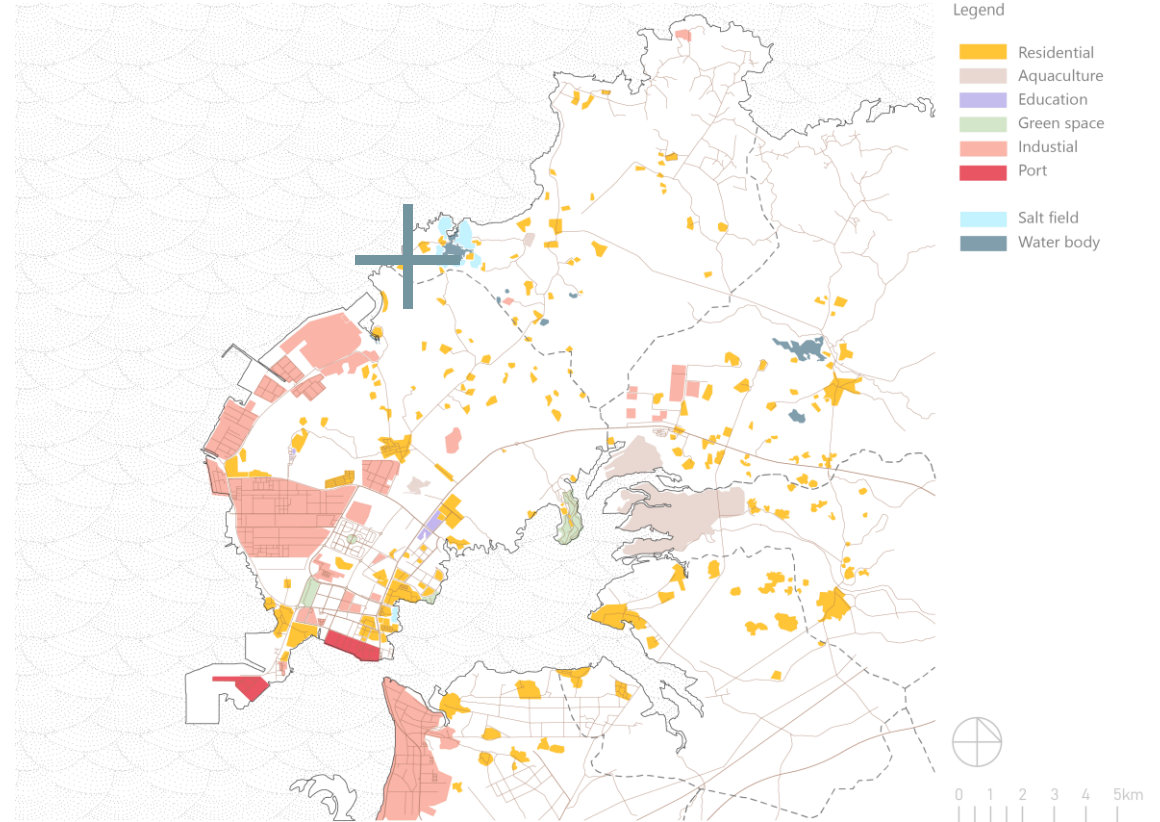
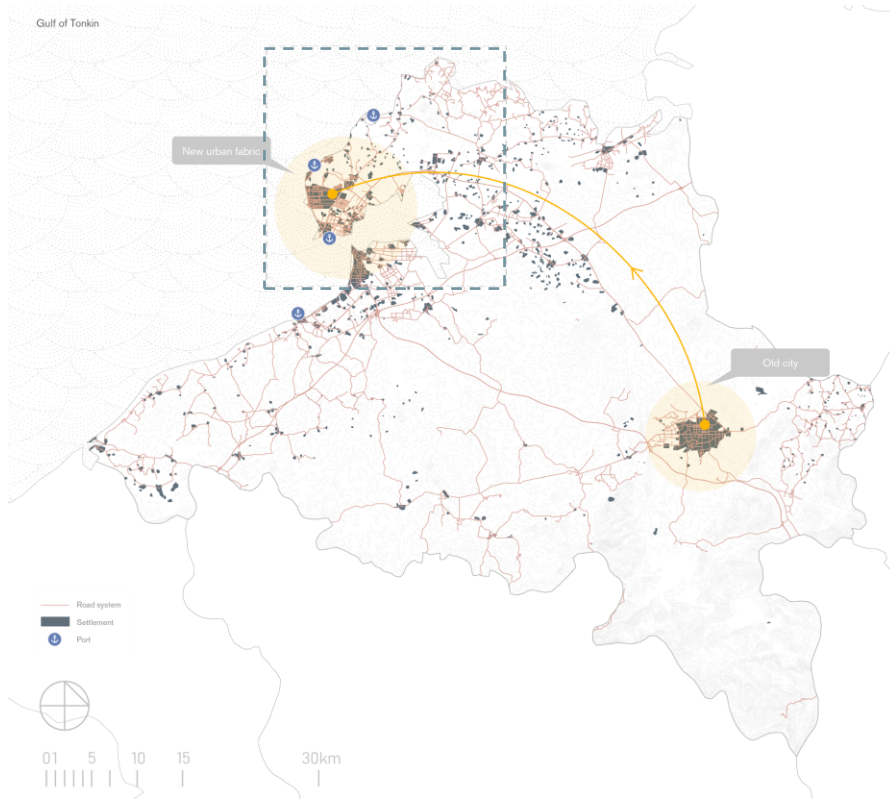
Sea level rise





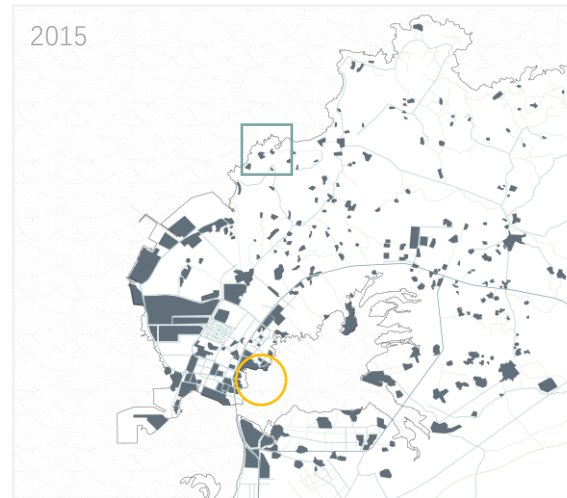
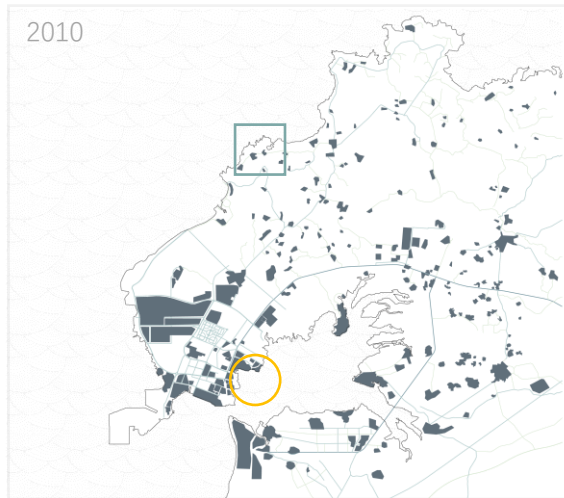
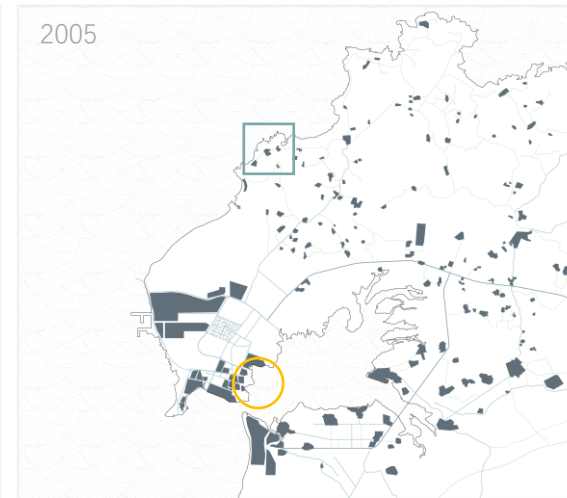
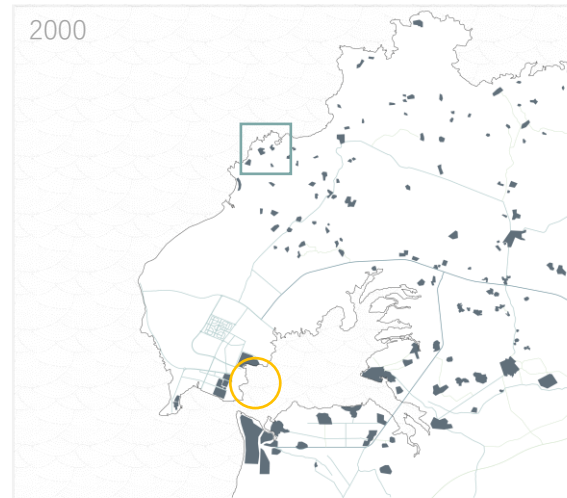
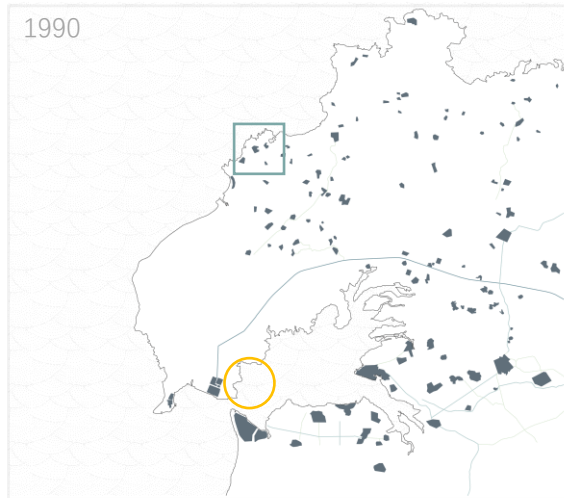
# Problem field 2

## Social development | Urbanization



# Problem field 2

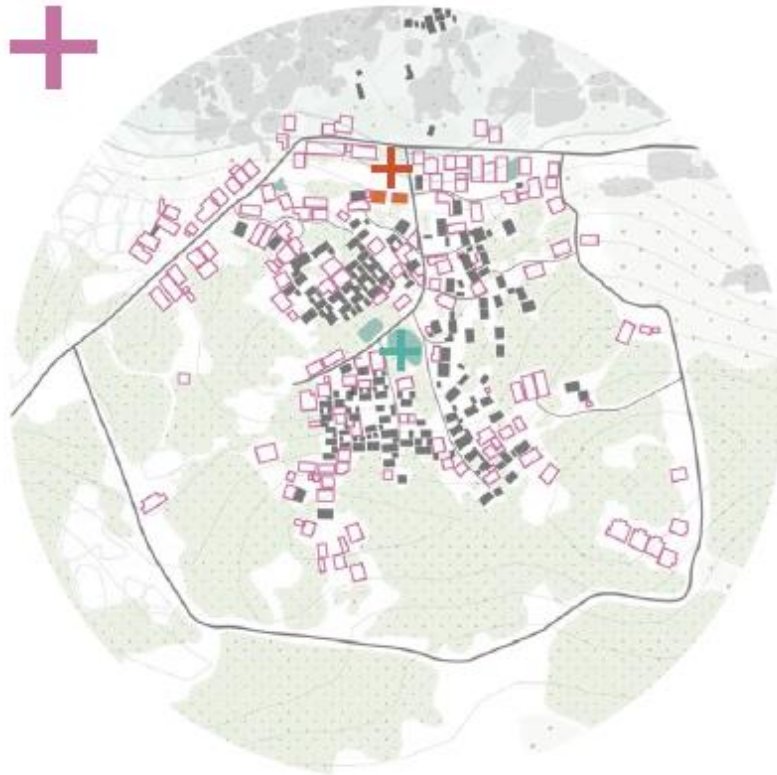
Social development | Urbanization





## Problem field 2

Social development | Buildings and public spaces



## Problem field 3

Social development | Abandoned salt fields

In 2015



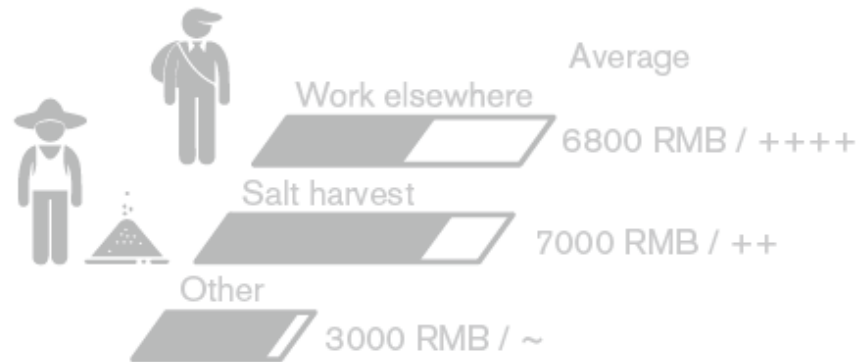
12,000 RMB



In 2019



17,000 RMB



Young people

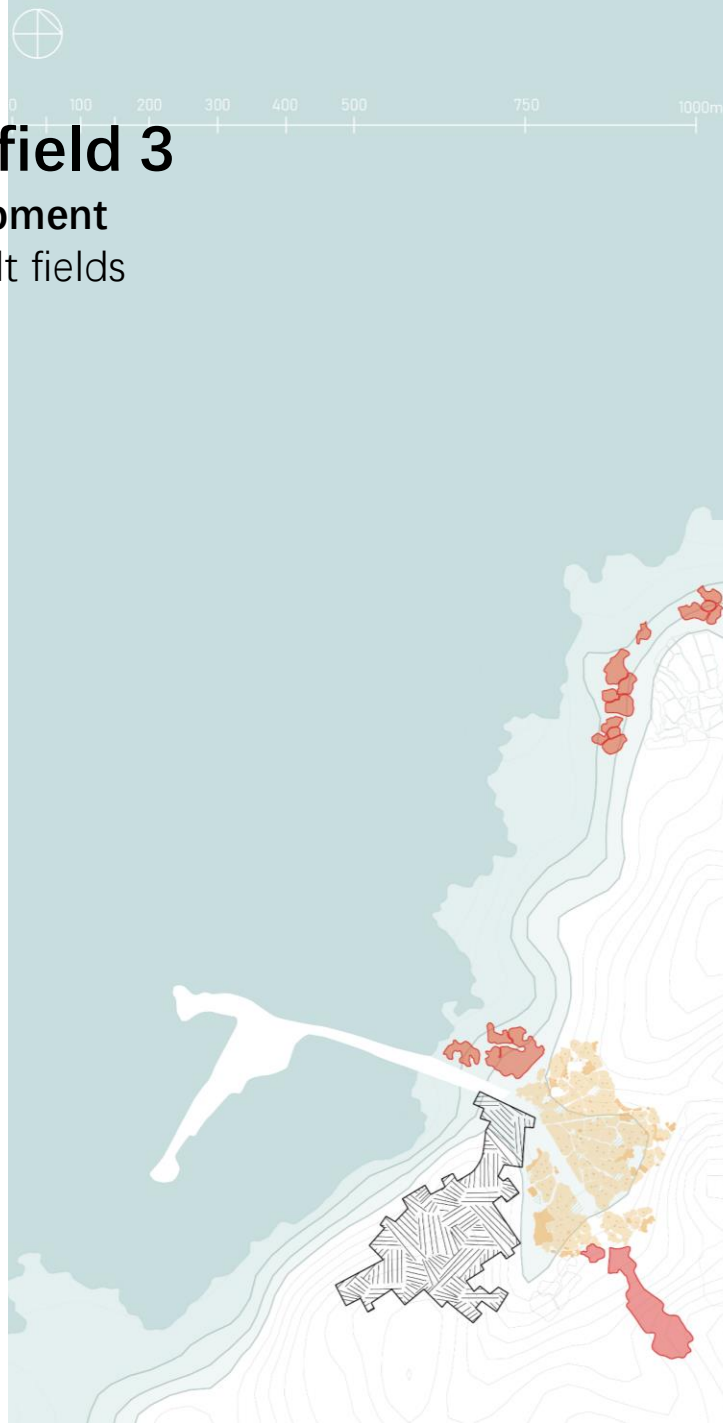
Elders



# Problem field 3

Social development

Abandoned salt fields







# Problem field 4

Social development | Tourism pressure

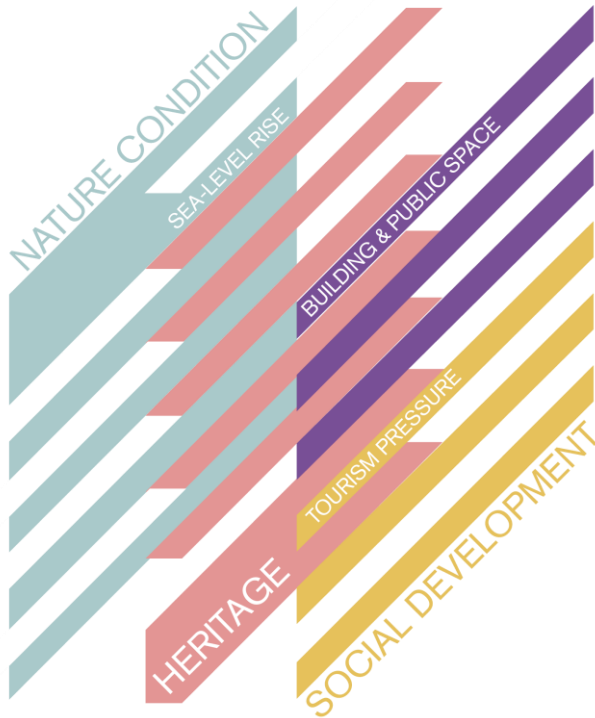






# Methodology

## Problem statement



**NATURAL** and **SOCIAL** pressures --- change of the heritage inevitable.

The **biggest challenge**

1. **old functions and landscape structure**
2. **a transition** that is more suited to future challenges

# Methodology

Research question

Is it possible to keep **the value of the salt harvest cultural heritage** alive in making the coastal zone more **resilient to sea level rise** while providing a landscape approach in **balancing the historical conservation, local public life and tourism development ?**



