Redesign Waterfront Spaces in Yuantong Town

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Fascination

Identity, festival, climate change, and waterfront landscapes…

A unique way to celebrate Qingming Festival

Qingming Festival is a traditional Chinese festival

Qingming Festival in Yuantong Town

Qingming Festival in other area

A unique place to celebrate Qingming Festival

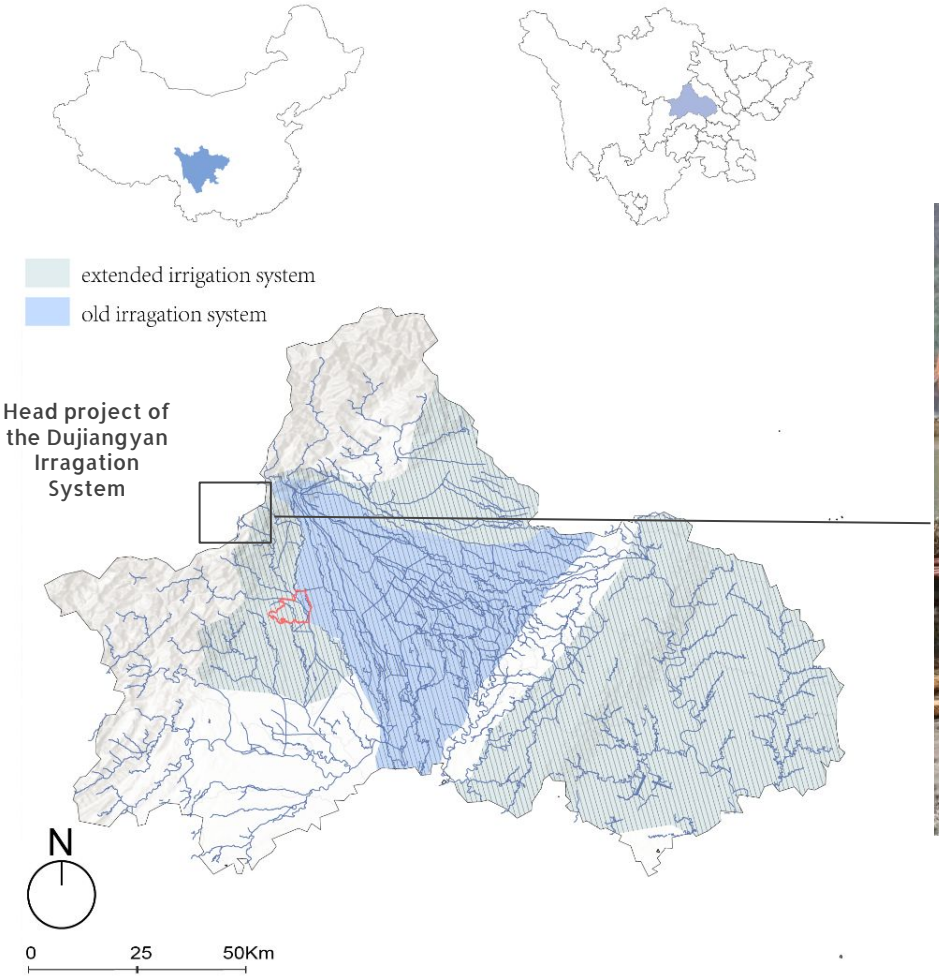
Qingming festival in Yuantong, Chengdu, Sichuan, China

Content

1 Introduction

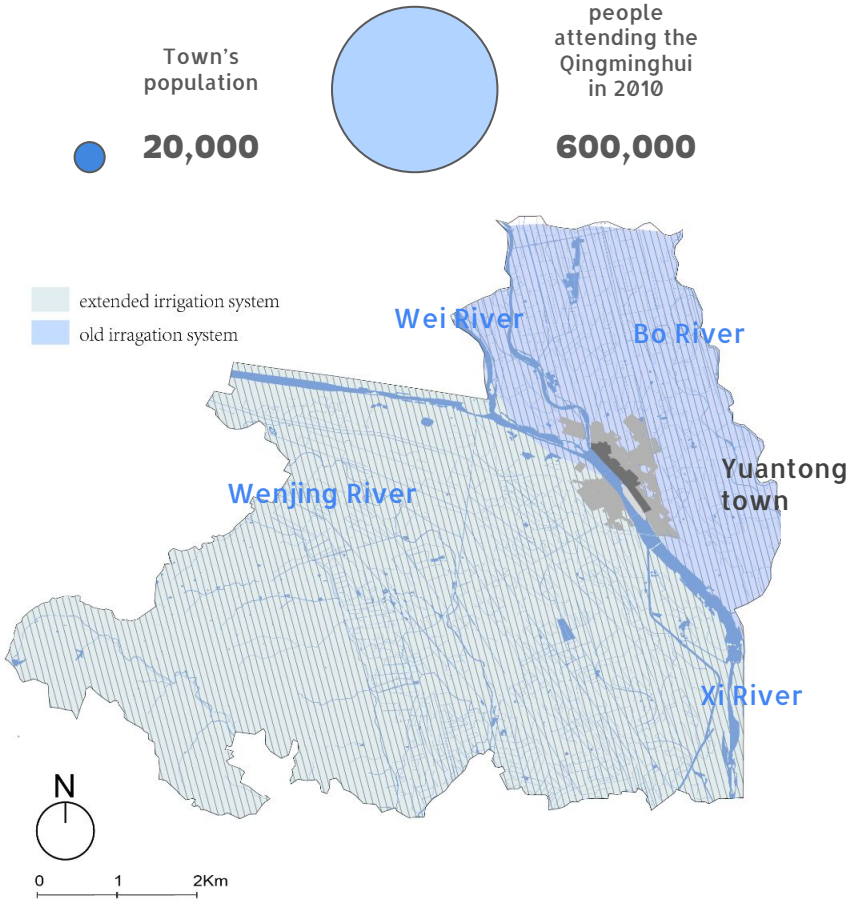
1.1 District context
1.2 Regional context
1.3 Town's context

1.1 District context
Qingming Festival and its connection to water and agriculture



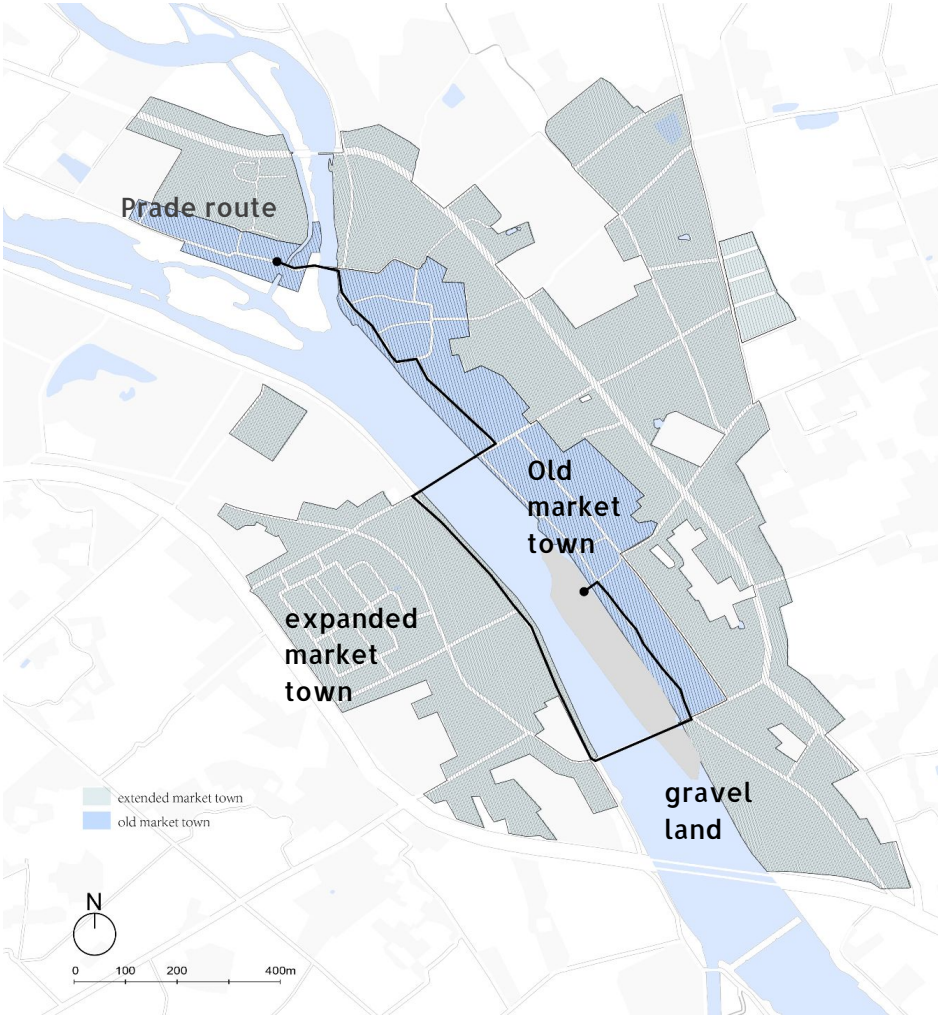
Water Release Ceremony at the head project of the Dujiangyan Irrigation System during Qingming Festival

1.2 Regional context
Yuantong's strategic location



元通清明会河坝

Qingminghui was the largest agricultural product trading market in the western Sichuan Province.



1.3 Town's context
Festival, river, and the cultural landscape of Yuantong

Residents gathered on the street. They could watch the show while chatting

Pray to the river god for a good harvest

Street vendors

people hold a temporary market in the middle of the river, selling tools and food

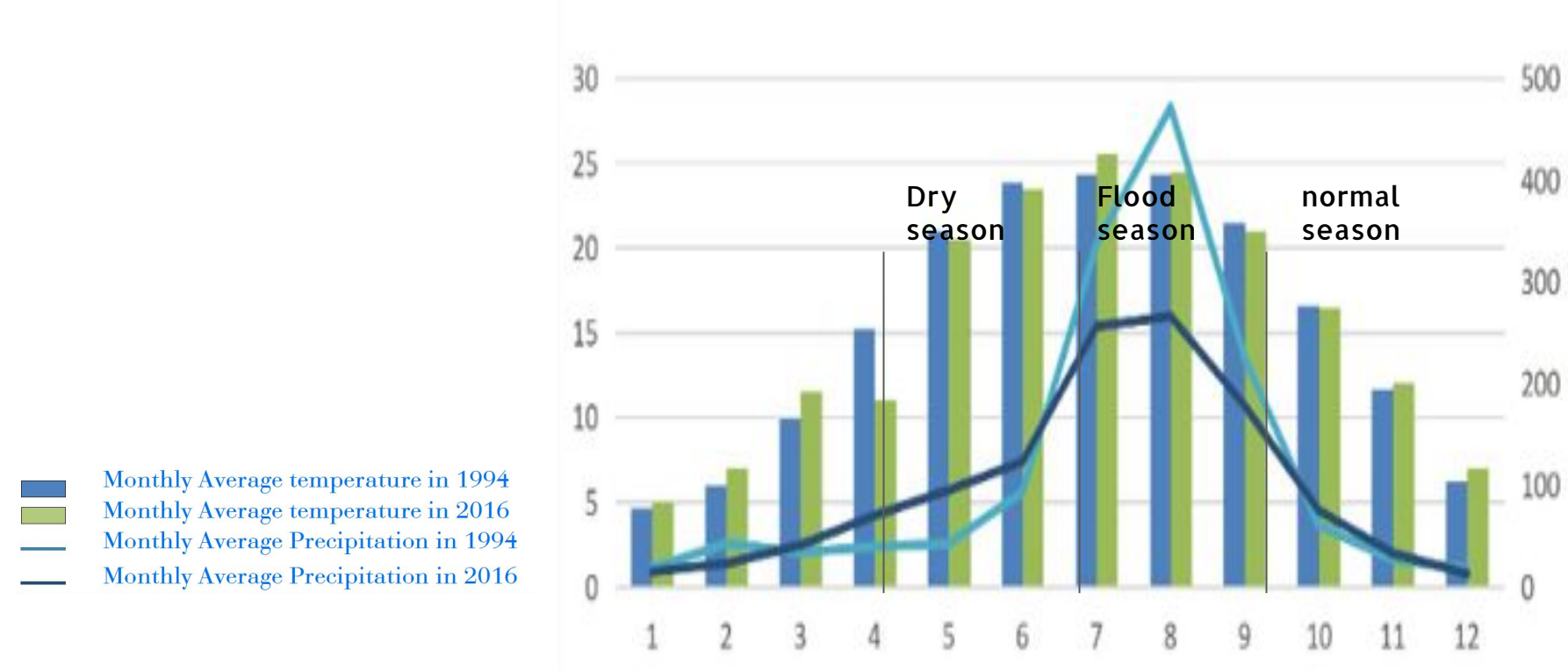
Sichuan Opera show

2 Problem field

2.1 Climate change
2.2 Need for more festival space
2.3 Loss of identity
2.4 Conclusion

2.1 Climate change

Coexistence of droughts and floods



uneven annual precipitation distribution

2.1 Climate change

Exacerbation by climate change

Dry season

Flood season

2.2 Need for more festival space

Tourism development

"Yuantong was rated as a 4A tourist destination in 2014"

"小成都"元通古镇创国家级4A景区通过市检

2014年12月25日15:47 来源：成都日报 手机看新闻

打印 网摘 纠错 商城 分享 推荐 人民微博 字号 + −

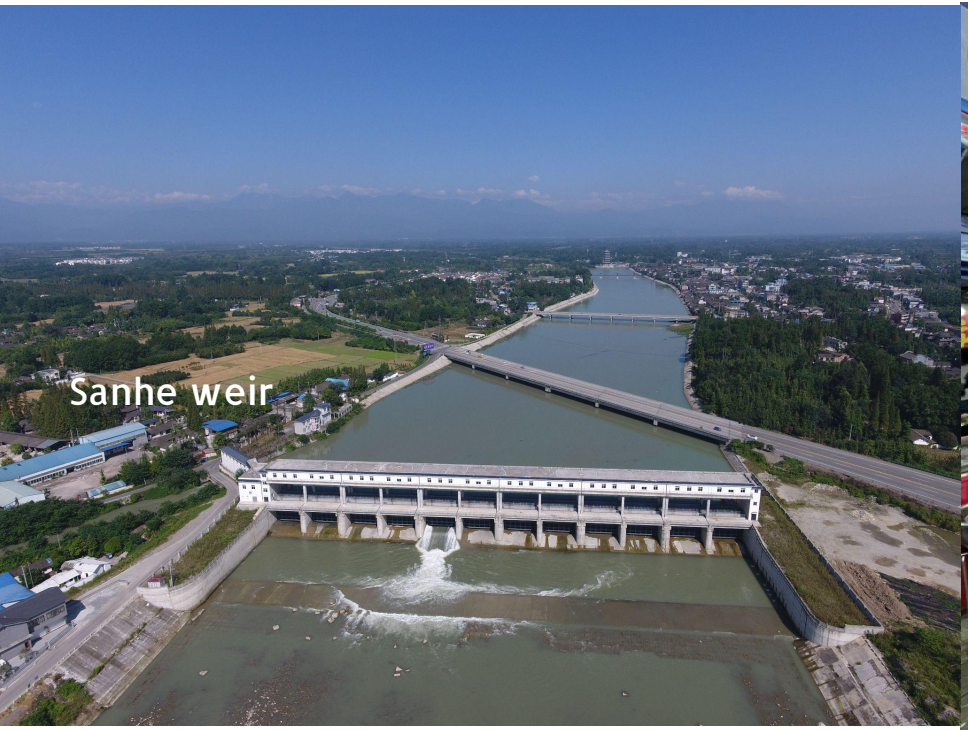
原标题：元通古镇创国家级4A景区通过崇州市检

12月24日，由成都市旅游局组成的工作组对崇州市元通古镇创建国家AAAA级旅游景区工作进行了成都市检验收，并宣告同意通过市检。

有着"小成都"之称的元通古镇，在打造过程中坚持修旧如旧的原则。古镇大部分居民延续了惯有的生活方式，遛鸟、茶馆、川戏、集市、美食，这些老成都生活元素都在这里展现得淋漓尽致。秉持修旧如旧的原则，在景区业态创建过程中，规范古镇茶馆，配合元通独特的文化打造特色集市，完善古镇夜间业态，丰富吃住行游购娱，营造老成都生活体验度假氛围。历史上，元通古镇被称为"活着的清明上河图"。待古镇打造完成时，元通古镇将以其独有的民风民俗、历史人文、院落故事等元素集合而成为成都市民领略千年古镇昔日荣光的又一好去处。（赵荣昌 记者 栗新林）

