

A New Watery Balance

Redefine The Scenic and Circular Waterscape in The Villages In Wuyuan, China



ABSTRACT

Wuyuan is located in Jiangxi province, south-east China, which is famous for its unique ancient village identity. The long-existing villages in the Wuyuan area have been running in a balance that people living and working with the water. This identity of living and working with water attracts millions of tourists. However, these vulnerable villages are not well prepared for the development of tourism. Driven by tourism, more and more villagers gave up their traditional way of living and working with water, people have less awareness of the essence and importance of these traditional treasures, they tried to embrace the tourists for earning for money for the families and better living quality. However, on the other way around, these tourists disrupt their reliable living environment... this vicious Circle turns this beautiful land to the brink. The water management imbalance caused by climate change even makes this situation worse.

As a landscape designer, how to balance the circular and scenic waterscape in Wuyuan for inhabitants and tourists fascinates me. This project is to redefine the watery life in The Villages in Wuyuan to bring back inhabitants and visitors' relationship to the water. But more importantly to recall, remodel, and revitalize the watery life in the villages in the Wuyuan area.

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PART 1

Fascination

01.1 The Lack of Village Development In China

01.2 Wuyuan, Where People Live with Water



Chongqing



Guangzhou



Shanghai



Shenzhen

Urbanity

01.1 - The Villages In China Need Care

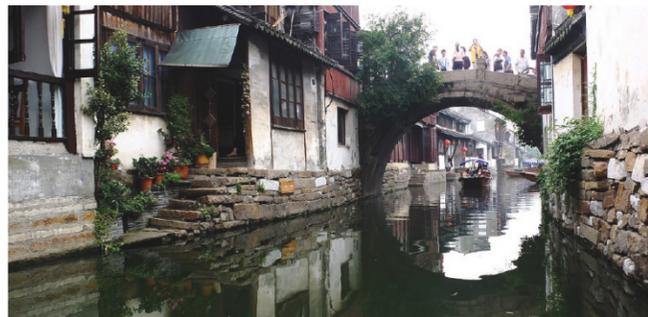
In the past decades, China has witnessed rapid urban expansion and development in big cities. On the contrary, the villages in China were neglected and are mostly lack of development now. While the drastic renewal of infrastructures and technologies in cities, Some villages are still facing the crisis of water and food shortage along with impoverished living conditions. The huge distinction between urbanity and rurality in China such as livelihood, income, and education has been leading many people moving to the cities and the villages are synonymous with poverty and hinterland.

The images show the development distinction between the main big cities and villages is obvious. The alike skyscrapers and buildings make the different cities look like the same face. The identity of the cities is hard to track anymore. However. The villages in different areas of China have grown their own identities in the past a thousand years, and these identities become the attraction to the people living in the cities.

With the growing living quality in the city, people started to seek peaceful and historical places away from the hustle and bustle of the modern city. The villages in China became popular touristy spots. The tourism in an early stage boosted the economy and development of the villages, however, with the increasing tourists coming, the villagers started to completely leave the traditional way of living, instead, more and more over-commercialized shops and hotels emerged in these historical heritages. People's over-dependency on tourism causes a single economical structure in the village. Moreover, the villages face the point of over-tourism and improper tourism has led to severe environmental pollution and destruction to the original landscape and heritage in the village.



Wuyuan



Zhouzhuang



Pingyao



Fenghuang

Rurality

Image Source: <https://www.thestar.com.my/business/business-news/2019/08/22/plan-for-shenzhen-is-to-counter-us-and-hk-crisis>
<https://www.zcool.com.cn/work/ZNzA1MDM4OA==/1.html>

01.2 - Wuyuan, Where People Live with Water



Jujing Village



Xiaqi Village



Wangkou Village



The Mist In Wuyuan



The Water wheel in Qinghua Village



The Canal in Likeng Village



The Canal in Likeng Village

The Images show the living quality of the countryside, the fresh air, the mist, the waterscape, and the green crop fields. The Countryside in China doesn't not only give people the impression of Poverty, but a more sustainable and peaceful land to live.

The villages in Wuyuan are famous for people living and working with water, The fascination comes from my interest for designing with water, especially in the Wuyuan area, where water is the soul of the land. As a landscape designer, how to learn from the traditional water system and make design for today is needed. How to redefine the countryside life and bring the water element to the design for the inhabitants and tourists is the main goal of this project. The countryside will no longer be somewhere remoted and poor, but with a liveable environment and cultural identity.



The Boat In Qinghua Village

PART 2

Introduction

- 02.1 Context of the Wuyuan County and Water System
- 02.2 Problem Field 1 - Tourism
- 02.3 Problem Field 2 - Water Management Imbalance
- 02.4 Conclusion of Problem Statement and interrelation
- 02.5 Research Questions and Objective

02.1 - Context of the Wuyuan County and Its Water System

Regional Water System - Raohe Basin

Pohang lake, Jiangxi Province, is the largest fresh lake in China and its basin, Poyang basin is one of the tributaries of the Yangtze River. Poyang river system covers the whole province and the Raohe river basin is one of its tributaries flows from the eastern part of Jiangxi province. Wuyuan county is the source of the biggest tributaries of the Raohe basin, The Xingjiang river consists of 11 small tributaries, Duanxin, Gutan, Wuxi, Jiangwan, Zheyuan, Lianxi, Gaosha, Hengchuo, Fuchun, Changxi, Zhentou.

The name of Wuyuan means the source of Wu river or the Xingjiang river. The eleven mountain streams converge together and form the Xiangjiang river. The villagers from central China live along with them as clusters for over thousands of years and various villages flourished in this area. these various villages along the river become the geographical feature of the Wuyuan Area.