# Methodology

Knowledge base



Landscape narrative

Value of heritage

Rural community  
regeneration

Nature – based  
solution



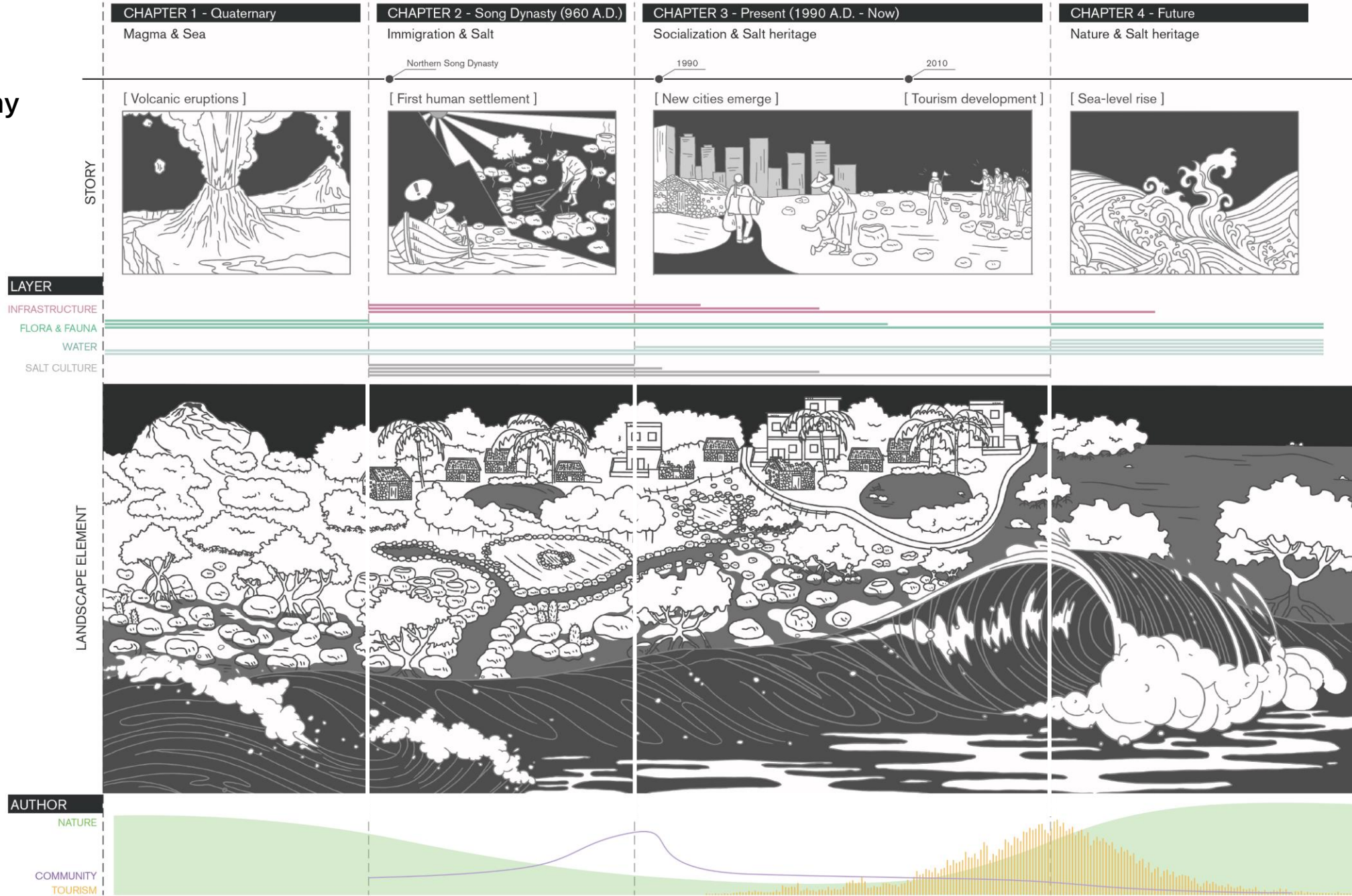






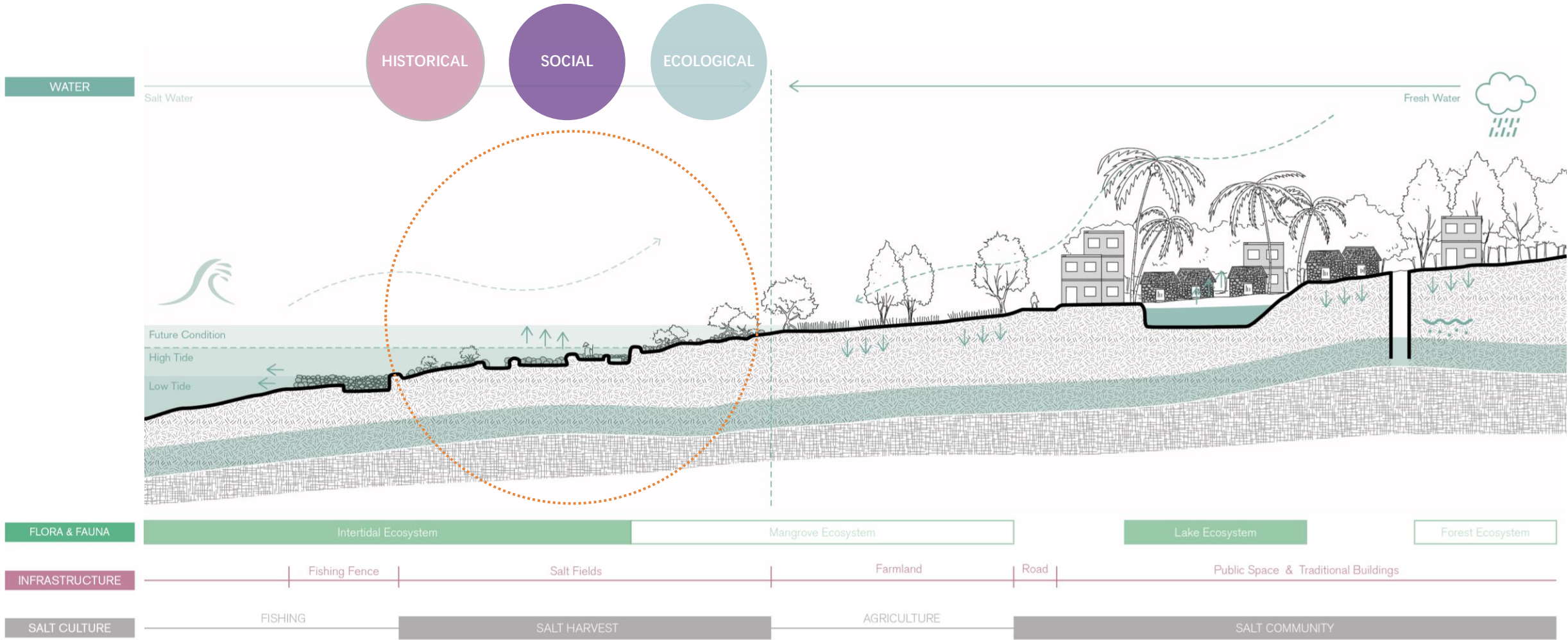
# Analysis

## Landscape biography



# Analysis

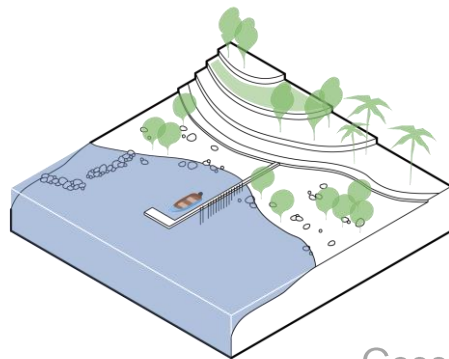
## Salt story



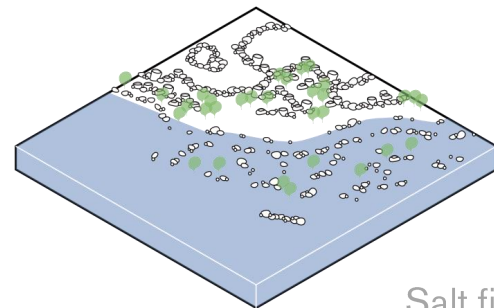


# Analysis

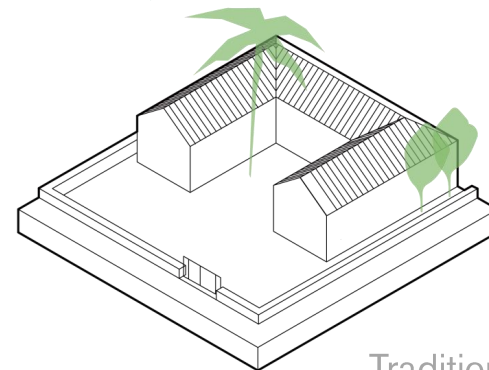
## Landscape elements



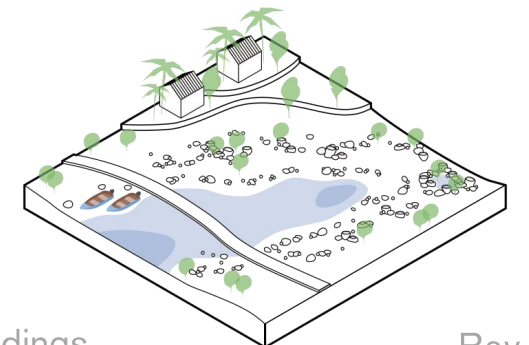
Coast Line



Salt fields



Traditional buildings  
& Public spaces



Bay

# Analysis

## Dominant layers



WATER

FLORA & FAUNA

INFRASTRUCTURE

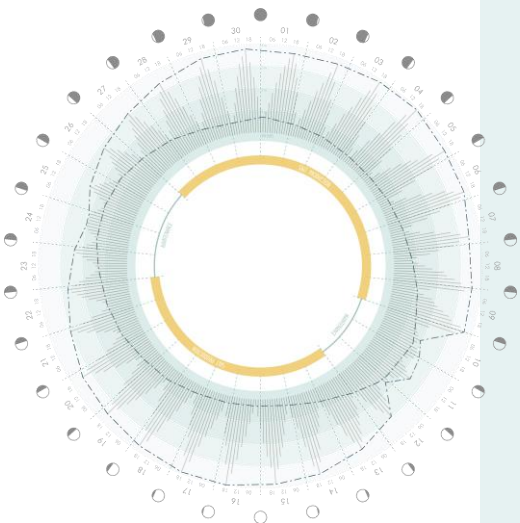
SALT CULTURE



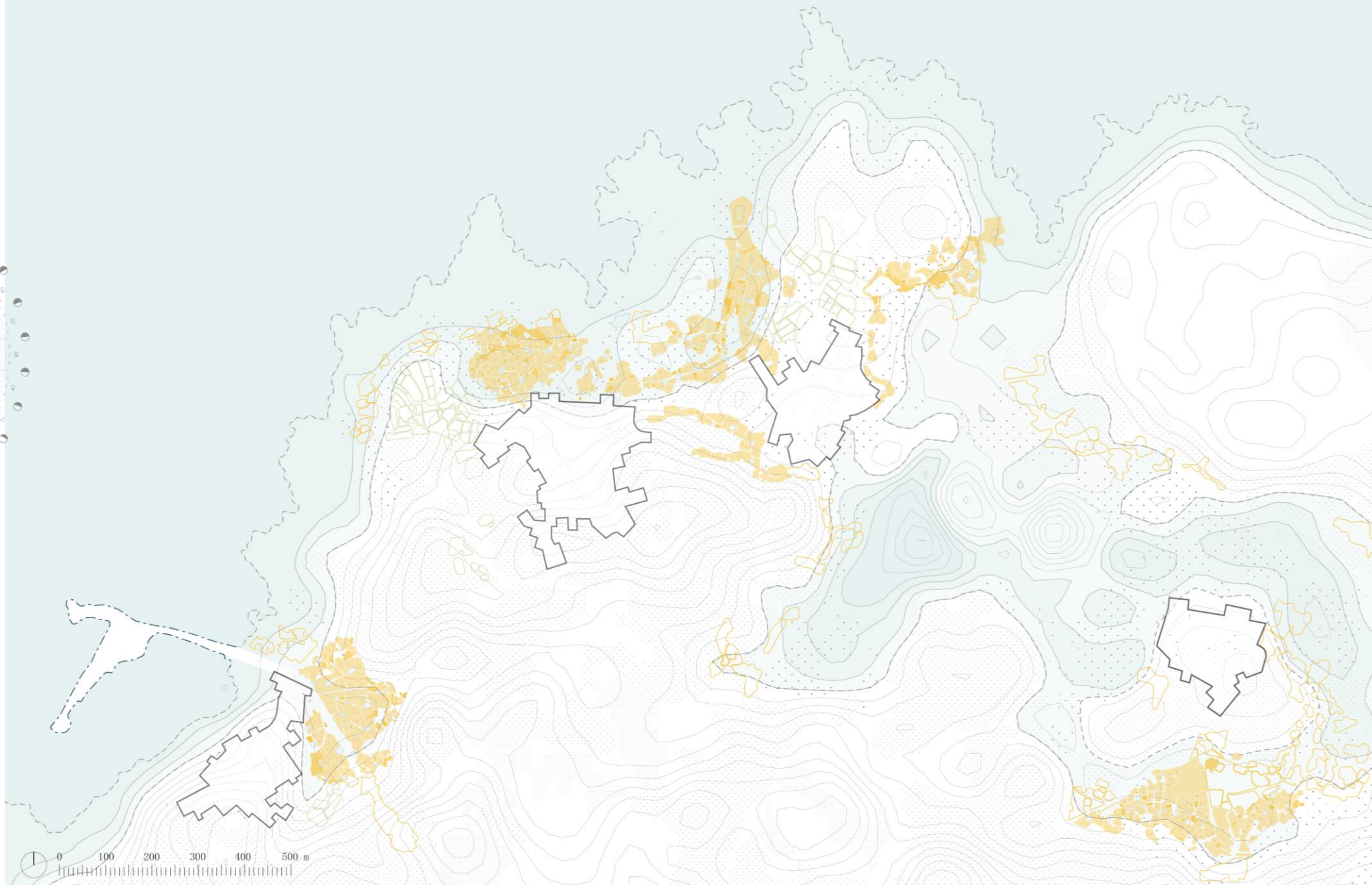
# Analysis

## Dominant layers

● Water



- 3 m
- 2 m
- 1 m
- 0 m
- Intertidal zone
- Salt fields
- Abandoned Salt field
- Farmland
- Village
- Forest



# Analysis

## Dominant layers

● Flora & Fauna



- Sea
- Intertidal zone
- Mangrove forest
- Fresh water forest
- Salt fields
- Abandoned Salt fields
- Farmland
- Village












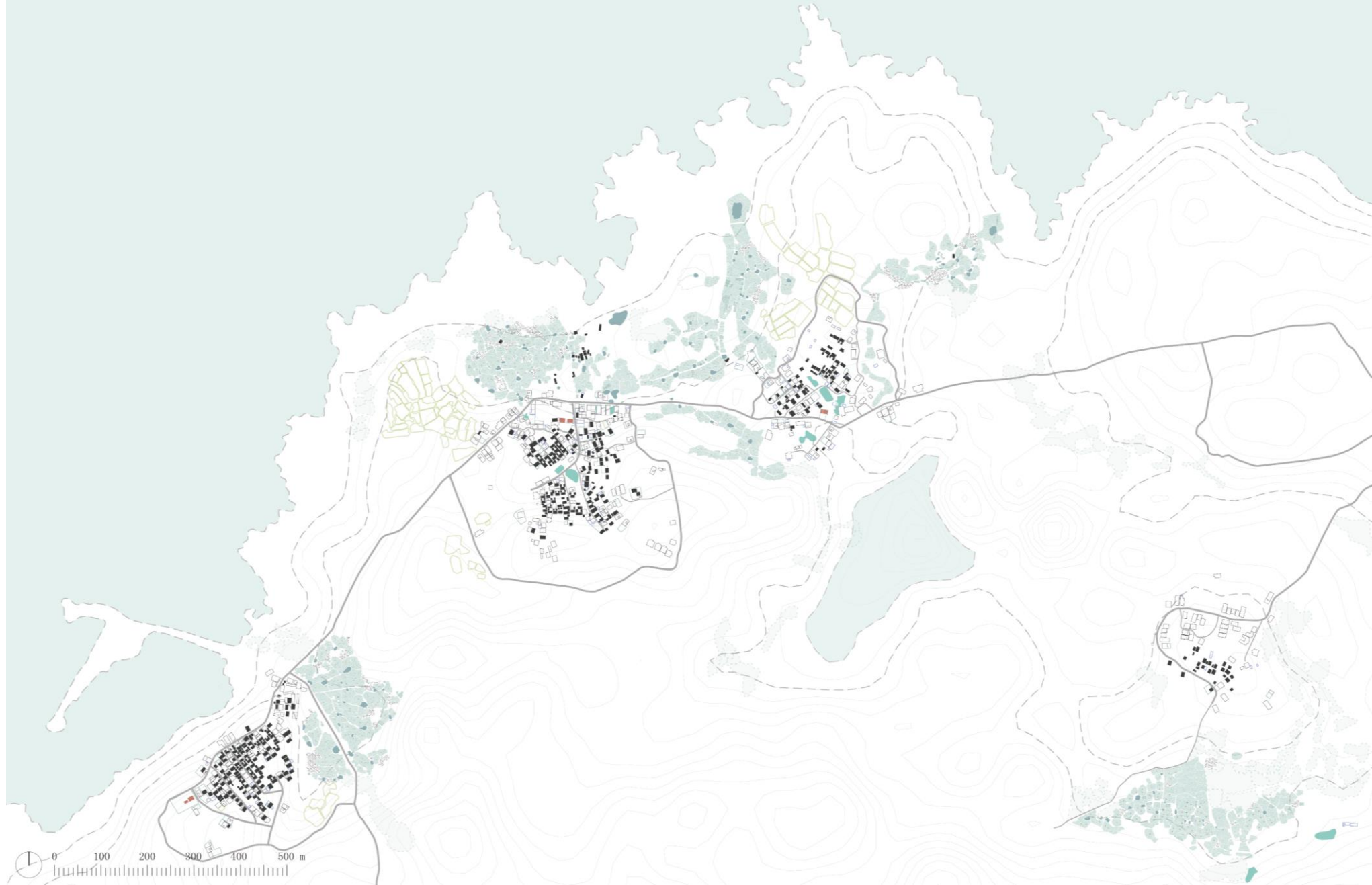


# Analysis

## Dominant layers

● Infrastructure

-  Sea
-  Intertidal zone
-  Salt field
-  Abandoned Salt fields
-  Farmland
-  Fresh Water Pond
-  Ancient buildings
-  New buildings
-  Road



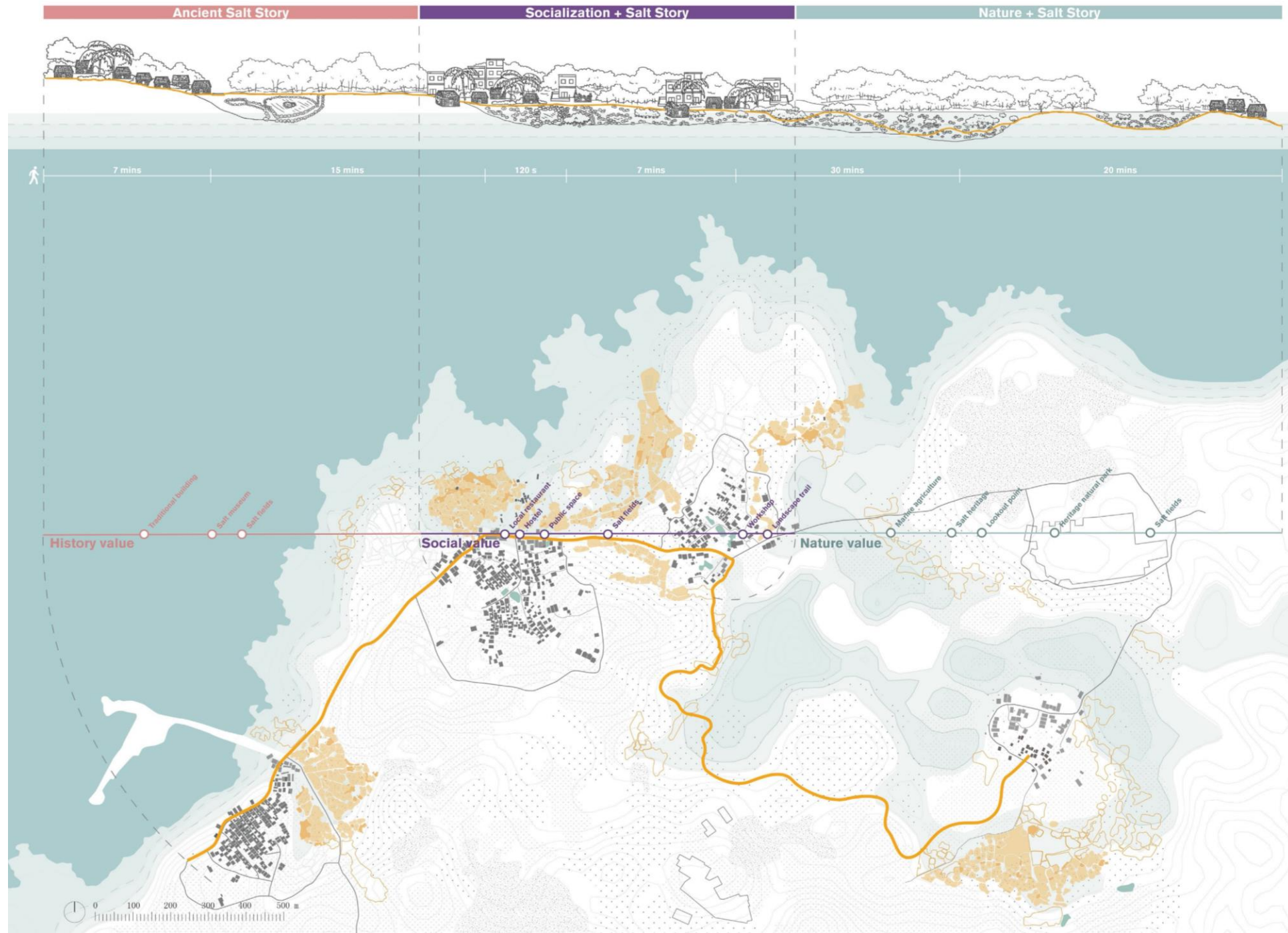






# Concept

## New salt narrative



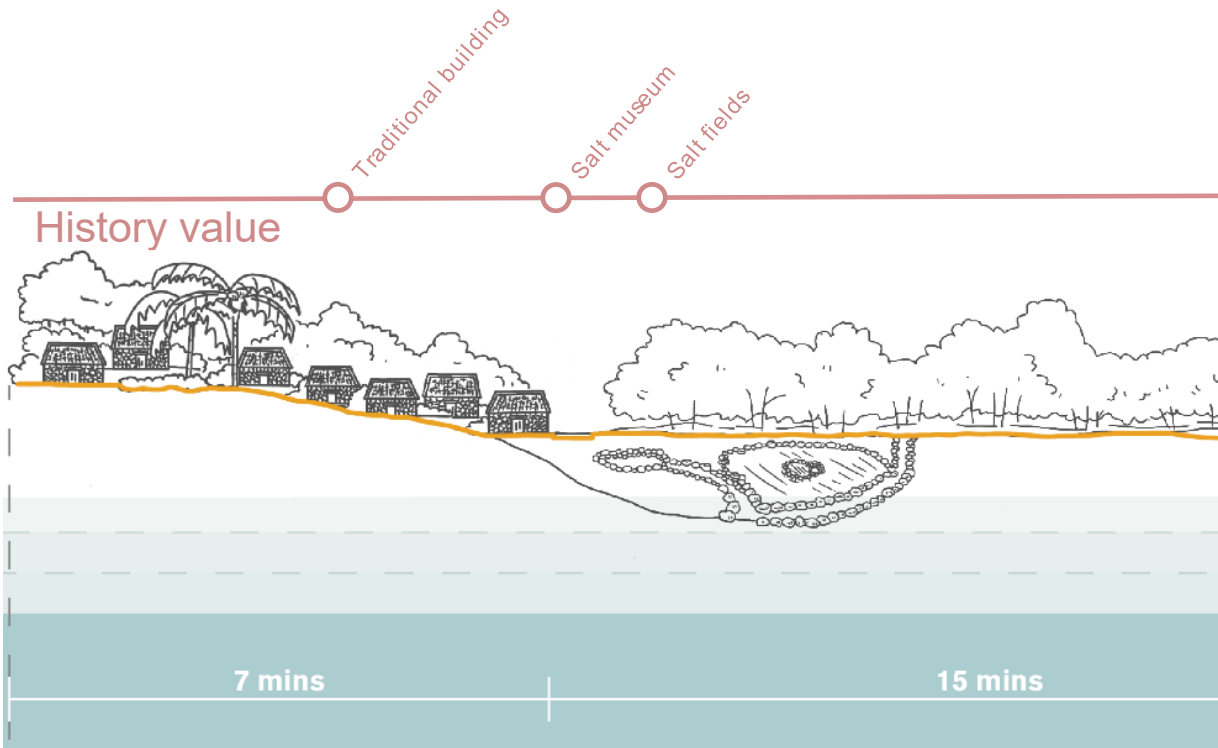


# Concept

New salt narrative

Ancient salt story

## Ancient Salt Story

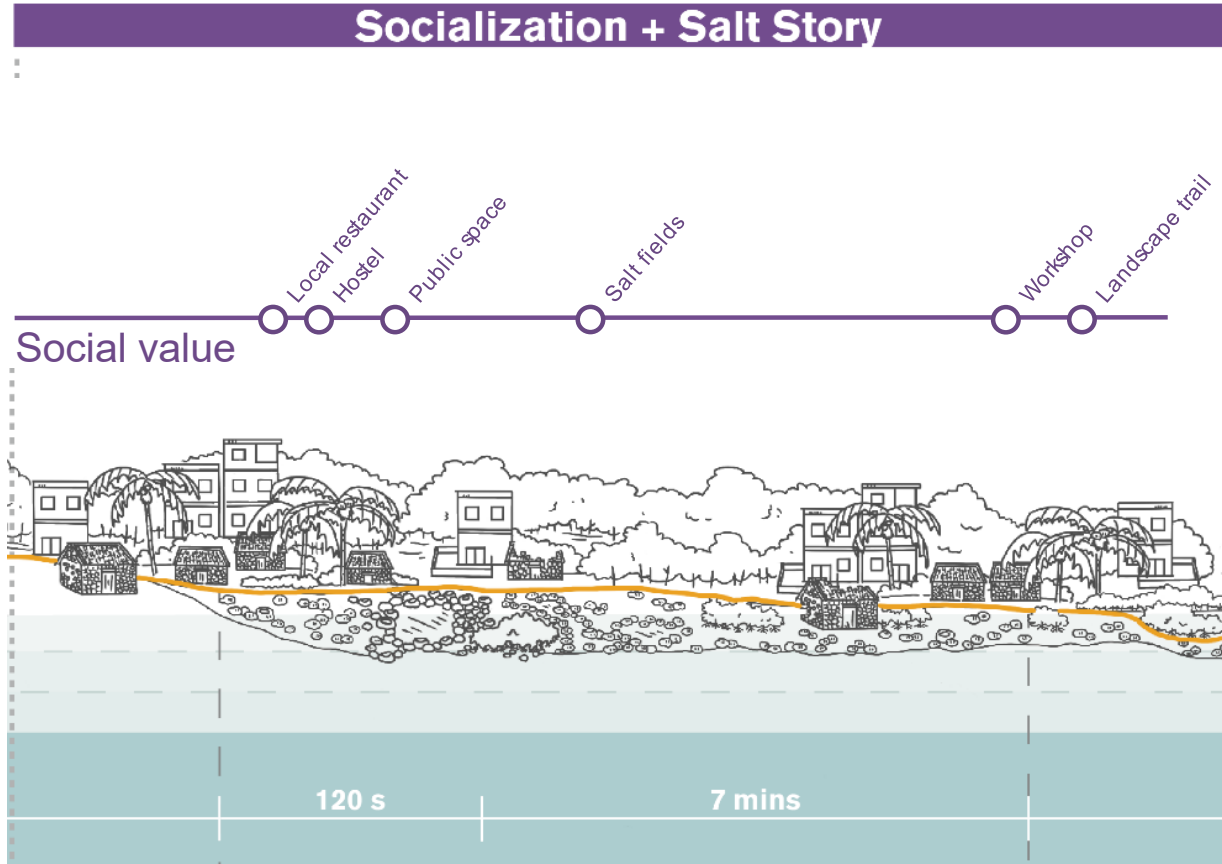


# Concept

## New salt narrative

Socialization + Salt story

### Socialization + Salt Story

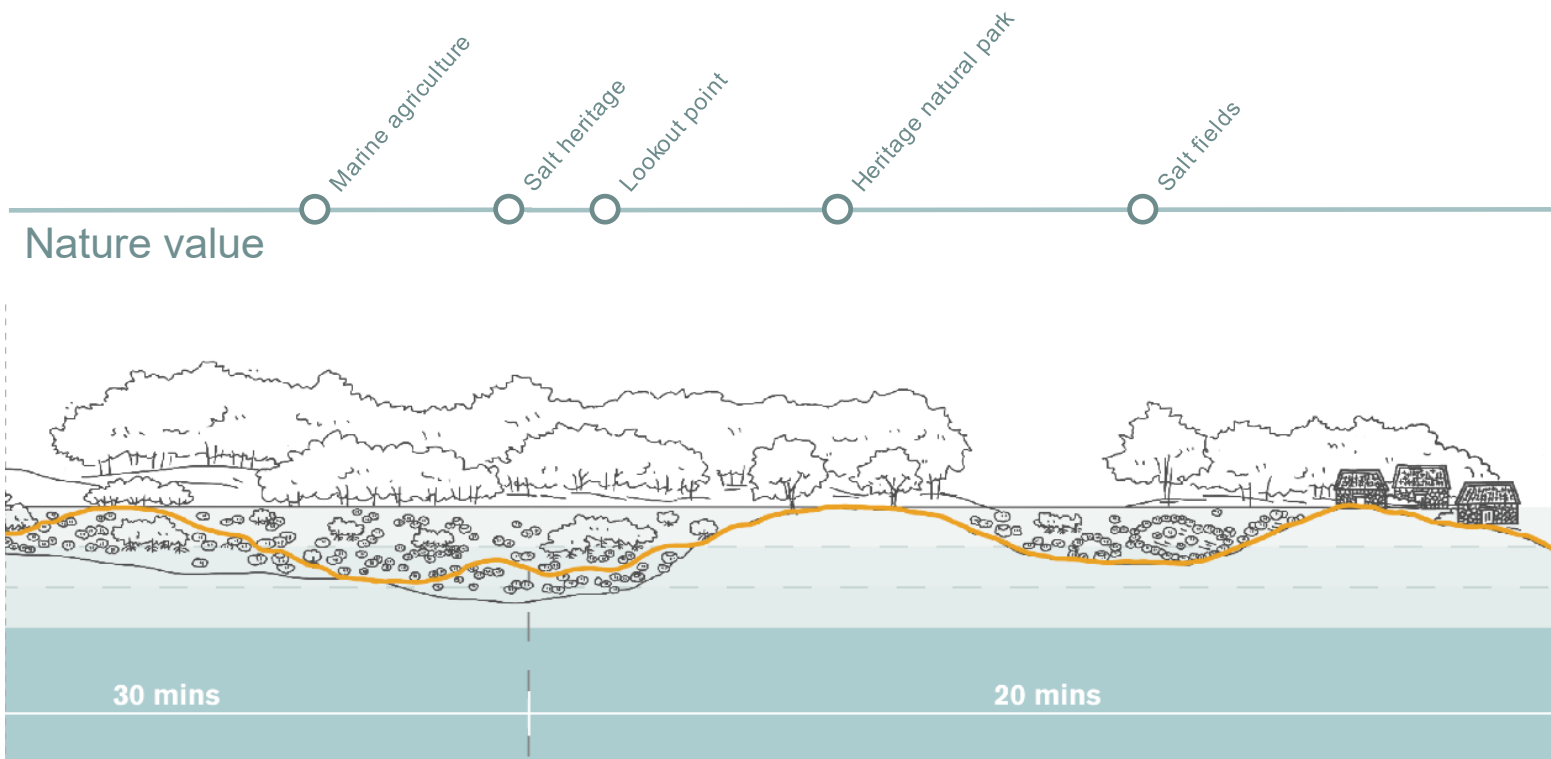


# Concept

## New salt narrative

Nature + Salt story

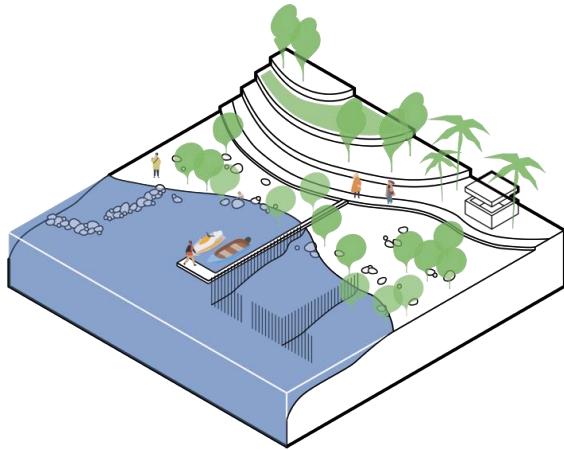
### Nature + Salt Story



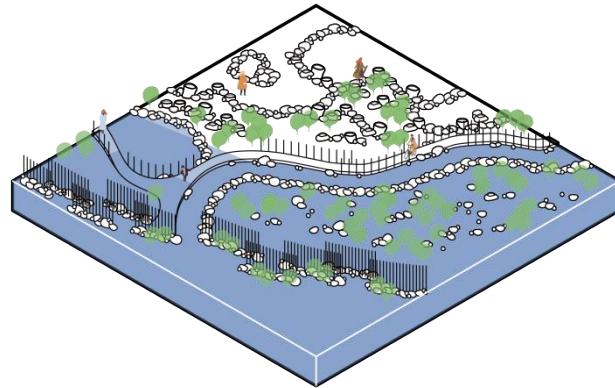


# Strategies

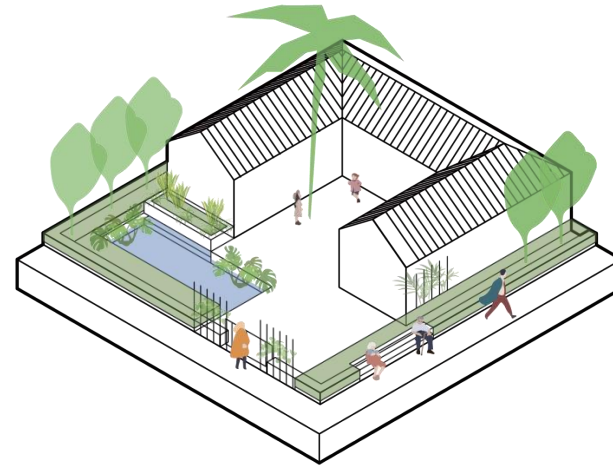
## Value of heritage | Landscape elements



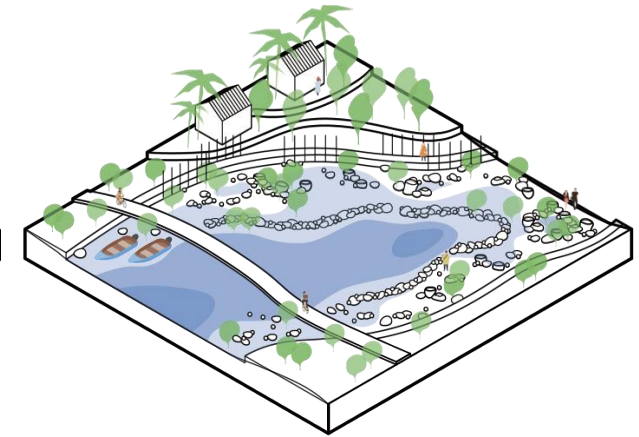
Coast Line



Salt fields



Traditional buildings  
& Public spaces

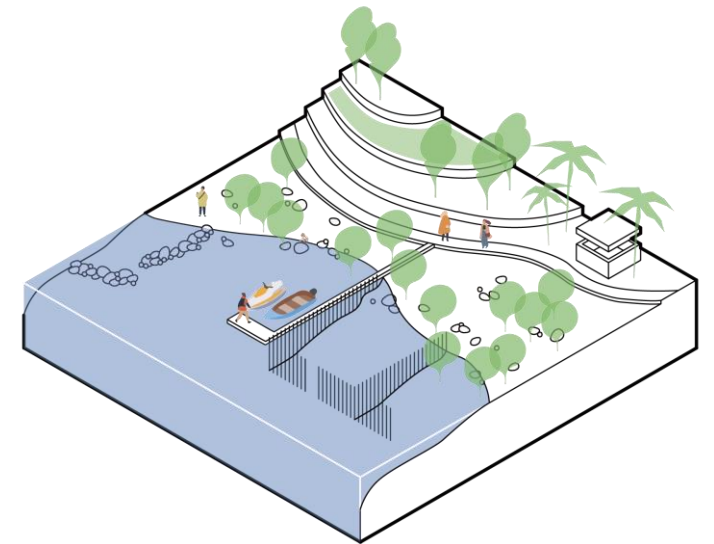
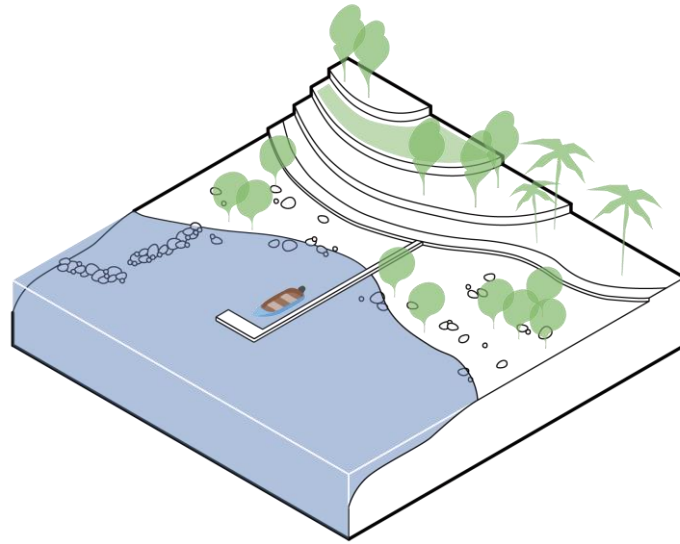