2.3 Loss of identity

The removal of the natural gravel land



The gravel land was removed

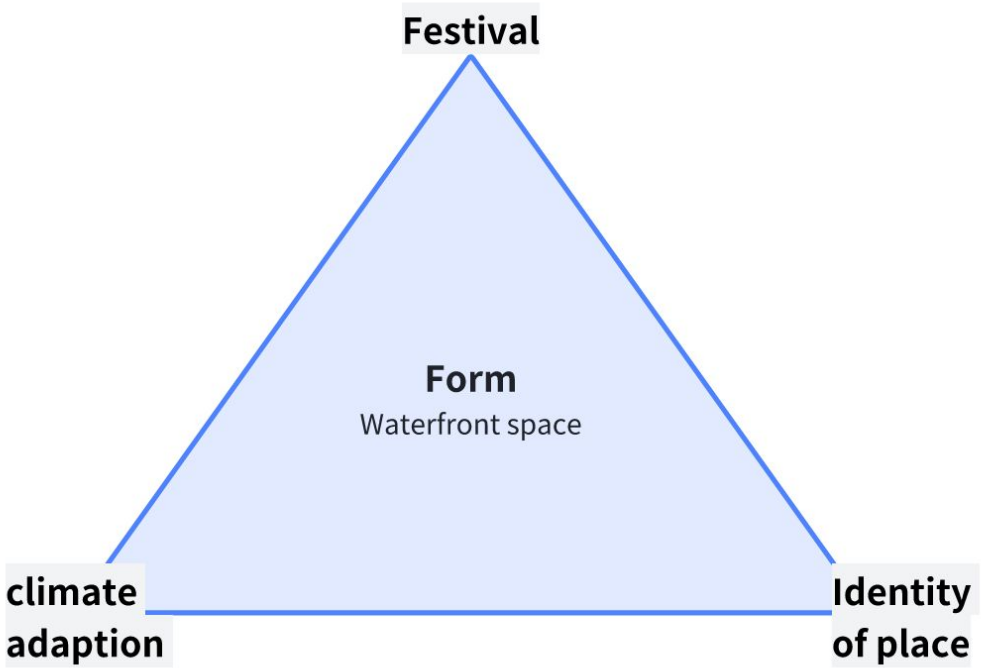
The festival was moved to the streets

2.3 Loss of identity

2015 130,000 visitors per day

2024 49,000 visitors per day

2.4 Conclusion



3 Research question

3.1 Main question
3.2 Subquestions

3.1 Main question:

Given what was previously discussed, the following questions arise:

How to redesign waterfront spaces for the festival along Xi River in Yuantong town through climate adaptive water management considering the identity of landscape?

3.2 Subquestions:

1. What water management techniques can be considered to restore the river's climate adaptability？

2. How do the form of waterfront public spaces benefit the new water management and facilitate the connection between festival and river?

3. How to enhance spatial experience to reveal the interaction between people and the river now and in the past?

4 Methodology

4.1 Theory backup
4.2 Theoretical framework
4.3 Research structure

4.1 Theory backup:

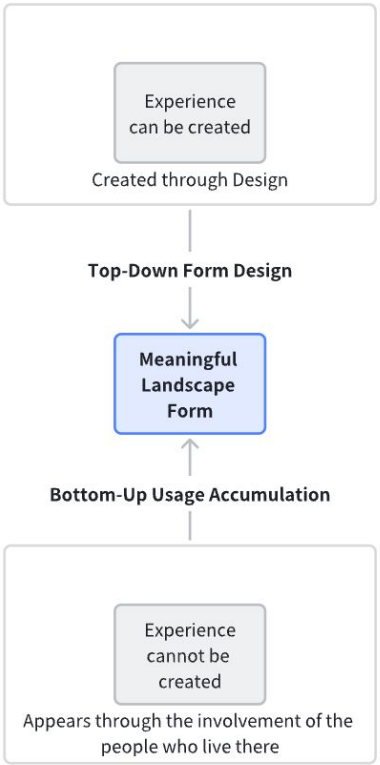
the meaning of landscape

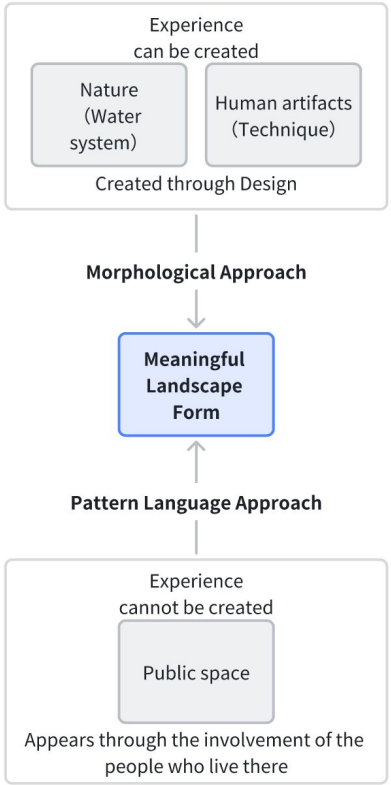
the production of space

the identity of place

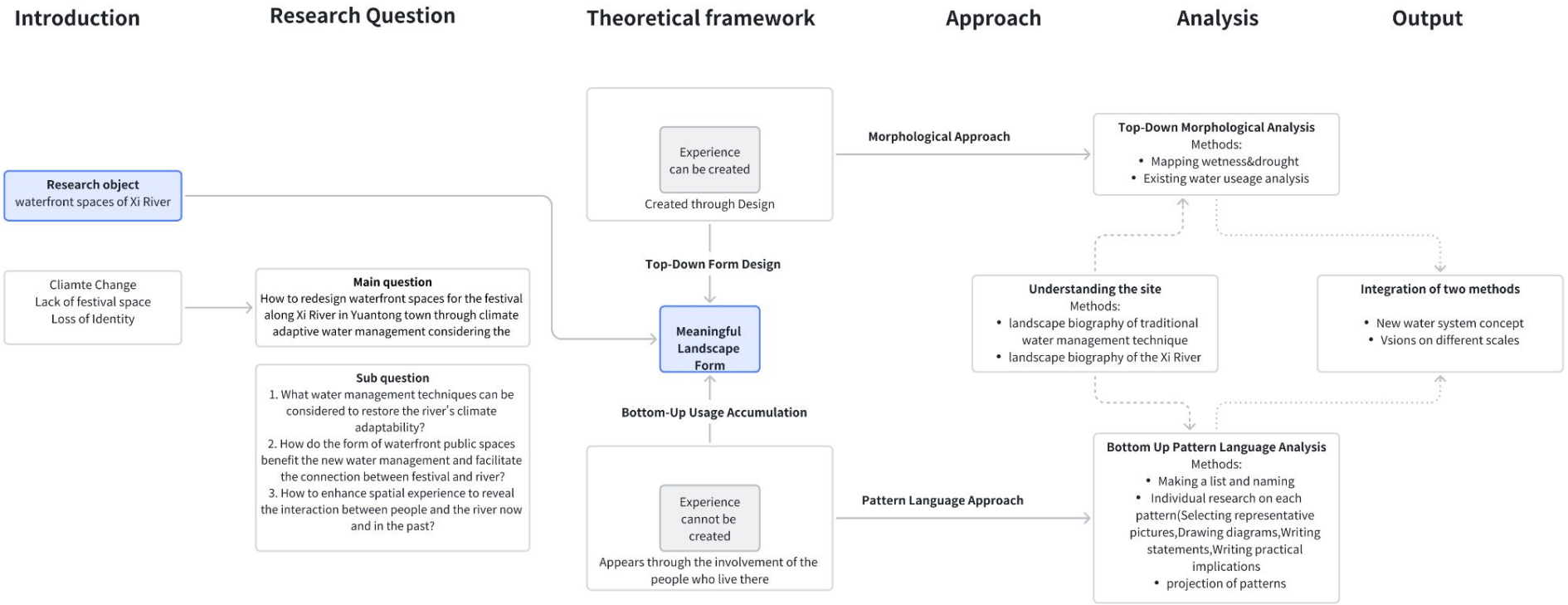
climate adaptation

4.2 Theoretical framework:





4.3 Research structure:



5 Analysis

5.1 Understanding the Site
5.2 Top-down morphological analysis
5.3 Bottom-up pattern language analysis

Analysis scale:

Water district scale

-Mapping wetness&drought
-Landscape biography of the traditional water management technique

Regional scale

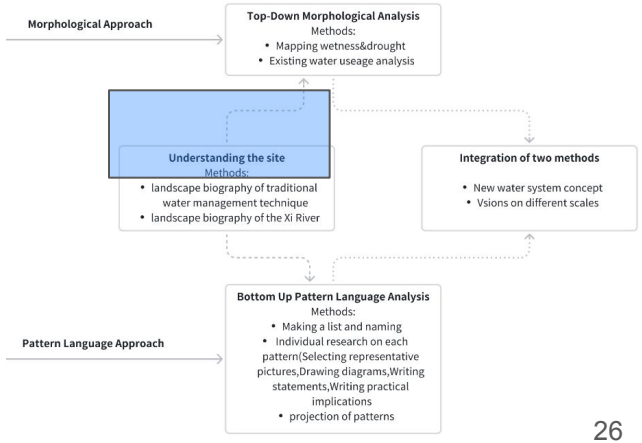
-Landscape biography of Xi River
-Water usage analysis
-Pattern language appraoch

Market town scale

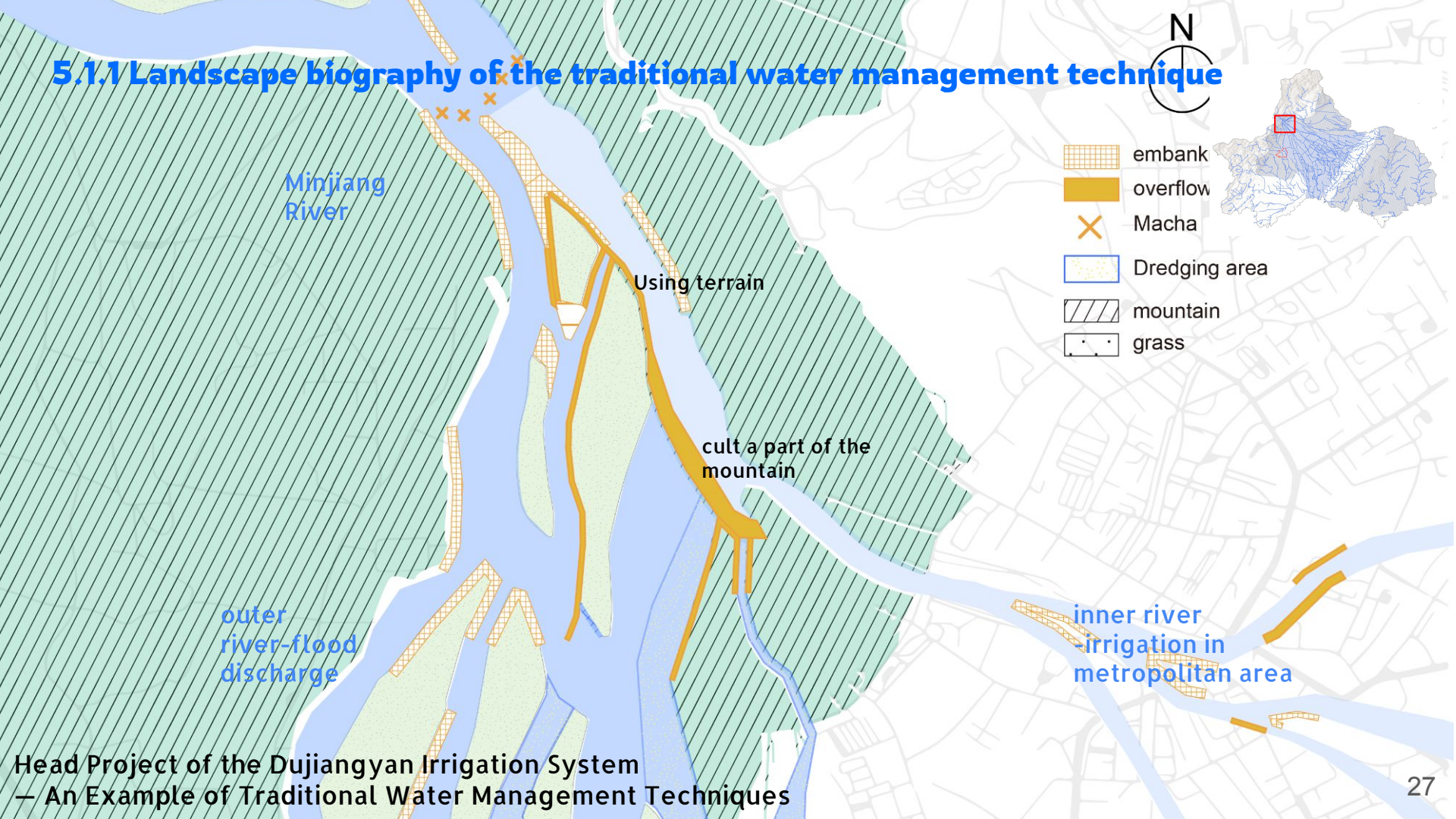
-Pattern language appraoch

5.1 Understanding the site

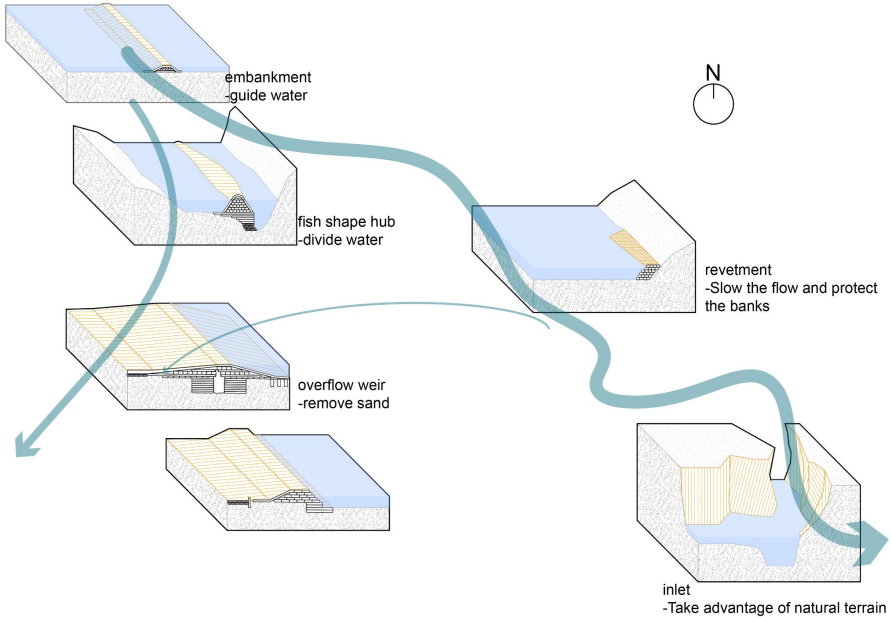
5.1.1 Landscape biography of the traditional water management technique
5.1.2 Landscape biography of the river & festival
5.1.3 Conclusion