China



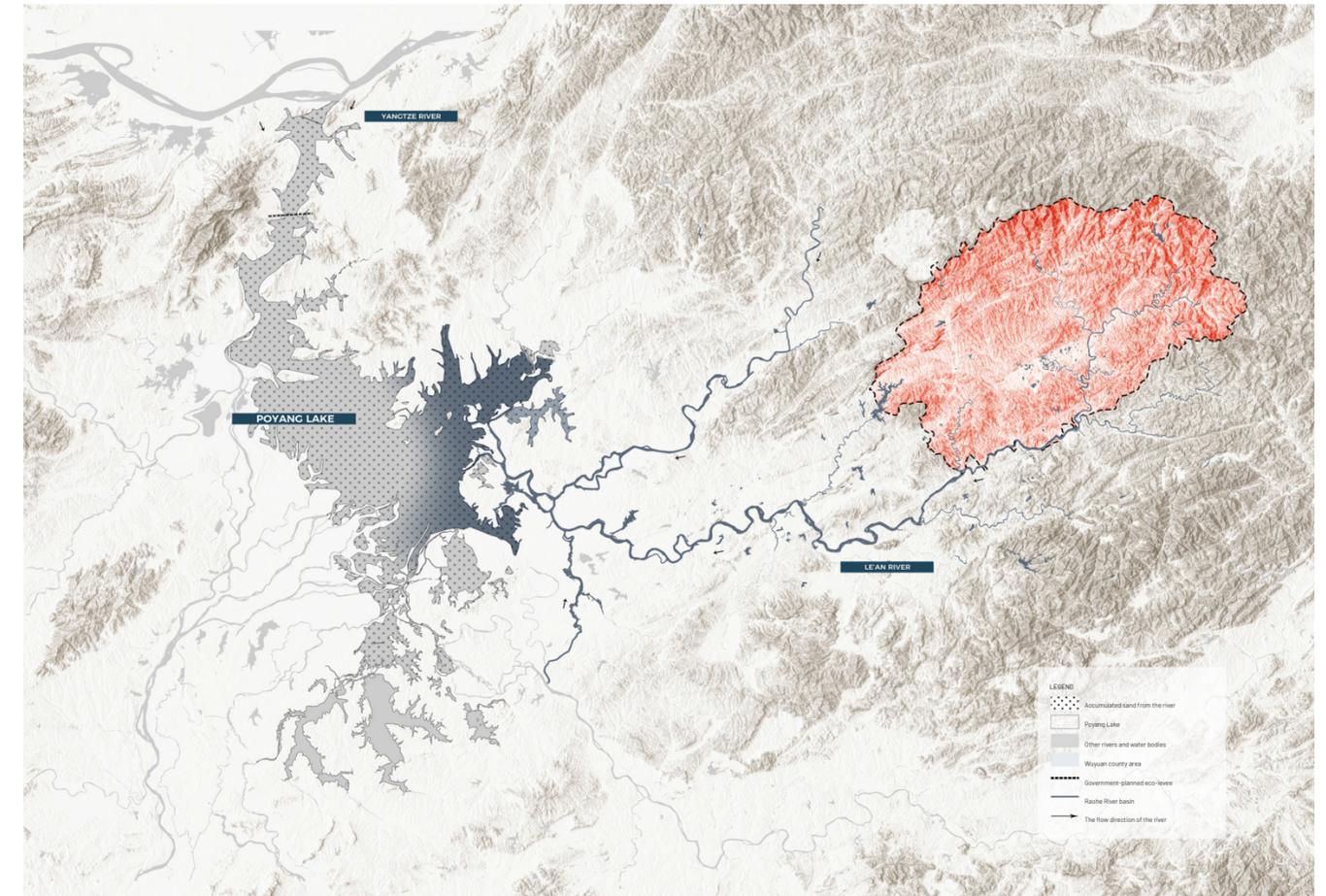
Jiangxi Province



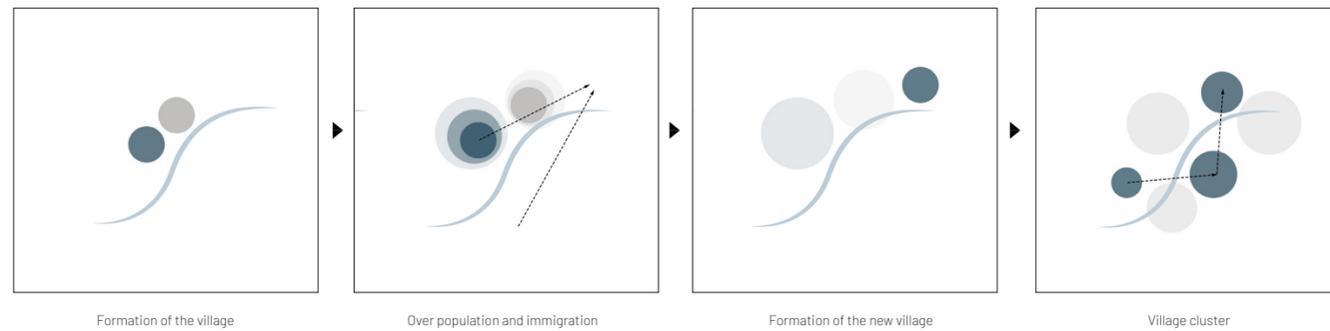
Raohe Basin



Raohe Basin



Formation Model

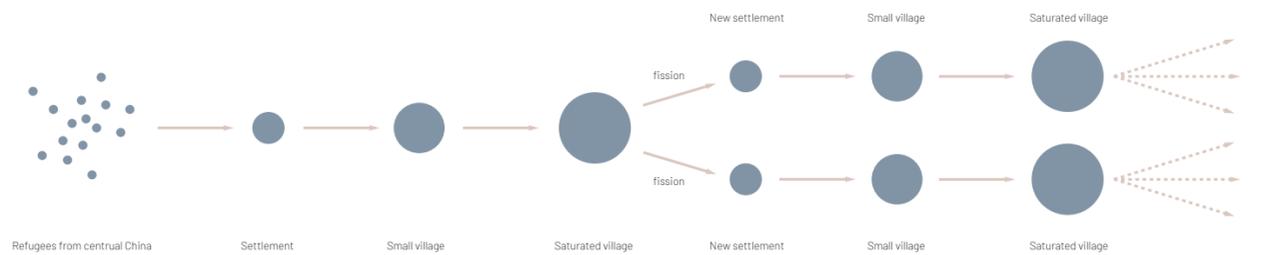


Formation of the village

Over population and immigration

Formation of the new village

Village cluster



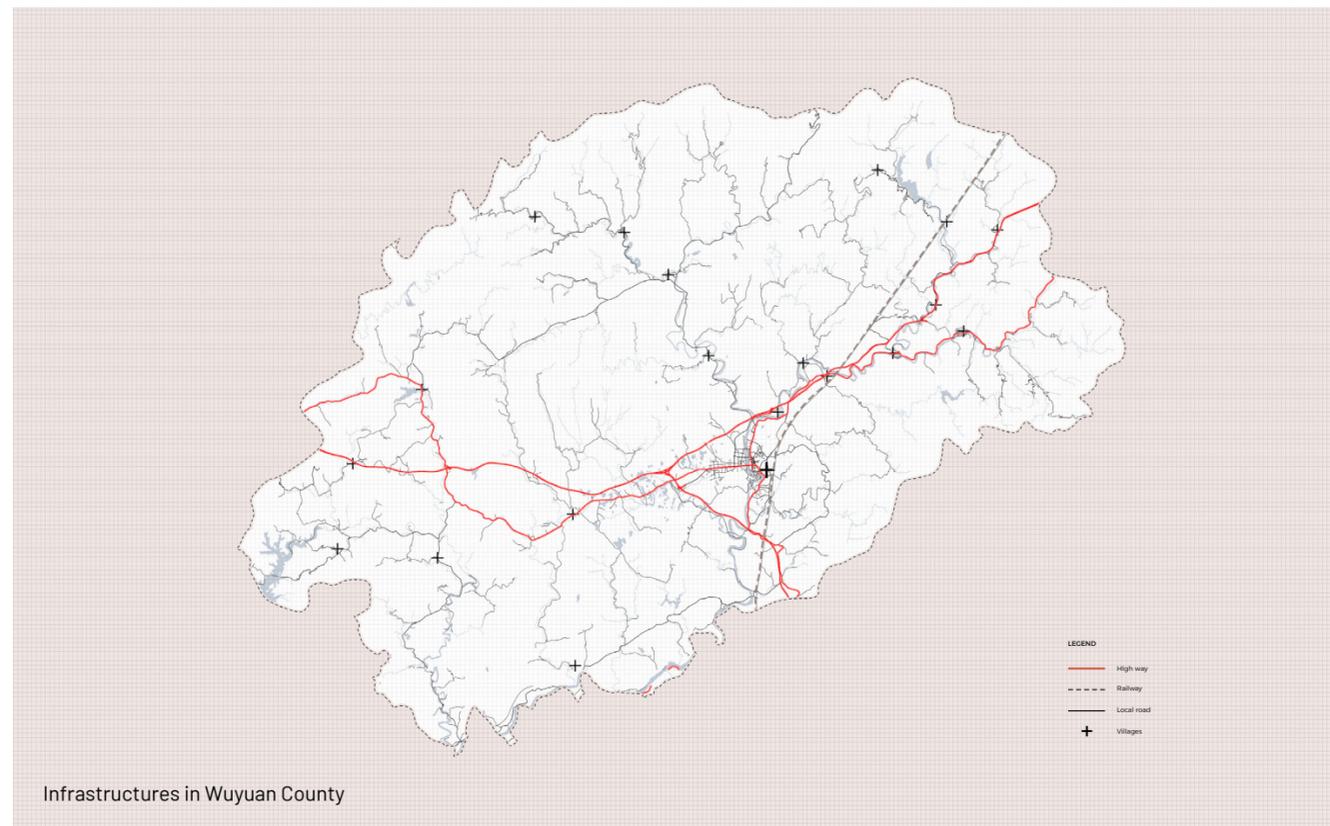
The Formation of the villages in Wuyuan Region

The Formation of The Villages in Wuyuan

The villages in Wuyuan are migratory village type because of the historical immigration from central China. Back then, The primitives moved here, a peaceful land away from the wars in the central china around AD 800. The primitives came as groups of families with the same last name. They first picked up a site to build up the houses along the river and leaning the mountain. They also started to farm and engaged in agricultural production besides the houses. As the population in the family grows, they expanded the housing area, and therefore the village was formed and saturated. Later, the limited living space did not meet the increasing population in the family, and more immigrants in the village. They would pick up another empty site around the crop field to build the new housing area. over a thousand years, the villages have been distributed along the rivers in Wuyuan. for most of the villages, the people from one village have the same last name and live together as clusters. This could be reflected by their building forms and layout (Jing Zhang,2019).

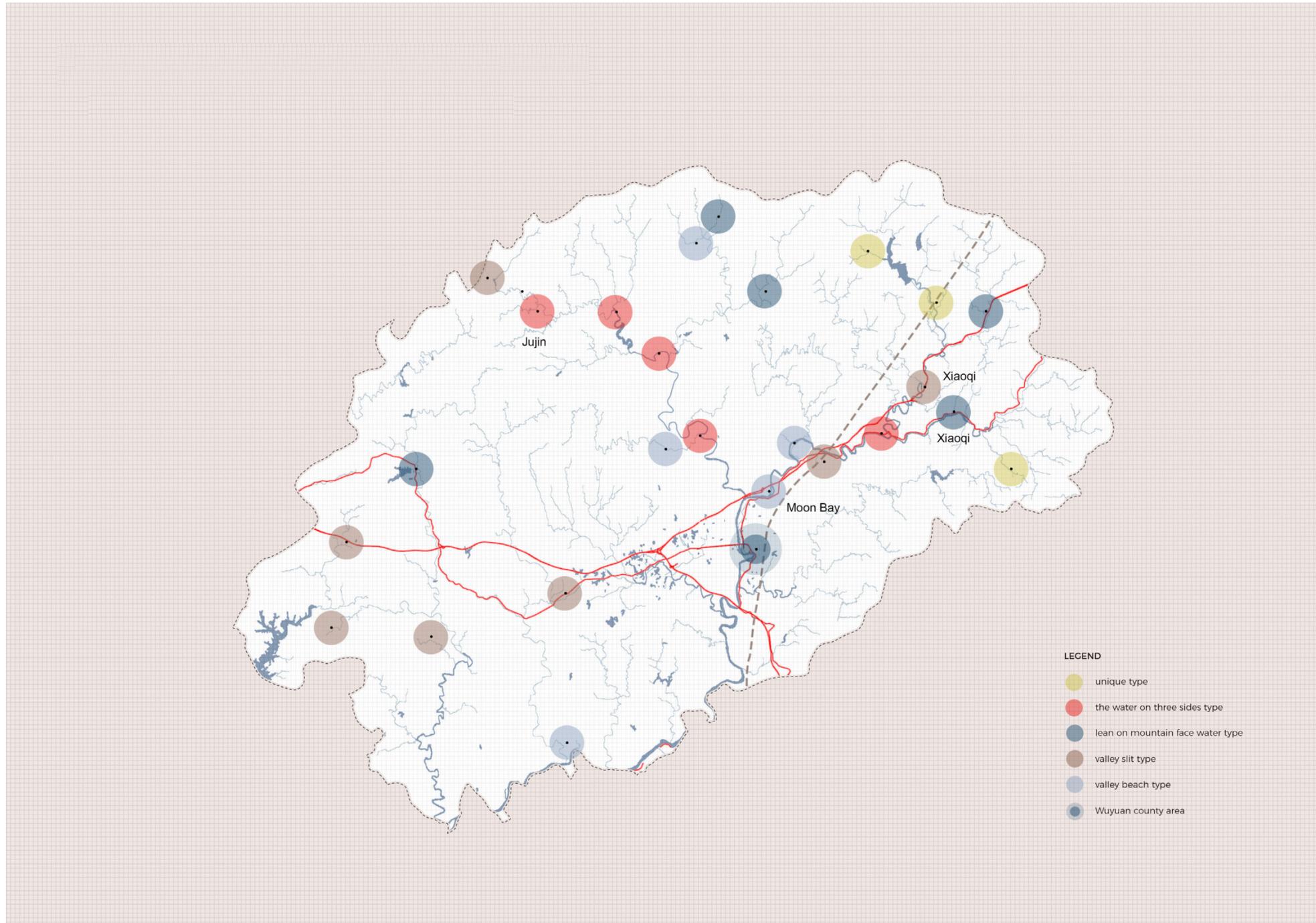
As indicated in the Fengshui theory, The site chosen by the primitives has a harmonious relationship with nature, the mountain, and the river. Based on the basic relationship with nature, there are also other variations. according to the different ways of positioning the village in nature, there are four main types of villages, The valley beach type, water on the three sides type, valley slit type and lean on Mountain Face Water-type.

From the map of the type of villages, most of the valley slit types located in the remote mountain area with little streams crossing the village, and most of the valley beach type is distributed in the downstream part due to the sedimentation carried from the upstream. In addition, there is also some other undefined type of villages separated in the region.