Bay

# Strategies

## Landscape elements

### Coast Line

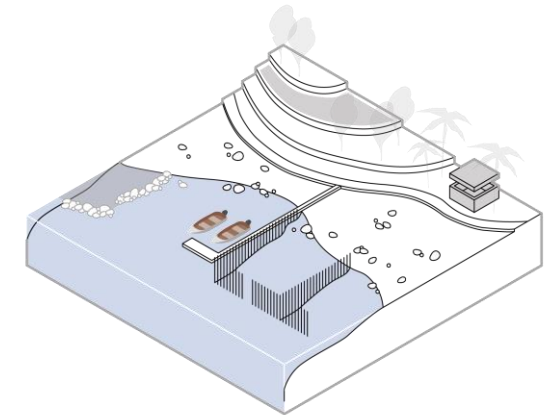
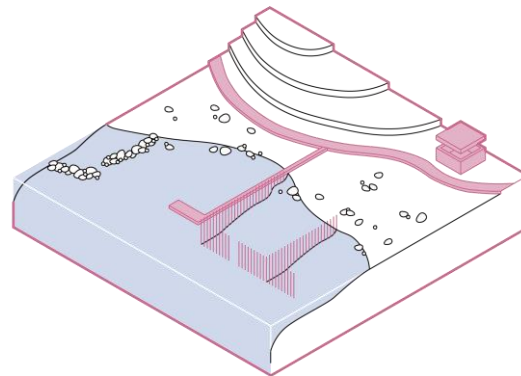
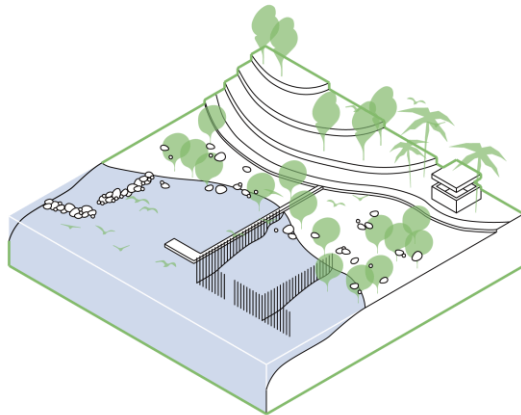
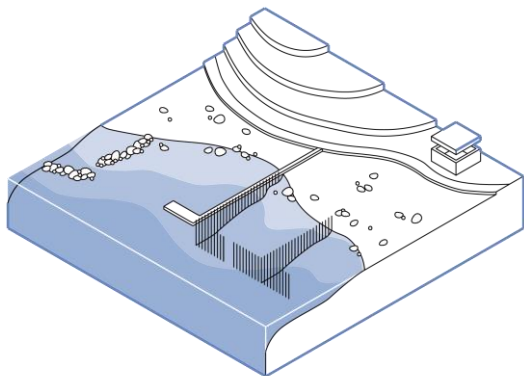


Water

Flora & Fauna layer

Infrastructure

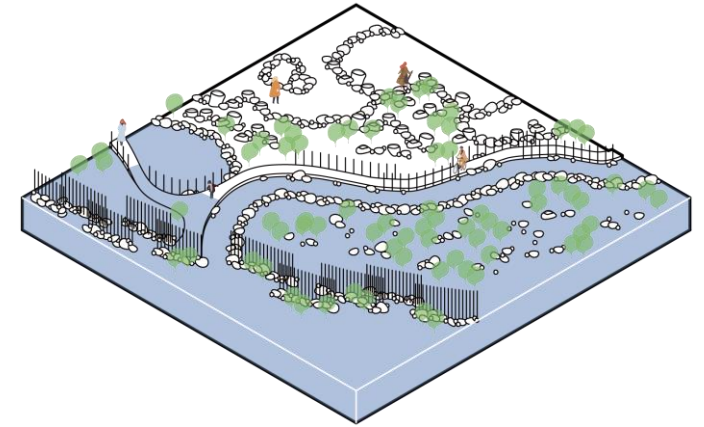
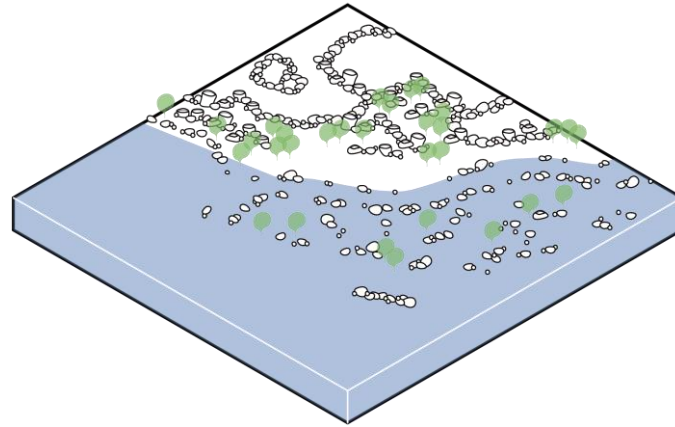
Salt Culture



# Strategies

## Landscape elements

### Salt Fields

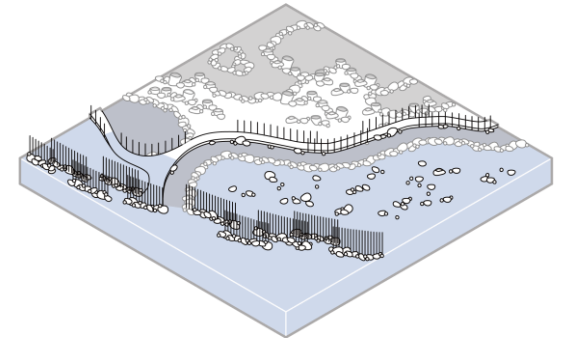
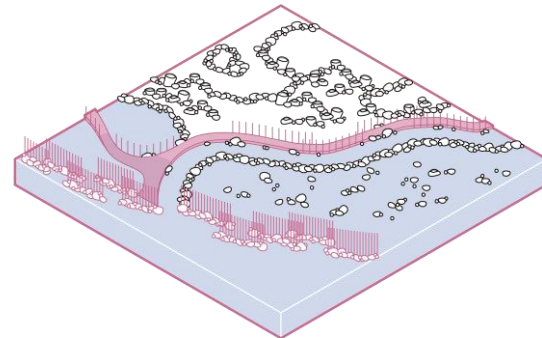
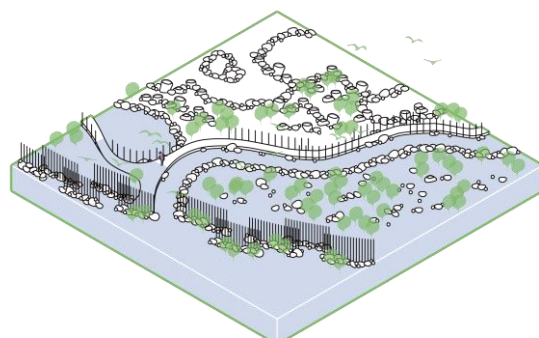
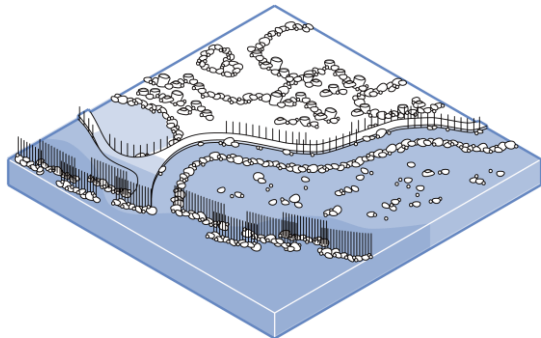


Water

Flora & Fauna layer

Infrastructure

Salt Culture

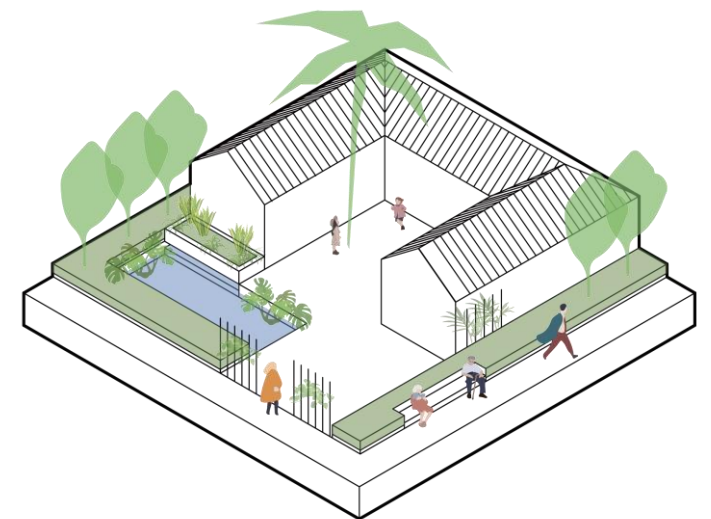
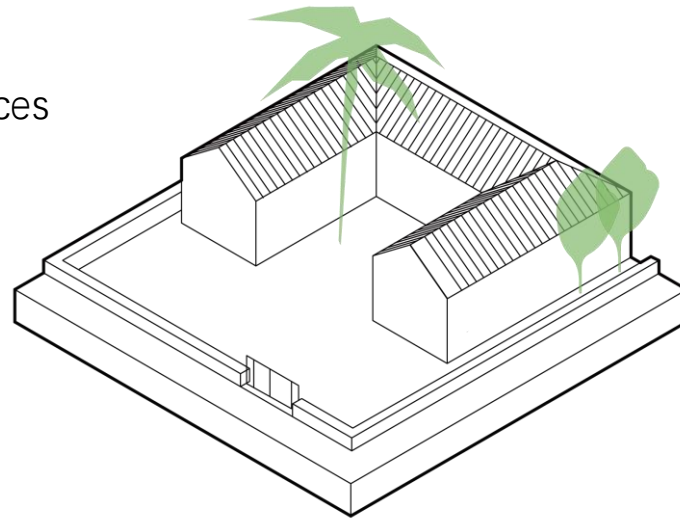




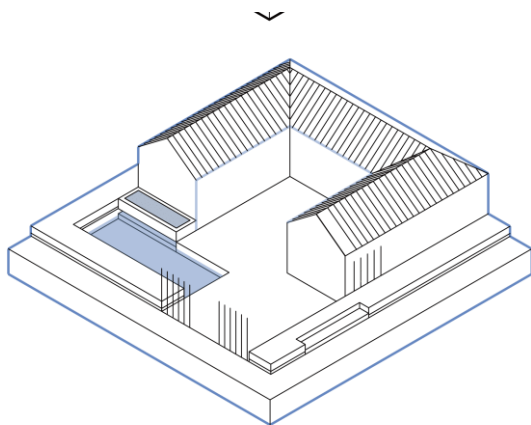
# Strategies

## Landscape elements

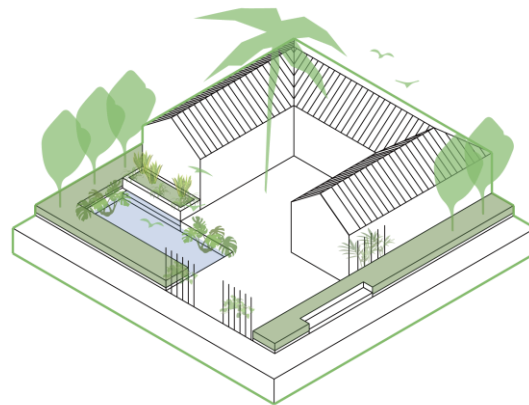
Traditional buildings & Public Spaces



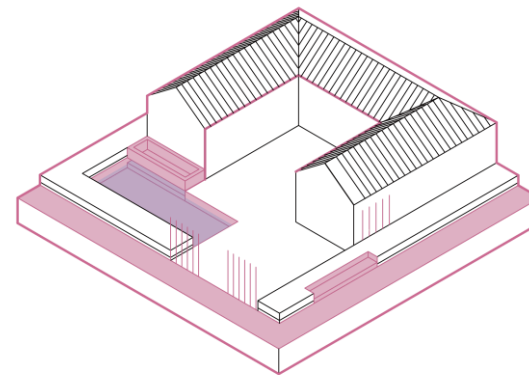
Water



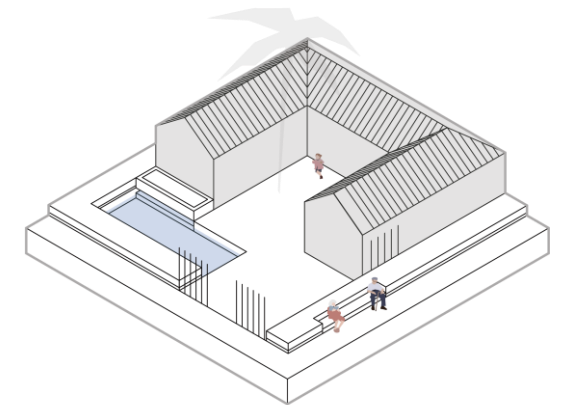
Flora & Fauna layer



Infrastructure



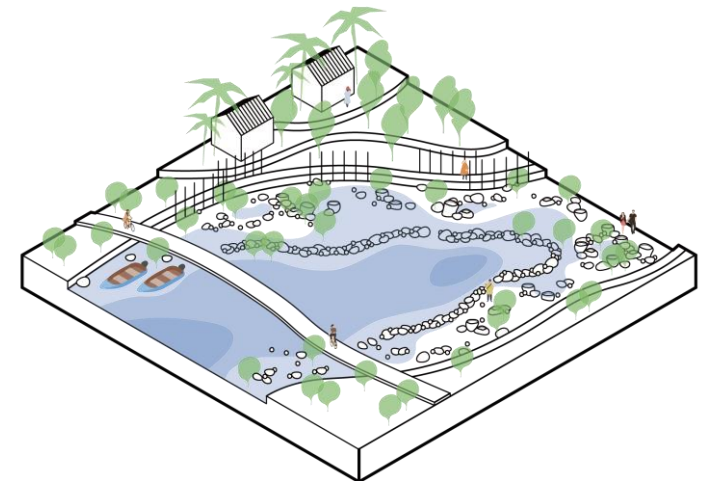
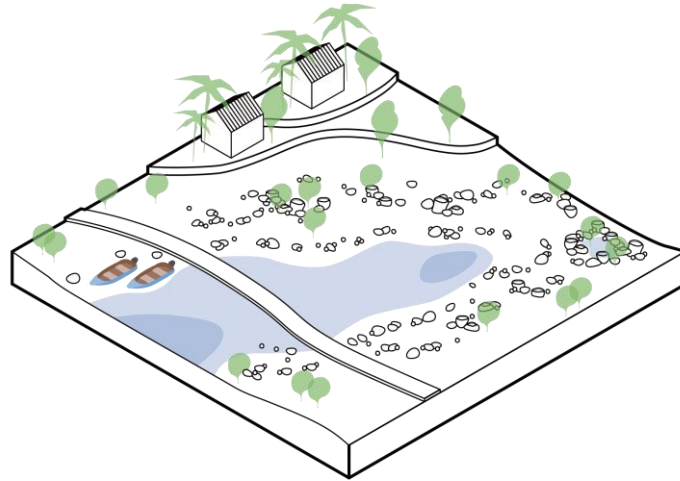
Salt Culture



# Strategies

## Landscape elements

### Bay

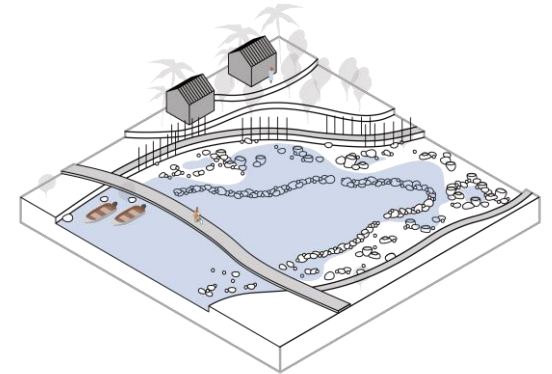
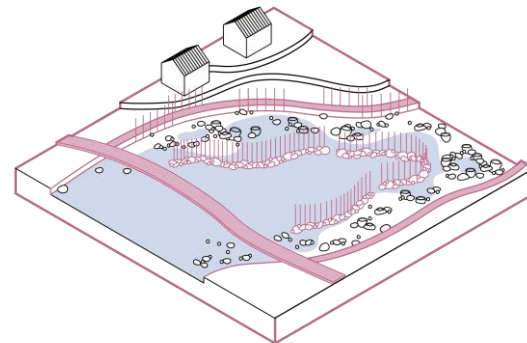
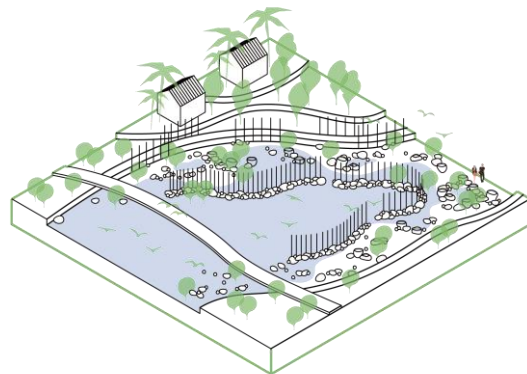
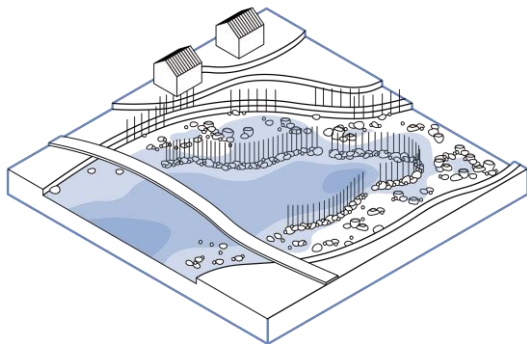


Water

Flora & Fauna layer

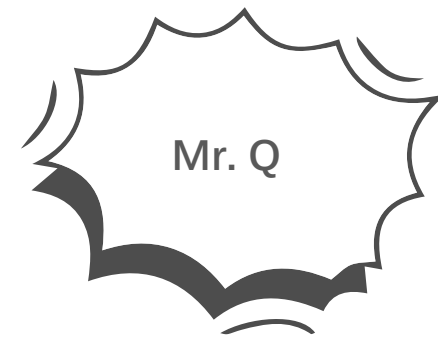
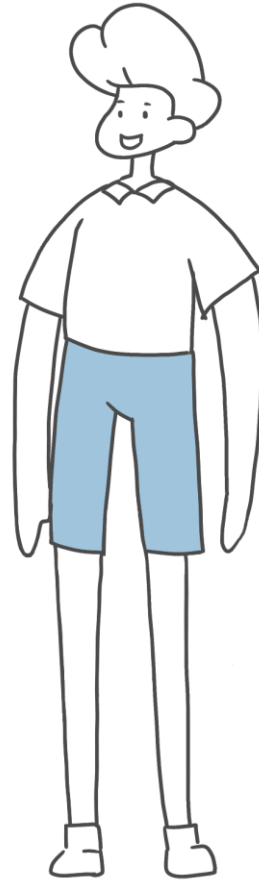
Infrastructure

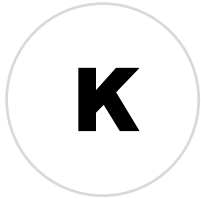
Salt Culture











**Kai-Saltboy@cws.com**

Tue 25/05,11:00  
Send to me

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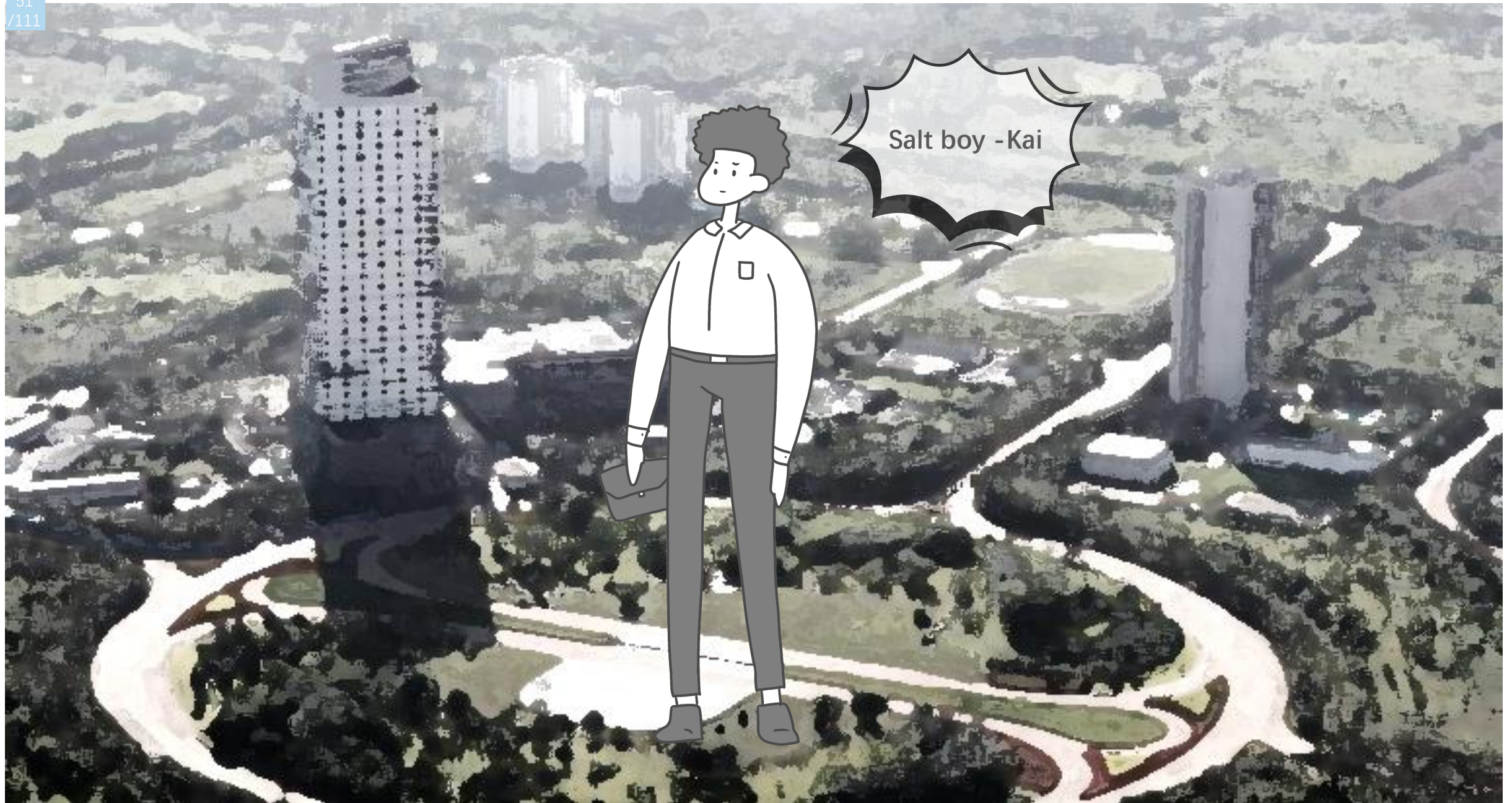
Dear Mr. Q ,

I think it is time to bid my last farewell and have this time to thank you for the trust and values you have spend to me as a team member for the past three years that I work in this city.

Now I will find my new career back to my hometown and try to apply what I have learned to the protection and development of the handicraft of my hometown.

I hope I will have the opportunity to invite you to experience the slow life of traditional villages in the future.

All the best,  
Kai



Salt boy - Kai





3 YEARS LATER







Saltboy Kai

How's everything going Mr. Q ?

23:00

Mr.Q

Still working overtime ...

23:02



Saltboy Kai

Sorry to hear that. **Lots of activities** are happening  
in our village recently.

23:03



We have “Sea salt” Slow Food Festival, Kayaking exploration in salt heritage and many salt harvesting workshop!



“SEA SALT” SLOW FOOD FESTIVAL



KAYAKING



SALT HARVESTING



Saltboy Kai

We got a lot of help from the government and organization like “Slow Food community”.

23:06

Mr.Q

Wow. Looks great!

23:05



Mr.Q

I am curious how did you manage to organize all these events?

23:05


















## Infrastructure layer

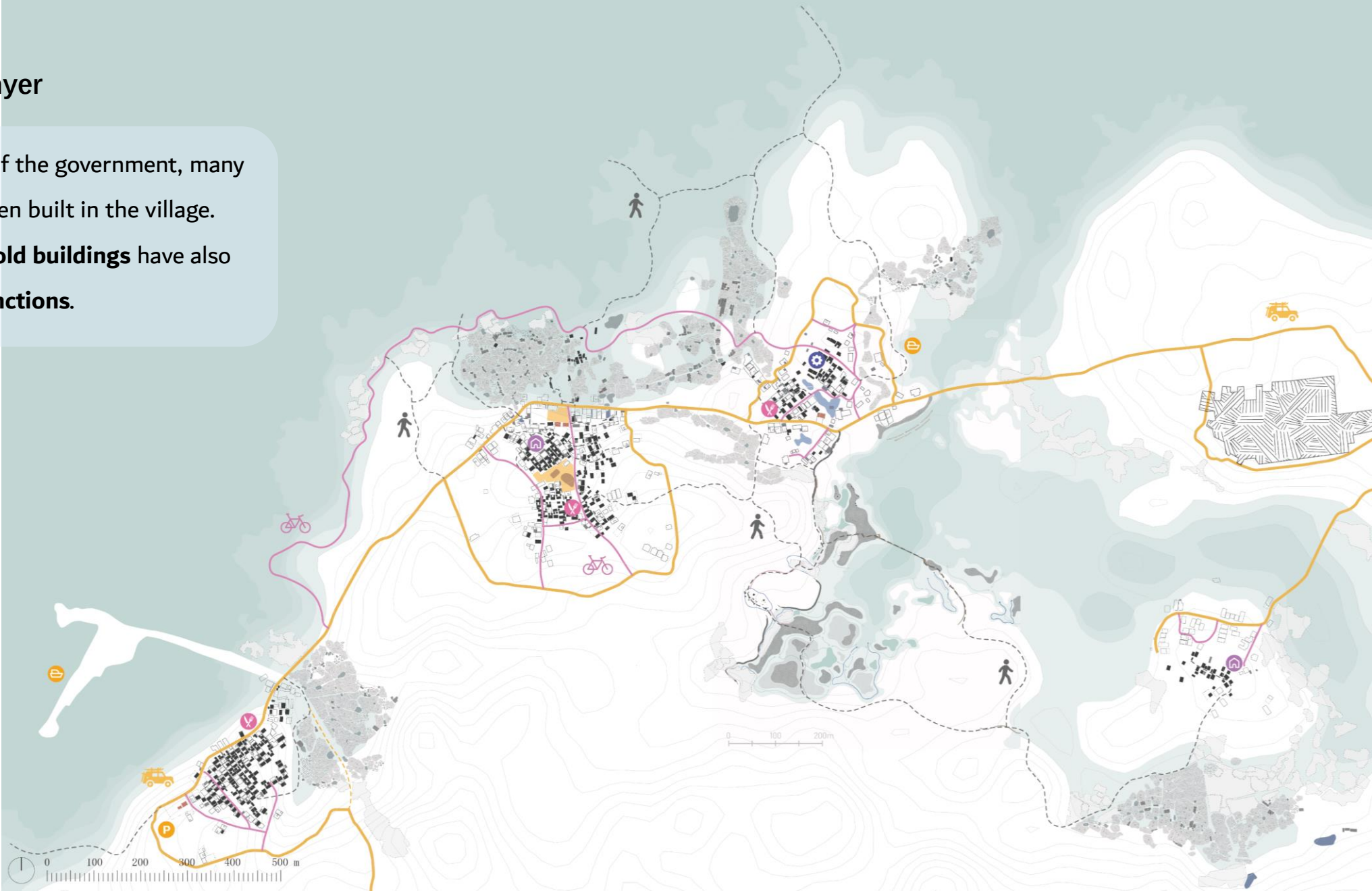


With the support of the government, many **new roads** have been built in the village.