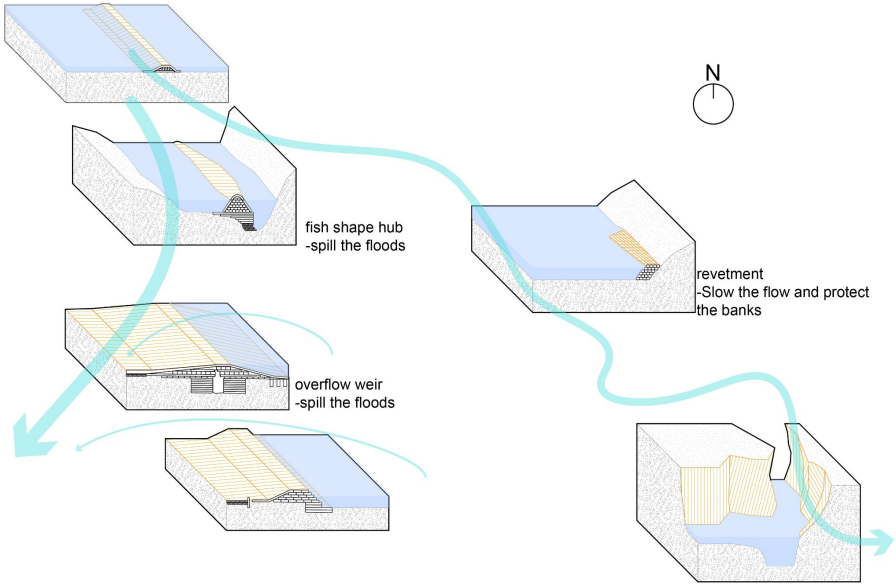
5.1.1 Landscape biography of the traditional water management technique



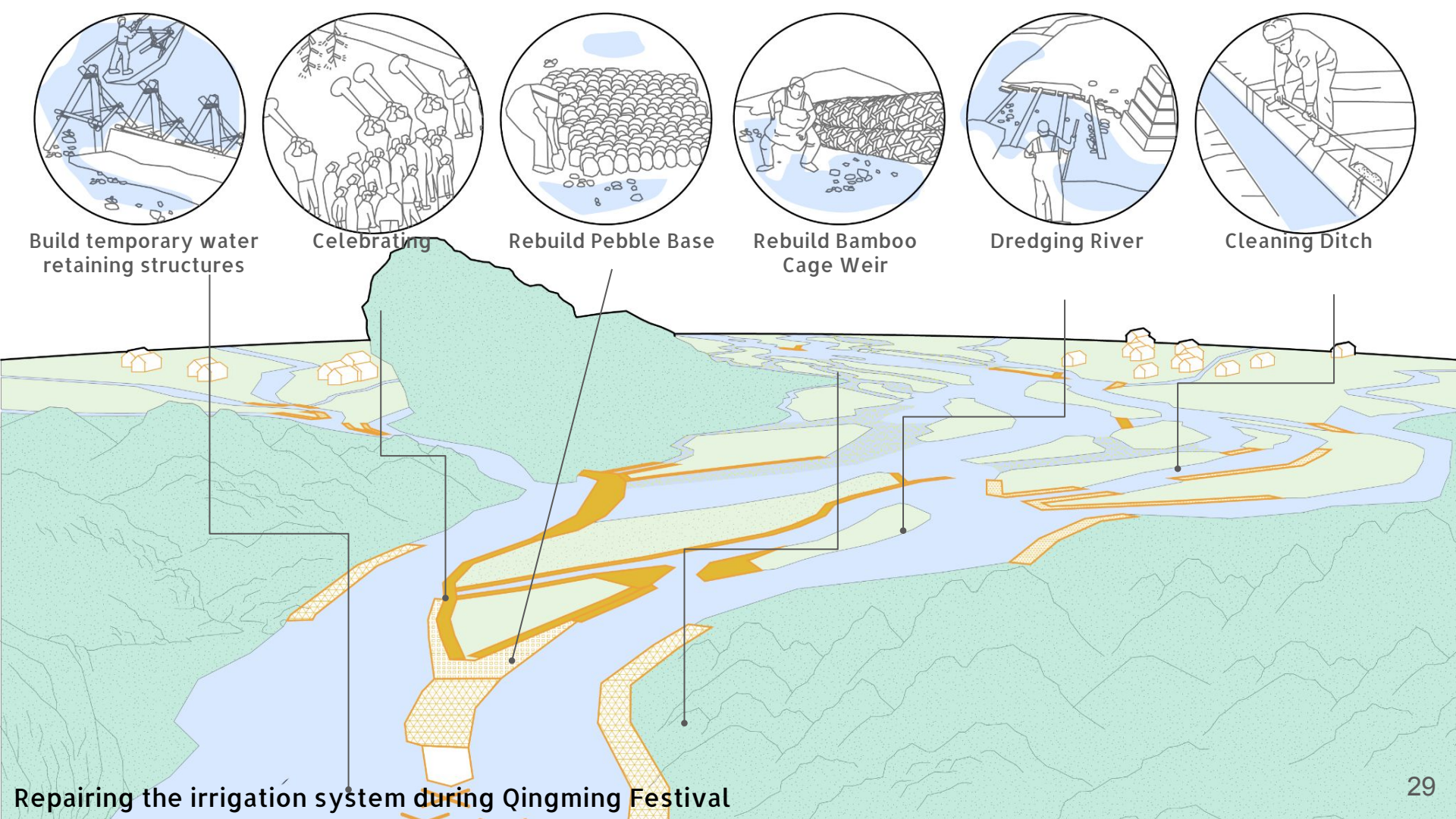
Schematic diagram of the Head Project of the Dujiangyan Irrigation System



dry season



flood season



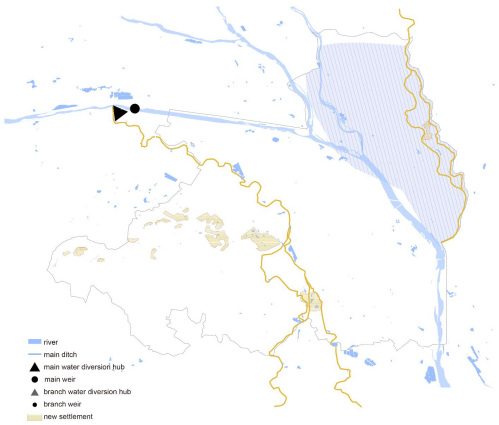
Repairing the irrigation system during Qingming Festival

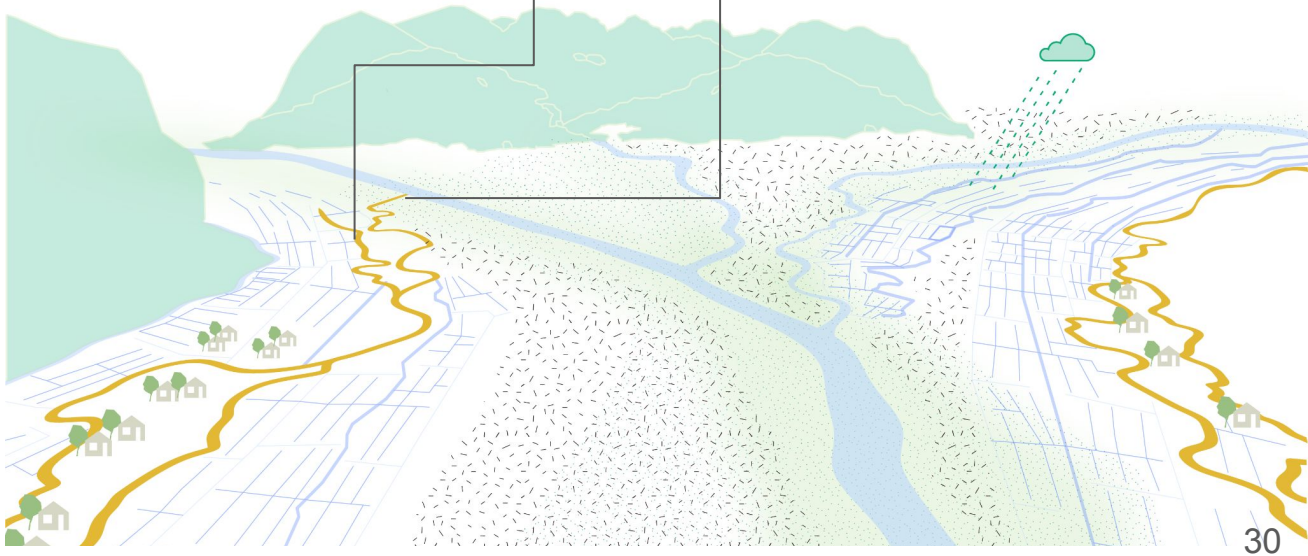
5.1.2 Landscape biography of the river & festival

276 BC - 1600 AD
Settle along the ditch

old ditch

weir





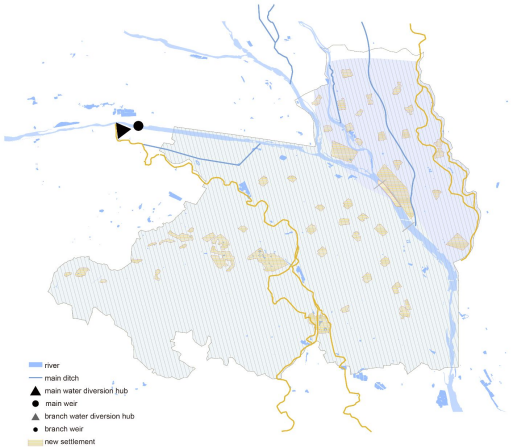
1600-1780
Big immigration-
Live with water