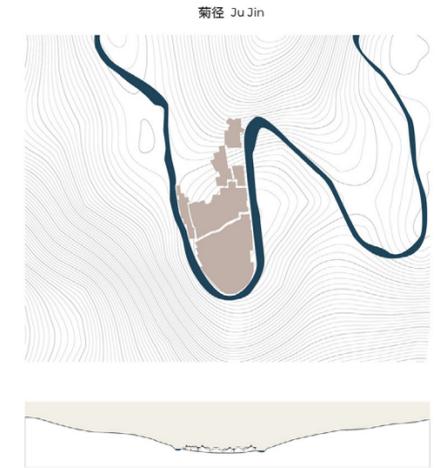


Infrastructures in Wuyuan County

Four Type of Relation Between The Village and The Environment



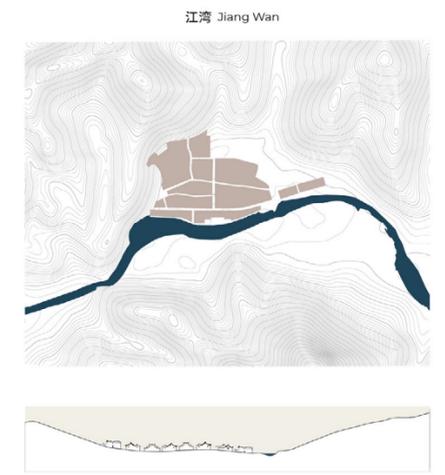
The Valley Beach Type
 This type of village is mostly located on the valley beach along the downstream of the river. The flat valley beach area provides fertilized soil for growing crops and other economical plants. The village mostly stays in distance to the river due to the seasonal flooding crisis.



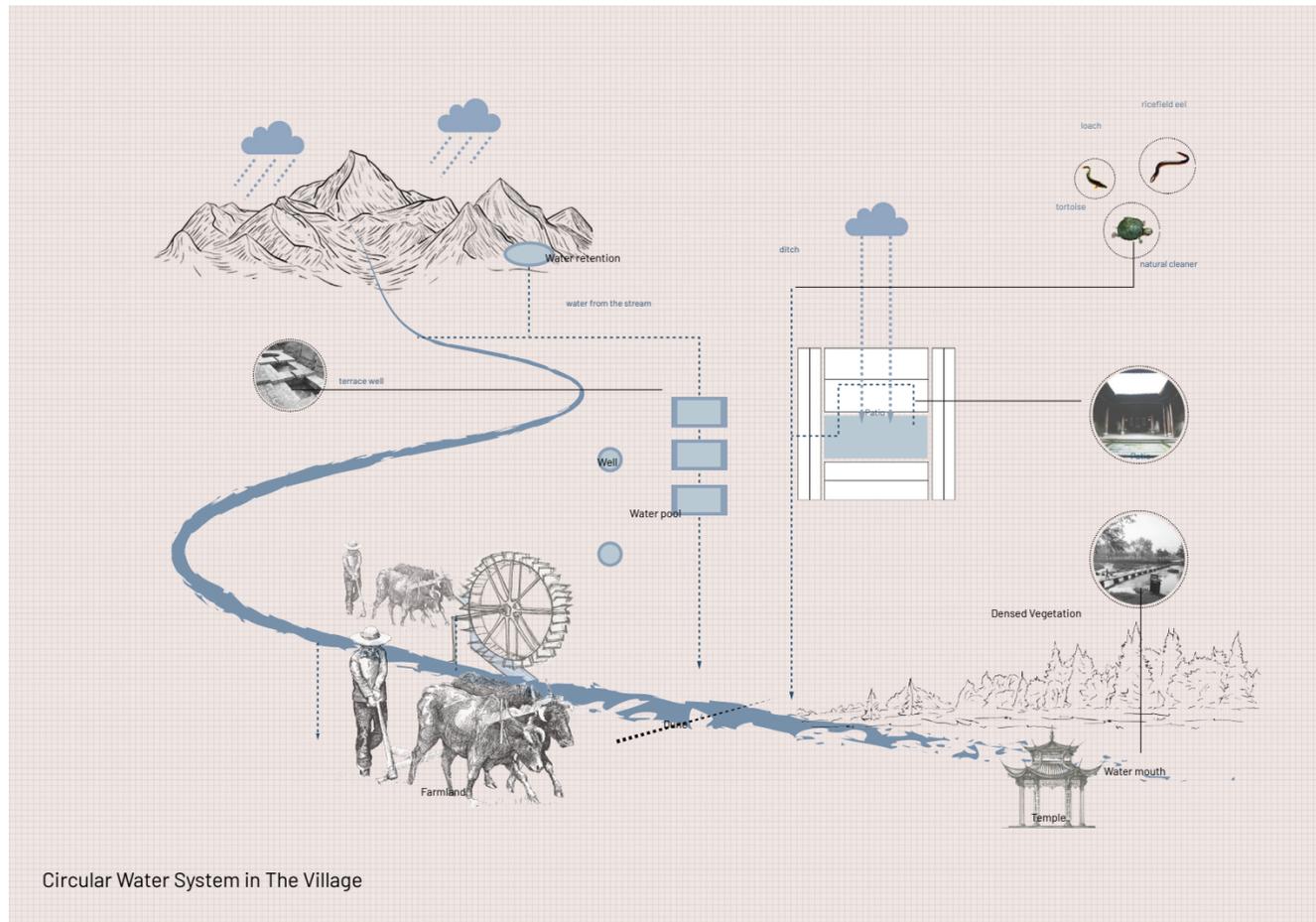
The Water on Three Sides type
 This type of natural space appears in river crossings or a large angle turn. this type of village mostly lean on the mountain and surrounded by the water in 3 sides, which is of great defence to the outside of the village. It is Strongly closed, so the only access to the village in the bridge.



Valley Slit Type
 Based on the rich and varied hills in the Wuyuan area, this type of village is mostly located in the vally area between two mountains, which formed a linear or narrow shape.

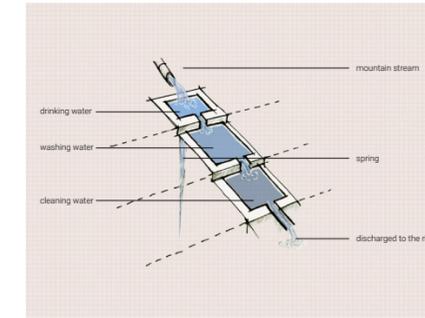


Lean on Mountain Face Water type
 This is the most typical and common ancient Village natural layout. It is situated on the theory of feng shui. Backed by the mountain, the village can resist the cold wind and get the view of the Open field.



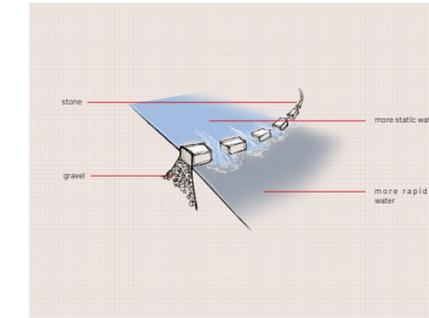
Circular Water System in The Village

三叠井 Triple Terraced Wells



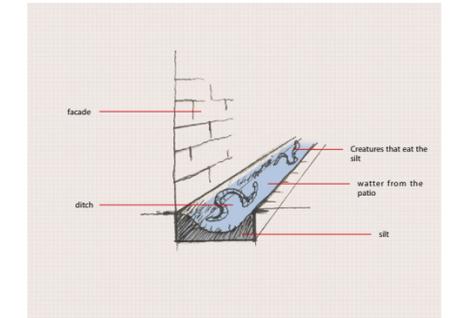
The terraced water pools or wells that recycle the water

石埭 Catch dune



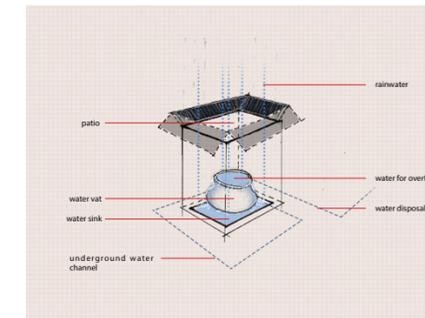
A Stone Structure that Catches the water to rise its level

排水明沟 Ditch



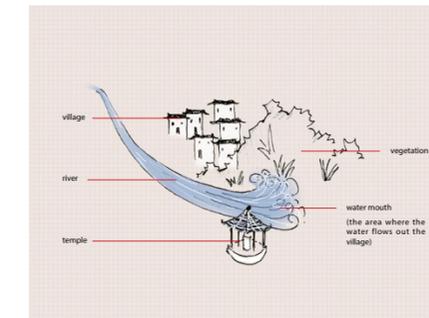
The ditch attached to the facade to discharge the water

天井 Patio



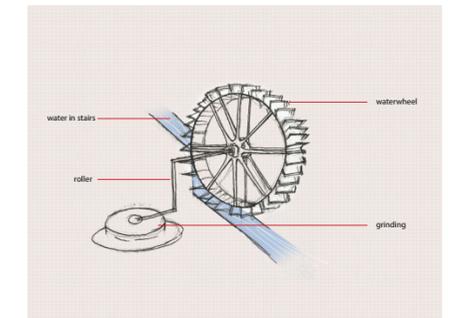
The Architectural structure used to catch the rainwater and light

水口水口 Water mouth



The area where the water flows out the village

水春作坊 Waterwheel Grinding



The Structure that utilize the height different dynamic of the water

Traditional Water Knowledges

Traditional Water System

With over a thousand-year living and working with the water, the people from Wuyuan have built up a well structured and circular water system in the village. The drawing shows an ideal and complete traditional water system in Wuyuan. This water system connects and binds people's daily life, agricultural production, and spiritual belief. Besides the basic need for water, people in Wuyuan have a special belief in the water. in the Wuyuan area. water stands for wealth and fortune. People here are close to the water, value, use, worship, and care for the water.