Some **abandoned old buildings** have also been given **new functions**.

-  Car lane
-  Bicycle road
-  sidewalk / Trail
-  Salt field
-  Abandoned Salt field
-  Ancient buildings
-  New buildings
-  Public spaces
-  Restaurant / Shop
-  Hostel
-  Workshop
-  Parking
-  Port

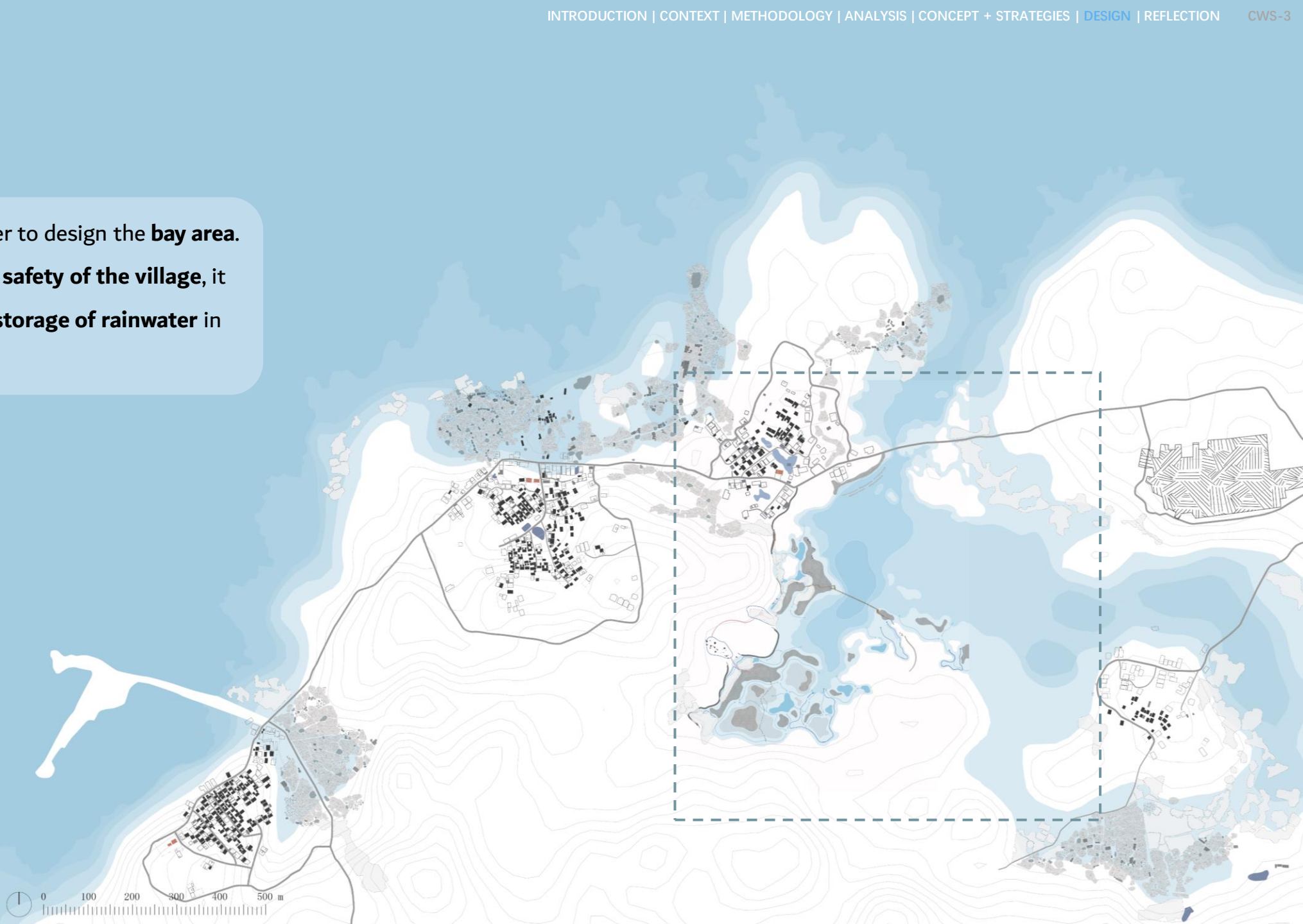
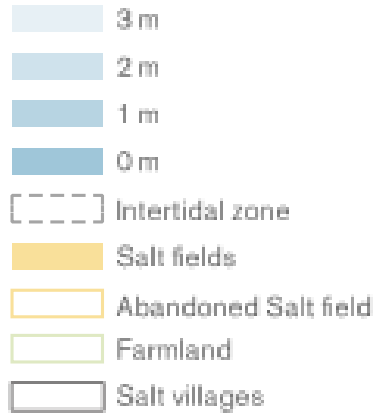




## Water layer

We worked together to design the **bay area**.

While ensuring the **safety of the village**, it also increased the **storage of rainwater** in some areas.







## Flora & fauna layer



The increase in rainwater reserves has resulted in **richer water salinity**. Because of that, **more flora and fauna can grow** in the bay area



- Sea
- Intertidal zone
- Mangrove forest
- Fresh water forest
- Salt fields
- Abandoned Salt fields
- Farmland
- Village



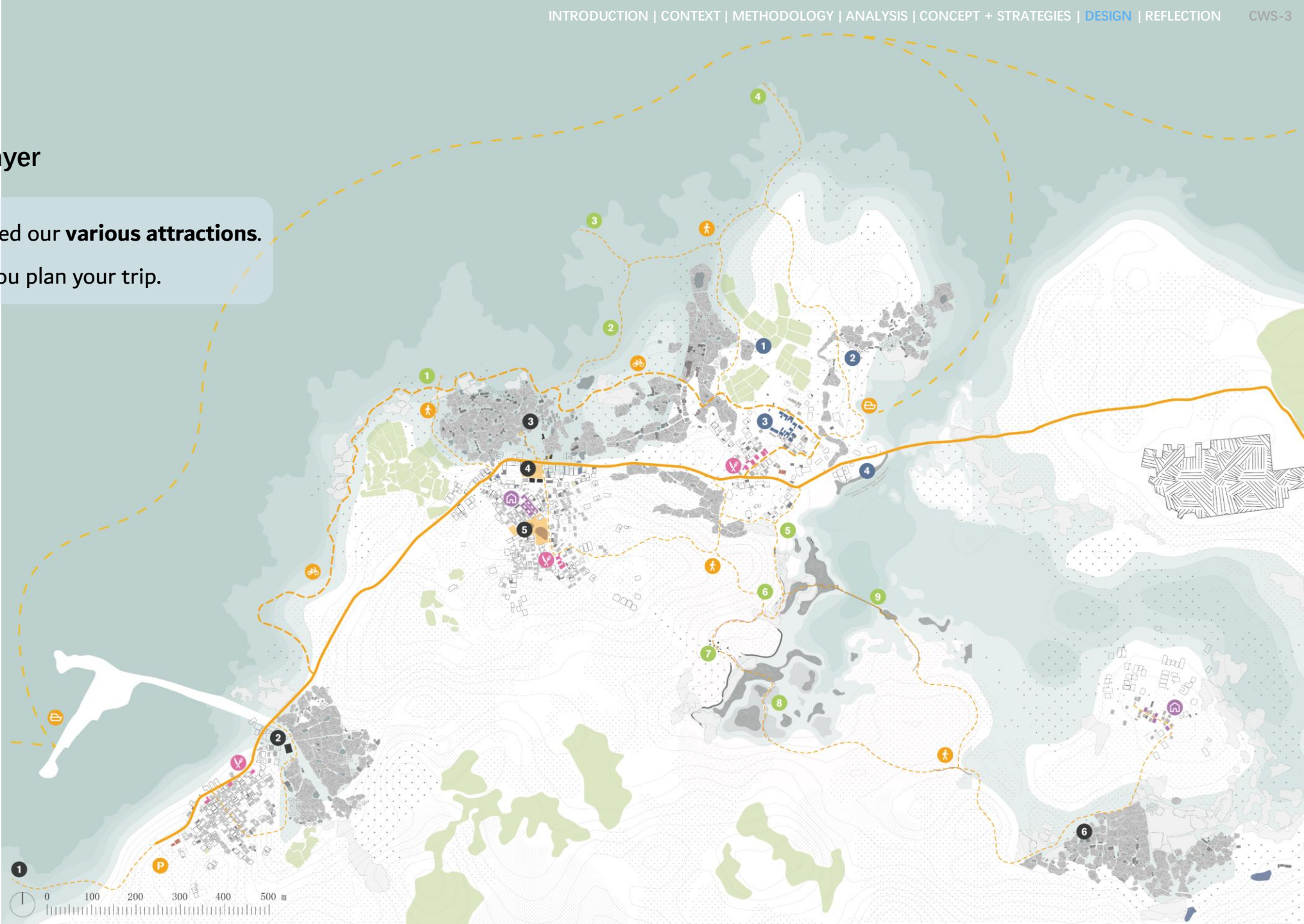


## Flora & fauna layer

And this map marked our **various attractions**.

I hope it will help you plan your trip.

- 1 Stone tower
- 2 Salt museum
- 3 Salt field
- 4 Ancestral hall plaza
- 5 Central lake park
- 6 Salt field
- 1 Mangrove tidal flat
- 2 Seaside trail
- 3 Lookout point
- 4 Lookout point
- 5 Salt heritage
- 6 Bird watching tower
- 7 Rain water garden
- 8 Heritage natural park
- 9 Floating bridge
- 1 Slow food farmland
- 2 Slow food salt field
- 3 Workshop
- 4 Slow food oyster farm



Mr.Q

How about the **traffic**? Is it easy to reach your place?



23:15

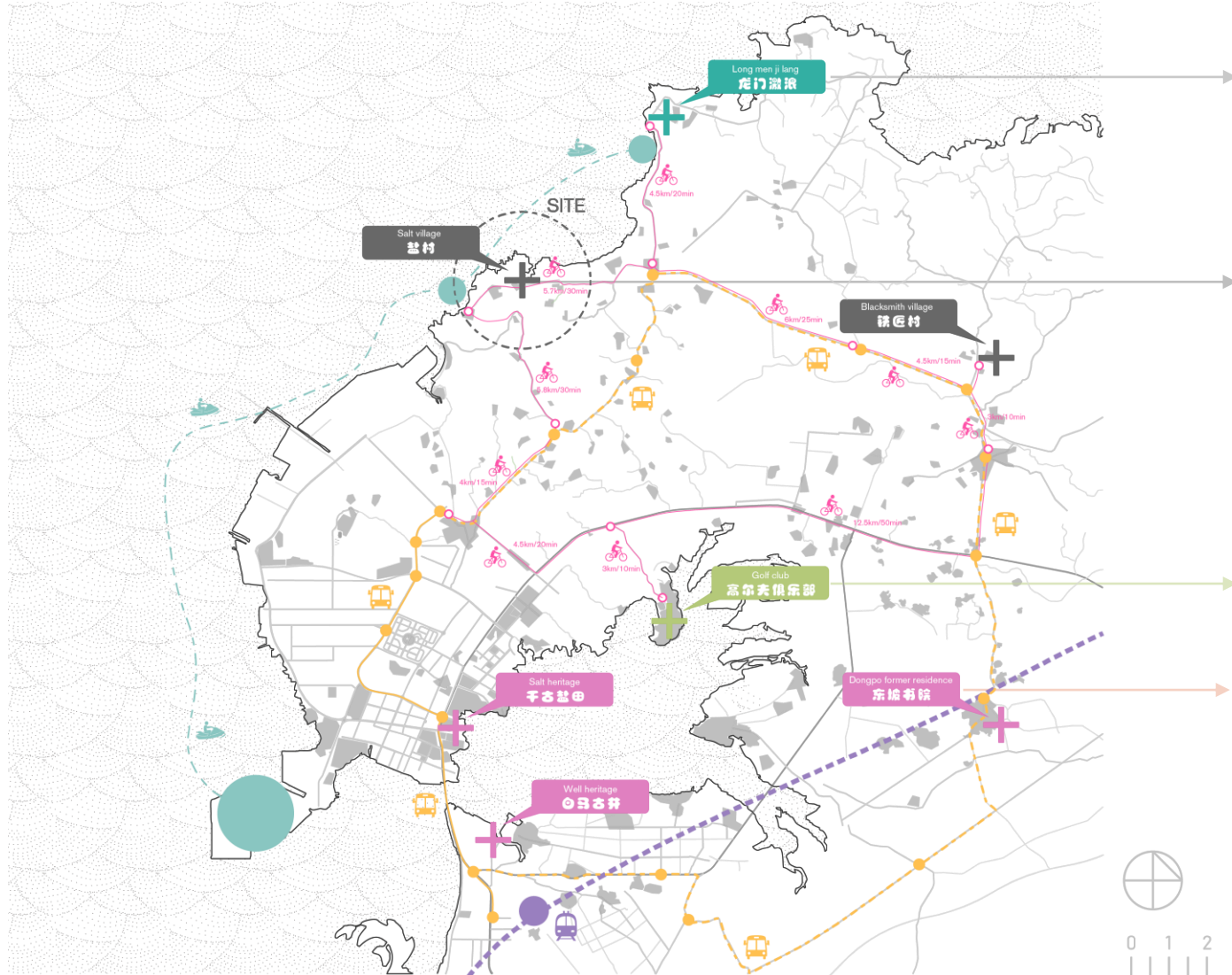
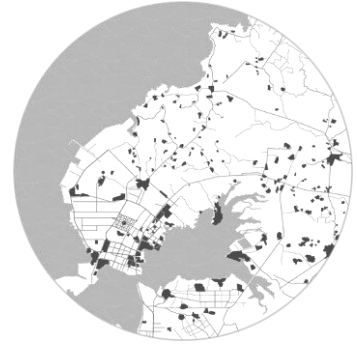


Saltboy Kai

The government planned the **tourism system on the county scale**. So now **public transportation** has become very convenient.

23:15

# County-Tourist route







Saltboy Kai

We built a new dock recently.  
It's very convenient for you to come by boat!  
How about come to relax a bit with the family?

23:05

Mr.Q

Travel by boat? My family must  
like that! See you this weekend.