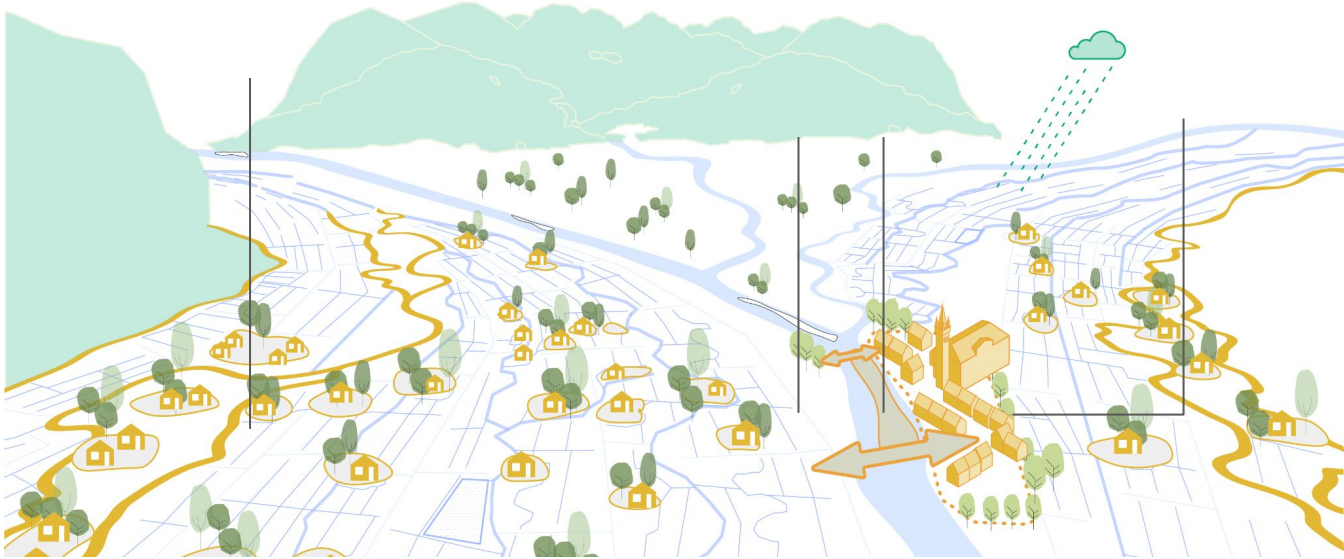
Linpan Village

Bridge

Qingminghui

Market Town



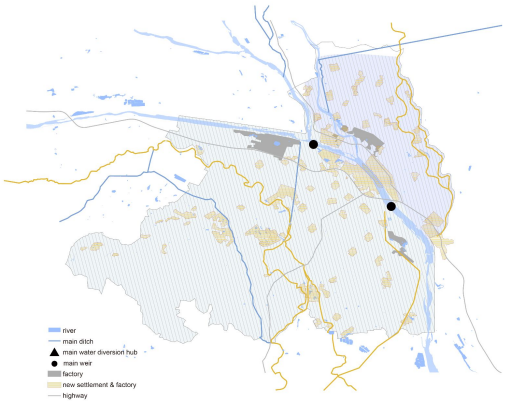


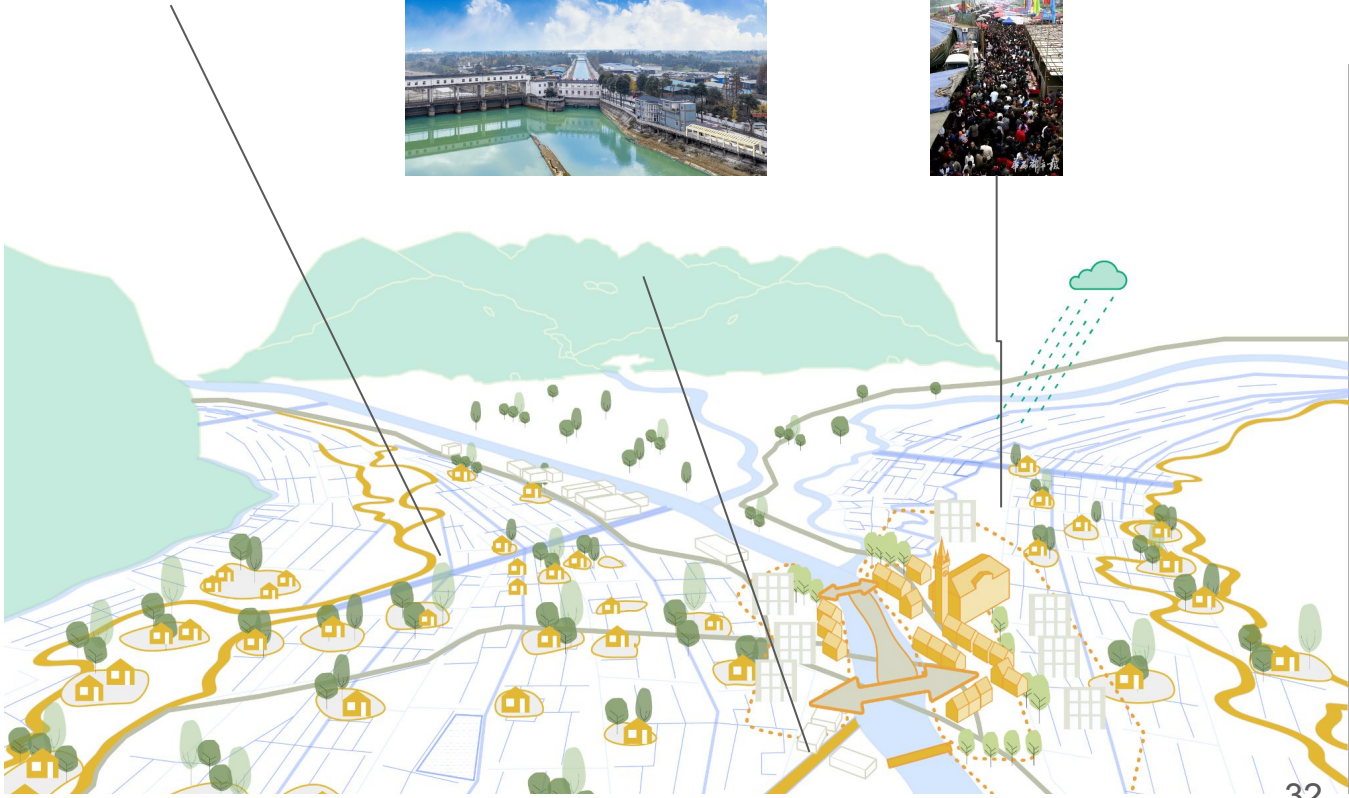
1950-2014
River as infrastructure

Renmin weir

Senhe weir

increasing tourists



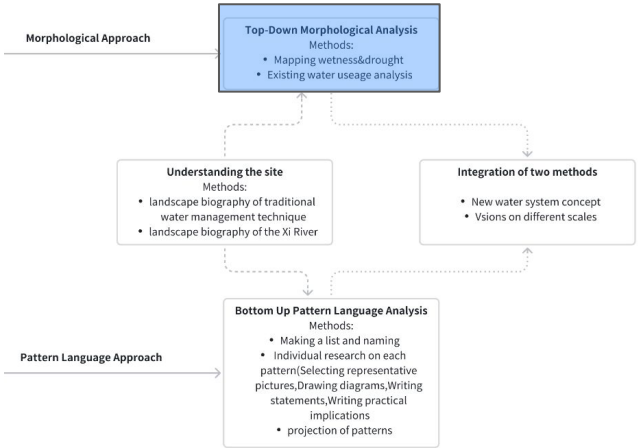


5.1.3 Conclusion

Through these historical layers, traditional water management, local markets, and modern elements like Sanhe Weir collectively embody the town's identity.

5.2 Top-Down Morphological Analysis

5.2.1Mapping wetness and droughts
5.2.2 Existing water usage analysis
5.2.3 Conclusion

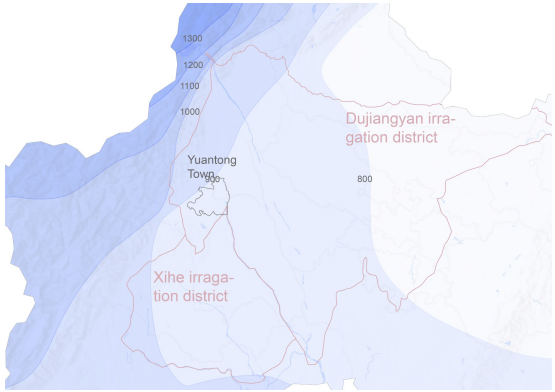


5.2.1Mapping wetness and droughts

Elevation

313-1000
1000-2000
2000-3000
3000-4000
4000-5000

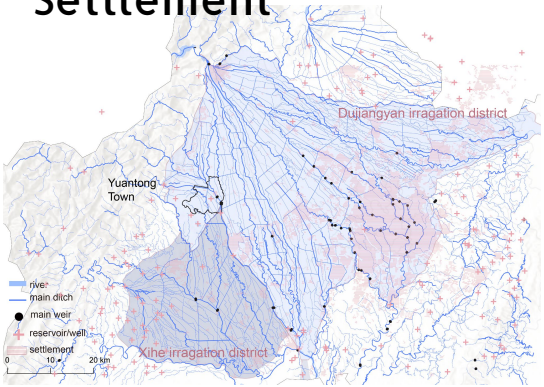
Precipitation



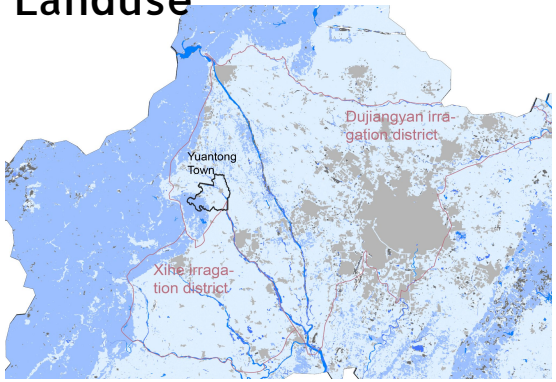
Annual average precipitation distribution (mm)

1300
1200
1100
1000
900
800

Settlement



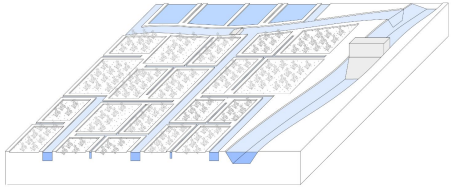
Landuse



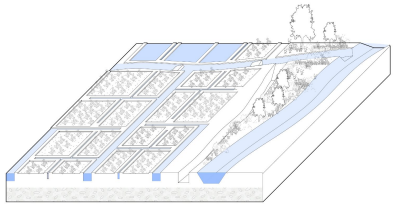
surface water
forest
cultivated crops
vacant
ice/snow
pasture
built up

5.2.2 Existing water usage analysis

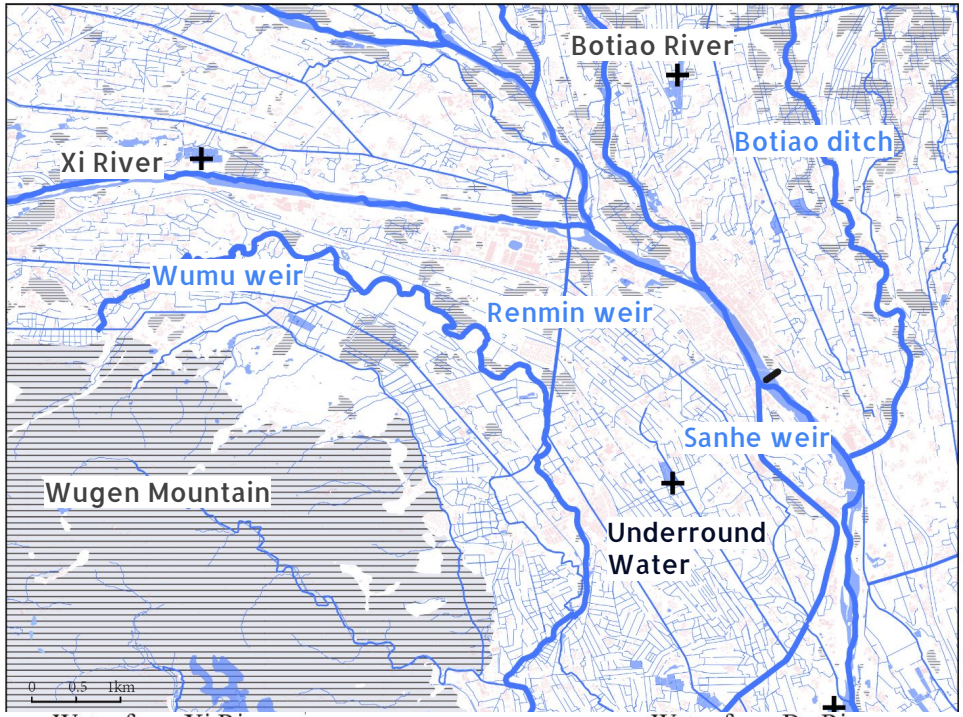
Main weir&ditchs



weir

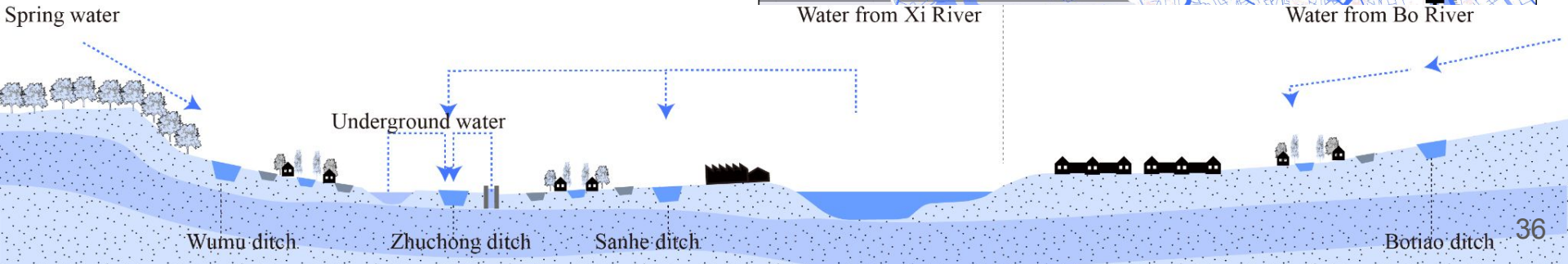


ditch



Water from Xi River

Water from Bo River

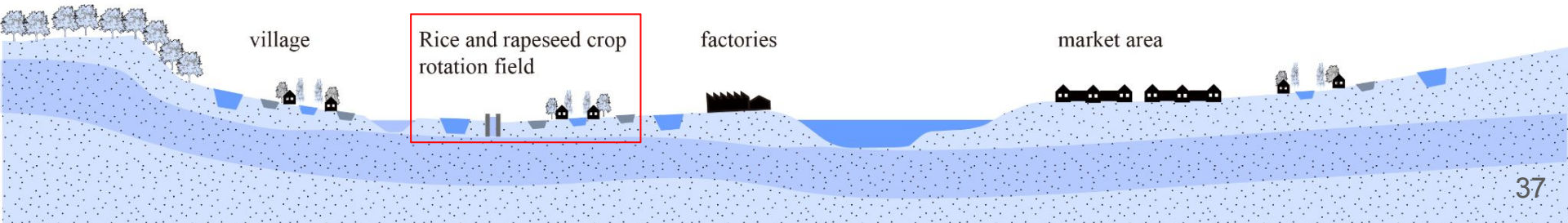


5.2.2 Existing water usage analysis

Unsustainable water usage

rice requires a large amount of water in the spring

rapeseed requires water needs to be drained in the winter

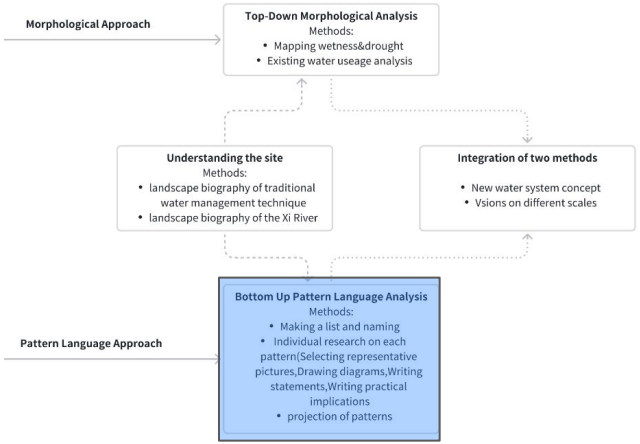


5.2.3 Conclusion

The region should focus on improving water retention ability. And we need a more sustainable watermanage to address the increasing demand for water as well as the flooding issue.

5.3 Bottom-Up pattern language analysis

5.3.1 Research steps
5.3.2 Pattern types
5.3.3 Observed past patterns
5.3.4 Observed existing patterns
5.3.5 Conclusion



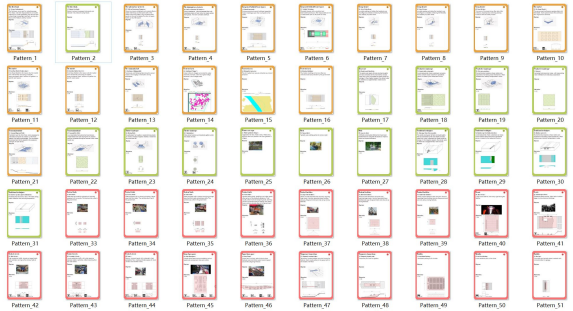
5.3.1 Research steps

Making a list and naming

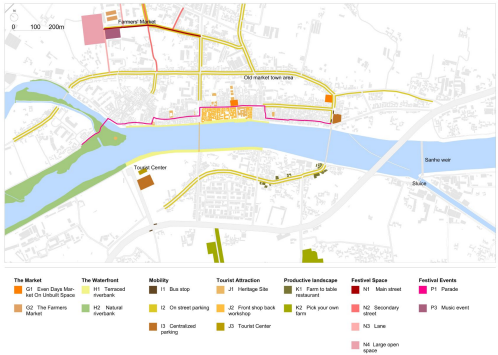
	Pattern Type		Pattern	Scale
Climate change	Ditch	A1	Concrete ditch	L
		A2	Natural ditch	L
	Moisture Retention Planting	B1	Nursery	L
		B2	Seasonal Rice Field	L
		B3	Seasonal Rice-Aquaculture System	L
		B4	Storage filter	L
	Water Source	C1	Spring pit	L
		C2	On-farm reservoir	L
	Resilient Vegetation	D1	Local flora buffer	L
		D2	Forest	L
	Flood Adaptation	E1	Seasonal rapeseed field	M
		E2	Resettlement	L
		E3	Floodplain	L
Identity of place	The protected area	F1	Old market town area	L
		F2	Traditional "Linpan"	L
	The Market	G1	Informal use of stairs	M
		G2	Informal use of walls	M
		G3	Even Days Market On Unbuilt Space	M
		G4	The Farmers Market	M
	The Riverbank	H1	Terraced riverbank	M
		H2	Natural riverbank	M
	Tourist Attraction	I1	Heritage Site	M
		I2	Front shop back workshop	M
		I3	~~Tourist Center~~	M
	Mobility	J1	Bus stop	M
		J2	On street parking	M
		J3	Centralized parking	M
	Productive Landscape	K1	Farm-to-Table Restaurant	M
		K2	Pick your own farm	M
	Community Hub	L1	Mahjong&Tea House	M
		L2	Square	M
	Living Theater	M1	Shaded place	S
		M2	Street Kitchen	S
		M3	Public living room	S
Festival	Festival Events	N1	Parade	M
		N2	Sichuan Opera Show	M
		N3	Music event	M
	Festival Streets	O1	Main Street	M
		O2	Secondary street	M
		O3	Lane	M
	Festival Open Space	P1	Festival on unbuilt Space	M
		P2	Festival on Gravel land	M
	Temporary Connection	Q1	Temporary Wooden Bridge	M
		Q2	Temporary logistic	M
	Temporary Support Structure	R1	Temporary Waste Disposal Station	M
		R2	Temporary barriers	M
	Festival Stalls	S1	Food Stalls	S
		S2	Grocery Stalls	S
		S3	Game Stalls	S
		S4	Truck Stalls	S
	Festival Facilities	T1	Large-Scale Facilities	S
		T2	Mid-Scale Facilities	S
		T3	Small-Scale Facilities	S