As shown in the diagram, there are four ways of acquiring the water from nature, the mountain stream, the river, the groundwater, and the rainwater. However, the water from the river can only be used for agricultural irrigation and washing use because it is not clean and drinkable. The water from the river in the village will be captured by the dune and be carried by the waterwheel to the crop field. The drinkable water is mostly from the mountain stream or water retention. The villagers dig a channel from there and deliver the water to the village. The villagers have grown a sense of sustainability since they settled, so they build a triple terraced pool to use the water circularly from drinking to washing. When it comes to the collection of rainwater, the spectacular type of Hui style architecture plays an important role in it. The patio of the architecture collects the rainwater and store it in a sink on the ground. The rainwater would firstly be kept in the sink and overflows through an underground pipe all around the house because water culturally stands for wealth and fortune and they want to let the water, the wealth, and fortune affects the whole house before it is discharged to the ditch. It is wise that the villagers put some aquatic organisms to sweep the sludge, such as ricefield eel and loach (Zhijian Jiang,2017).

Culturally and ecologically, people worship the river, so they care about water mouth protection. water mouth is the area where the river exits the village. To spiritually make the water stay longer in the village, people here plant dense vegetation to catch and conserve the soil and water in this area. Besides, they would also build the temple as a worship to the god of the water (Zhijian Jiang,2017).

Catch Dune in Qinghua Village



Catch Dune in Qinghua Village



Courtyard

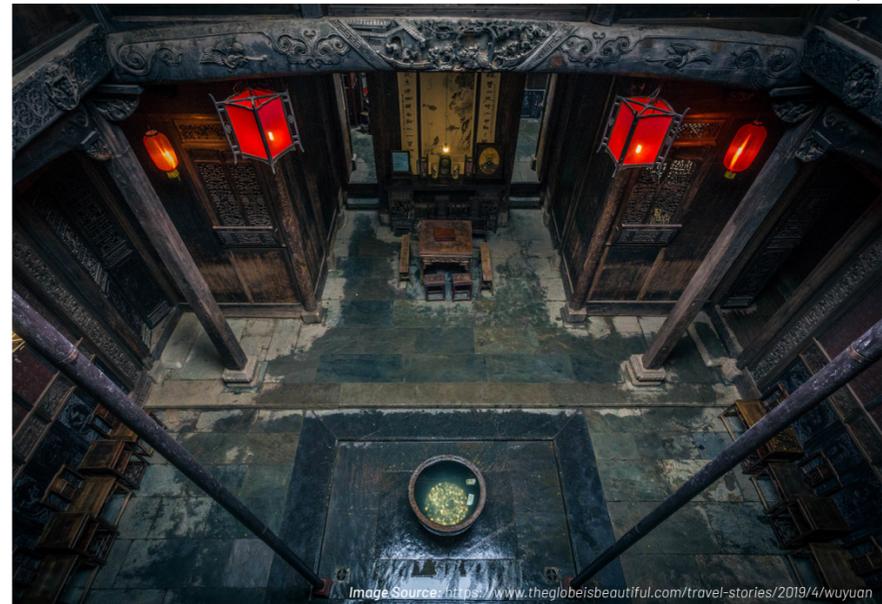
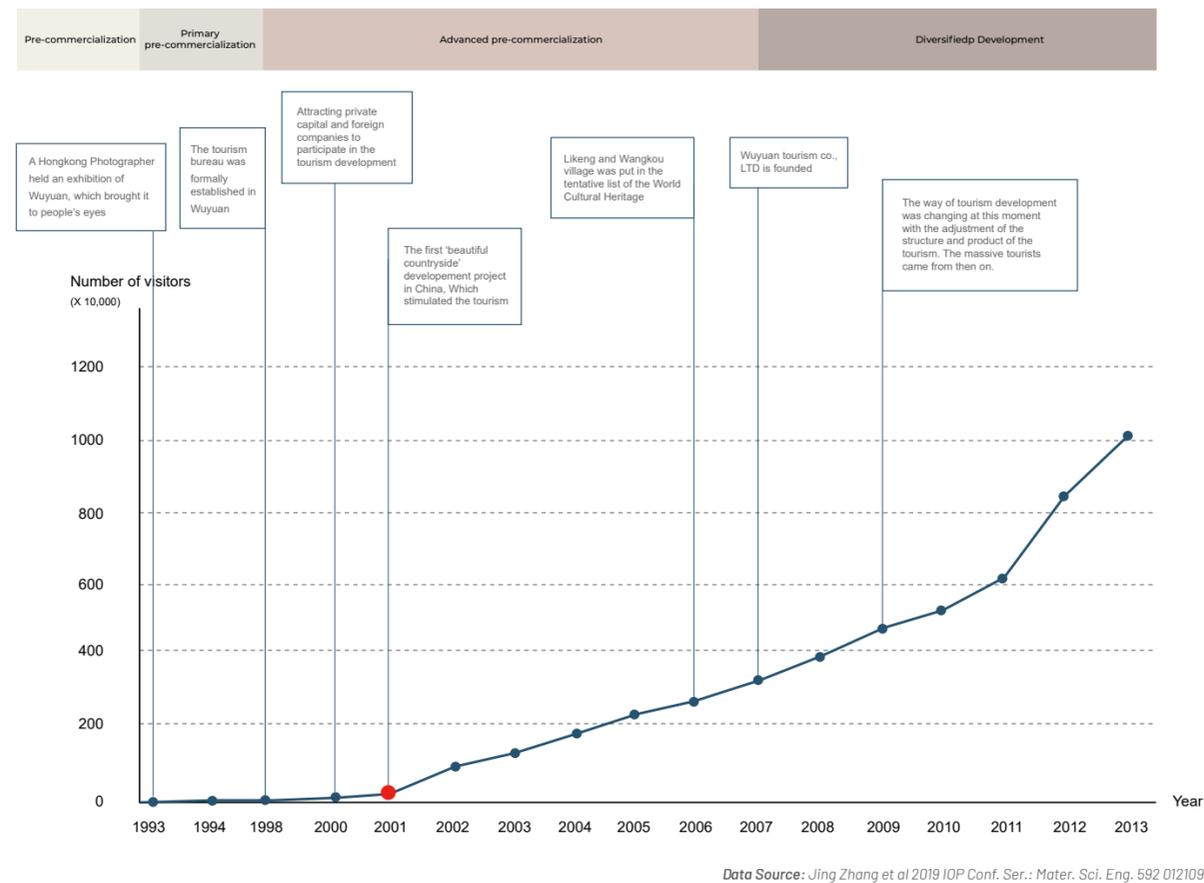


Image Source: <https://www.theglobeisbeautiful.com/travel-stories/2019/4/wuyuan>

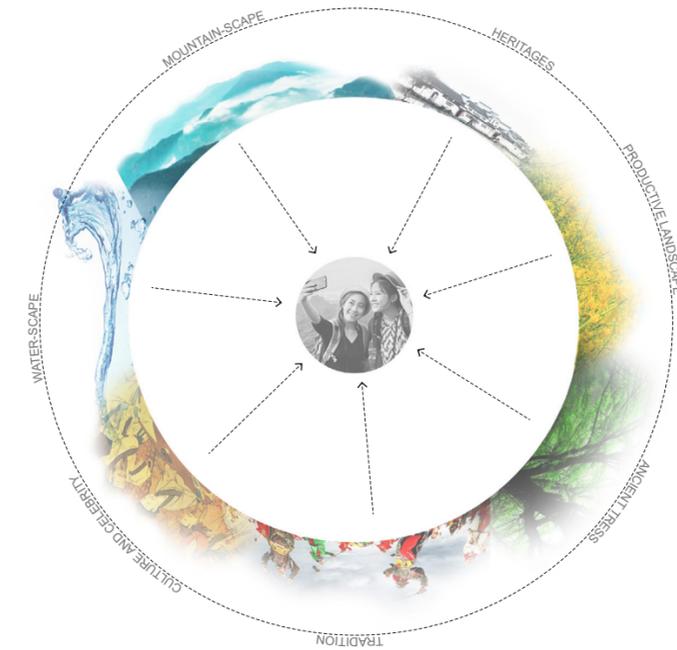
Numbers of Visitors and Key Events in Wuyuan (1993-2013)



02.2 - Problem Field 1, Tourism

Development of Tourism

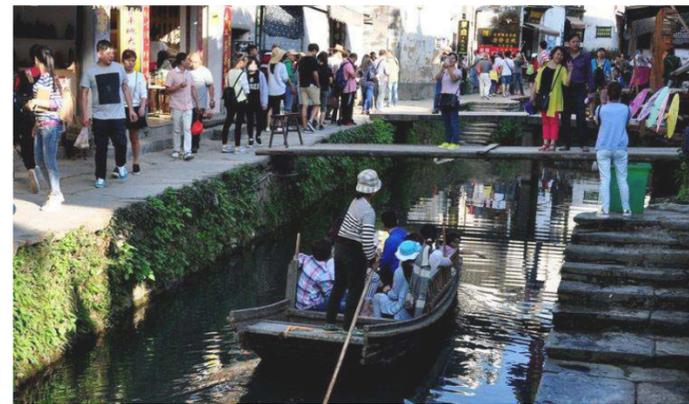
Wuyuan county was named 'the most beautiful countryside in China' in 2001 as an advertisement for tourism promotion. Over the past decades, Wuyuan has become the most popular tourist spot in China. From the fig, the number of visitors has been increasing in different stages, which has already approached the capacity of the villages in Wuyuan. Wuyuan wins the tourists by its unique characteristics of living with water and water-related activities. The visitors are mostly from the big cities nearby, such as Shanghai and Hangzhou, people came here for entertainment and enjoy the beautiful image of the Wuyuan, few people are interested in the tradition and culture aspect of Wuyuan. most people just spend most of their time taking pictures but rarely fully engaged in the local watery activities, which actually should be the fascination to them. tracing back to the visitors in an early time before the exposure of Wuyuan to the public. those visitors came here for the special hui style architectural heritages and the original landscape of Wuyuan. they completely experience the tradition and culture of the village interactively. they lived in the local's house, wrote the travel notes of what they learned about the history and culture of Wuyuan. But nowadays, the visitors are under the guise of experiencing the countryside life, merely appreciating the superficial image of the village but neglect the spirit of the villages, the watery tradition, and culture. To meet the need of the visitors, the villages gave up their traditional way of living with the water, started to open hotels and shops in this peaceful town. the previous crop fields have been replaced by the sea of the flowers that don't even belong to this land... many problems driven by the visitors started to break this long-existing balance of living with the water in the village.