23:05

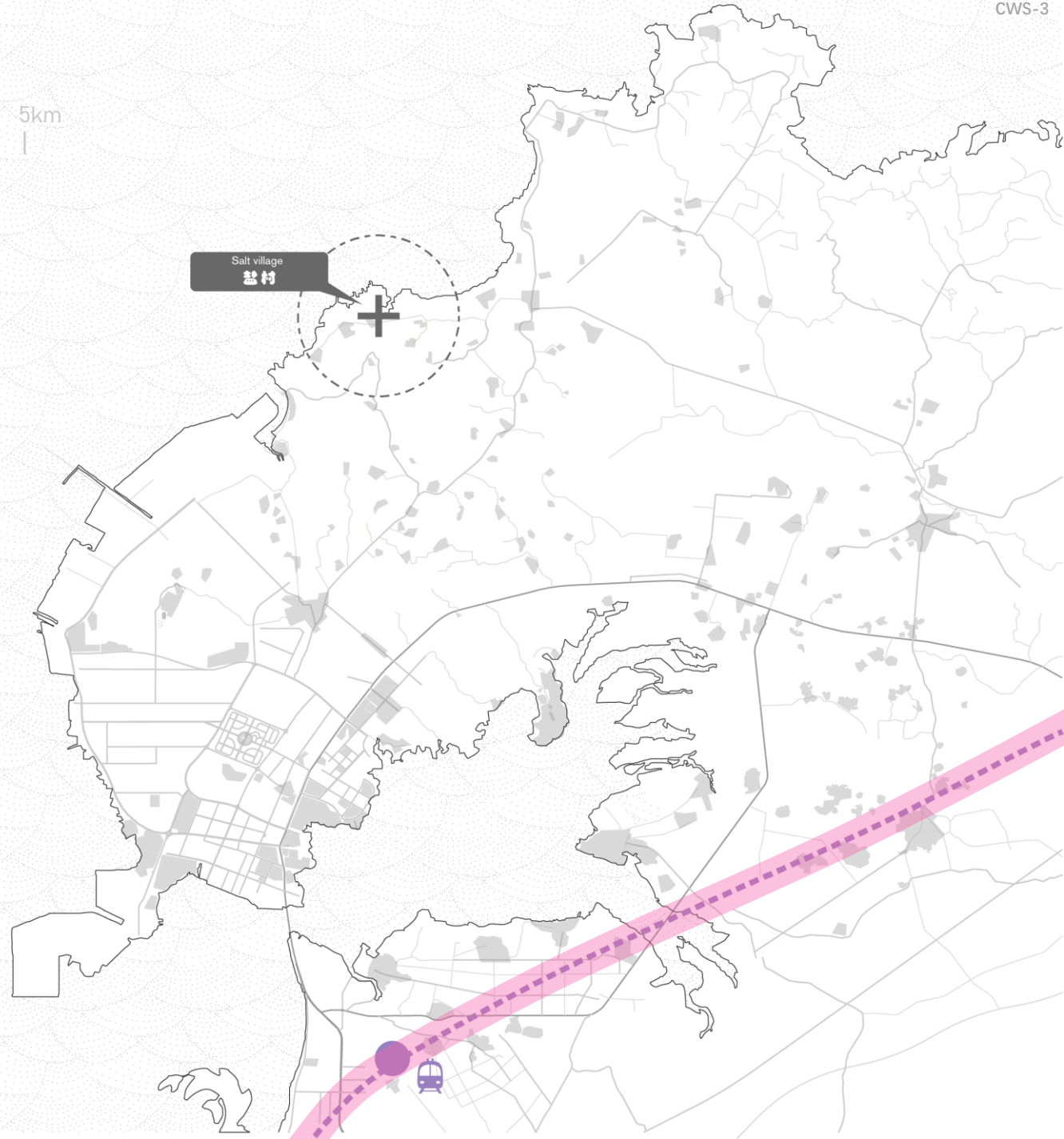


PREPARING





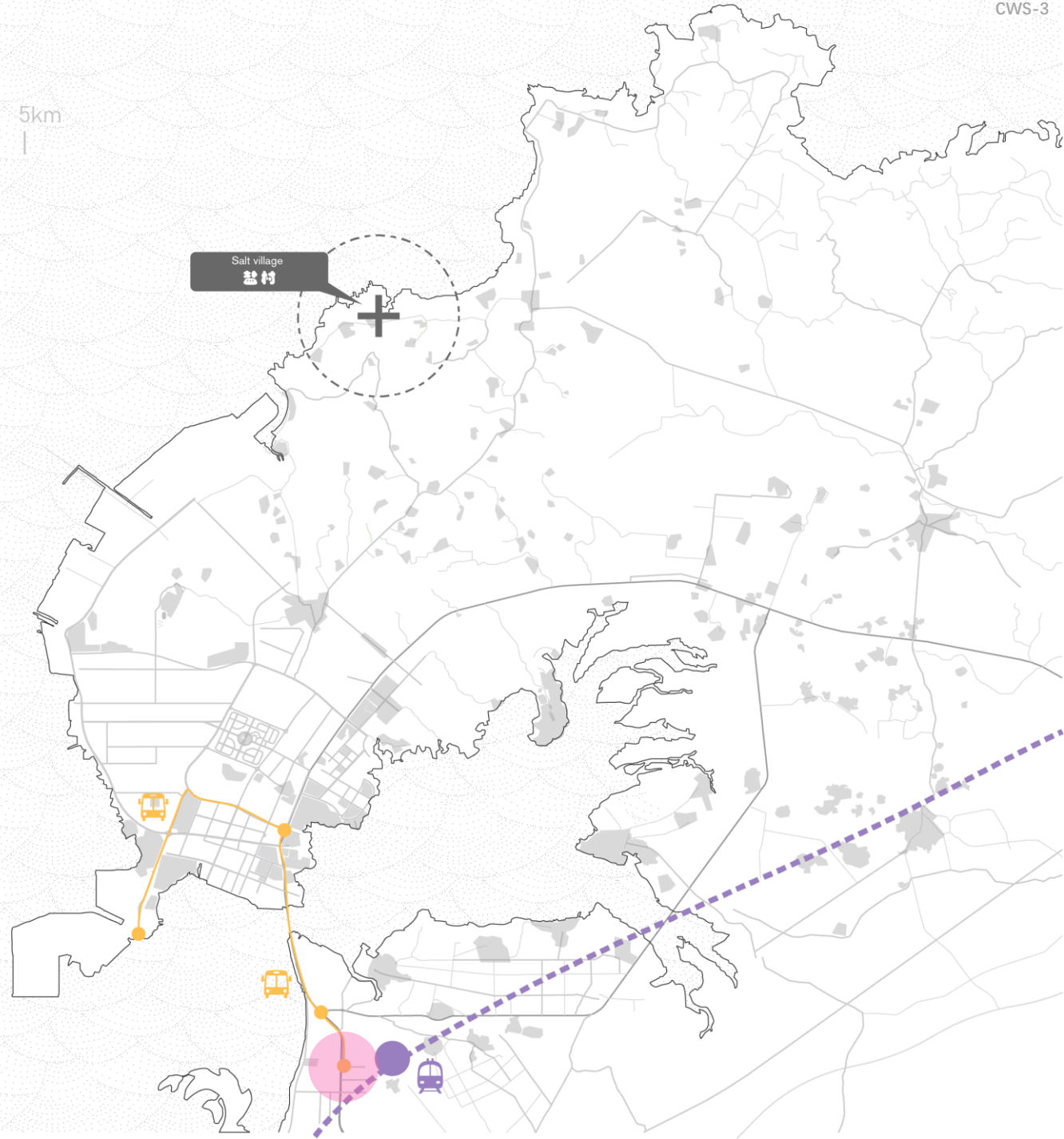
High speed train





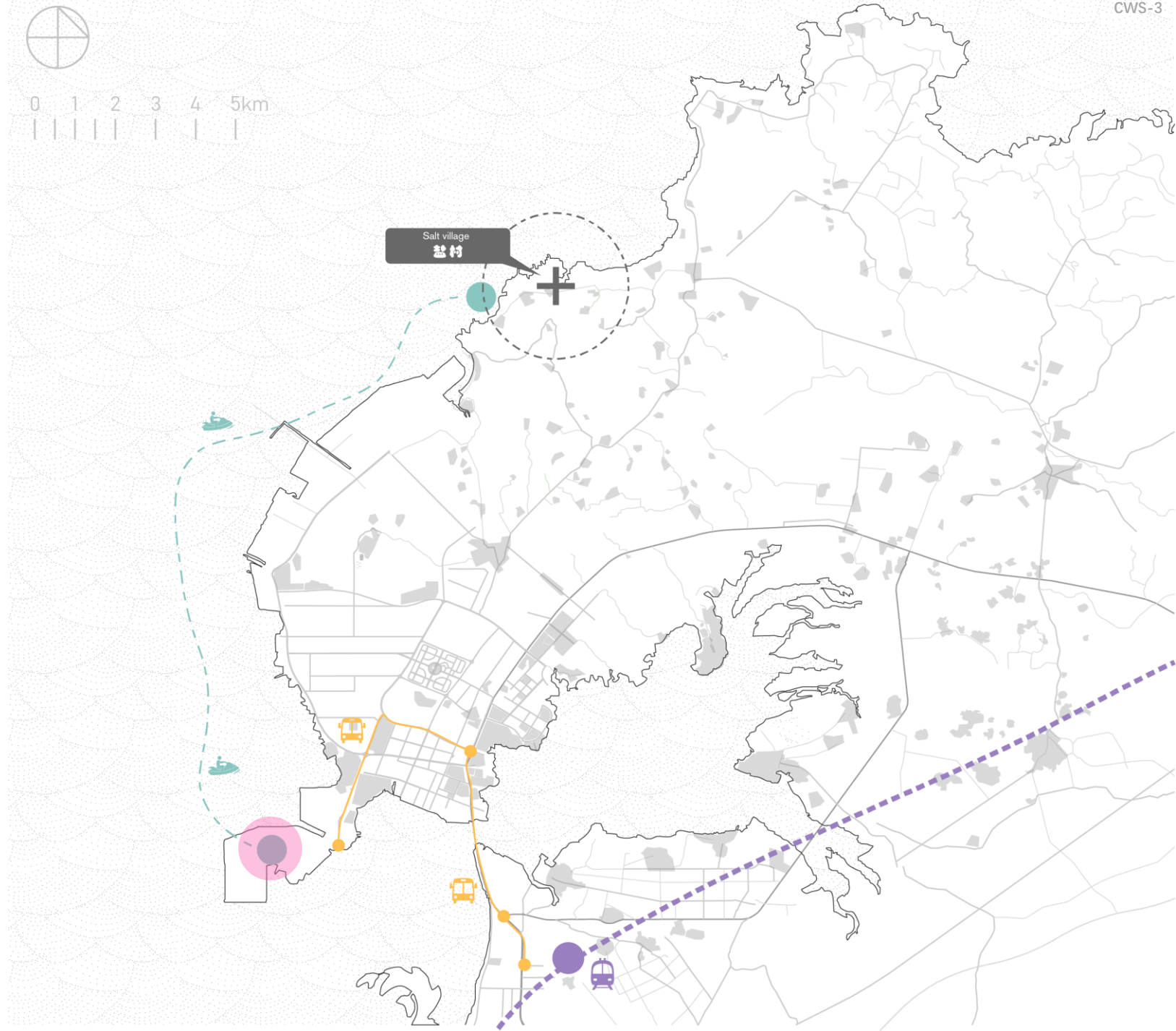


Yangpu bridge





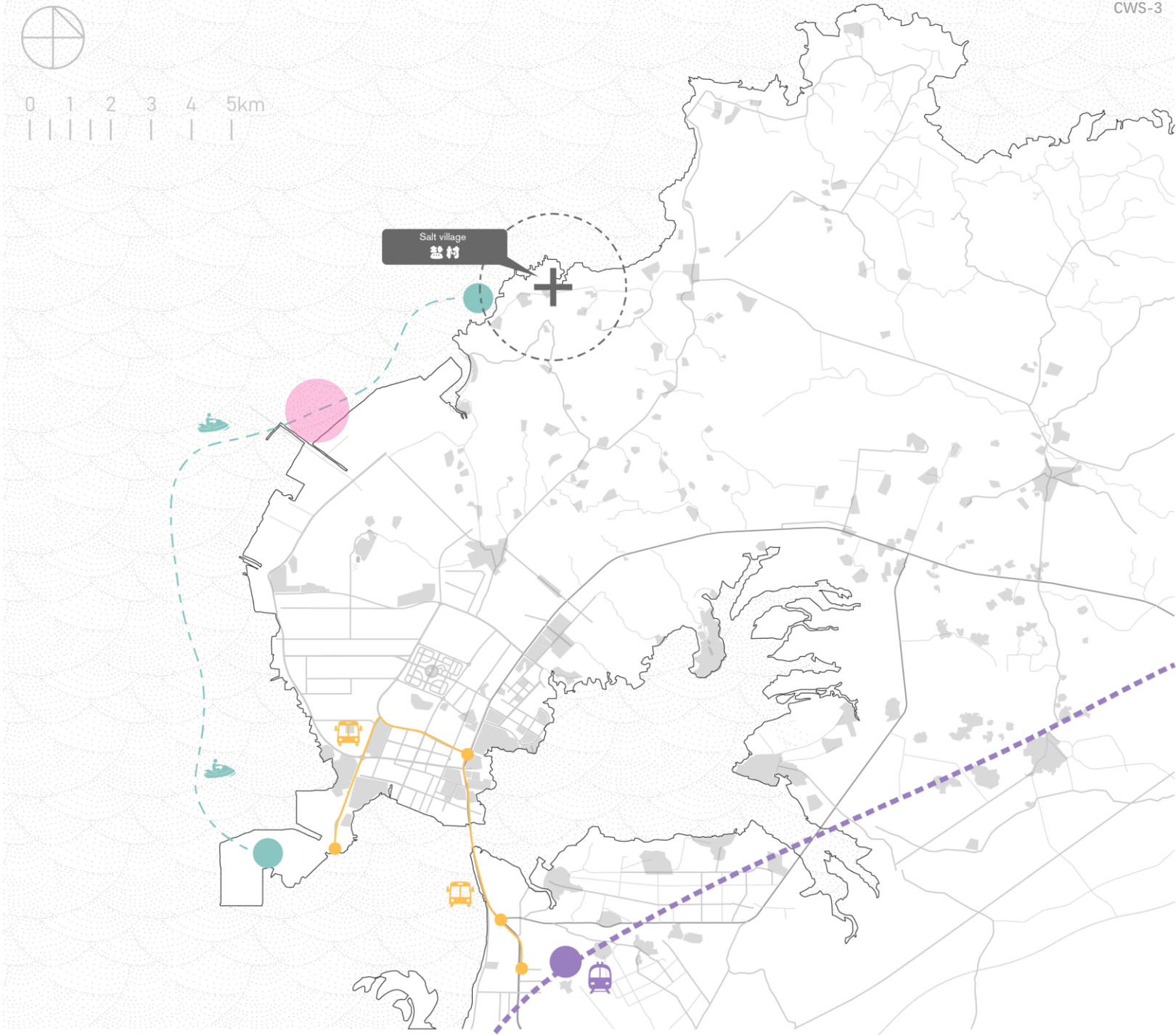
Yangpu port





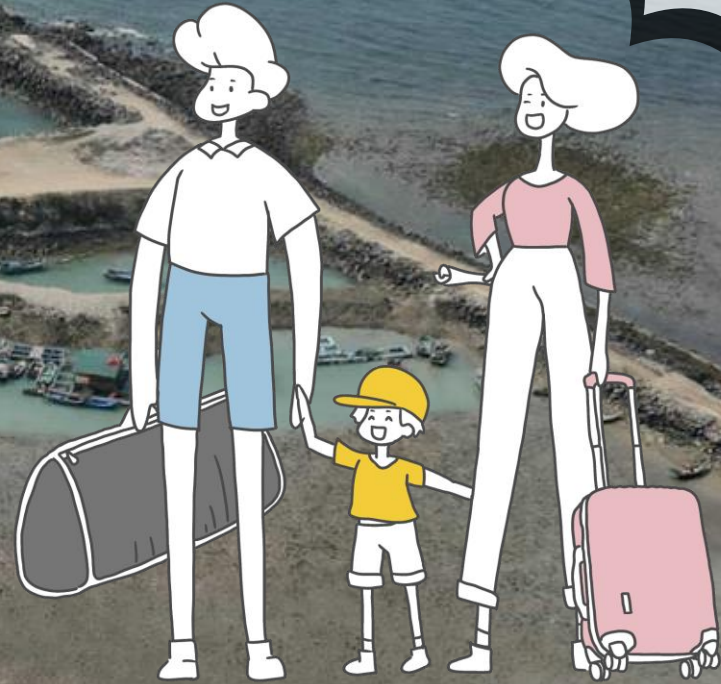


Salt village dock



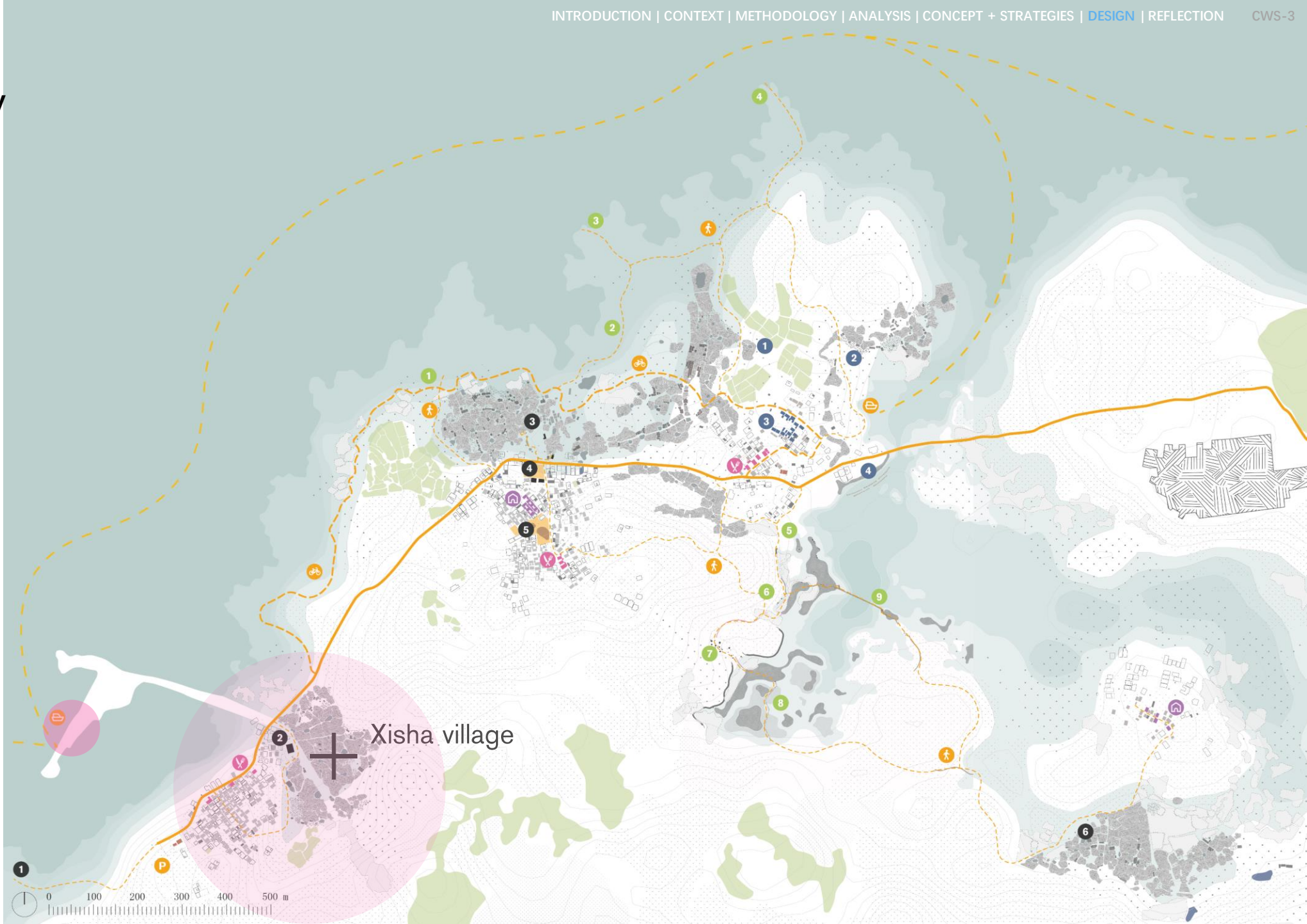


Mr. Q's family



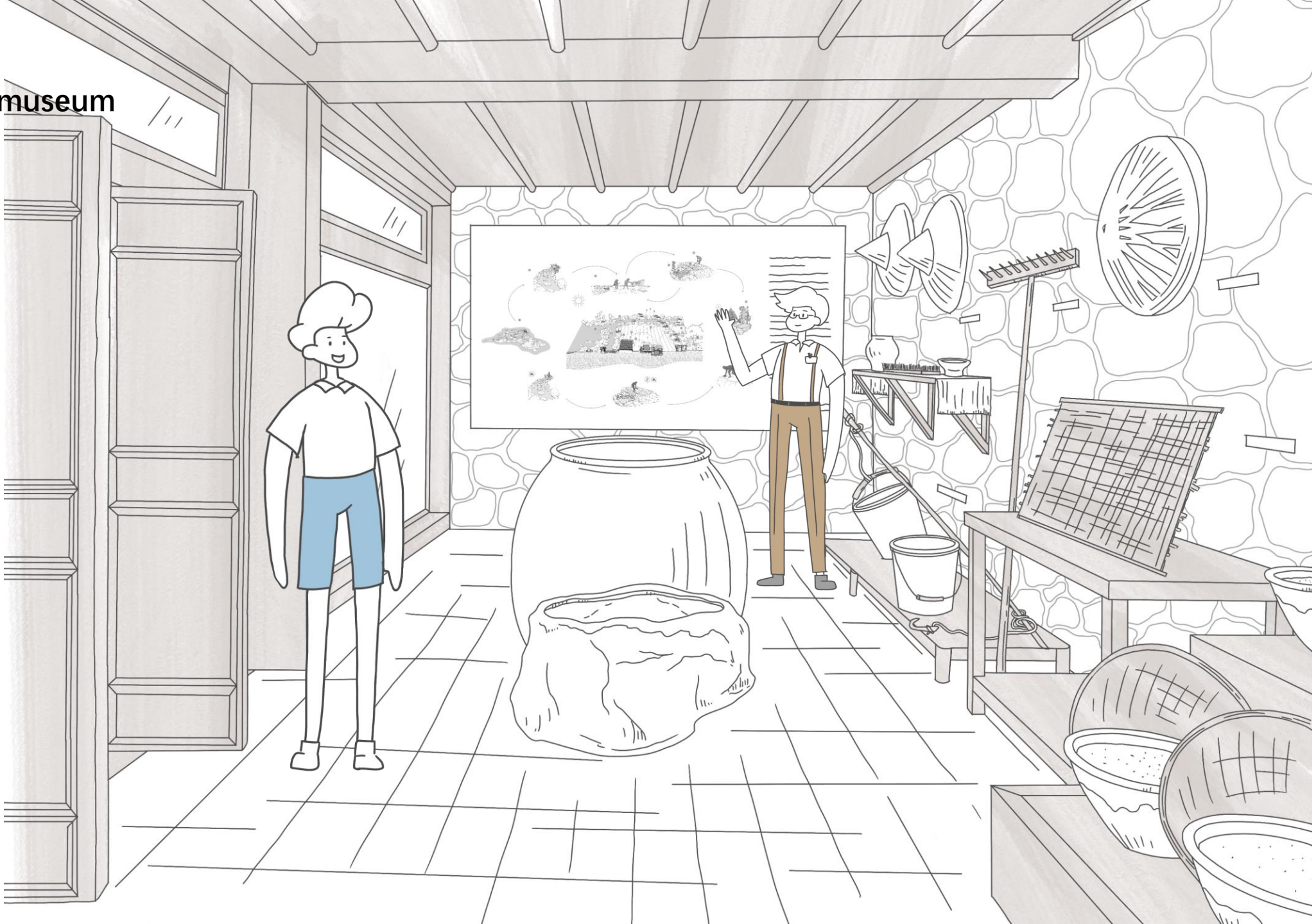


# Ancient salt story



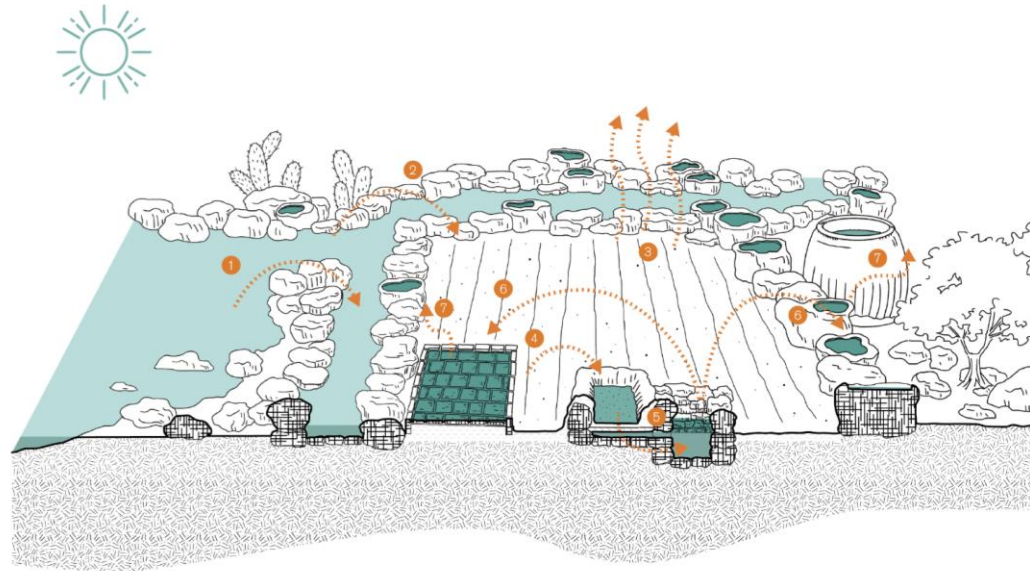


# Salt museum





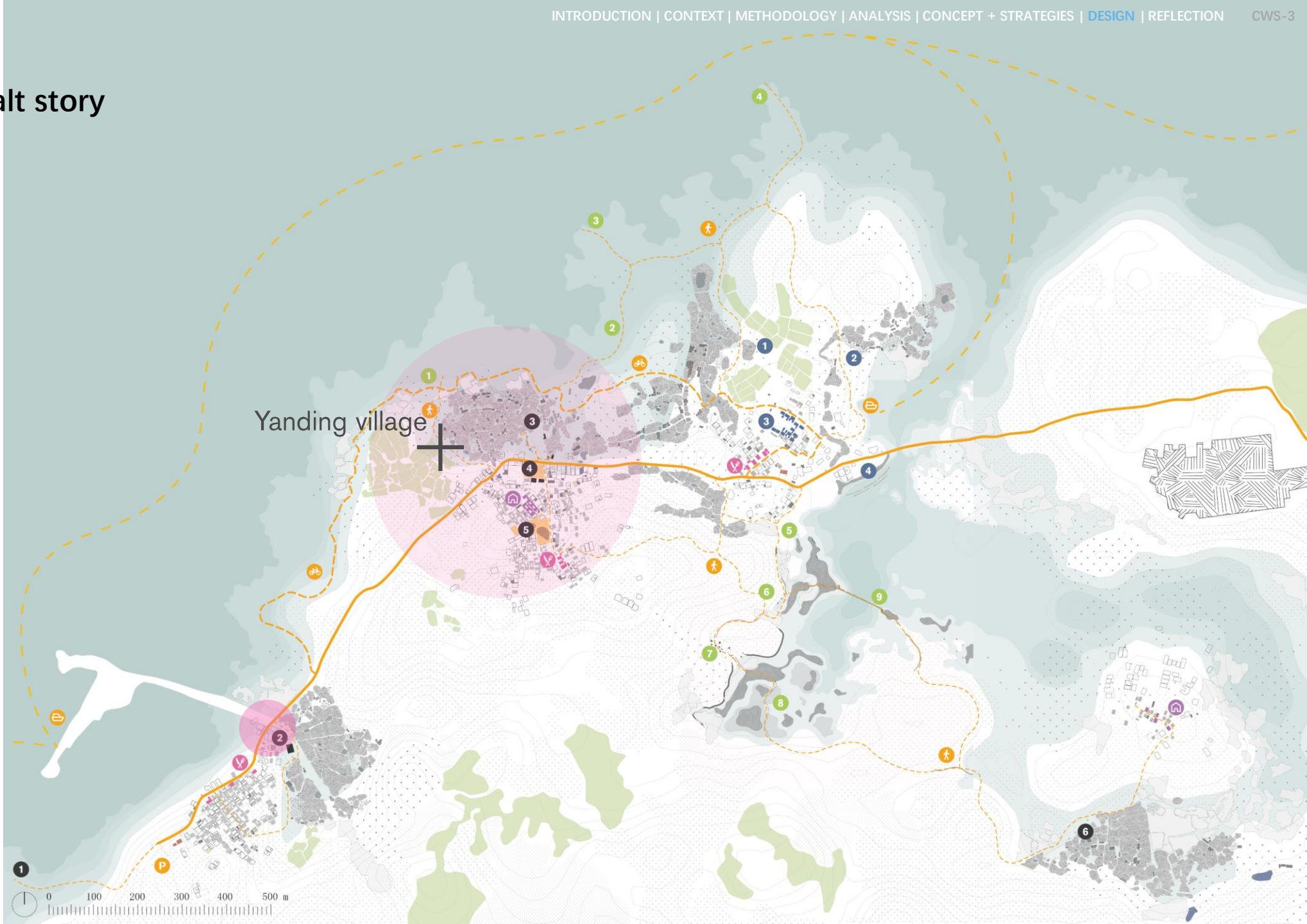
## Historical value



Archaeologist-Li

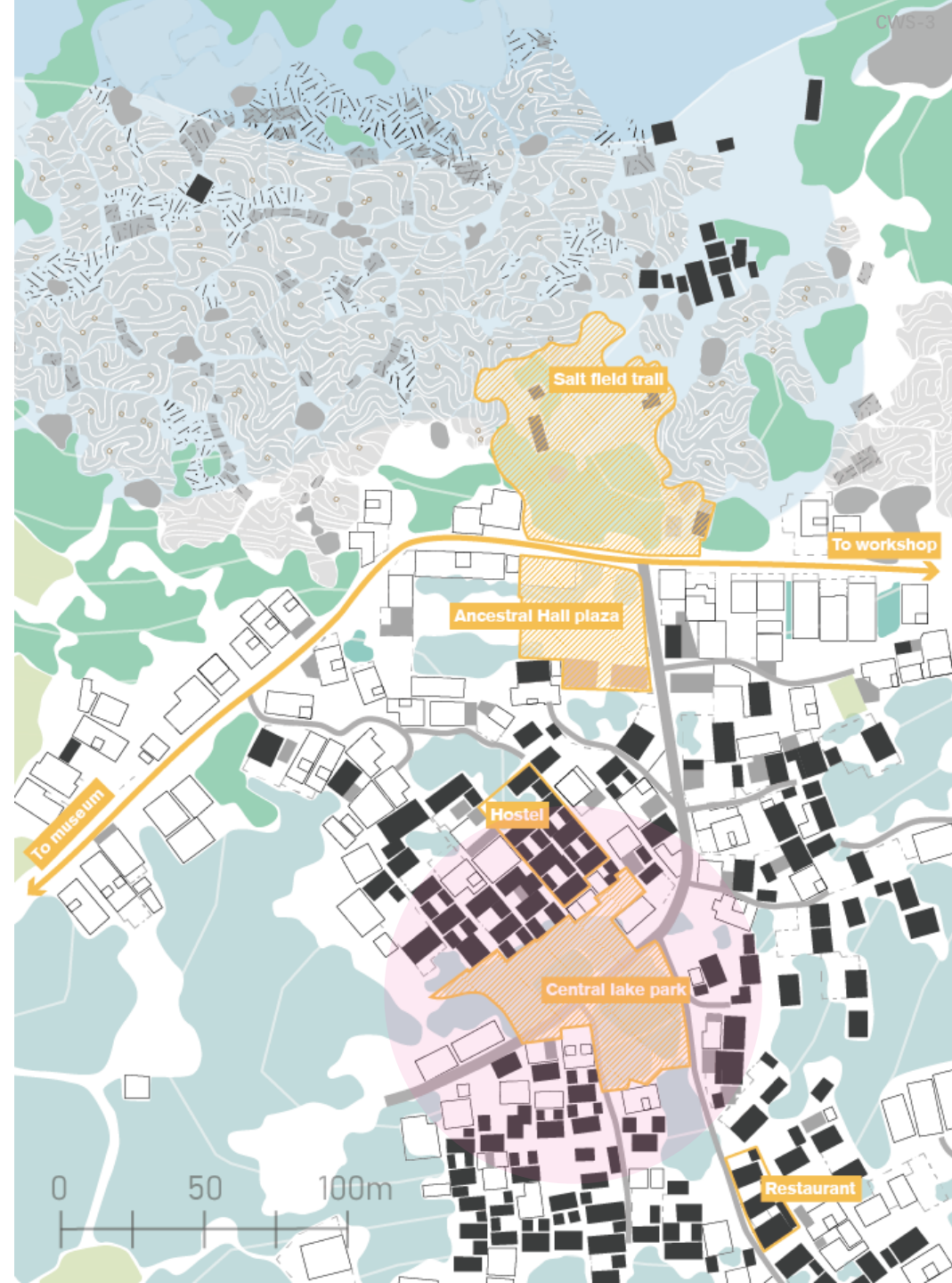
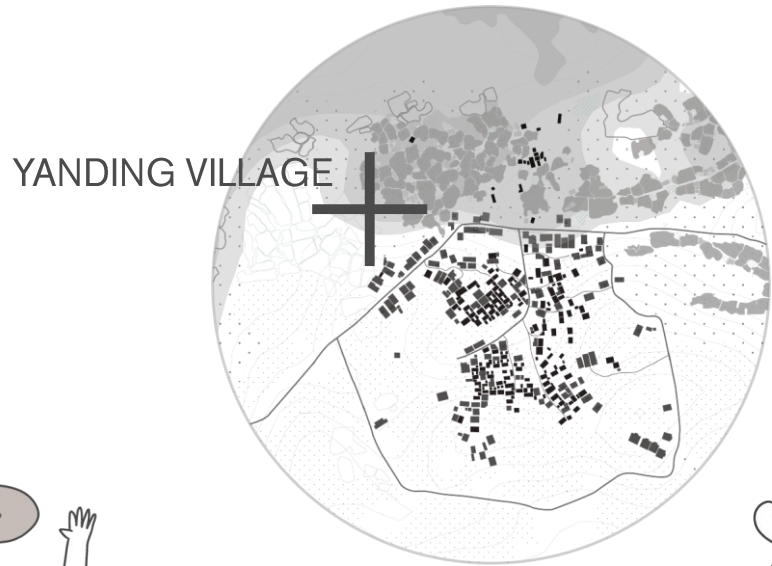


# Socialization + salt story





# Village scale





## Village scale

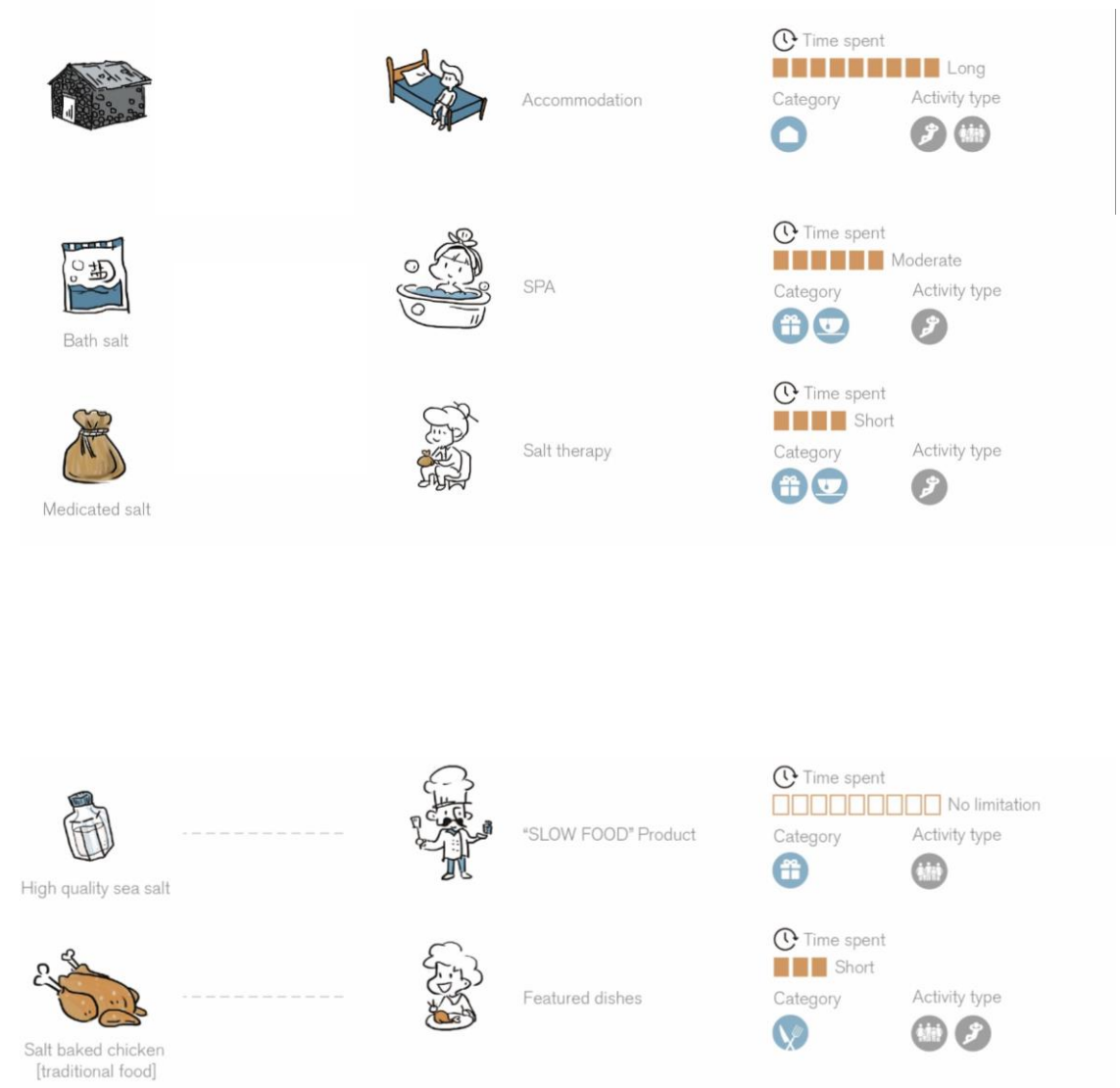
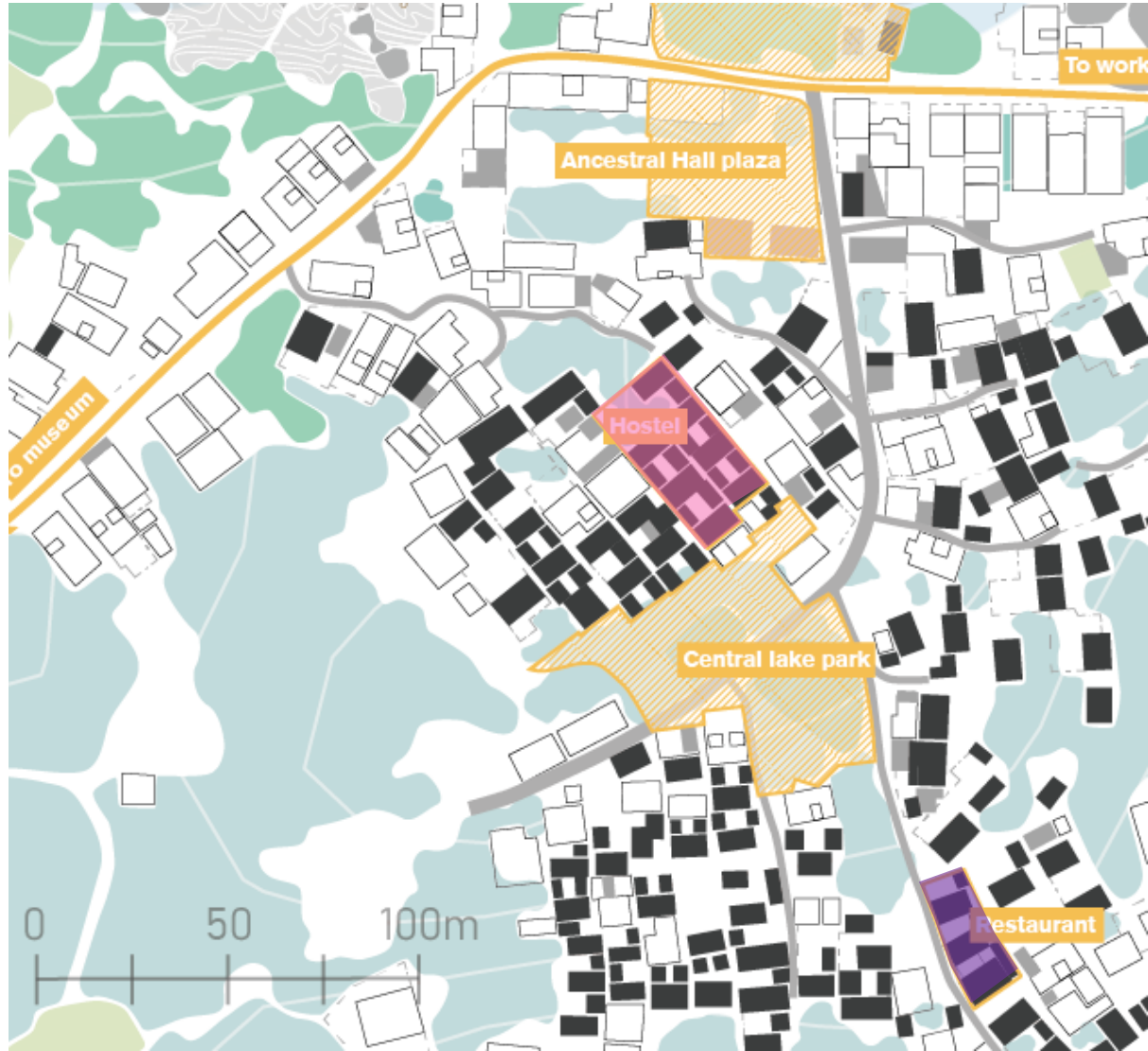
Central lake