59 patterns
20 types
3 theme

In-depth research on each pattern



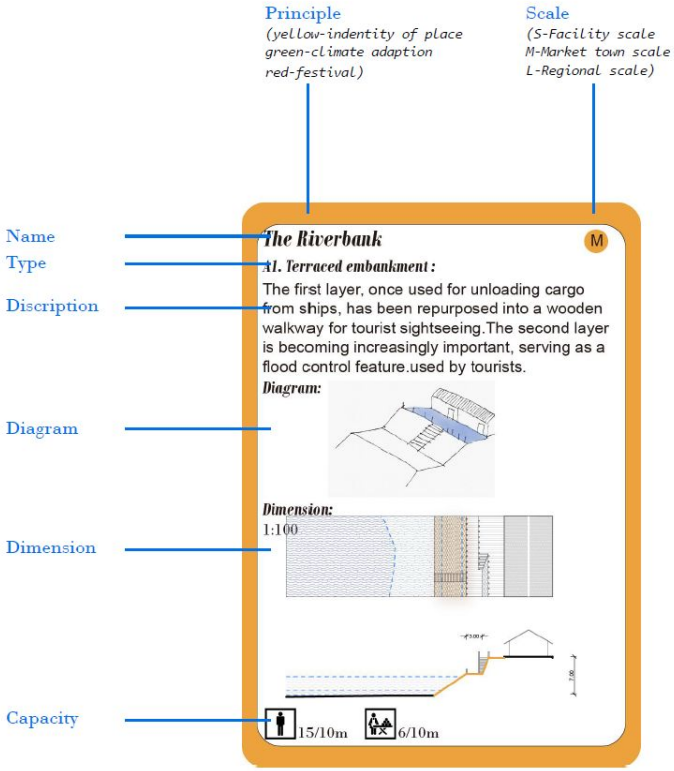
Pattern projection



5.3.2 Pattern types:

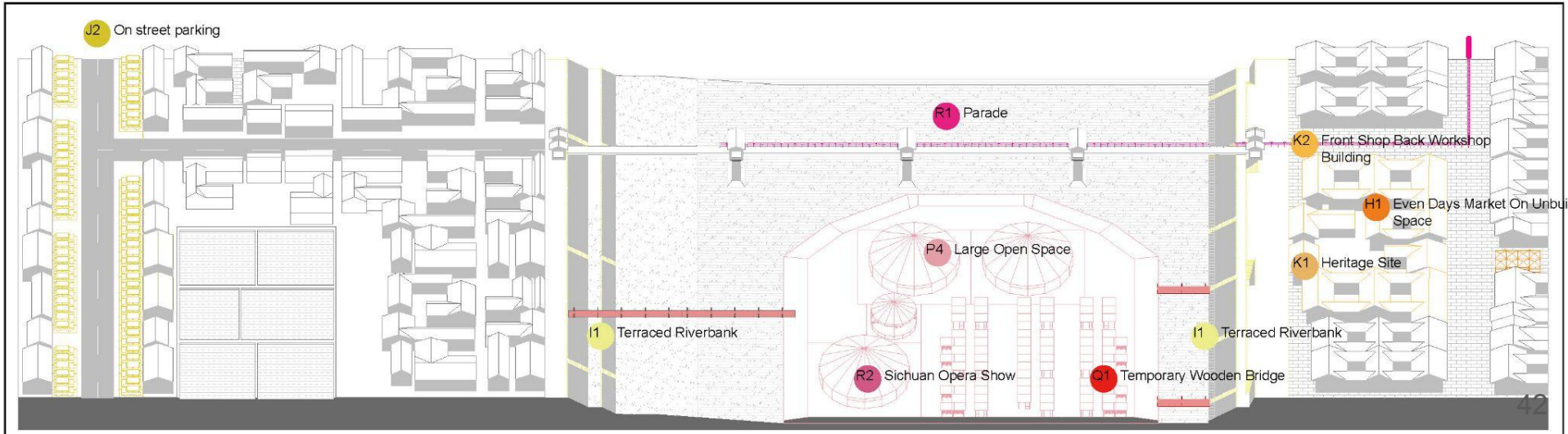
Scale:

S scale: human scale
M scale: town's scale
L scale: resgional scale

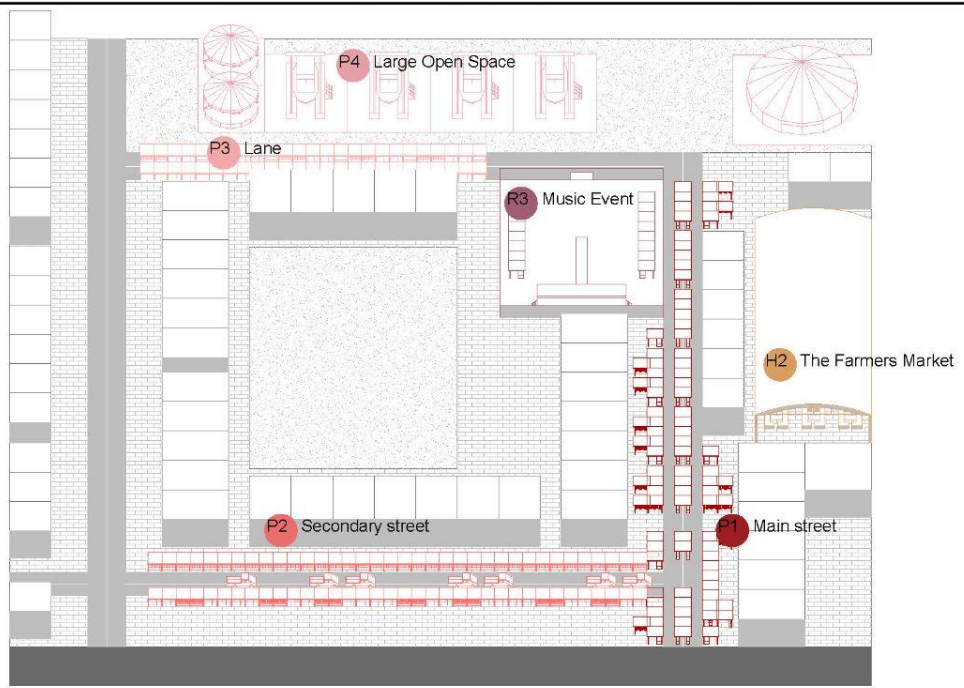


example of a pattern

5.3.3 Observed past patterns



5.3.4 Observed existing patterns



5.3.5 Conclusion

The final design should be a highly dynamic landscape,considering different waterfront spaces usage, and human activities during different periods.

6 Design

6.1 Market town scale
6.2 Human scale
6.3 Regional scale
6.4 Conclusion & discussion

Design scale:

Regional scale

-restore the river's climate adaptability

Market town scale

-new form of waterfront public spaces
-the new water management
-the connection between festival and river

Human scale

-enhance spatial experience -reveal the interaction between people and the river now and in the past

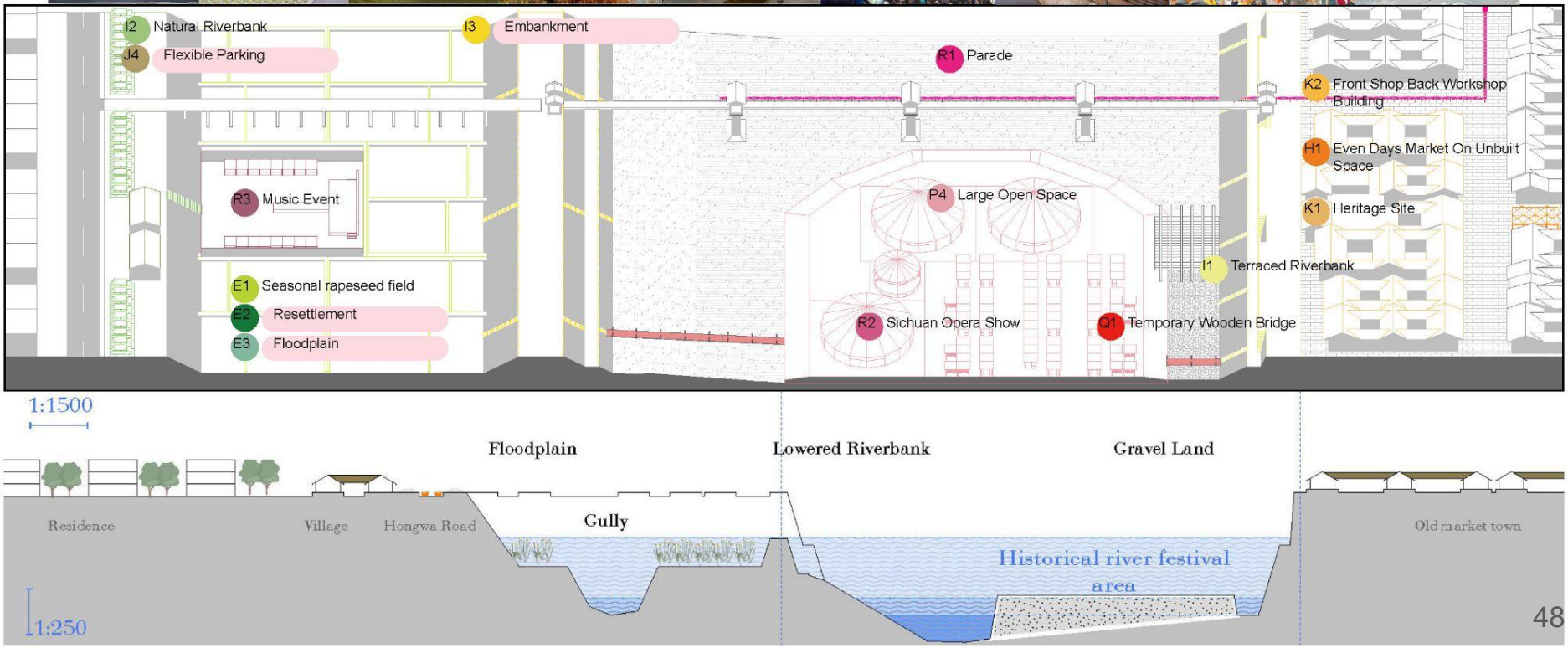
3 Periods:

6.1 Market town scale

6.1.1 Observed past patterns
6.1.2 Observed existing patterns
6.1.3 Designed patterns
6.1.4 Masterplan at the town scale

-new form of waterfront public spaces
-the new water management
-the connection between festival and river

6.1.3 Designed patterns



6.1.4 Masterplan at the town scale

Normal Period

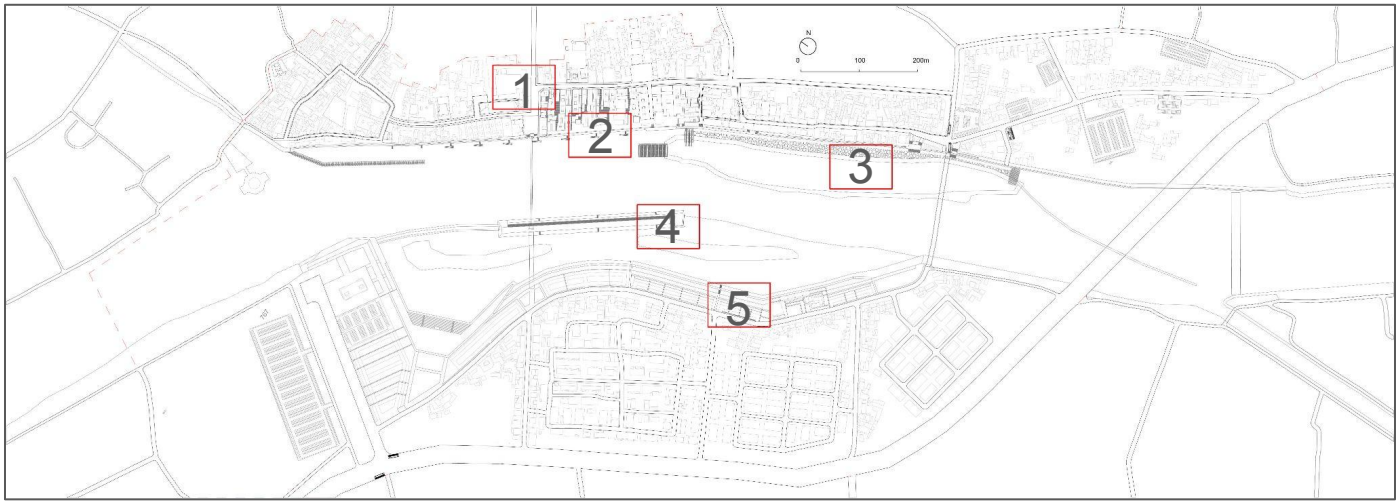
Festival Period

6.2 Human scale

6.2.1 Site selection
6.2.2 The old market town
6.2.3 The waterfront of the old market town
6.2.4 The gravel land
6.2.5 The embankment
6.2.6 The waterfront of the floodplain

-enhance spatial experience
-reveal the interaction between people and the river

6.2.1 Site selection



1. The old market town

2. The waterfront of the old market town

3. The gravel land

4. The embankment

5. The waterfront of the floodplain

3 Periods:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Normal	■	■	■	■	■				■	■	■	■
Festival				■								
Flooding						■	■	■				