Attraction of Wuyuan to The Tourists

Wuyuan attracts the tourists by its abundant and various touristy resources

- 1. beautiful mountains**, there are two characteristics of the mountains in Wuyuan. firstly, the mountains here are pretty green, seen in the distance, these mountains look like splash-ink landscape paintings in nature. secondly, the altitude of the mountains here is not very high, therefore, it provides visitors a good place to go hiking during the tour.
- 2. Silky water**, the water here not only present a beautiful image with the mountains for the visitors to appreciate but also influence people's life here, various water-related activities attract visitors coming here to experience them.
- 3. Ancient Trees**, Thanks to the good protection of the green area by the villagers, the forestry resource in Wuyuan is abundant. among them, some ancient trees over a hundred years make Wuyuan more fascinating, there trees not only have ecological meaning to wuyuan but also the people here worship these trees as the guard of this peaceful land.
- 4. Heritages**, The Hui style architectures in Wuyuan have always been the most important attraction to the visitors, especially those architectural heritage lovers. These Hui style architectures has become the unique and iconic identity of Wuyuan.
- 5. Crop fields**, the agricultural crop field is the basis of the existence of the village, the crop field has been breeding the people in this land for over a thousand years. these colorful crop field has been attracting more and more people come to visit.
- 6. Celebrities and culture**, the historical and contemporary celebrities are the proudest resources in Wuyuan, Each generation produces its outstanding talents in Wuyuan, such as Zhuxi, The scholar who founded Li study, and the former chairman of China, Jiang Zeming.
- 7. Tradition**, The glorious traditions in Wuyuan present the most beautiful aspect of Wuyuan. such as various water-related activities, Nuo dance, and sacrifice (Shanghai academy of social sciences tourism research center,2012).



Crowdes in Wuyuan in Peak Tourism



Over Commercialization in Wuyuan in Peak Tourism Season

Over Tourists Population

The first problem caused by the over-tourism is the over tourists populations. Usually, summertime is the peak period of visiting. during this period. the limited public space in the villages can't accommodate such huge flows of people, as shown in fig2, all the public space along the canals, squares, and pavilions are full of visitors. the villager's peaceful life has been greatly influenced and interrupted. as demonstrated before, the shops along the narrow street owned by some villagers even make the village more crowded. villagers no longer have their social space, which has been fully occupied by the visitors in the touristy seasons.

Image Source: http://news.ifeng.com/a/20160209/47400866_1.shtml

Over Commercialization

The second problem led by the over-tourism is the villager and investor's commercialized behavior. For the villagers, to sell the product to the visitors, they broke the walls on the side of the street of their houses and opened the shops, and they even started to disorderly and unsystematically set up the shop signs. For the investors, to attract more visitors, they build up more and more hotels in the villages in the name of local homestay, however, these abrupt hotels building breaks the primitive vibe of the village and are not coordinated with the existing heritages. What is even worse is the investors purchased the houses from the villagers and converted them into a shopping street. if you visit the villages now, you will never think of them as primitive and ancient villages but shopping streets. these commercialized construction and conversion ruin the identity of the villages, and it makes all the villages look like the same face. The worst consequence of these actions is first of all, the loss of tradition and culture of the village. the villagers will not pick up the traditional way of working and living with the water anymore. secondly, the visitors nowadays are more sophisticated and shrewd, they all know that these shops are selling counterfeits and some products that do not even belong to the village. Few visitors would consume in the village but these shops can be some villager's only income. this vicious circle caused the decay of the villages in Wuyuan. if not attached importance by us, these villages would turn into empty shells.

Image Source: <https://www.theglobeisbeautiful.com/travel-stories/2019/4/wuyuan>



Improperly Introduce Exotic Decoration



Tourists Tread Crops



Pollution to The Water



Pollution to The Water

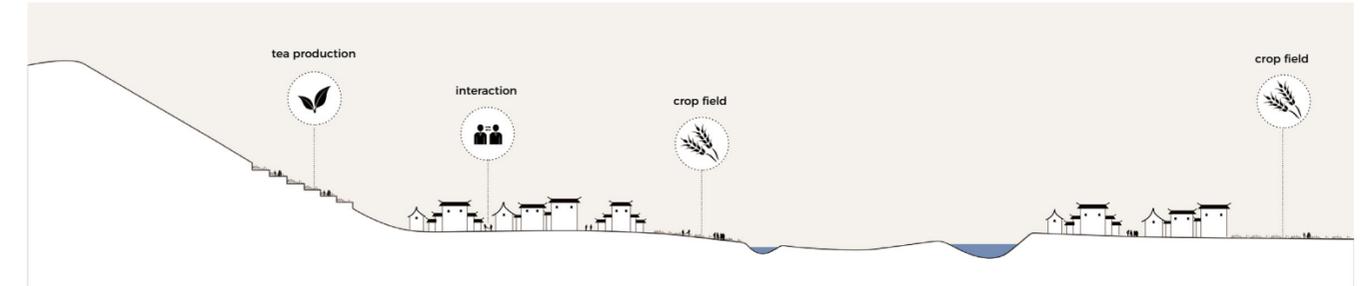
Improper Influence to The Original Heritage and Landscape

The destruction of the original heritage and landscape is the third problem caused by over-tourism. Wuyuan is famous for its rape flower sea in the spring, which attracts tons of visitors coming here for pictures. However, the disordered visiting the flower sea results in visitor's trampling of the flowers. the damage to the landscape by the visitors make the villages not beautiful anymore. In addition, since the rape flower only blooms in the spring, the investors also introduce another flower to the village that should belong to somewhere else. such as lavender. these interventions break the local identity of Wuyuan, if more landscapes are destroyed, people's memory of Wuyuan is going to disappear. all the visitors could remember is the posts of the extraneous flowers on Instagram.

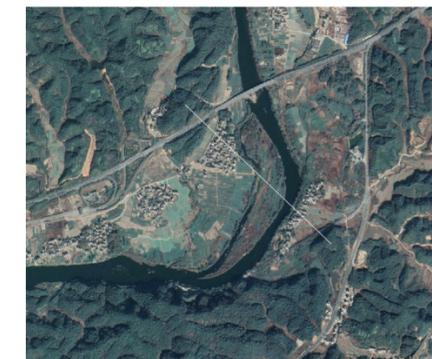
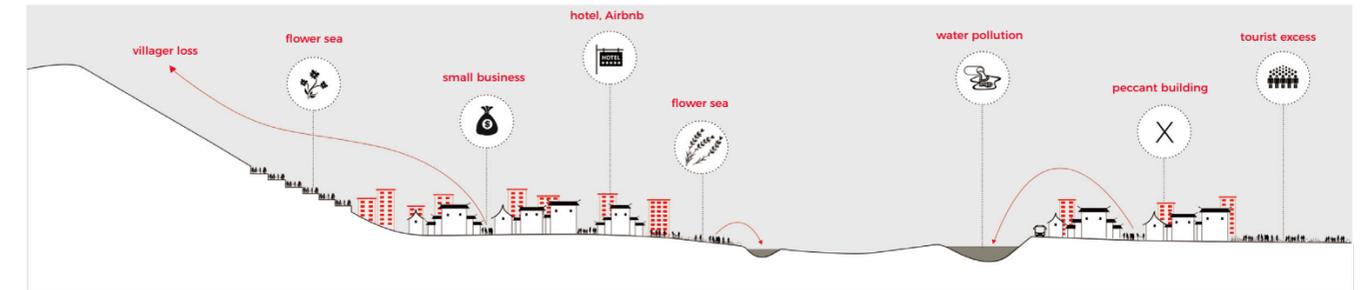
Image Source: <https://www.event51.com/events/detail-1442.html>
https://www.sohu.com/a/124632758_488812

Influence of The Tourism In Moon Bay Village

Before the over tourism (-2001)



After the over tourism (2001-)



Conclusion of Over Tourism Impact

It is supposed to be a positive influence that the visitor's coming, on the one hand, can promote the local economy. on the other hand, the visitors can spread out the tradition and culture they experience and learn from tourism. these should be an ideal interactive tourism mode. However, the behaviors of the tourists in Wuyuan are on the wrong track as demonstrated.

From the diagram fig. x below, The huge change driven by the over-tourism includes the villager's watery lifestyle, traditional agricultural production, the disorderly conversion of the house as well as the environmental pollution. besides, the loss of the population in the village is also caused by the over-tourism. If the wrong tourism mode along with the villager and investor's action is not corrected properly, the villages in Wuyuan are going to be a zombie land.



Flooding in Wuyuan in May, 2017

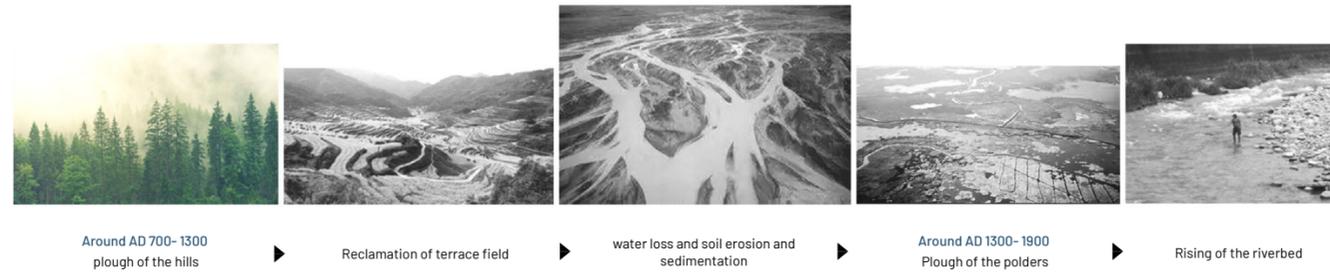
02.3 - Problem Field 2, Water Management Imbalance

Torrential Flood

On June 24th, 2017, A flash flood Attacked Wuyuan. Suddenly, the roads were broken, Bridges fell, the crop fields and houses were flooded. The most beautiful countryside in China is in ruins. Within eight hours, the river rose by once-in-a-century 8 meters and the water level at the Sandu hydrological station has risen above the warning level, 6.54 meters, exceeding the maximum flood in 1998 by 4.42m. 60% of the county's land was flooded, and 80% of the people were affected to various degrees. There were 2870 collapsed houses and 5.1×10⁴ flooded houses in the county due to the disaster. Nearly half of the city was flooded, the whole county road, municipal infrastructure, and other public facilities were badly damaged. Schools, enterprises, businesses, and the masses suffer huge losses, and the direct economic loss is 37.9×10⁸ RMB (Zhijian, Jiang, 2019).