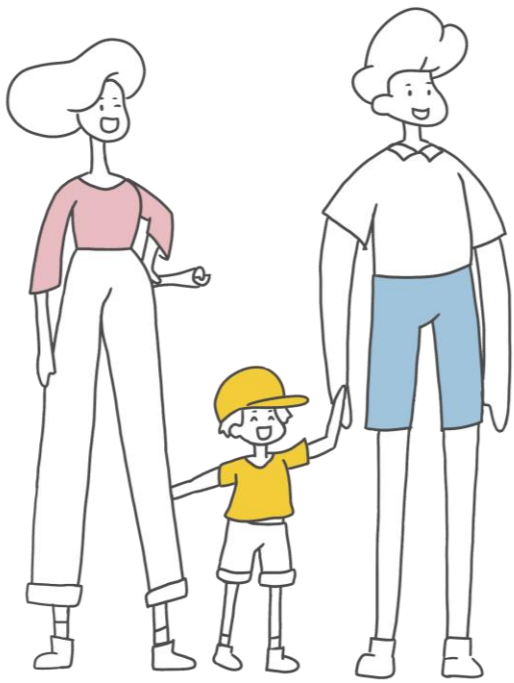




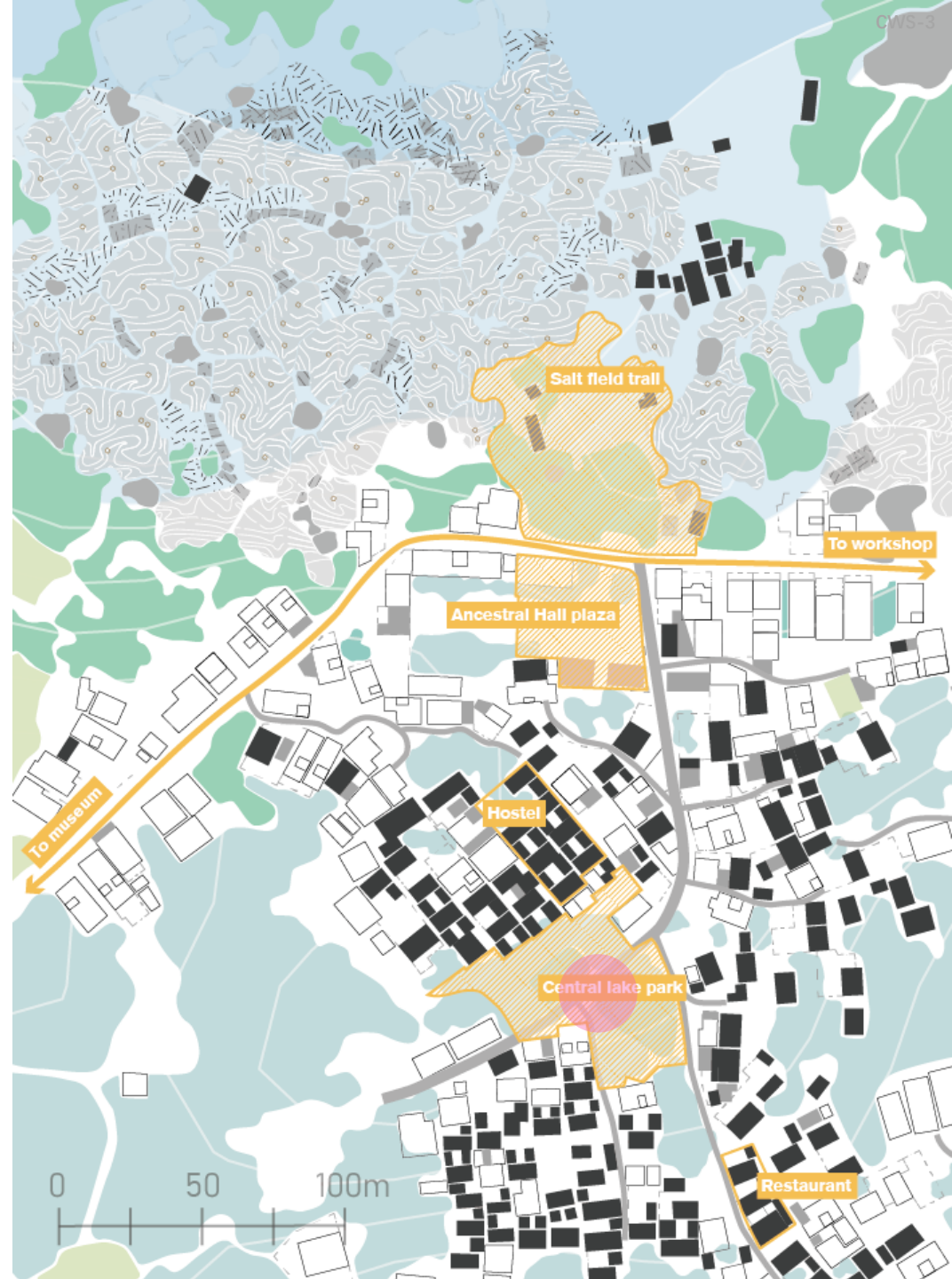
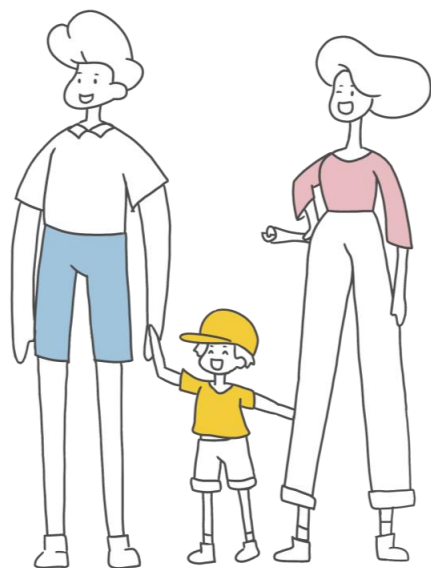
# Social value







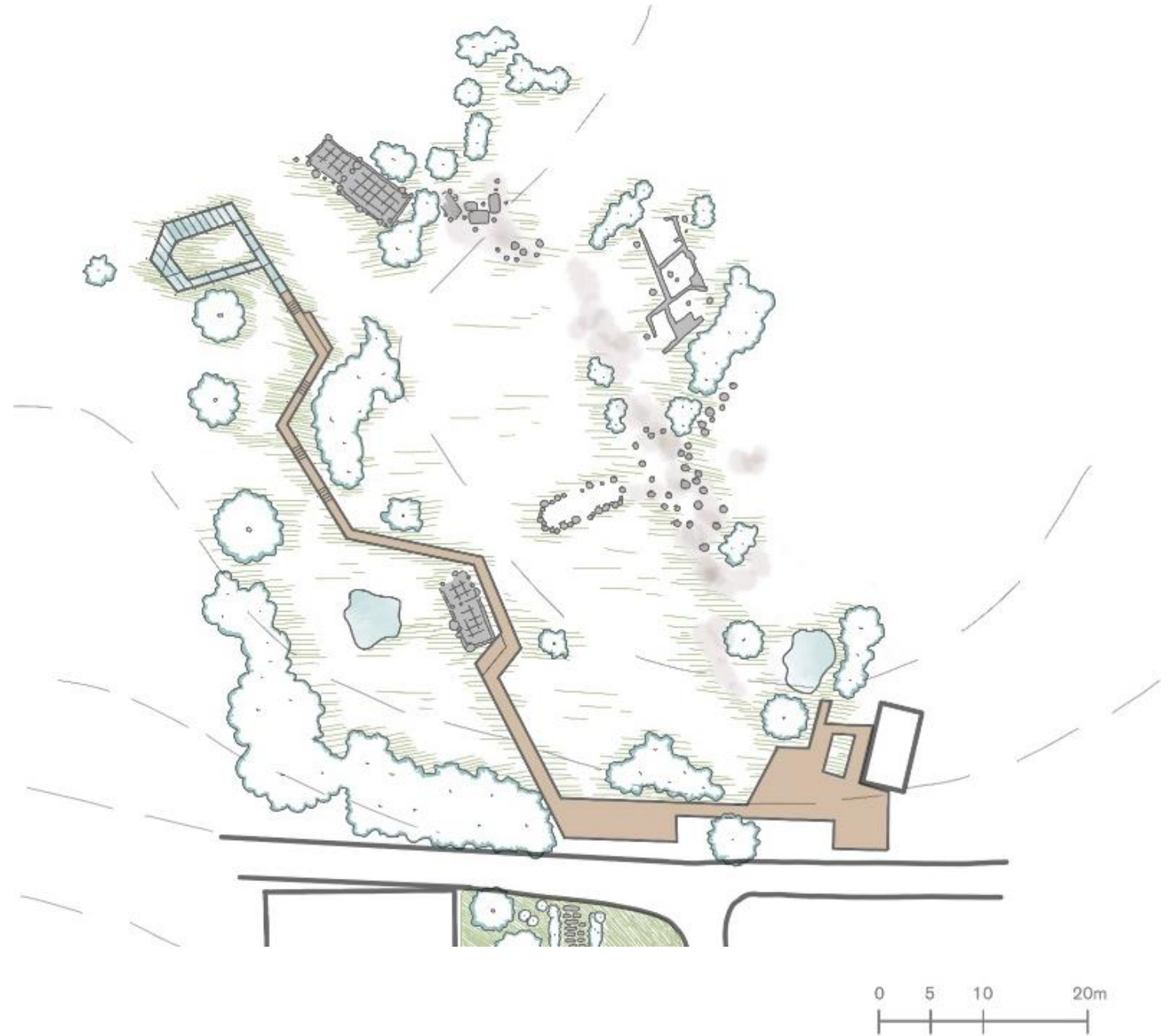
AFTER LUNCH

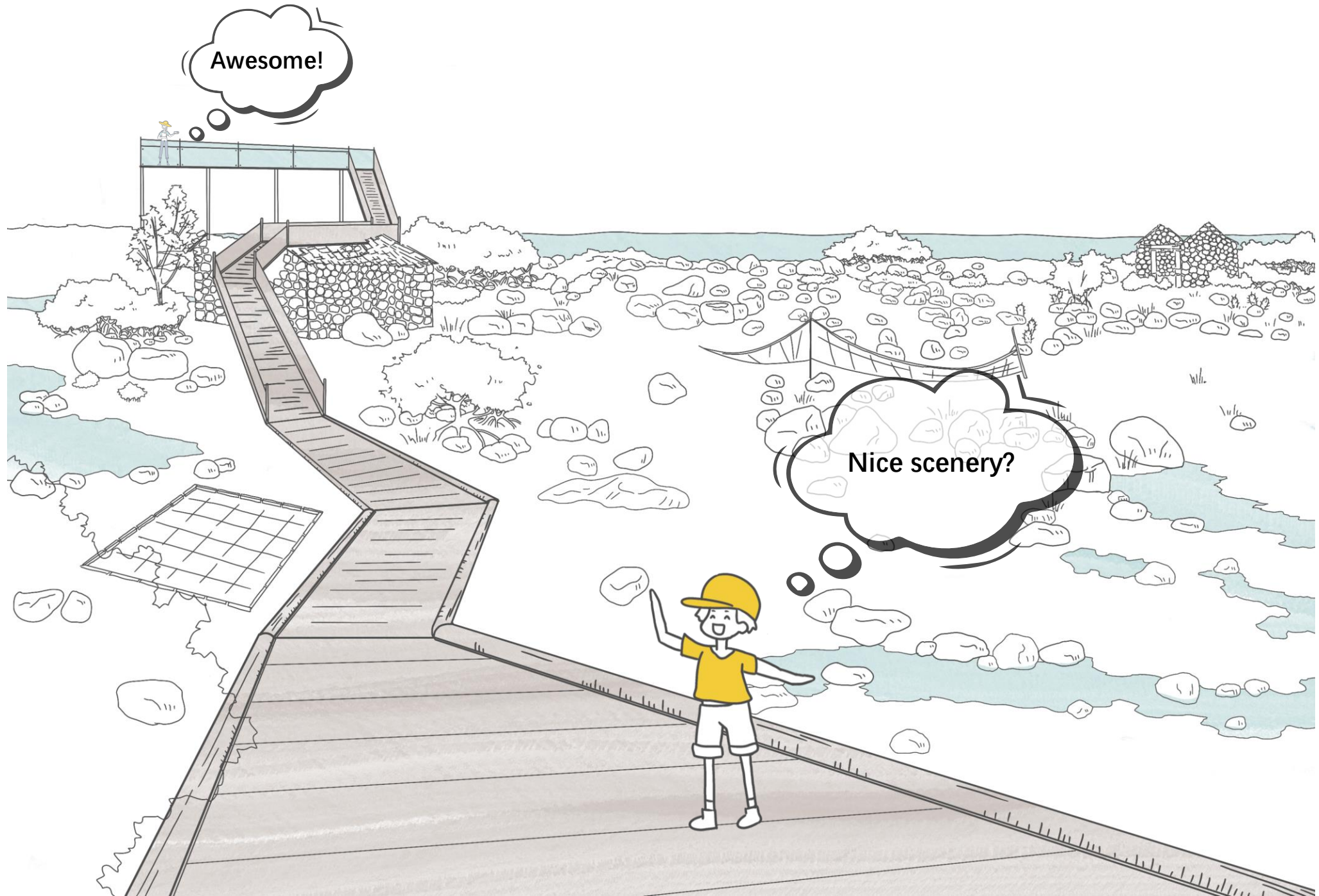




## Village scale

Salt field trail

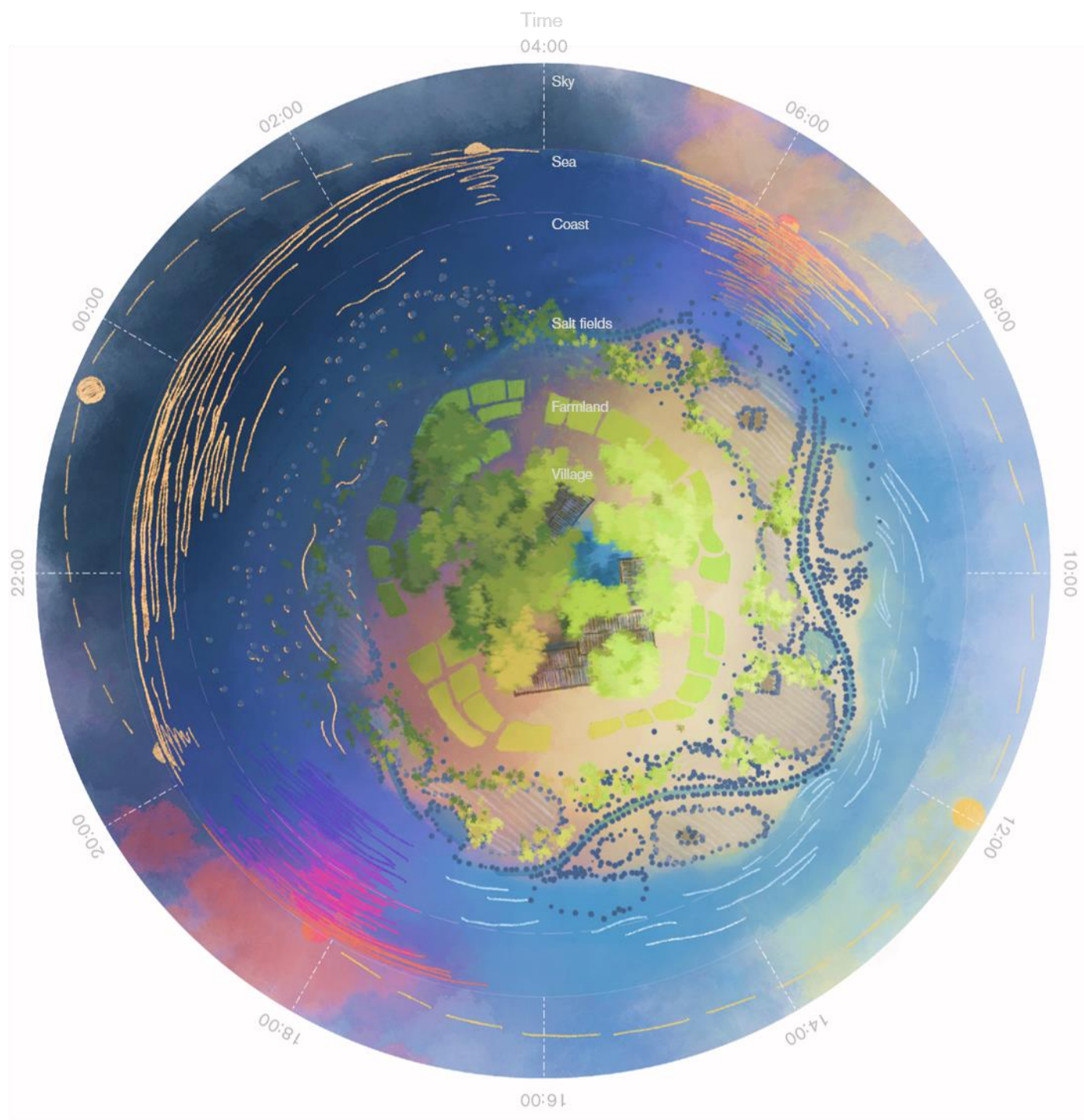






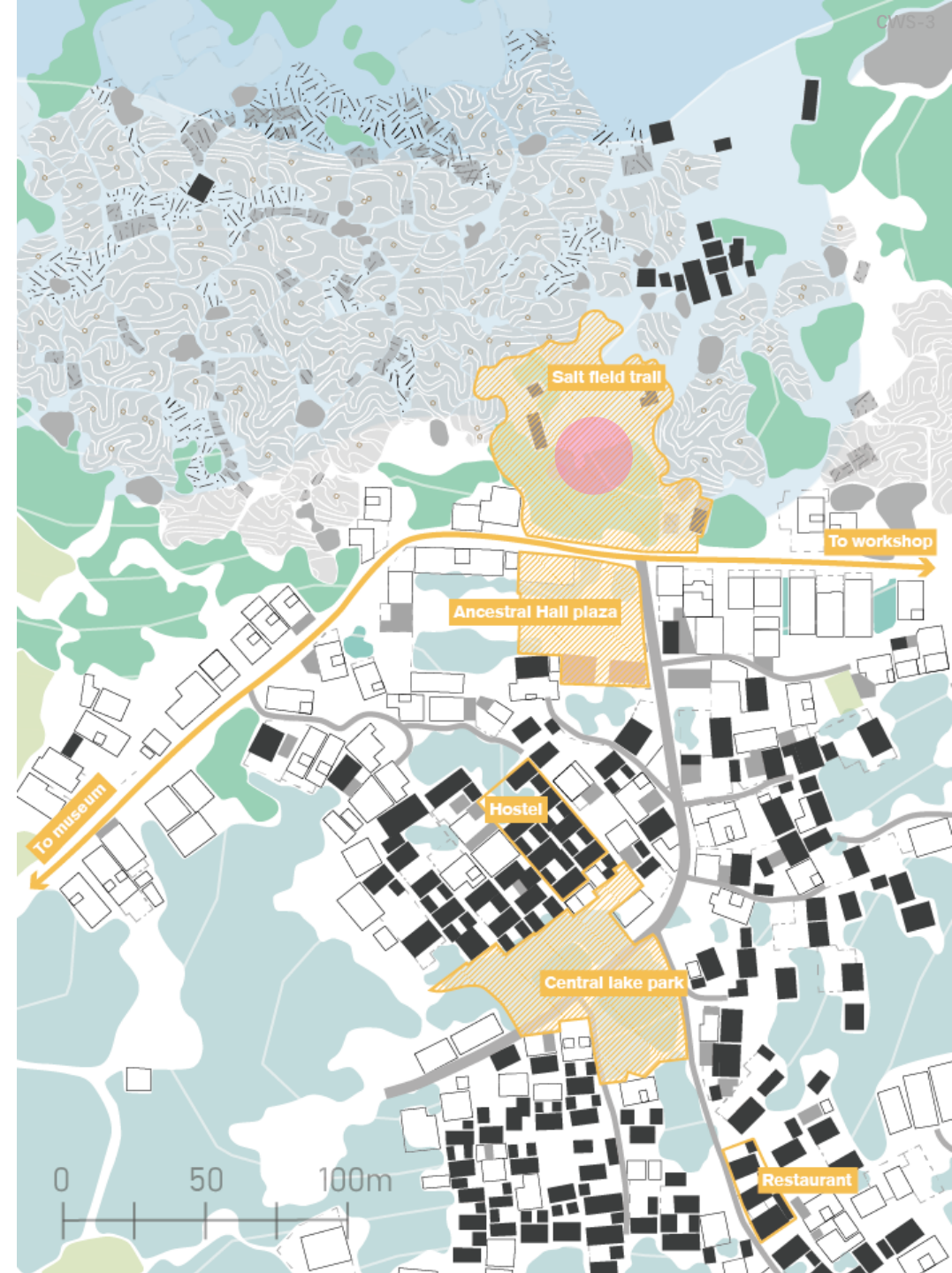
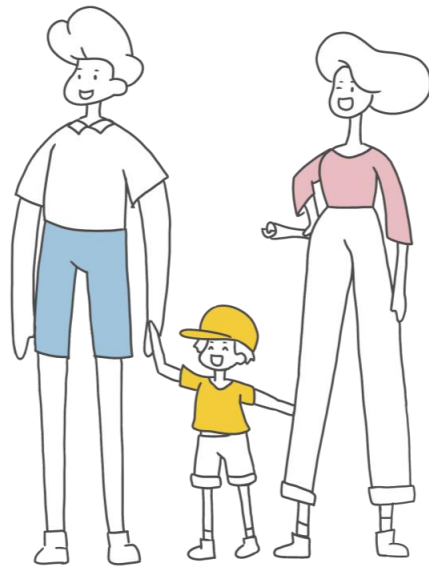
# Social value

Artist-Yaya



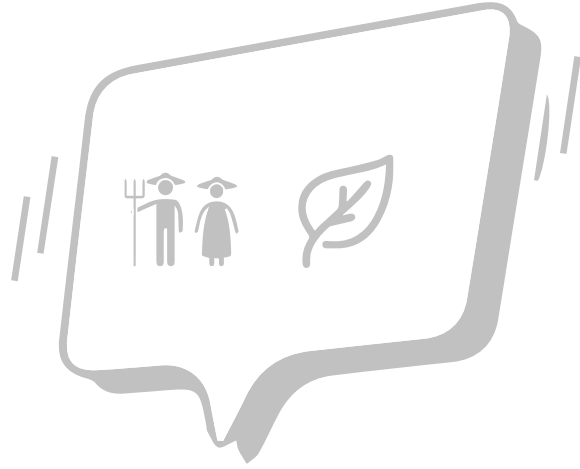


Most important

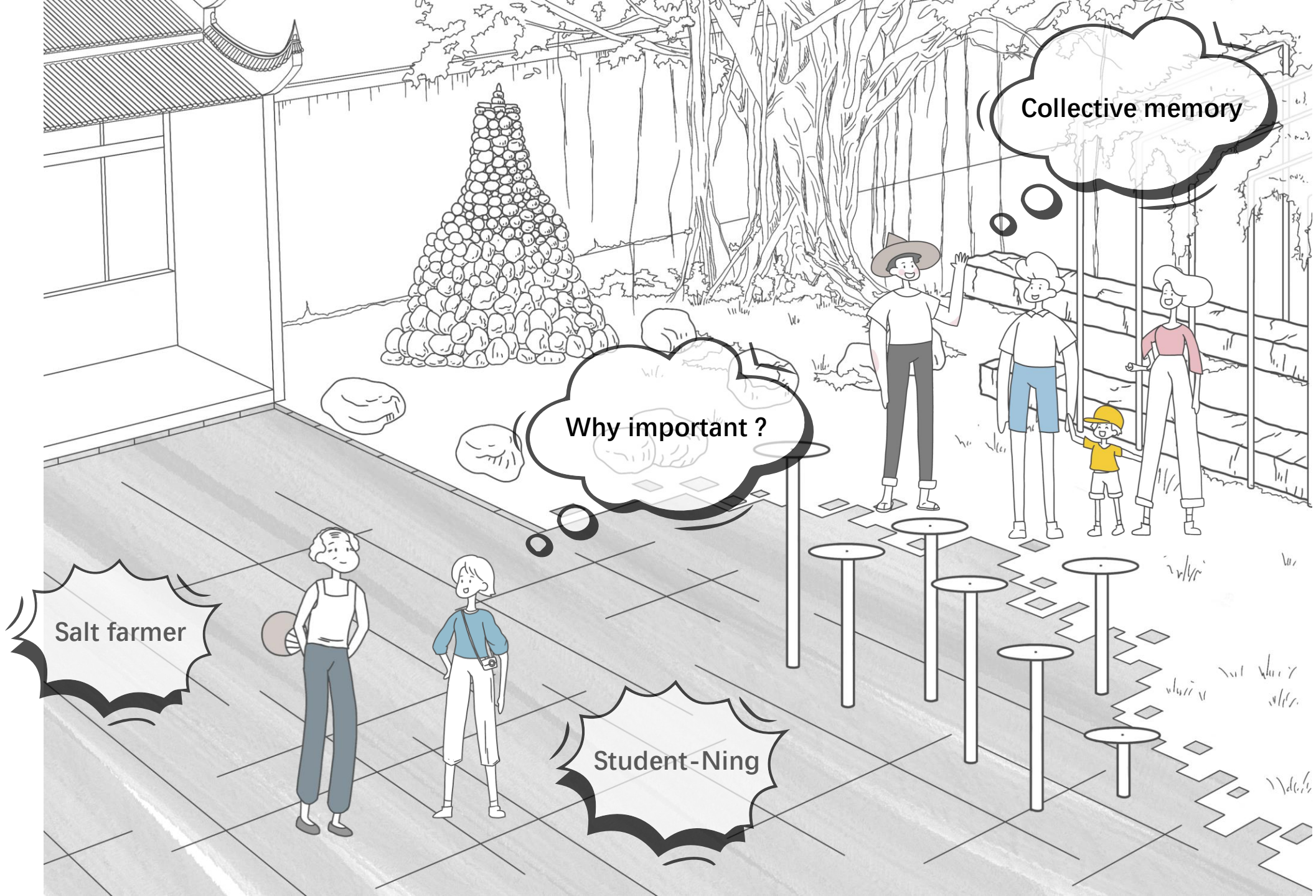


## Village scale

Ancestral hall plaza







Collective memory

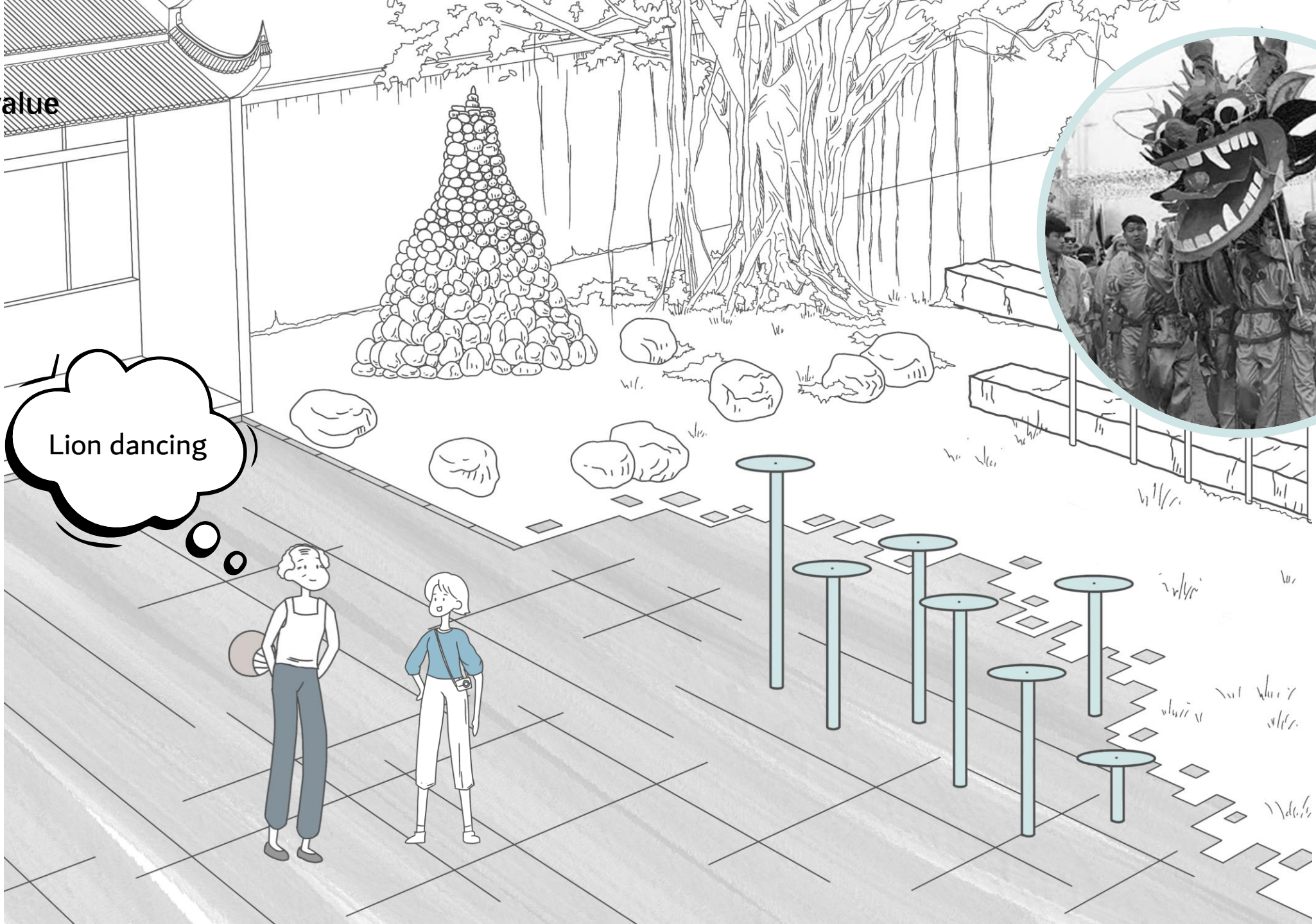
Why important ?