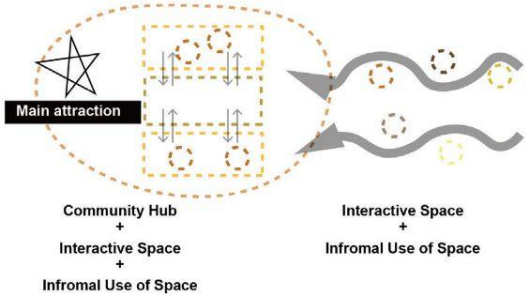
6.2.2 The old market town

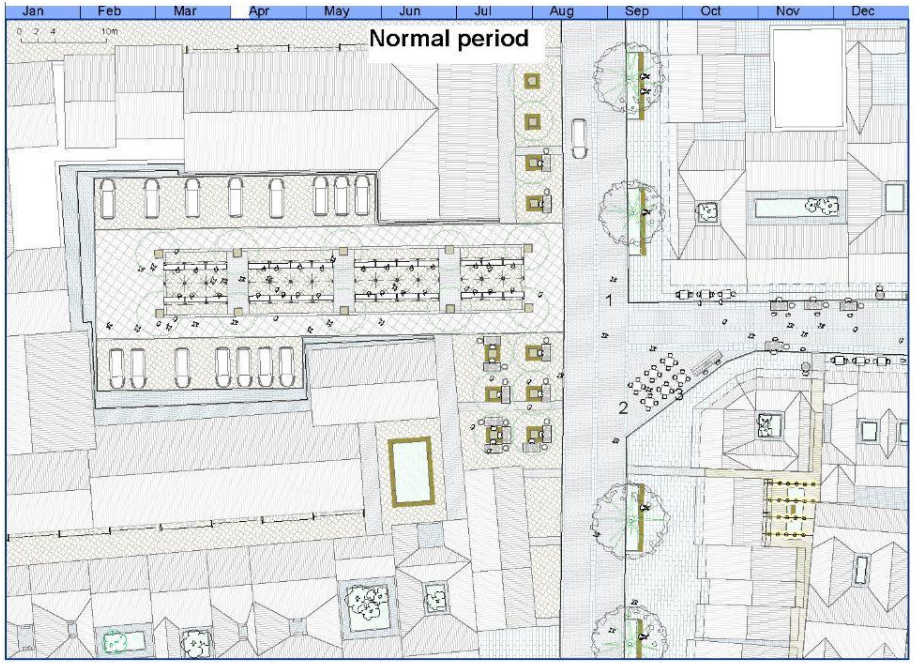
Community Hub
- M2 Square

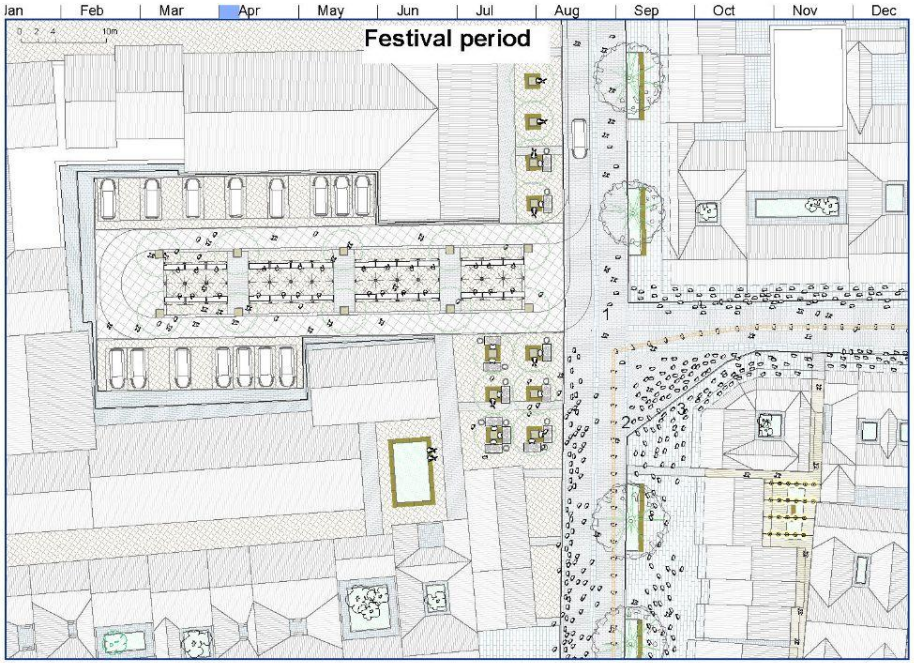
Festival Stall
- S1 Food Stalls

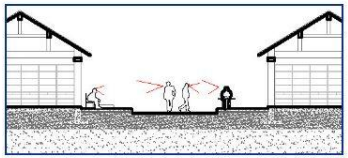
Interactive Space
- N1 Street Kitchen
- N2 Eating Outside
- N3 Shaded Chating Place
- N4 Parade Watching Space

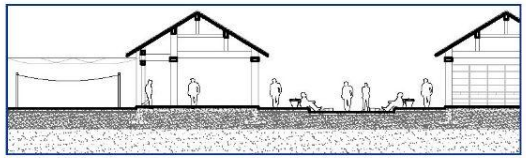
Infromal Use of Space
- O1 Stepped Vendor Spaces
- O2 Wallside Vendor Spaces
- O3 Mobile Snack Carts
- O4 Even Days Market Stall

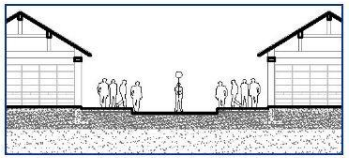


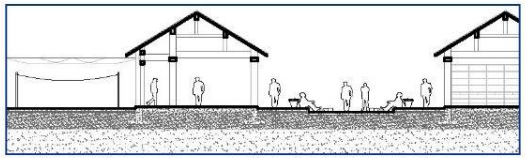












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Materials

1.Blue Slate Tile
2.Blue Slate Tile with Special Texture
3.Blue Slate Tile

6.2.3 The waterfront of the old market town

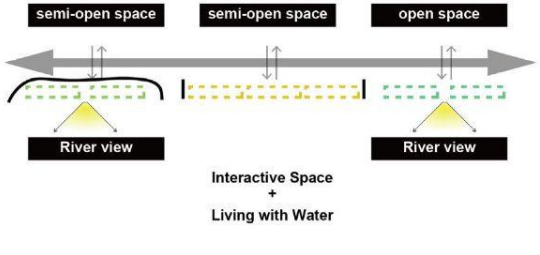
Community Hub
- L1 Mahjong&Tea House

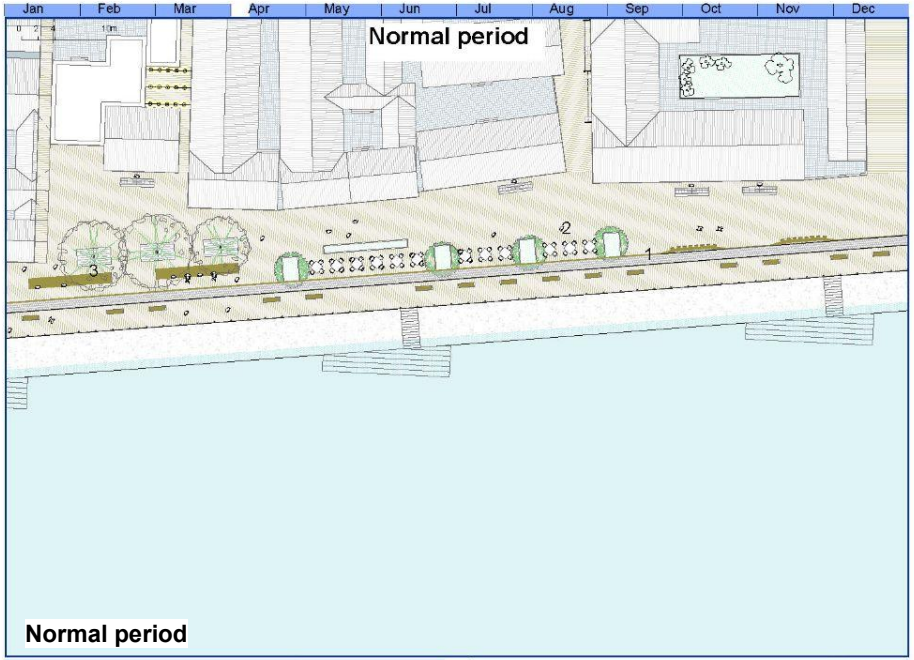
Infromal Use of Space
- N1 Stepped Vendor Spaces
- N2 Wallside Vendor Spaces

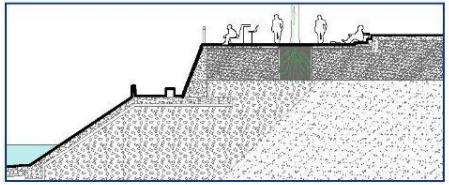
Festival Stall
- S1 Food Stalls

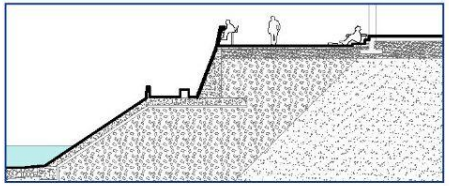
Interactive Space
- M2 Eating Outside
- M3 Shaded Chating Place

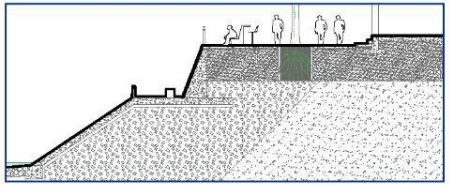
Living with Water
- O3 Meditative Space
- O4 Viewing Space

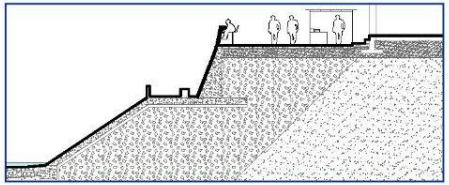












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Materials

1.Steel Posts with Wood Rail
2.Local Timber

Species

3.Chinese Gleditsia

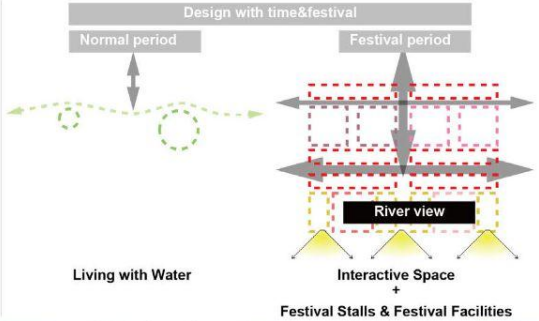
6.2.4 The gravel land

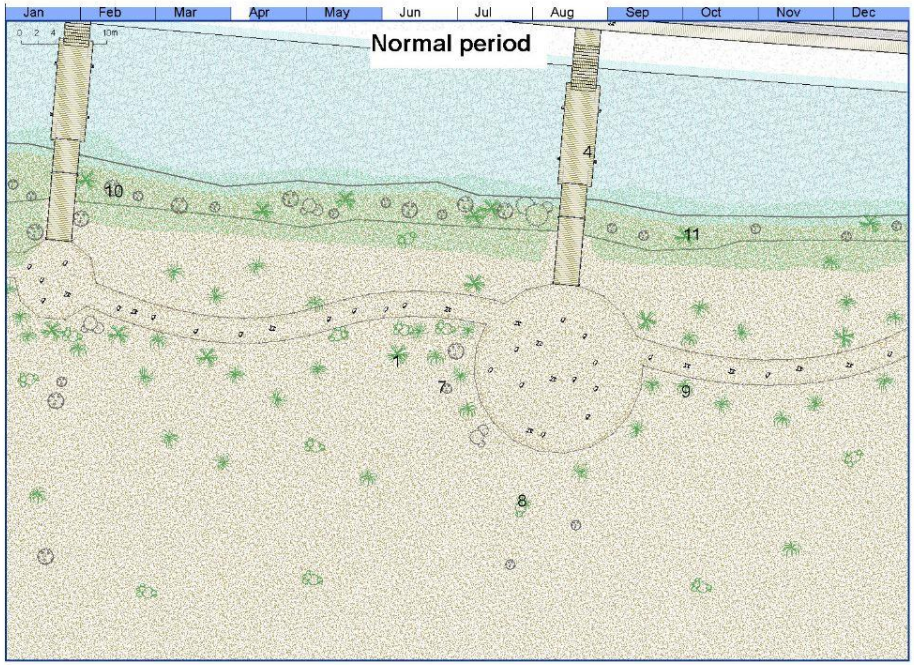
Interactive Space
- M2 Eating Outside

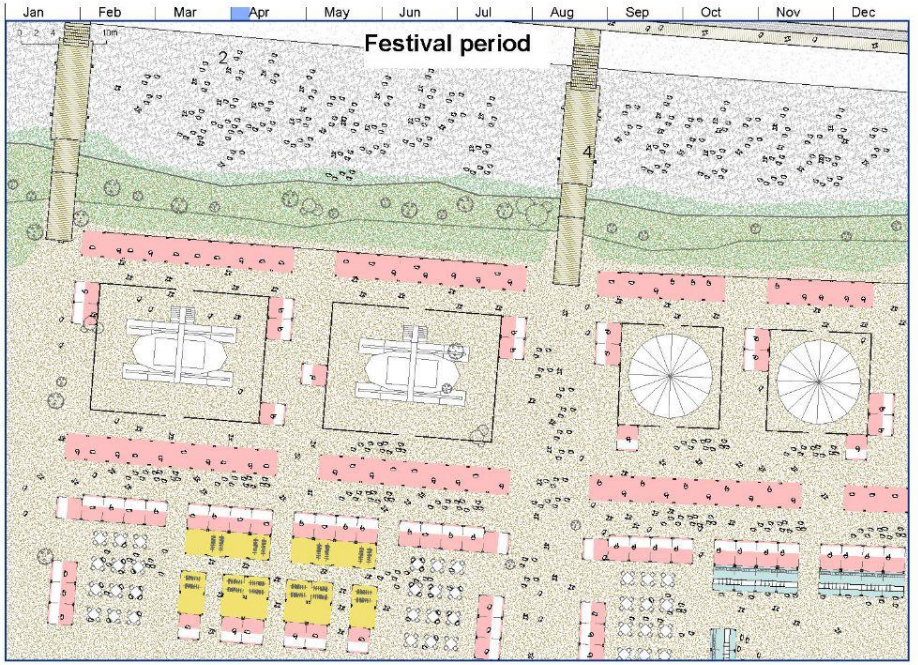
Living with Water
- O1 Waterfront Wandering
- O3 Meditative Space

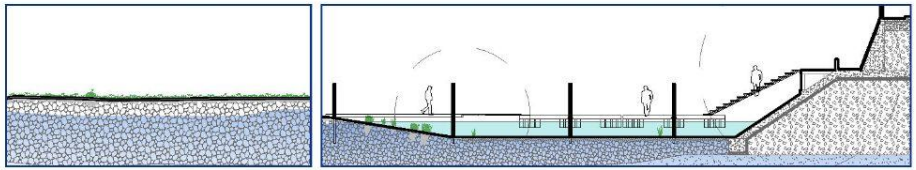
Festival Stall
- S1 Food Stalls
- S2 Grocery Stalls
- S3 Game Stalls

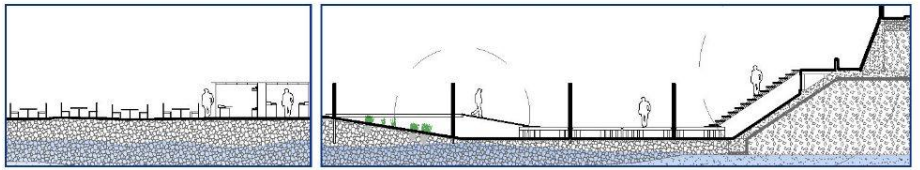
Festival Facility
- T1 Large-Scale Facilities
- T2 Mid-Scale Facilities
- T3 Small-Scale Facilities