Generally speaking, there are more mountains and less land, wide water source, and rare drought in Wuyuan. Also because of more mountains and less land, the ancient villages in Wuyuan are all settled leaning the mountains and facing the water. Since most of them are located on the platform and gentle slope of the riverbank, usually there is no flooding problem. in 2017, such a heavy flood attached Wuyuan, it is time to seriously reflect the cause of the flood.

Historical Reclamation Imbalance



Historical Reclamation

The climate in Wuyuan is a humid subtropical monsoon climate, and the imbalance precipitation causes the rainstorm between April and June. Therefore, the Wuyuan region is a typical area of the rainstorm that caused flood, that is, the cause of Wuyuan flood is the rainstorm. accordingly, Wuyuan is one of the three storm centers in Jiangxi province.

As the saying '85% Mountain, 10% Crop field, 5% Waterway and Manor indicates the plain for crop field is very limited, which caused villagers' plow of the hills and therefore Around AD 700-1300, Song Dynasty, people relied on the terrace crop field (Jianfan Yang, 2017). However, the excavation of the hills caused the vegetation and soil loss, which led to the torrential flooding along the river. Due to the sedimentation by the flooding in the downstream. There is more and more valley plain area and people started to plow the polders between AD 1300-1900. In conclusion, the extreme mountain environment drove the historical plow of the hill by the villagers and hence the vegetation and soil were lost, which has led to the rising of the riverbed and flooding crisis.

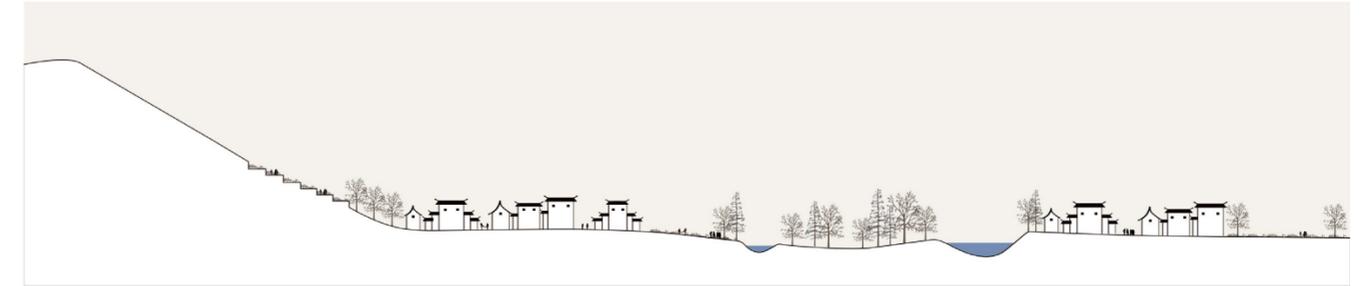
Flooding In Moon Bay Village

As an example of the flooding damage. The Drawing and the sections show the image of the flood in the moon Bay Area in Wuyuan. In 2017, the torrential flood attacked this area and influenced the whole villages in this area. The Settlement here is already outside the flooding plan, so the houses here are supposed to be safe. However, the drastic and big flooding caused by the rainstorm nowadays even attacked the houses in this area. For the crop field and natural forest in this area. Many plants died due to the long-time being flooded. For the villages, a poor water disposal system couldn't handle the flood all of a sudden. A lot of heritages are flooded and started being eroded. The villages have been in the water for over a month. The great financial loss makes people reflect on what they should do to avoid this happen again.

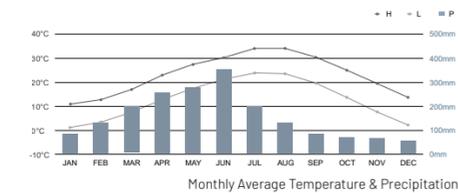
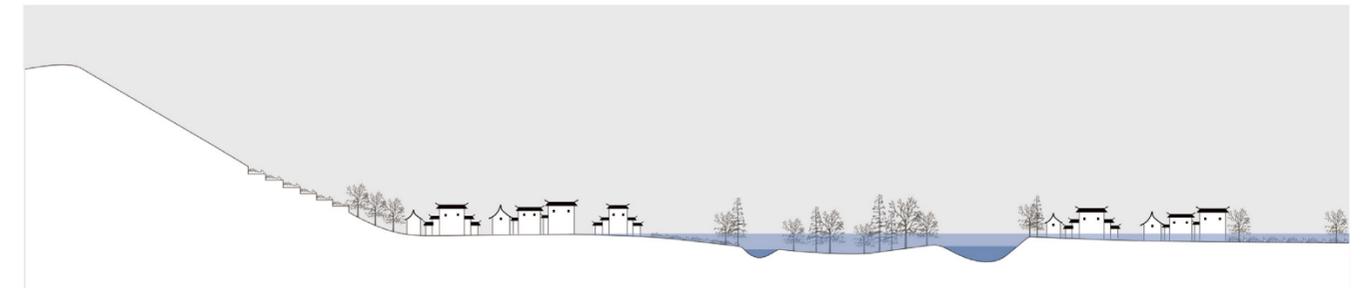
Image Source: <https://zhuanlan.zhihu.com/p/37822672>

General Torrential Flooding (Moon Bay)

Before (- 2015)



After (2015 -)



The Moon Bay Village

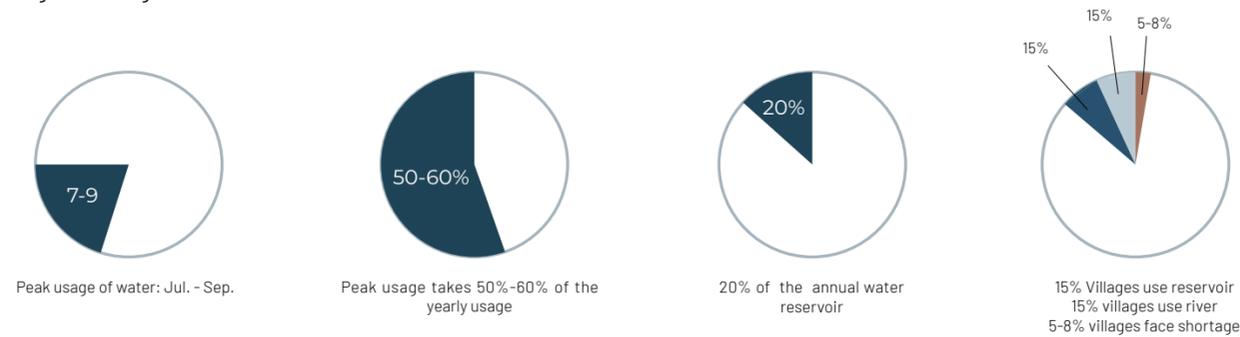


The Flooding in The Moon Bay Village in May, 2017

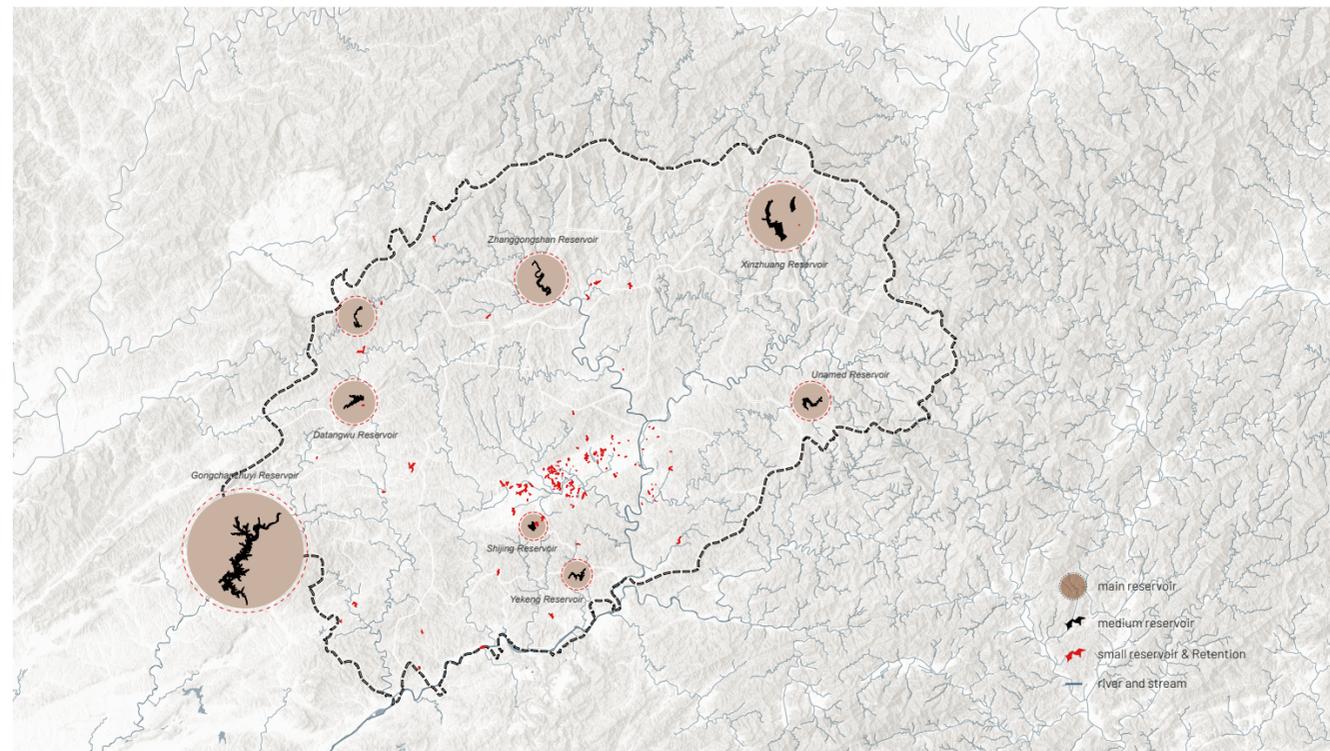
Existing reservoir condition



Existing water usage condition



Water Retention Distribution in Wuyuan



Water Supply Shortage

Besides the flooding problem, in the dry season, Wuyuan is also facing the water shortage problem caused by the imbalance of water management. In Wuyuan The main freshwater comes from the water reservoirs separated in the region. However. The existing water reservoir doesn't meet the needs of the increasing populations and only the Duanxin water reservoir is doing most of the works. There are only 8 medium water reservoirs separated in this region. Besides, there are 126 small reservoirs and 1188 water retention ponds. The overall volume of water retention in this region is 0.21 billion ML (Zhijian, Jiang, 2019). The limited water retention capacity fails to store enough rainwater for villages. What's worse, the yearly huge imbalance of the precipitation even deteriorates the water shortage condition.