Salt farmer

Student-Ning



# Social value

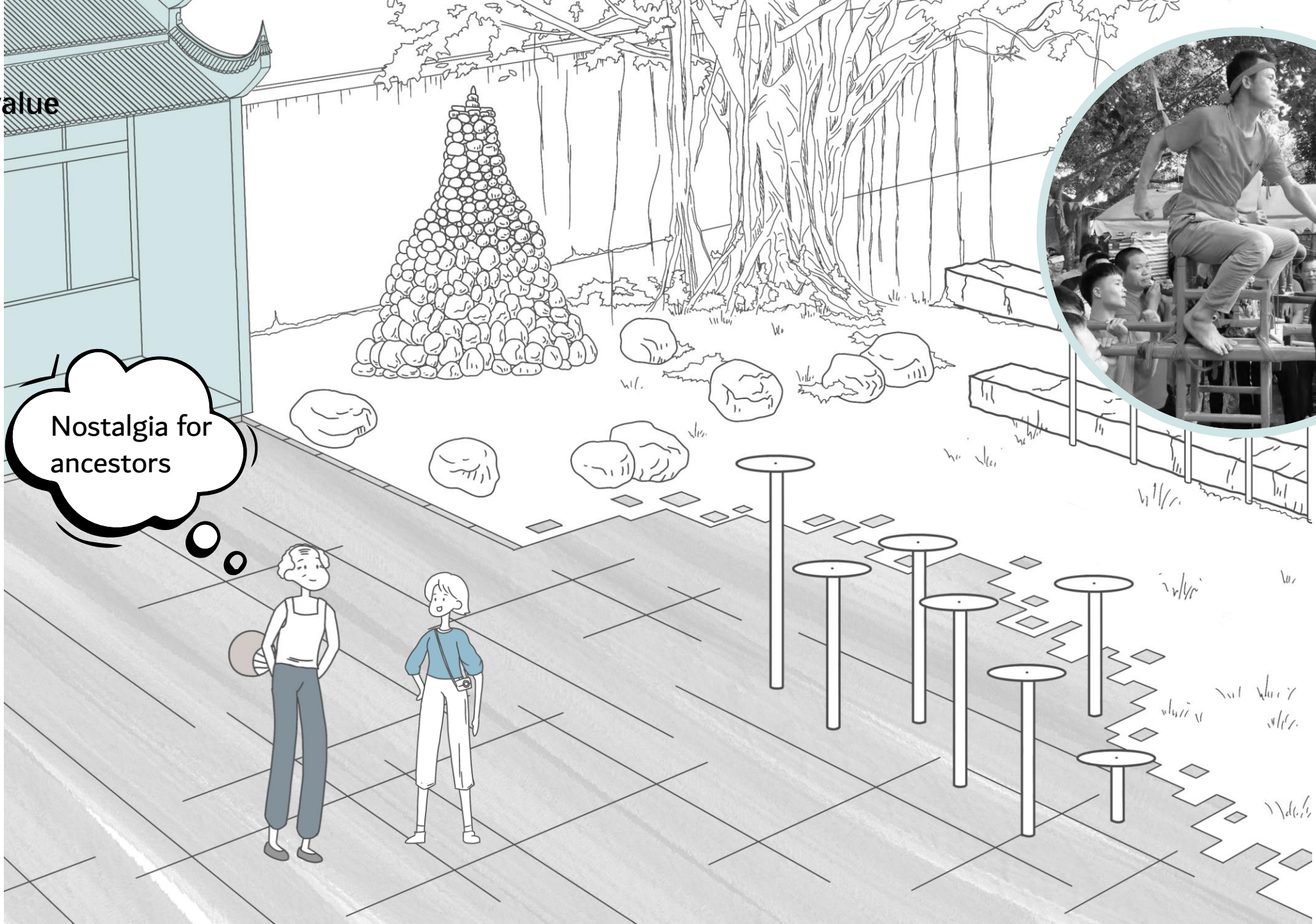


Lion dancing





# Social value

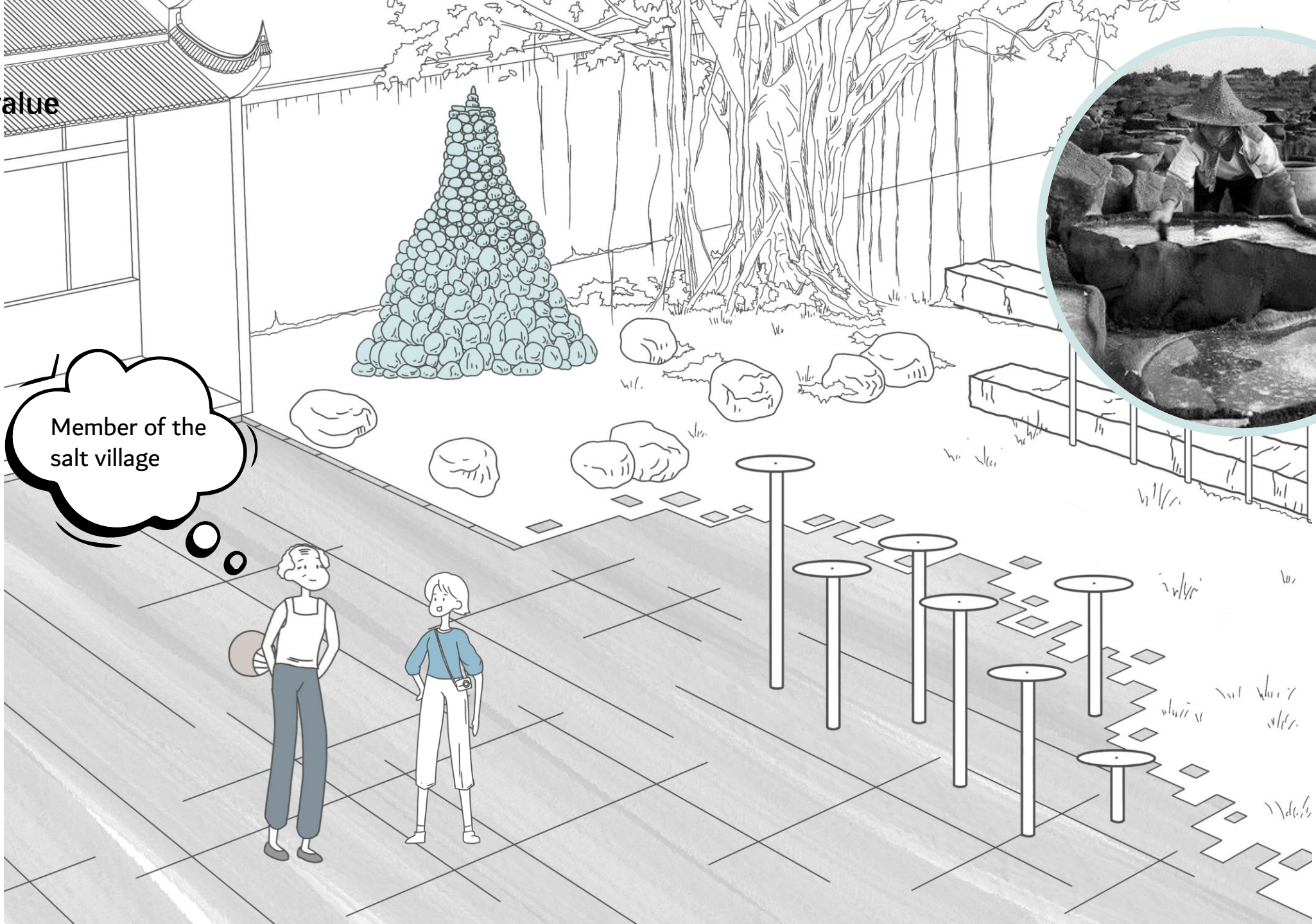


Nostalgia for ancestors





# Social value

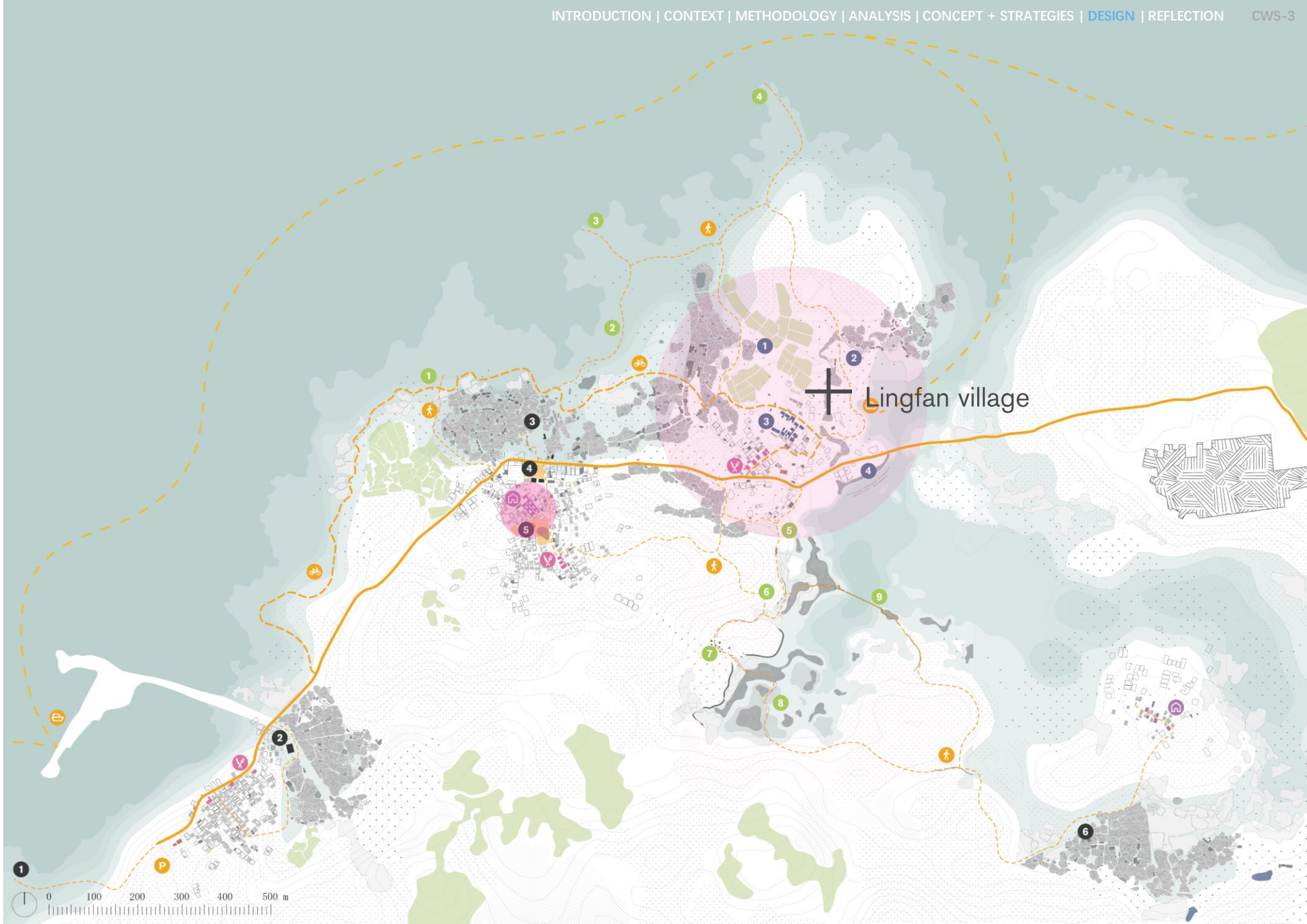
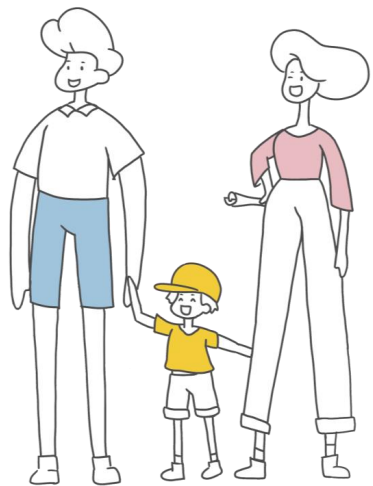


Member of the salt village





## THE NEXT MORNING







SALT  
WORKSHOP



## Social value



Salt harvesting  
workshop





## Social value



Family farm

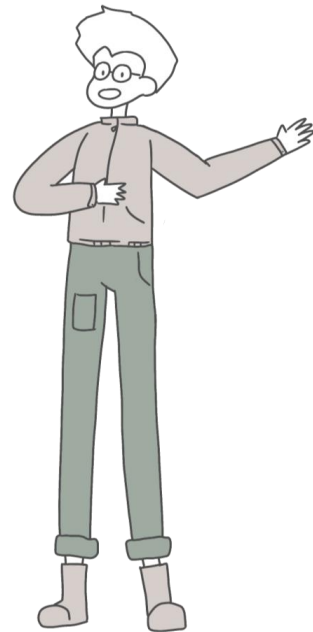




## Ecology value



Eco club





## Ecology value



High Tide

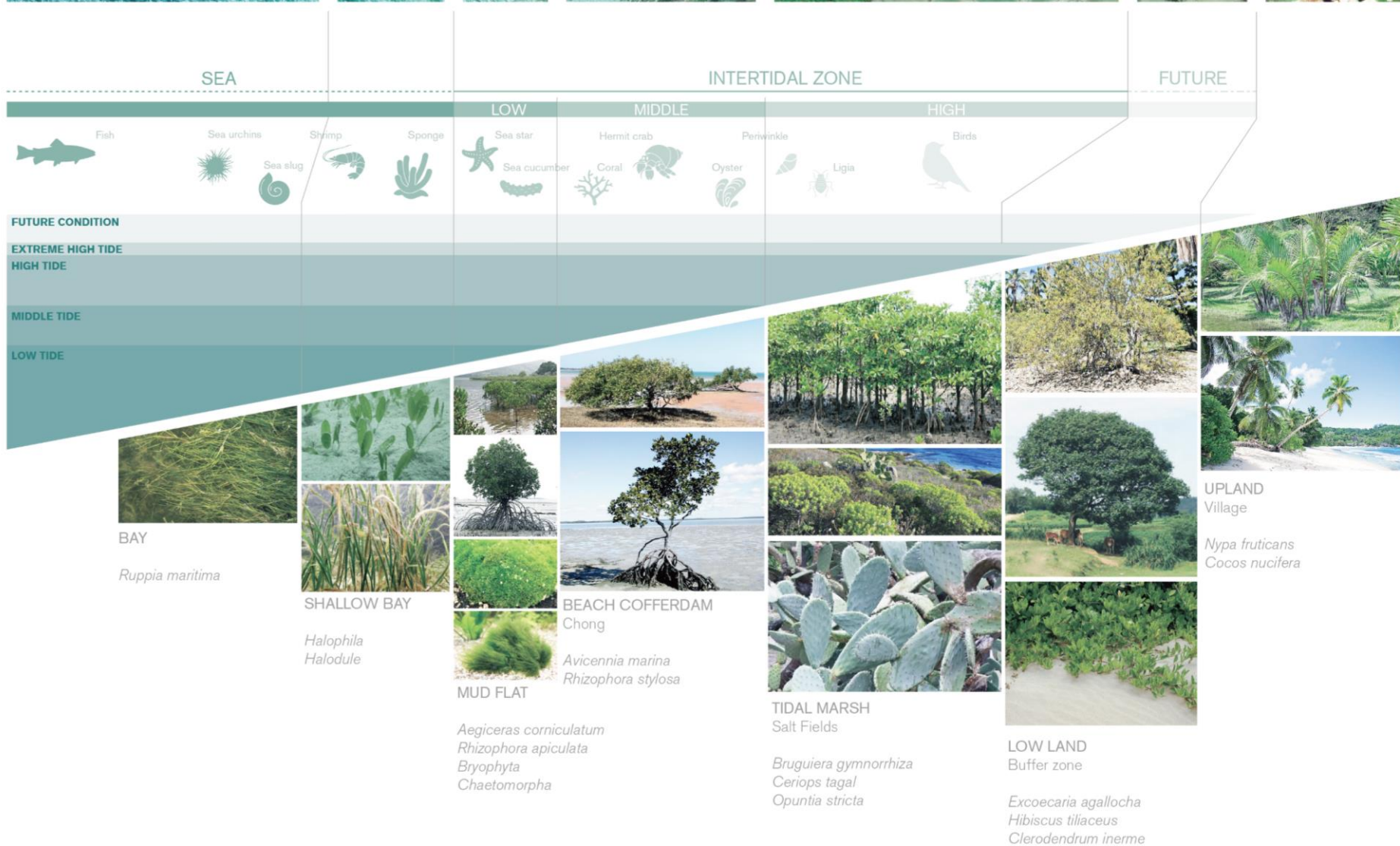
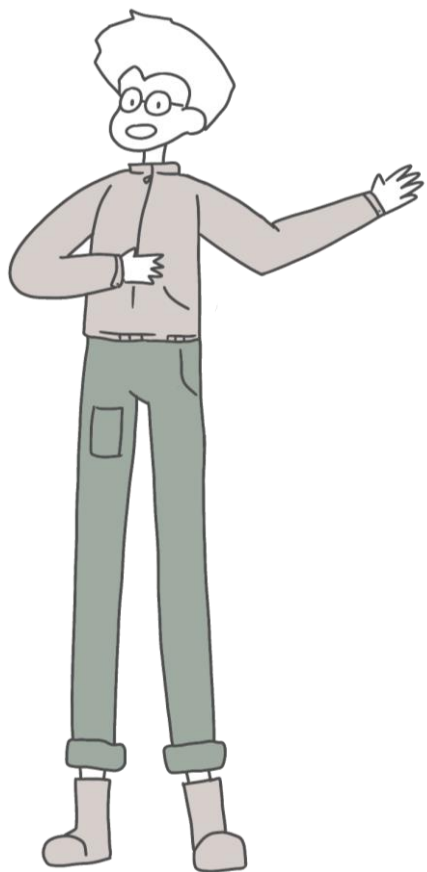


Middle Tide



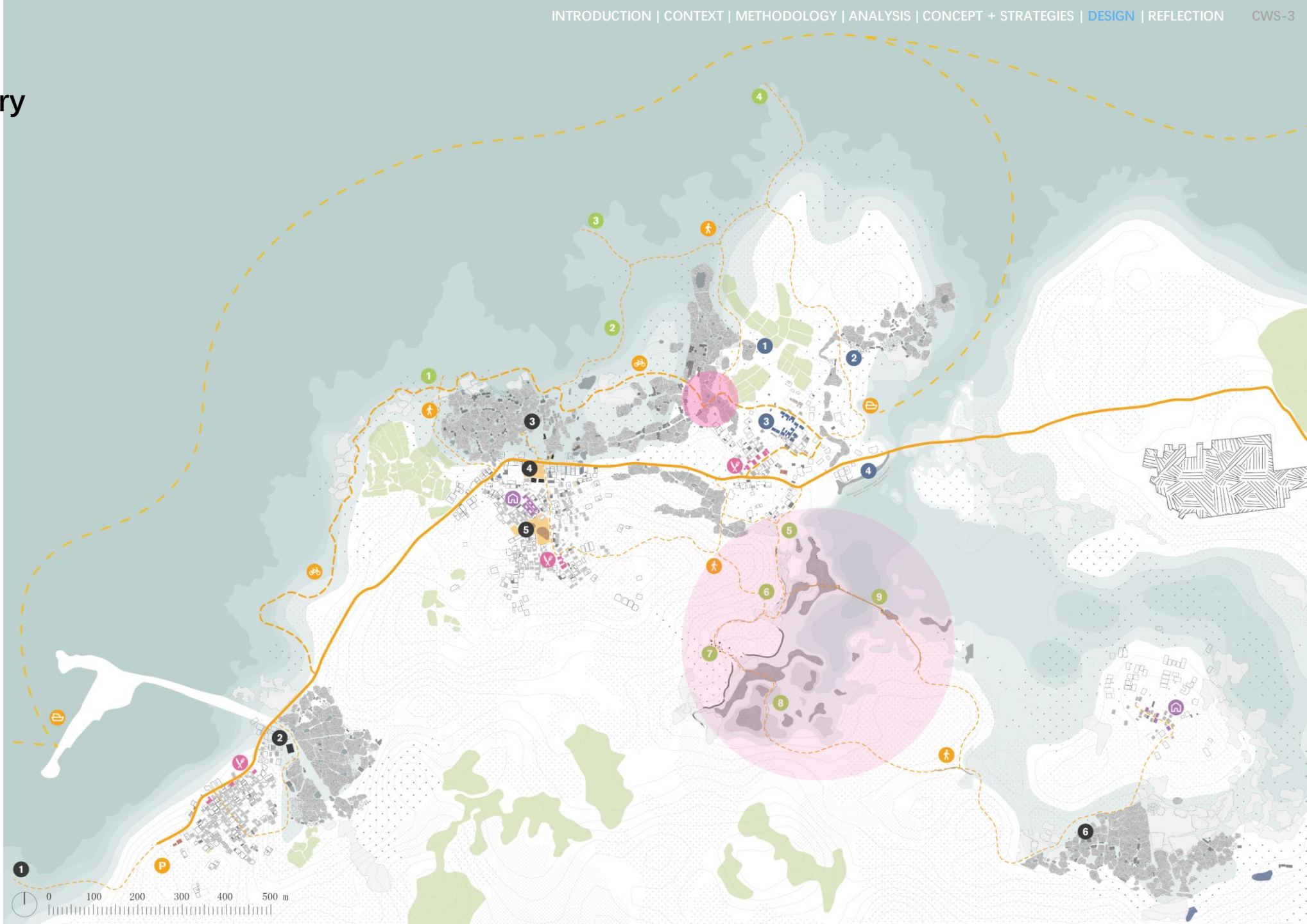
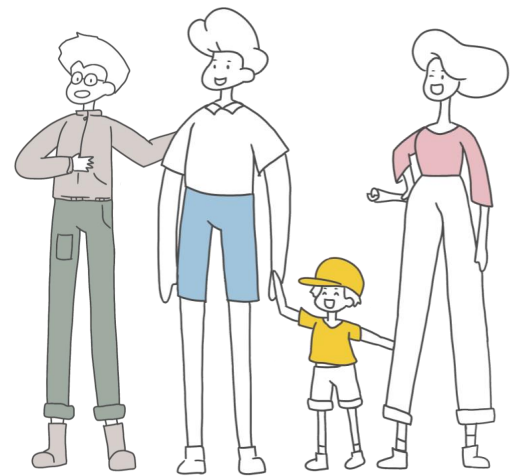
Low Tide

Ecologist-Wei

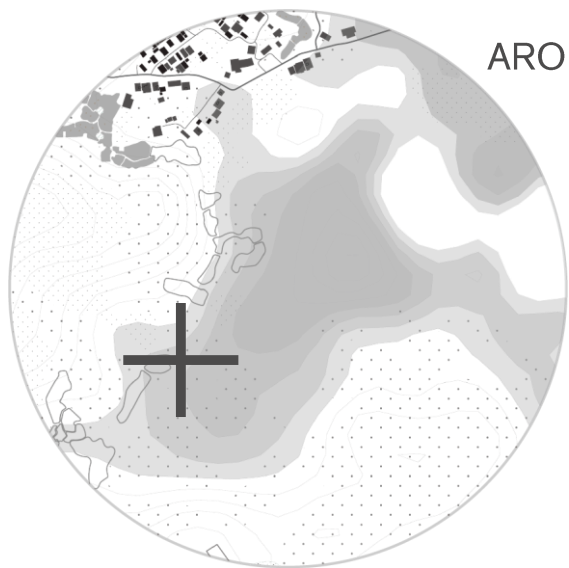
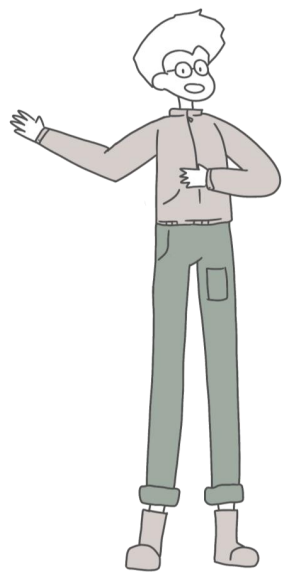