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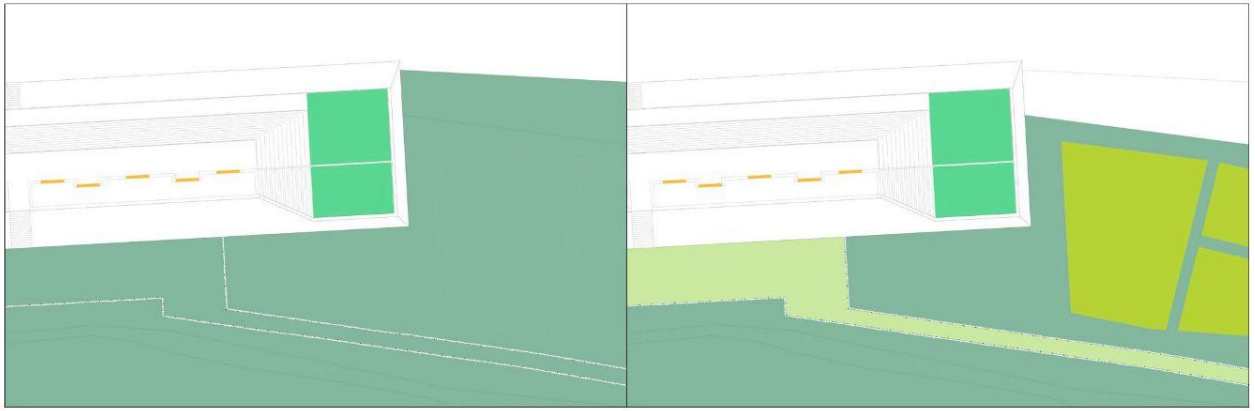
Materials

1. Natural Gravle in Xi River
2. Traditional Dry-Laid Cobblestone
3. Steel Posts with Wood Rail
4. Local Timber
5. Concrete Block
6. Mortared Rubble Masonry

Species

7. Willowweed
8. Eastern daisy fleabane
9. Wild rice stem
10. Chinese dandelion
11. Curly pondweed
12. Chinese Gleditsia

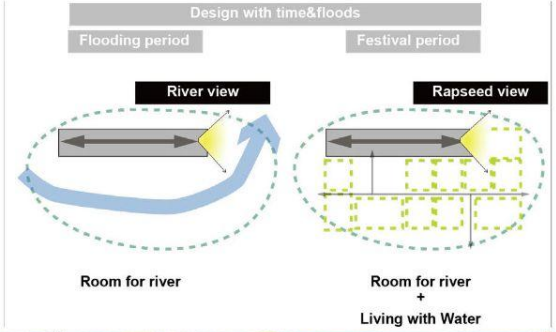
6.2.5 The embankment

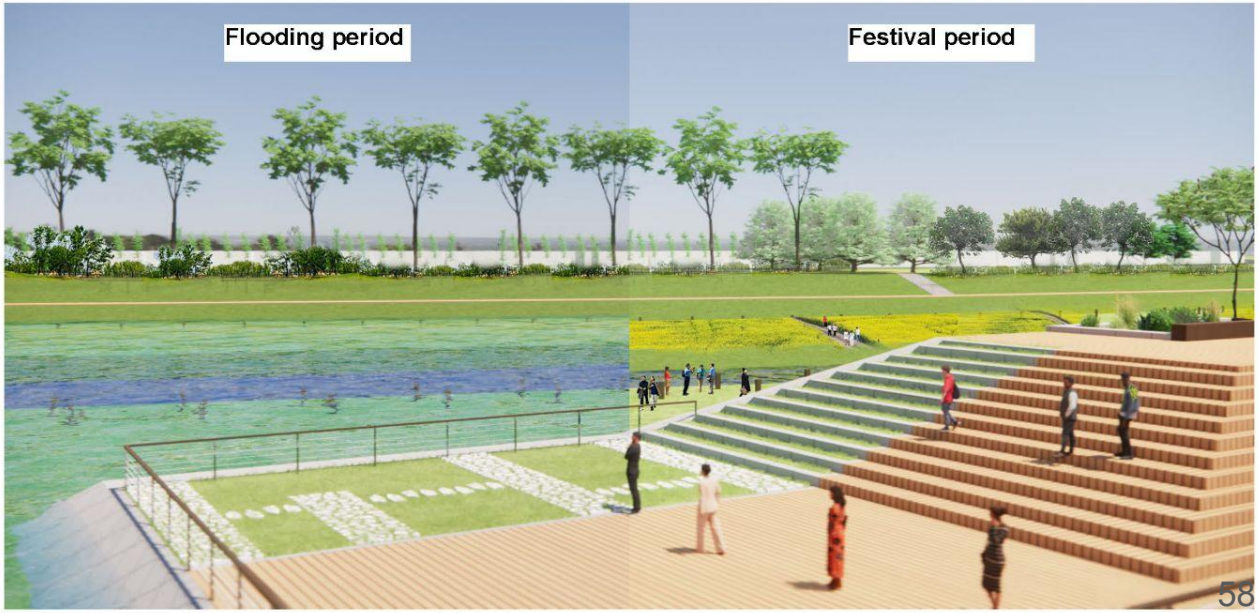


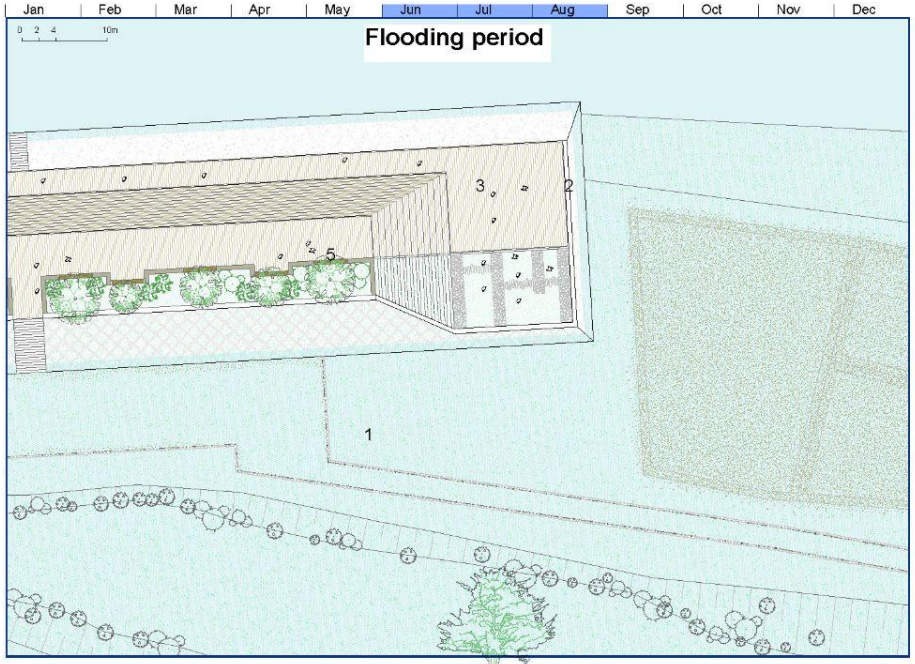
Room for River
E1 Seasonal rapeseed field
E3 Floodplain

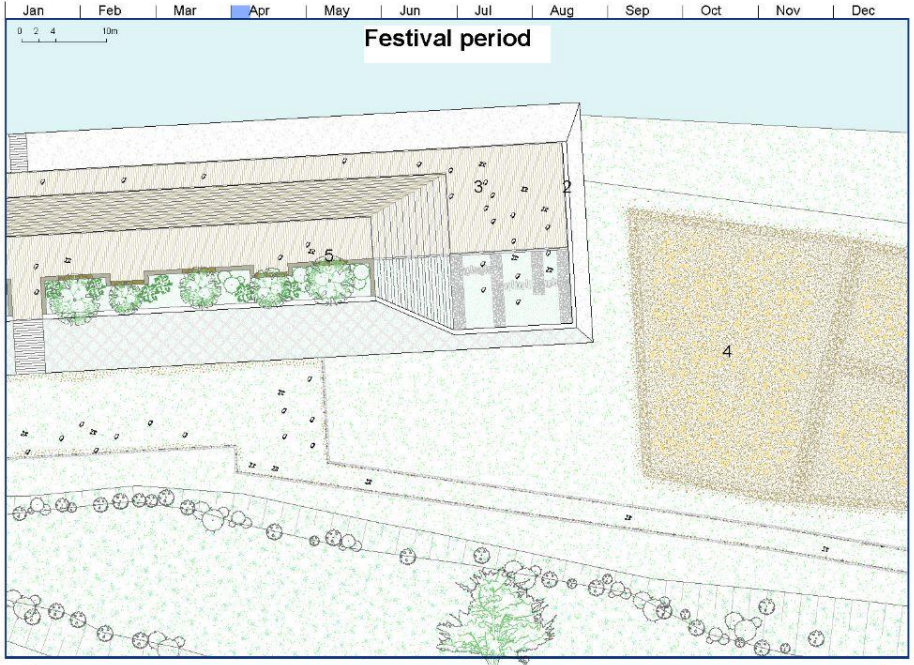
Interactive Space
N3 Shaded Chating Place

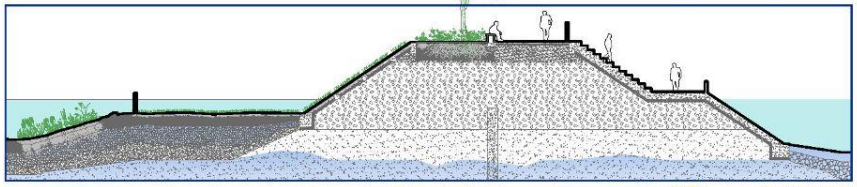
Living with Water
F1 Waterfront Wandering
F4 Viewing Space

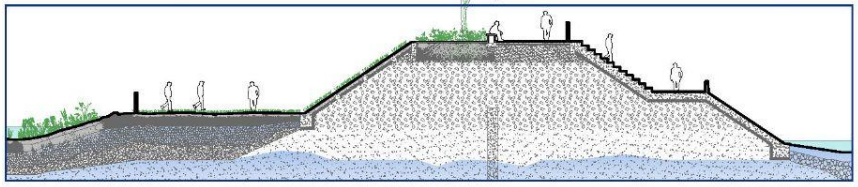










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Materials

1.Wooden Fence Stake
2.Steel Posts with Wood Rail
3.Local Timber

Species

4.Rapseed
5.Chinese tallow tree

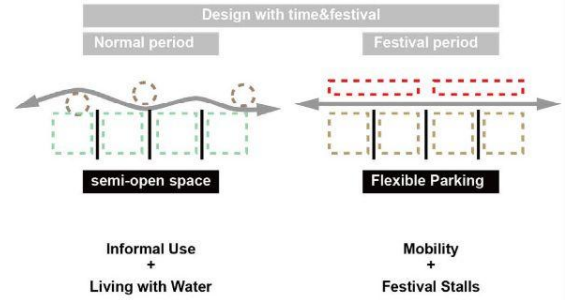
6.2.6 The waterfront of the floodplain

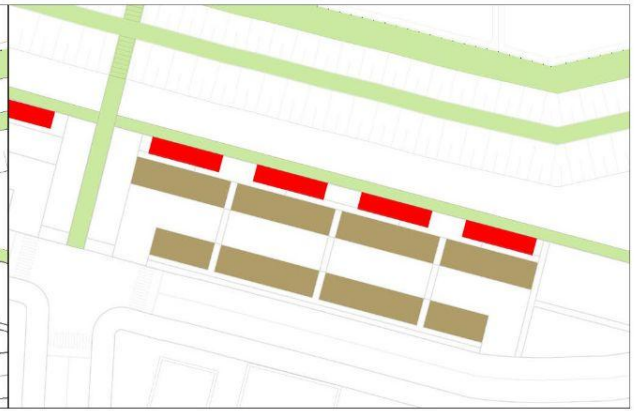
Mobility
J4 Flexible Parking

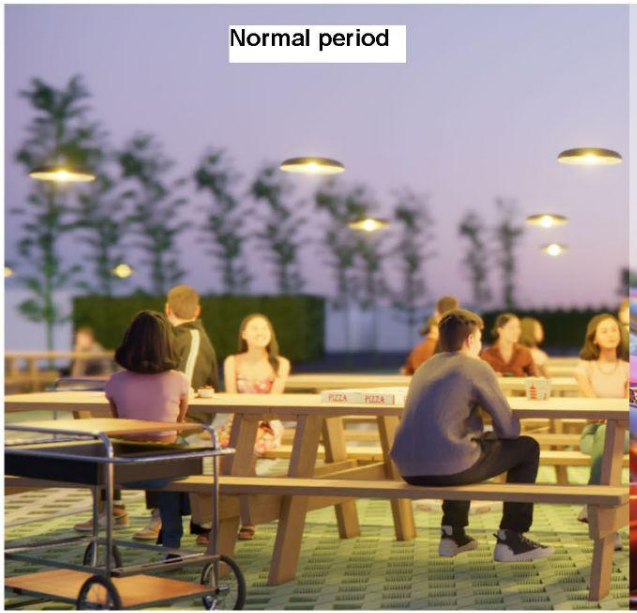
Living with Water
F1 Waterfront Wandering
F2 Waterfront Picnic