Since the peak month of using water is in the summer between July to September, and these months take the 50%-60% usage of that in the whole year. However. The Rainy season is from April to June, and due to the limited water rents took captiancy in this area, the rainwater collected from July to September only takes 20% of that in the whole year. This huge imbalance caused 15% of the villages still only rely on the water reservoir to acquire freshwater. Moreover, 15% of the villages are still getting water from the river directly without any flirtation and 5%-8% of villages are still short of water supply (Zhijian, Jiang, 2019).

For instance, Qinghua and Jiangwan town are still getting the water from the river directly and they don't have the filter equipment. The Huangling village still has no water supply from the government, they can only collect the water from the rain by themselves.

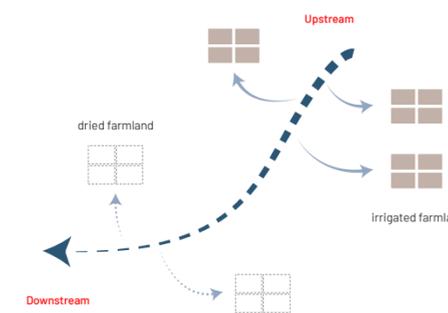
In the dry season, the farmers from the upstream will steal and carry the water from the river and reservoirs to their crop fields. Because of that, the farmlands in the downstream have no water to irrigate. This conflict between the farmlands upstream and downstream triggered by the water shortage in the dry season is also a serious problem in Wuyuan.

As shown in Diagram, The imbalance of water management in Wuyuan causes torrential flooding and water shortage crisis. In the rainy season between April to June, The limited water retention in the upstream can not store the rainwater along with the soil and vegetation loss, the capacity of storing the water on the ground is very limited as well. all these factors lead to the flooding crisis in the downstream.

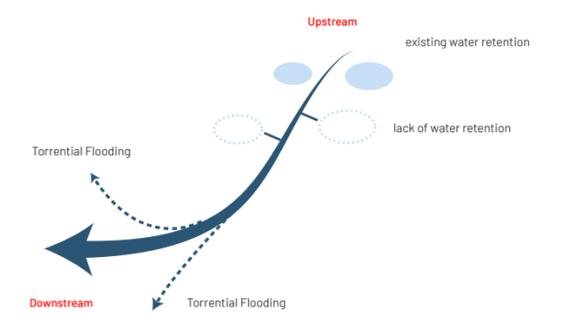
However, during the dry seasons, the limited water supply in the reservoir and river can not meet the need for agricultural irrigation. The farmers in the upstream selfishly cut out and capture the water from the river and reservoir for their crop field. The volume of the river in the downstream cannot irrigate the crop field, which causes huge financial loss to the villagers in the downstream.

This imbalanced water management altogether is becoming even severer these days by the drastic climate change. in the dry season, the villagers suffer from drought, and in the rainy season, they fight against the flood. If this crisis still cannot be addressed, The beautiful countryside in Wuyuan would become dilapidated and all the heritages and landscapes would disappear.

Dry Season

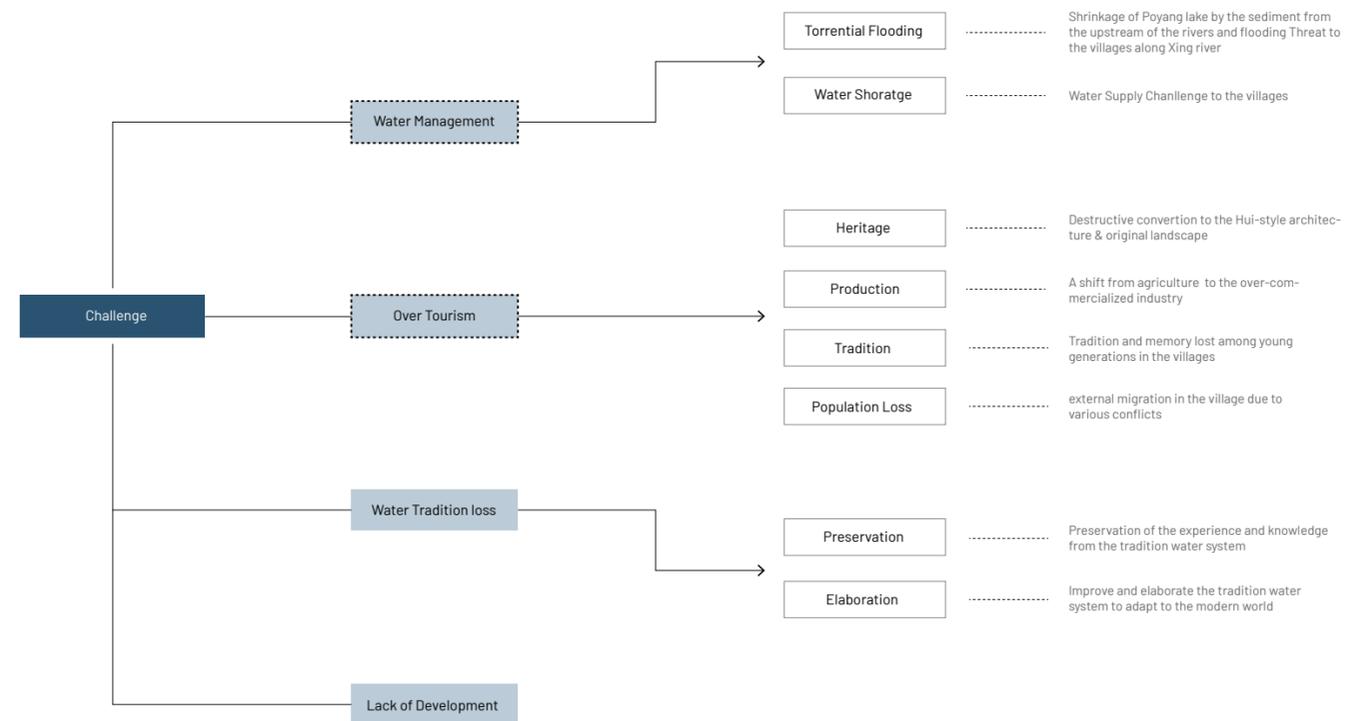


Rainy Season

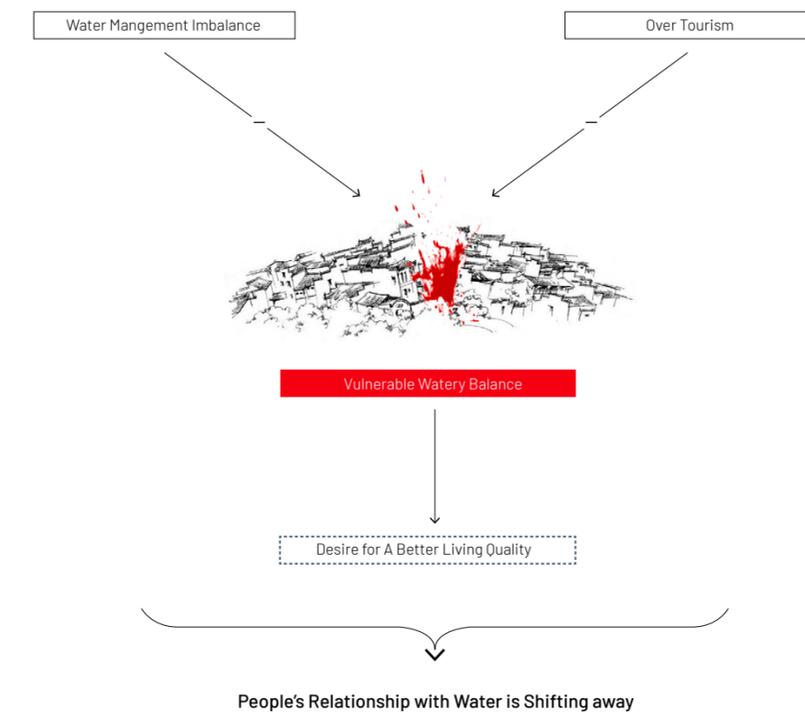


02.4 - Challenges of Wuyuan

Challenges of Wuyuan



Interrelation among The Problems



02.5 - Research Question and Objective

Research Question

How to balance the **scenic and circular qualities of the waterscape** of Wuyuan district for inhabitants and tourists in the future?

Sub-research Question

Over Tourism Aspect

1. The over-tourism and exploration of the villages in Wuyuan have led to a serious crisis regarding the disruption to the fragile village, How to design an ecological and cultural tourism model?
2. How to redefine and promote the villager's and tourists' engagements in working and living with the water?

Water Management Aspect

3. The degraded environmental condition in Raohe Basin causes yearly torrential flooding crisis not only to the villages in Wuyuan, but also the regional ecological system. How to resolve these crises?
4. How to solve the water supply problem with the existing limited number and volume of the water retention in Wuyuan?

Water Tradition Loss Aspect

5. How to learn from history and raise people's awareness of the value of the traditional water knowledge?
6. How to spatially transform and develop the existing water system in Wuyuan to reach a new circular water balance?



PART 3

Methodology

03.1 Theoretical Framework

03.2 Case Studies

Image Source: http://photo.eastday.com/2013slideshow/20150609_6/index4.html

03.1 - Theoretical Framework

Theory Exploration

1. Urban Acupuncture is a socio-environmental theory that combines contemporary urban design with traditional Chinese acupuncture, using small-scale interventions to transform the larger urban context. Sites are selected through analysis of aggregate social, economic and ecological factors, and are developed through a dialogue between designers and the community. Just as the practice of acupuncture is aimed at relieving stress in the human body, the goal of urban acupuncture is to relieve stress in the built environment. In Taipei, there was an urban acupuncture workshop that aimed to "produce small-scale but socially catalytic interventions" into the city's fabric (Parsons, Adam, 2010).

2. Rural Regeneration emphasizes the principles of sustainable development, and proposes an overall plan for improving the social, economic, and environmental aspect of an area. It usually consists of three steps: awakening, remodeling, and revitalization (Changbin Yu, 2018).