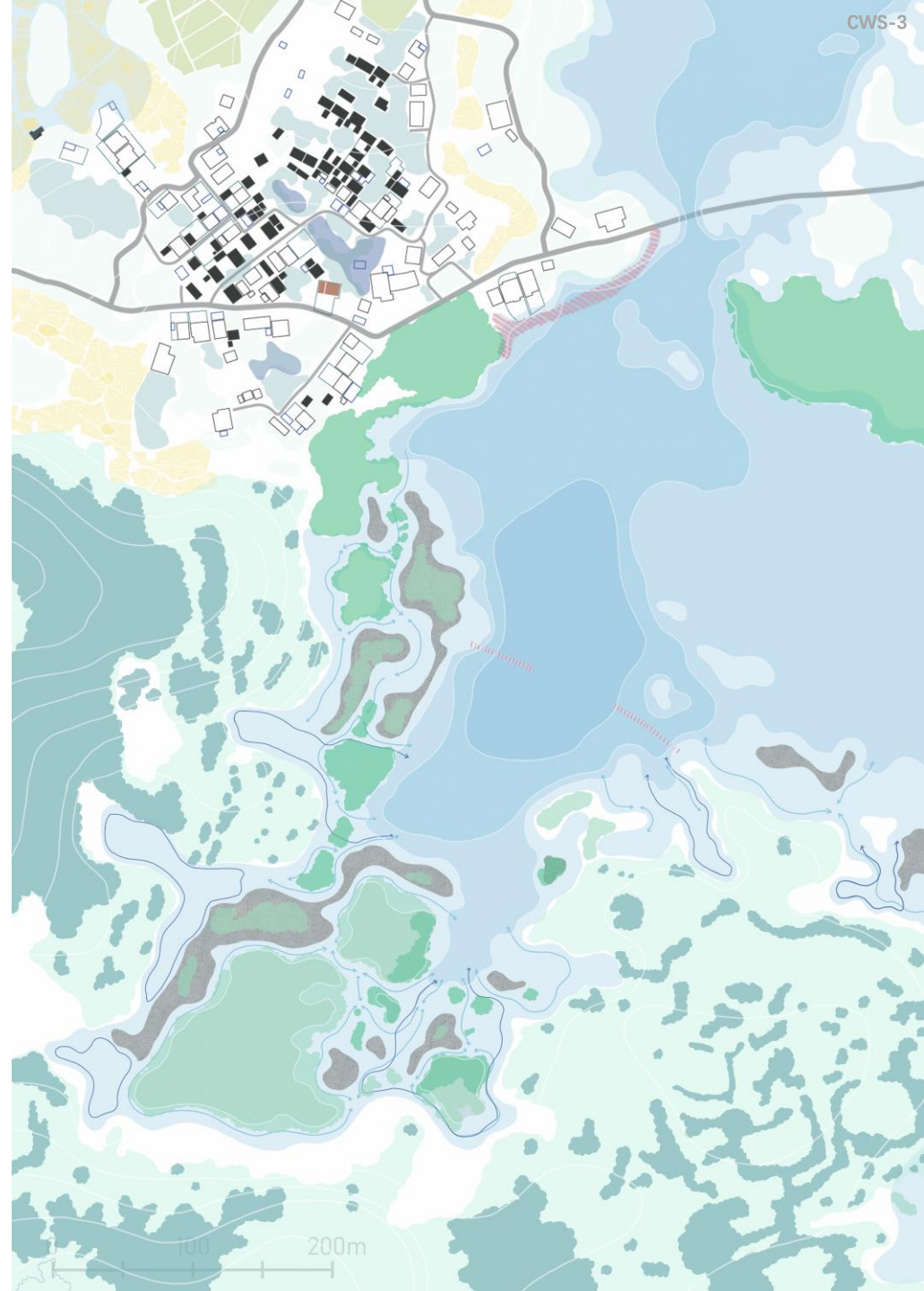
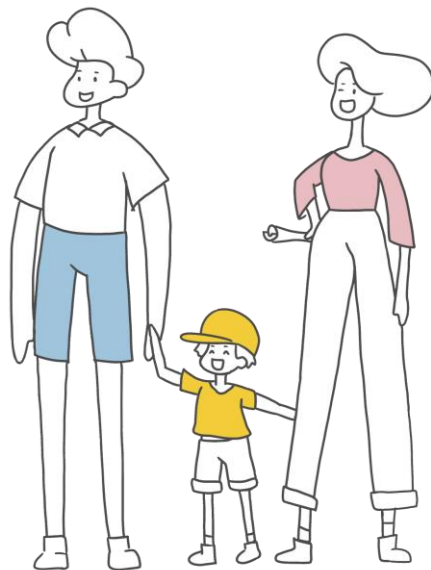
# Nature + salt story



# Village scale

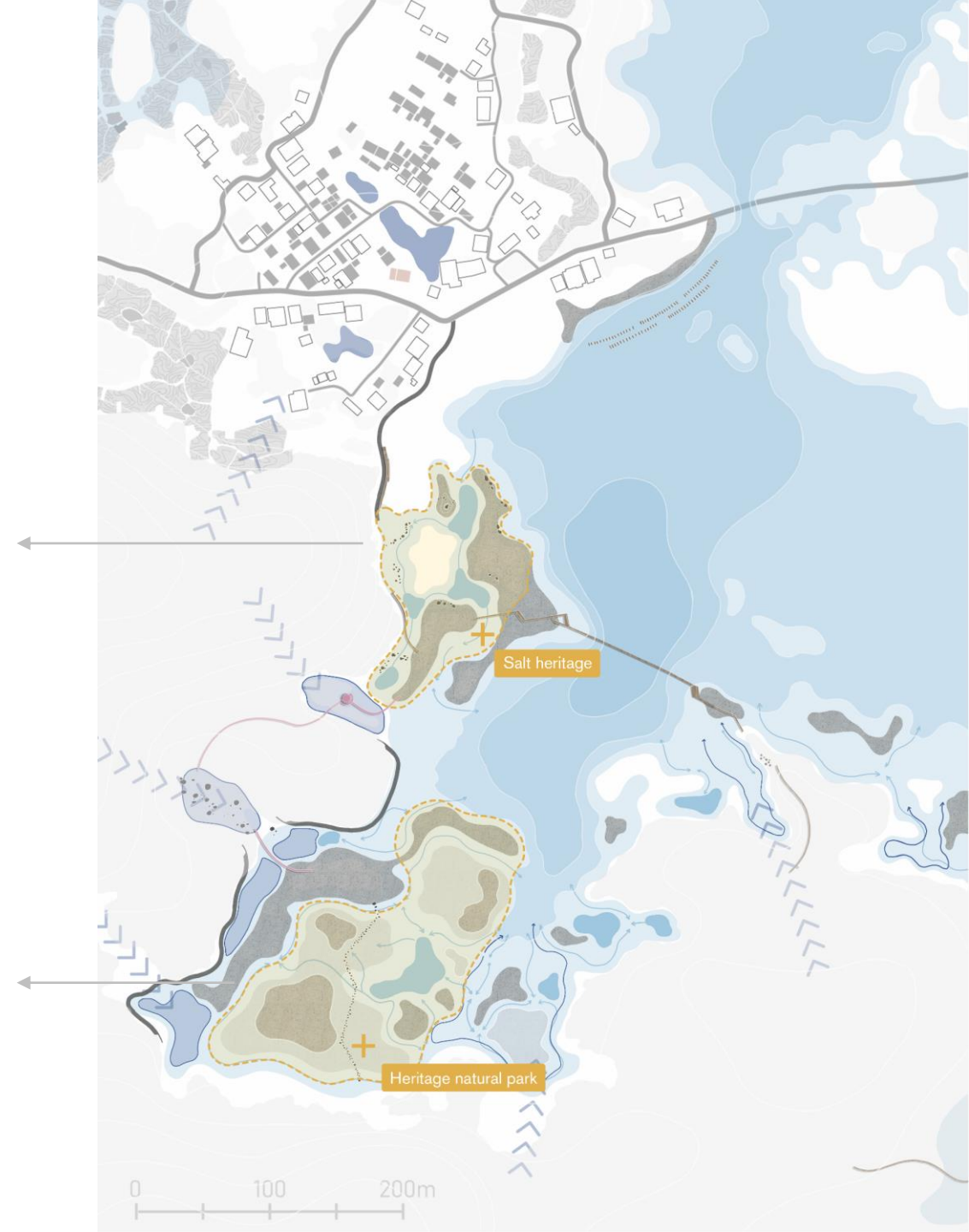
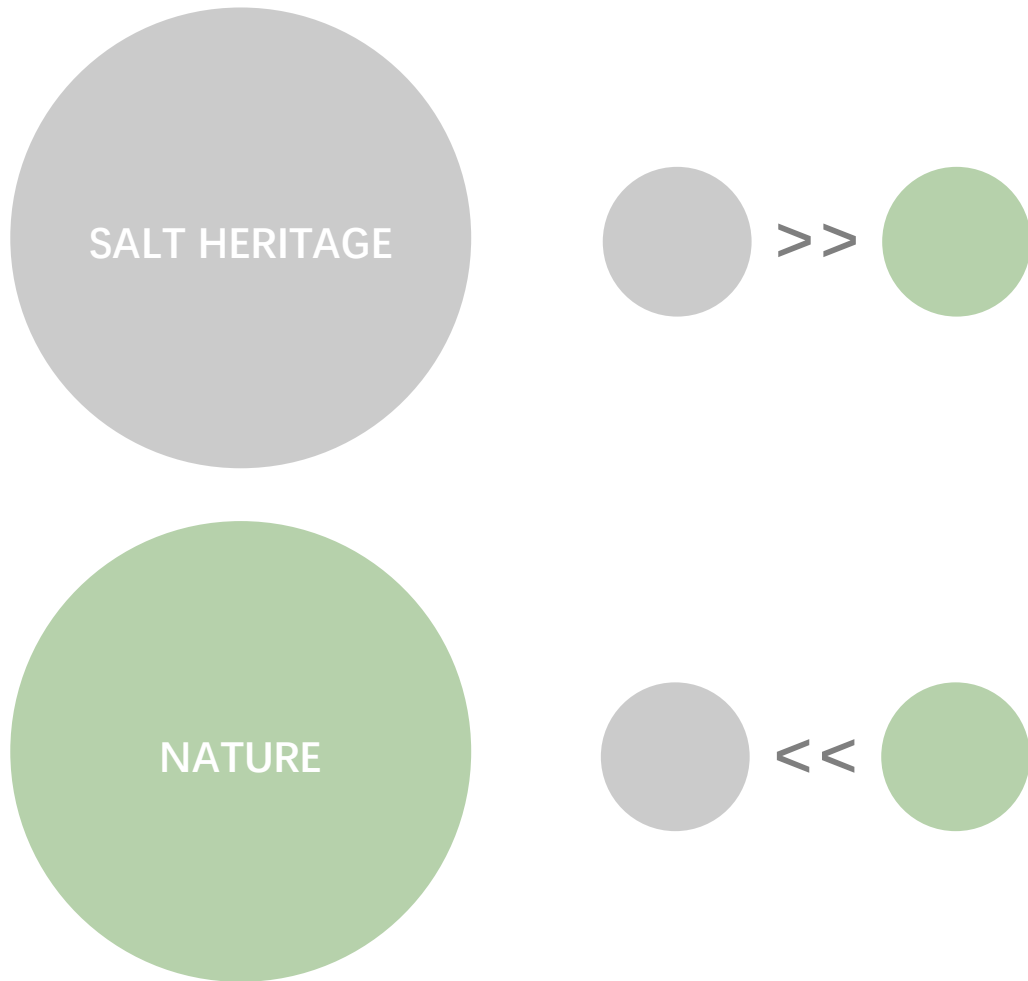


AROUND THE VILLAGE



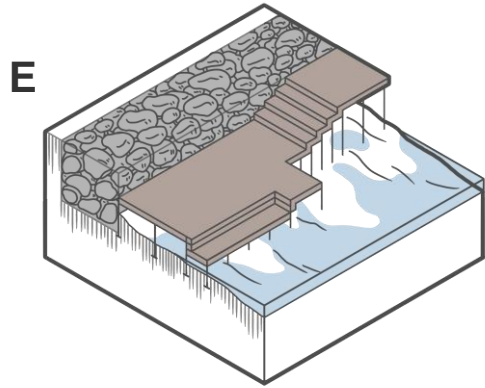


## Village scale – two parks



# Bay scale – Phase 3

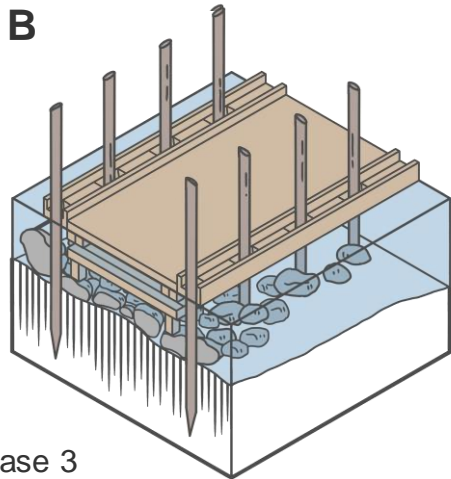
Salt heritage park



COMMUNITY  
Villagers



TOURISM  
Tourists



COMMUNITY  
Villagers



TOURISM  
Tourists



NATURE  
Water | Vegetation



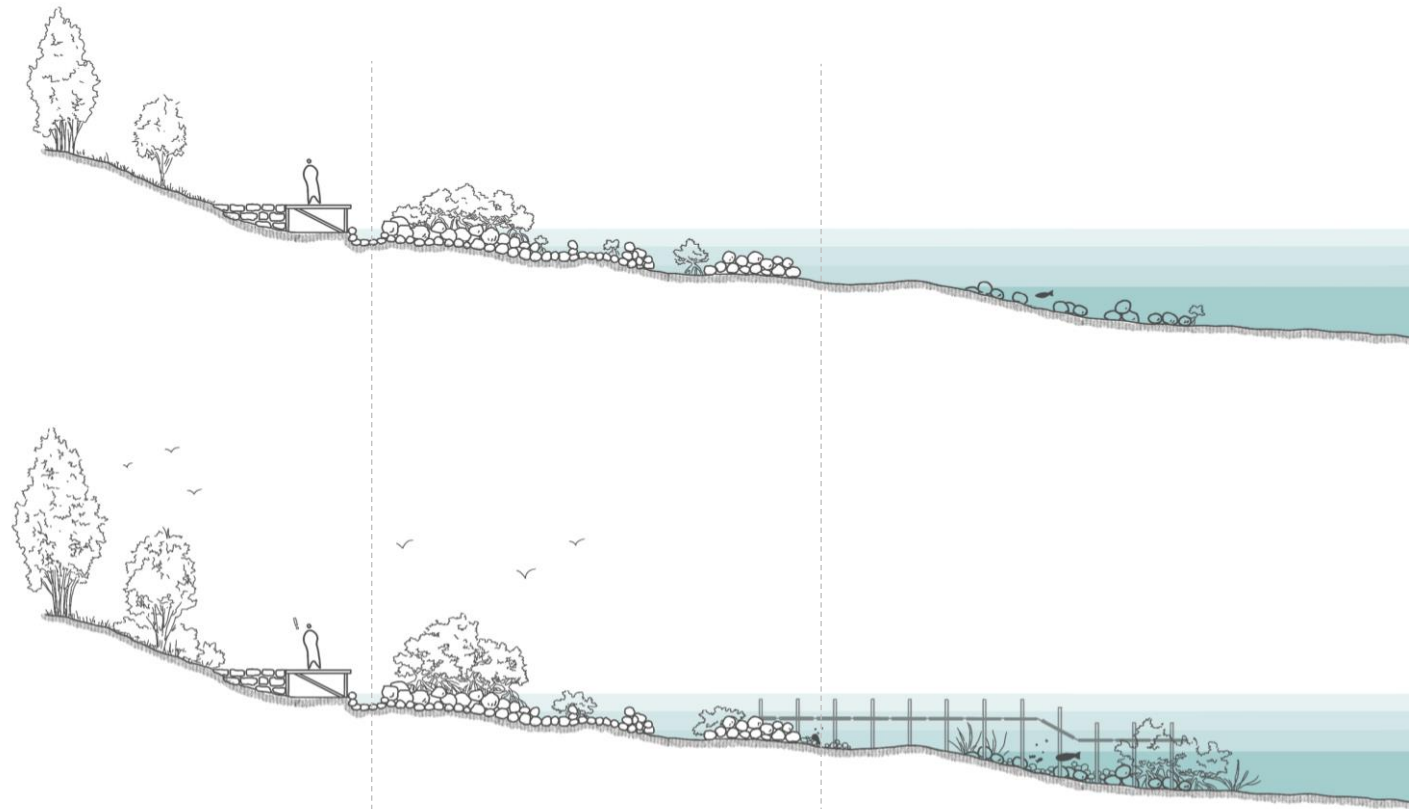
Phase 3  
High tide





# Bay scale

Salt heritage park



Upper land



*Lophostemon confertus* *Colubrina asiatica*

Salt fields



*Bruguiera gymnorrhiza* *Rhizophora stylosa*

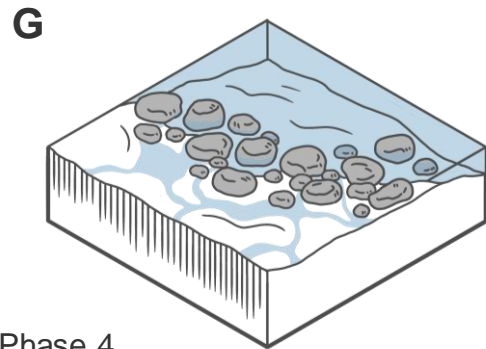
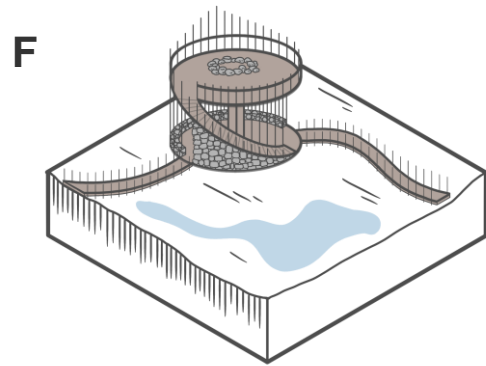
Shallow bay



*Chaetomorpha* *Rhizophora apiculata* *Halodule*

# Bay scale – Phase 4

Heritage natural park



Phase 4

COMMUNITY  
Villagers



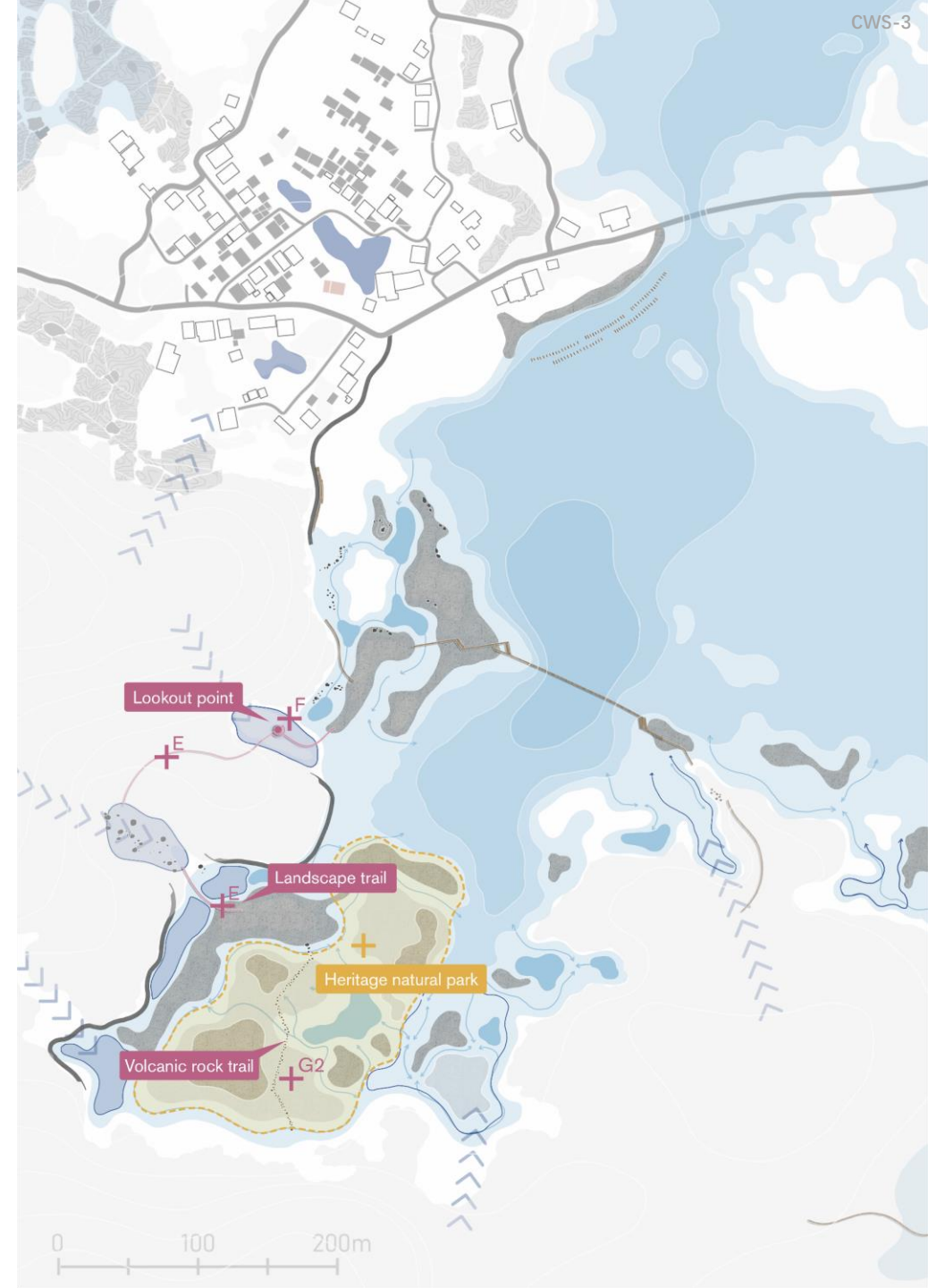
TOURISM  
Tourists



NATURE  
Water | Vegetation



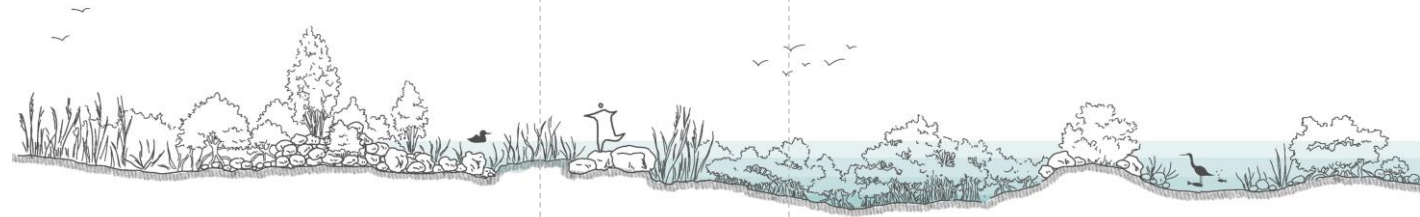
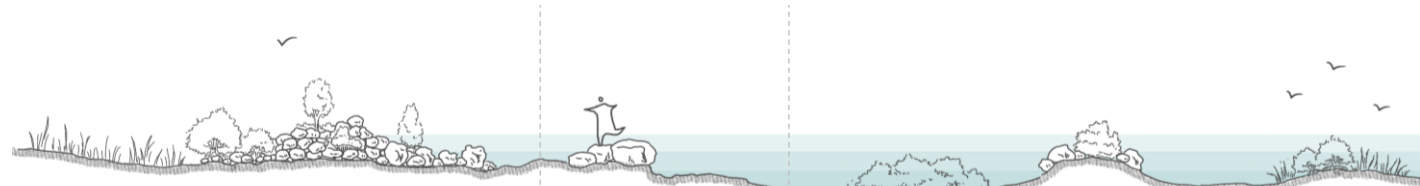
TOURISM  
Tourists





# Bay scale

Salt heritage park



## Upper land



*Scirpus validus vahl*



*Cerbera manghas*



*Terminalia catappa*

## Stone path



*Phragmites*

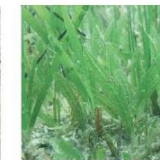
## Bay



*Aegiceras corniculatum*




*Avicennia marina*



*Halophila*



An aerial photograph of a coastal village, likely in a developing region, showing a mix of traditional and modern buildings. The foreground is dominated by a large, flat, greyish-brown area, possibly a dry riverbed or a large open space. The background features a wide expanse of blue water under a cloudy sky. A thought bubble is superimposed on the right side of the image, containing the text 'How will the village change next year?'. Below the thought bubble, a stylized illustration of a family (a man, a woman, and a child) is shown. The man is wearing a white shirt and blue shorts, the woman is wearing a pink top and white pants, and the child is wearing a yellow shirt and white shorts. They are standing on the greyish-brown area, with the man holding a bag and the woman holding a pink suitcase.

How will the village  
change next year?





# REFLECTION

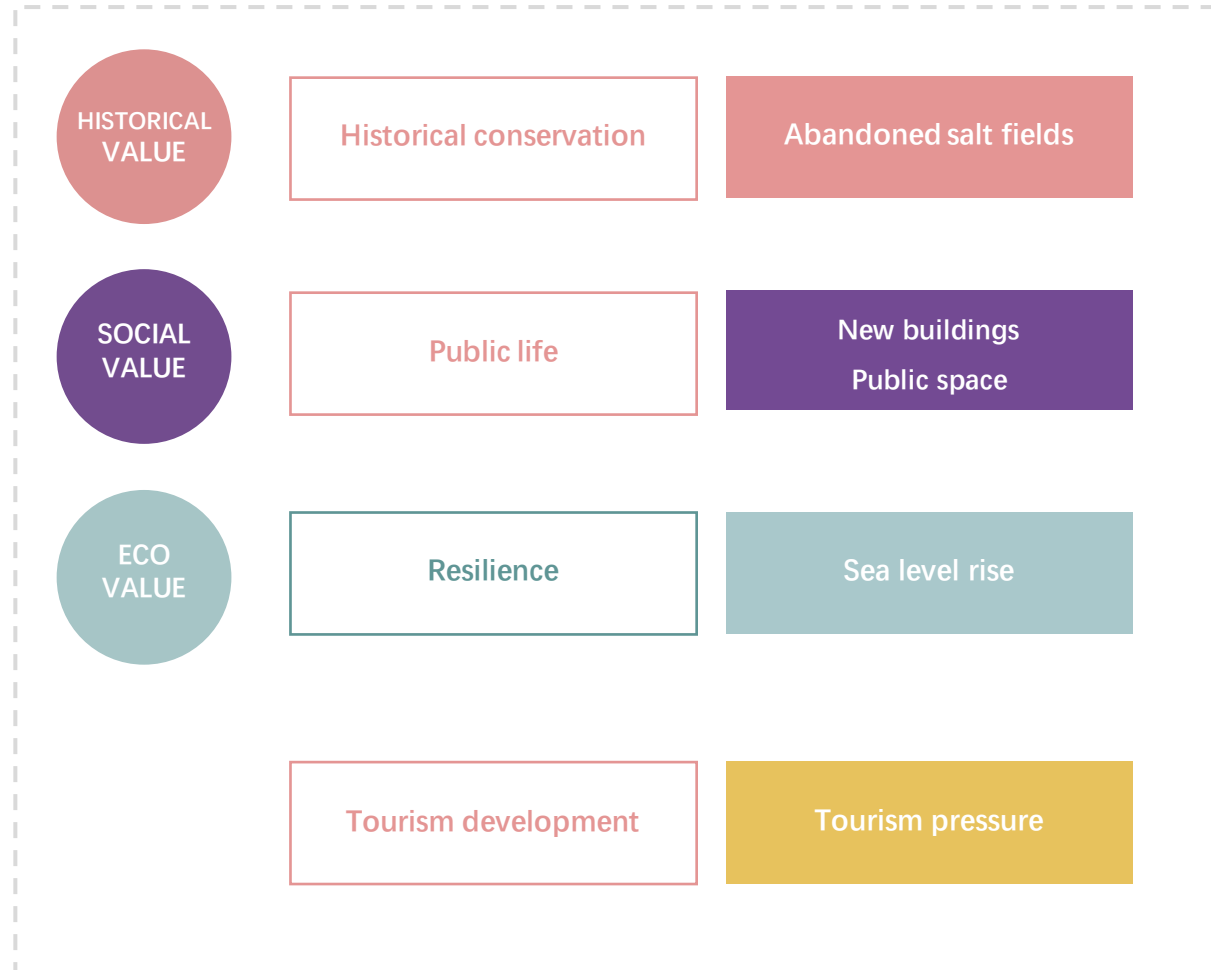
## Research question

It is possible to keep **the value of the salt harvest cultural heritage** alive in making the coastal zone more **resilient to sea level rise** while providing a landscape approach in **balancing the historical conservation, local public life and tourism development.**



# REFLECTION

## Research question



# REFLECTION

## Reflection

1. **Societal relevance:** value of heritage, build with nature
2. **Data collection:** Corona & Drone
3. **Generalize the results of the research:** Rural area --- low cost
4. **Ethical issues and dilemmas:** Heritage protection vs basic needs restriction