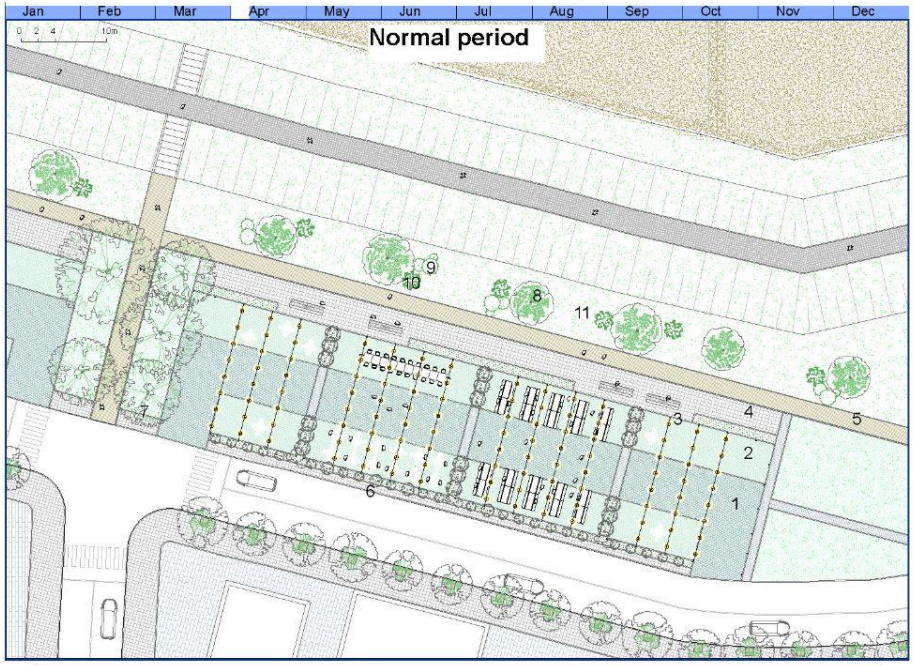
Festival Stall
S1 Food Stalls

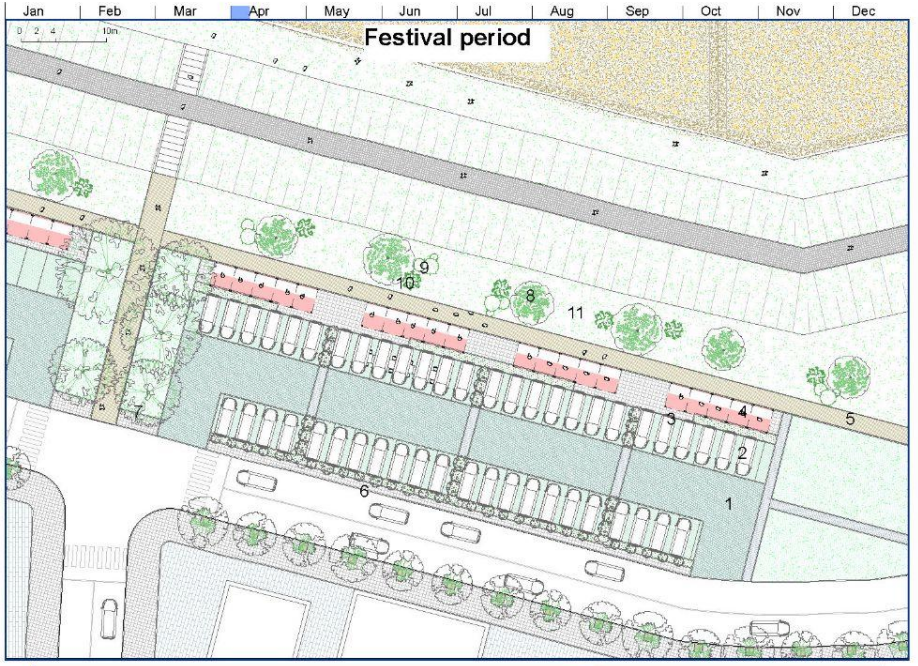
Infromal Use of Space
O3 Mobile Snack Carts

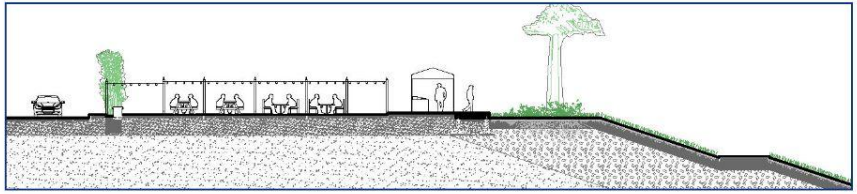


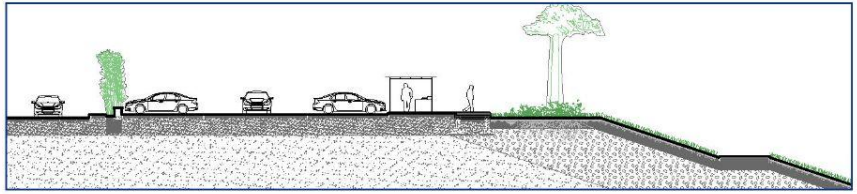












Materials

1. Permeable Paving
2. Permeable Paving
3. Reclaimed Antique Granite Curb Stone
4. Natural Stone
5. Natural Wooden Plank

Species

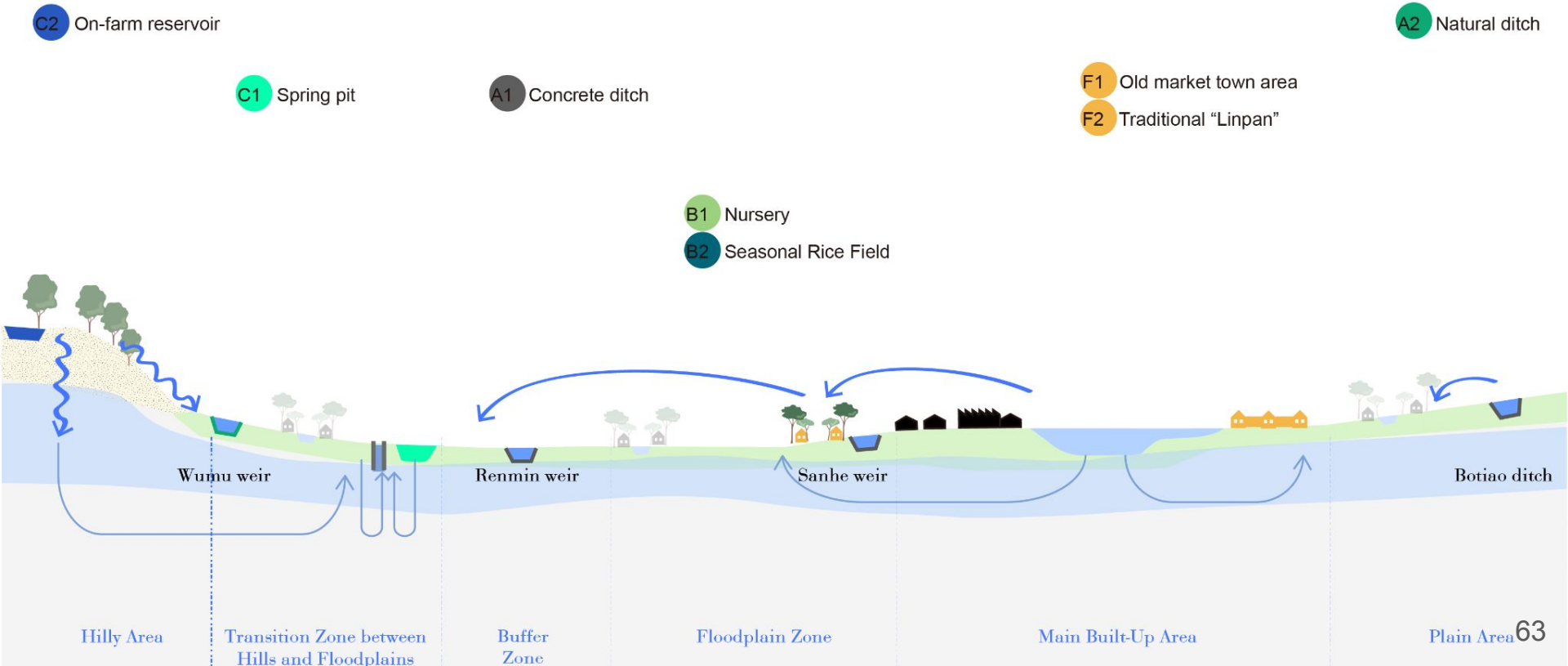
6. Bamboo
7. Camphor tree
8. Dawn redwood
9. Wild chrysanthemum
10. Chinese violet cress
11. Bermudagrass

6.3 Regional scale

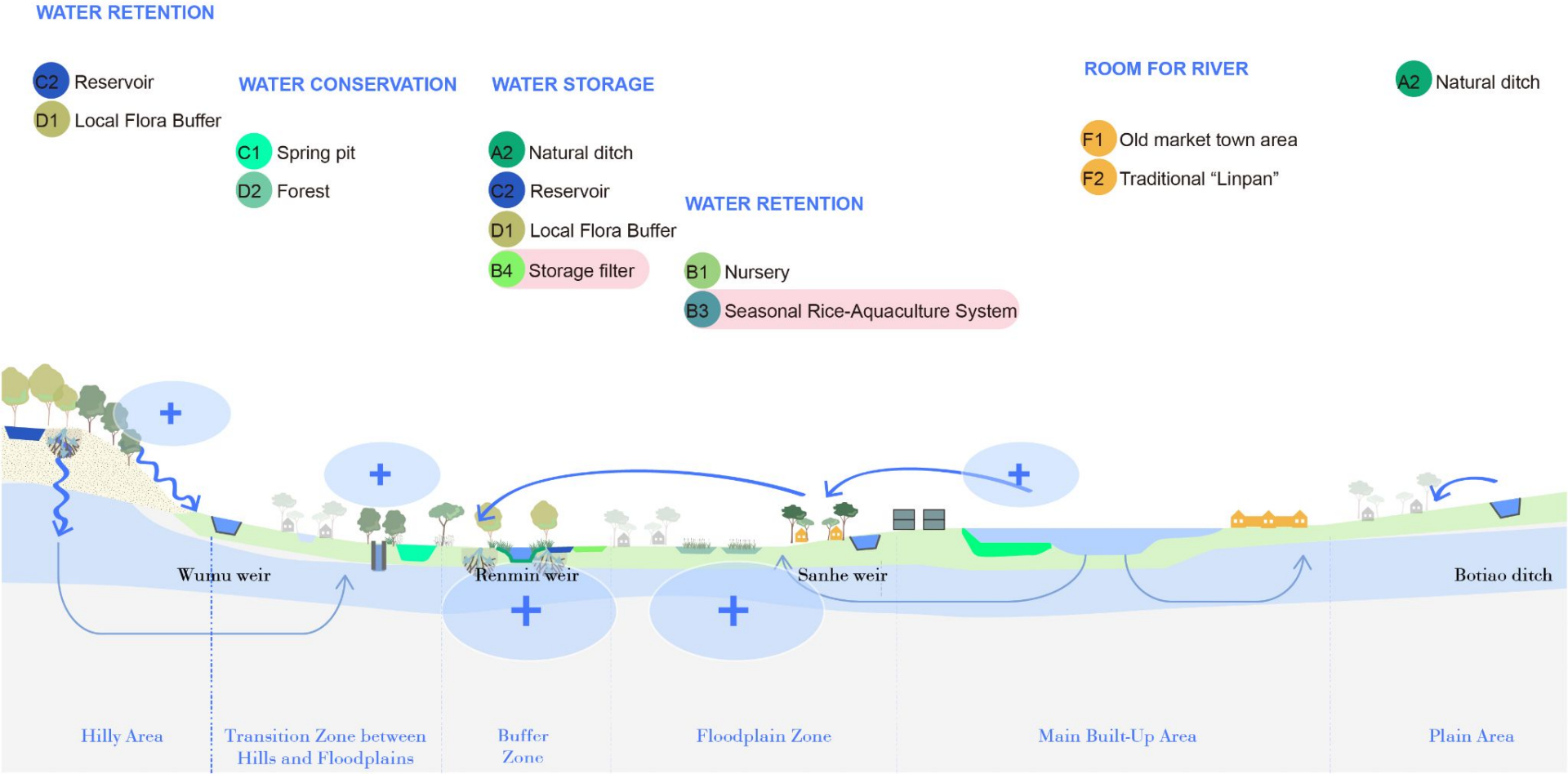
6.3.1 Existing condition
6.3.2 Regional planning under the “Accelerating Climate Change” scenario

-restore the river's climate adaptability
-long term planning

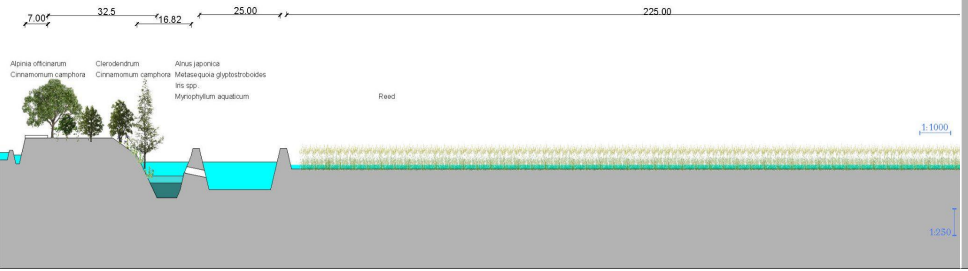
6.3.1 Observed patterns



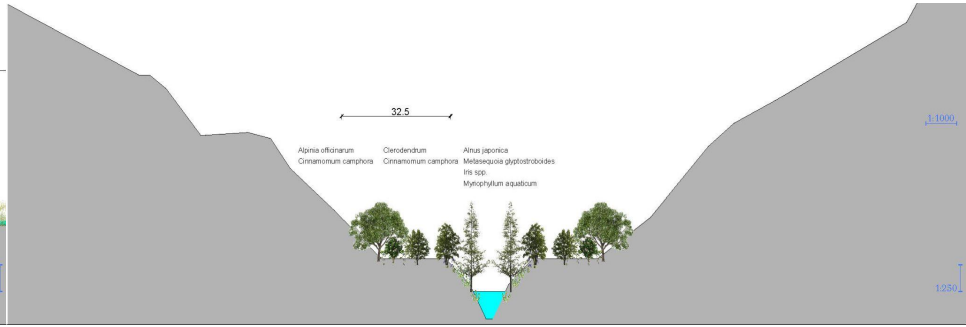
6.3.2 Regional planning under the “Accelerating Climate Change” scenario



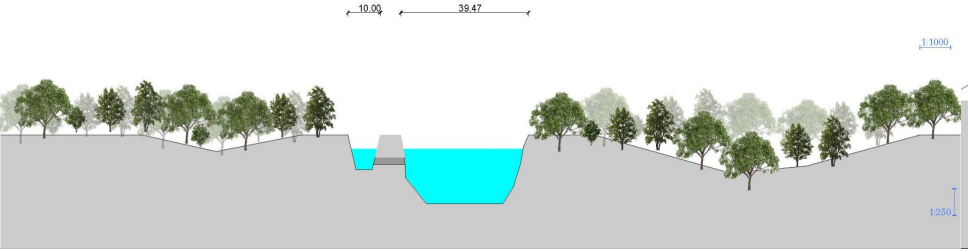
The buffer zone



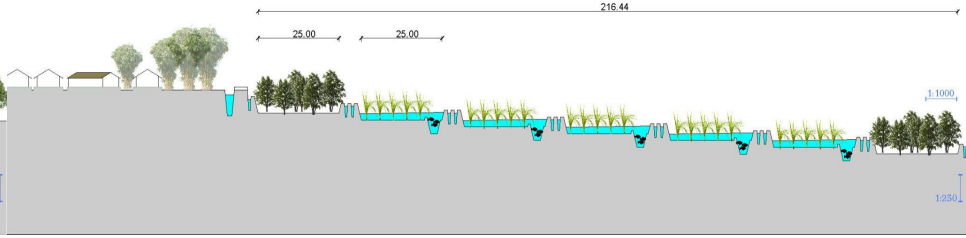
The hilly area



The transition zone between hills and floodplains



The floodplain zone



6.4 Conclusion&discussion

Core Outcomes

🌊 Climate Resilience

Hybrid system: Traditional bamboo weirs + modern floodplains.

🎭 Cultural Revival

Restored festivals.

🤝 Community & Identity

Local materials + participatory spaces.

Global Insights

🌊 Heritage-Driven Climate Action

Traditional wisdom meets modern design

🎭 Living Heritage

Climate adaptive heritage

🤝 Inclusive Design

Morphological design combined with pattern language

End

Thank you!!