3. Voluntourism is the intersection of international volunteering and tourism, also called "volunteer tourism", "volunteer holidays" and "volunteer travel". Most of the time it involves paying in order to 'help' a local community over a very short period of time. These trips range from construction work to childcare and often do not require volunteers to have any prior experience or skills (World Vision, 2018).



Urban Acupuncture



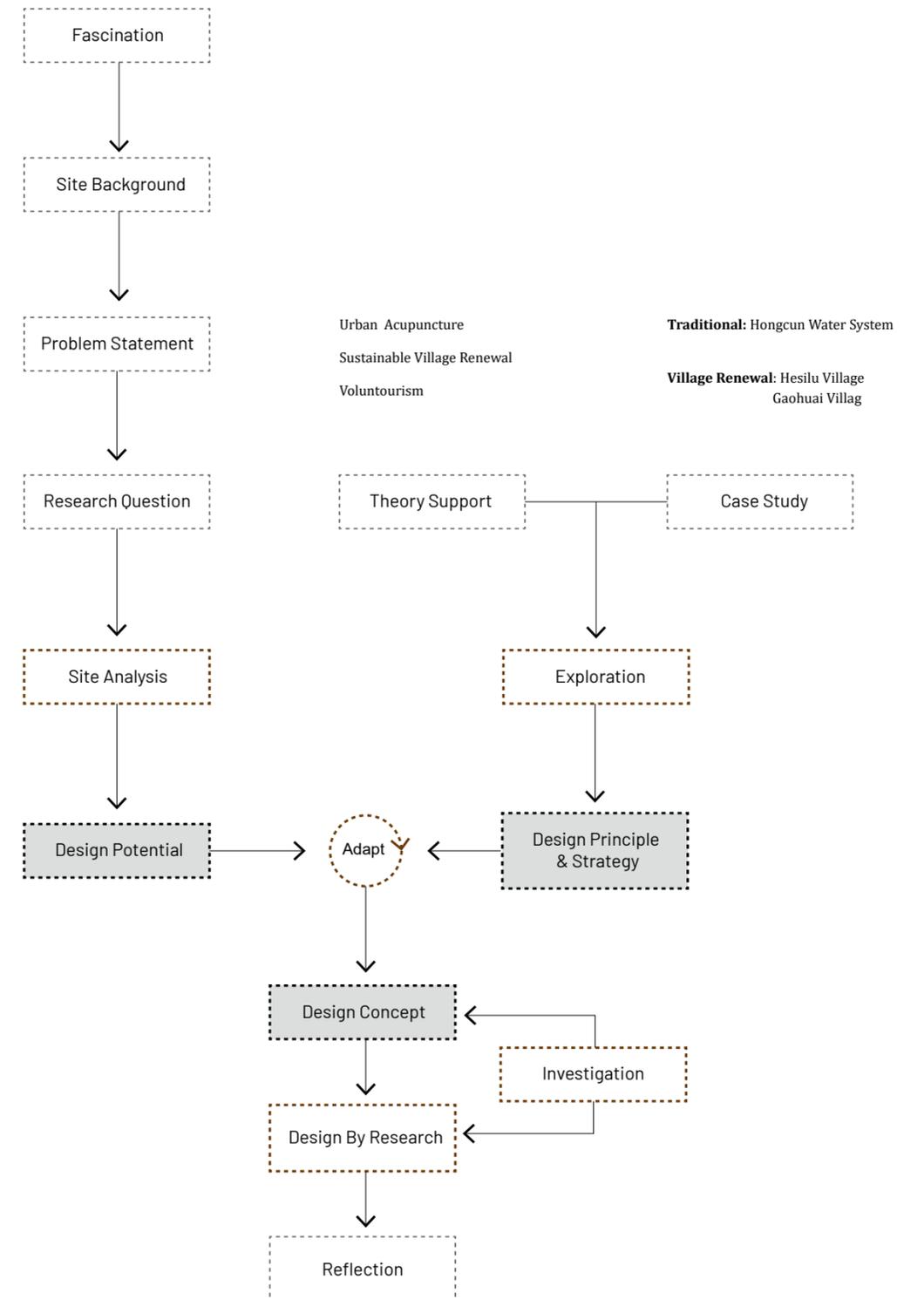
Rural Regeneration



Voluntourism

Image Source: <https://land8.com/pocket-parks-as-urban-acupuncture/>
<https://www.sasaki.com/voices/sasaki-presents-at-shanghai-landscape-forum/>
<https://www.topuniversities.com/blog/8-important-things-youll-learn-while-volunteering-abroad>

Research and Design Approach



03.2 - Case Study



Water Pond in Hongcun Village



Water Pond in Hongcun Village

Moon Water Square In Hongcun Village, China

The Moon Shape in Hongcun, Anhui Province is an outstanding ancient Water square design case. This water retention square is called "cow stomach". The Villagers directed the water from the river, through nine twists and ten turns of water channel, into the village center. The Villagers built a pond for fire prevention, drinking, washing, etc. This water square provides people a place to socialize.

Image Source: <https://mooknow.com/ancient-charm-of-china-hongcun-village/>



Hesilu Village Landscape Master Plan by Sasaki



Hesilu Village Landscape Master Plan by Sasaki

Hesilu Village Landscape Master Plan by Sasaki

Sasaki's plan envisioned a Hesilu Village version of the "Chinese Dream"—the tagline for a national revival initiative laid forth by President Jinping Xi in 2012—by creating a destination for ecology, recreation, and education through celebrating the landscape and village culture. The spatial design concept is built upon such vision and unfolded through four story lines, mountain, water, flower, and village. The design connects and promotes the unique landscape features in the area while rediscovering the village culture as a spiritual legacy, enabling tourism as a major economic drive for the village. Local economy would further allow villagers to sustain a contemporary life style and enhance the overall quality of the village (Sasaki, 2017).

Image Source: <https://www.sasaki.com/voices/sasaki-presents-at-shanghai-landscape-forum/>

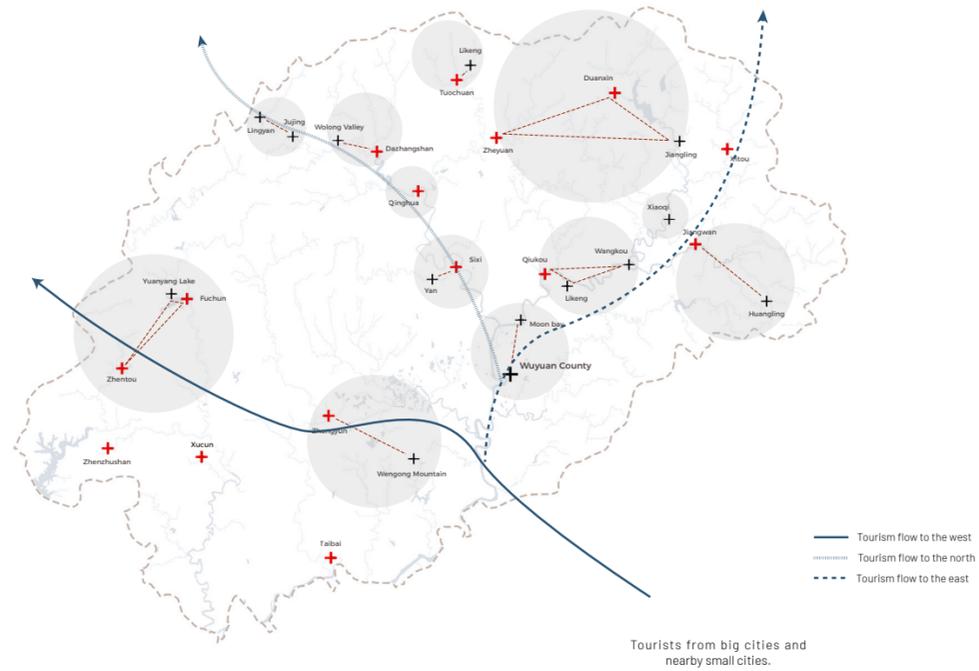


PART 4

Regional Site Analysis and Opportunity

- 04.1 Tourism Analysis
- 04.2 Water Mangement Imbalance Analysis
- 04.3 Investigation of The Villagers
- 04.4 Regional Vision and Strategy

Existing Visiting Routes

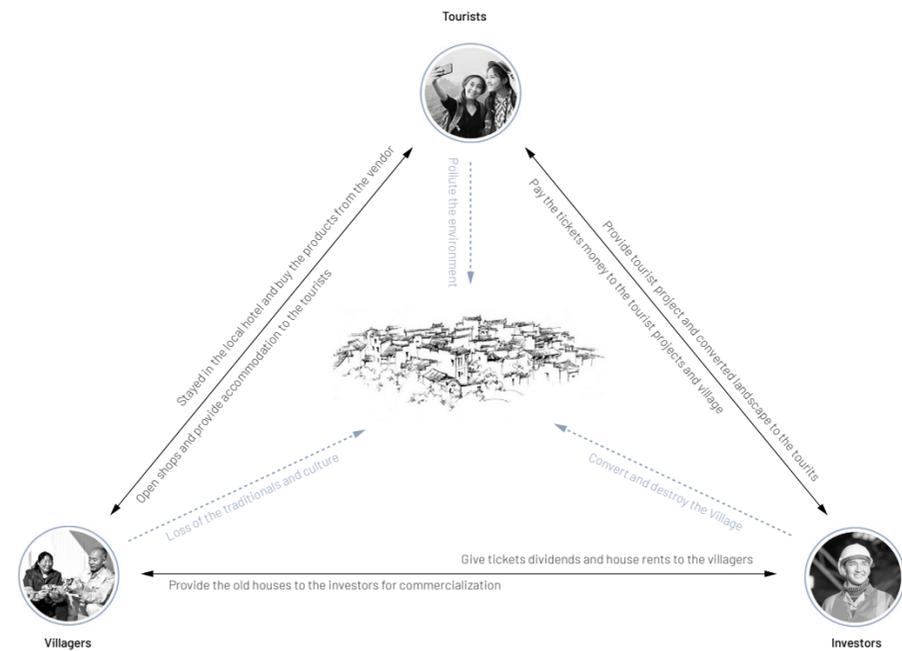


04.1 - Tourism Analysis

Existing Visiting Routes

The visitors mostly come from nearby cities and some big cities in the east of China, There are two types of visitors, one who go visit the villages with tour company. They will follow the fast visiting lines proposed by the tour company. The other type is those independent visitors who travel by their own cars.

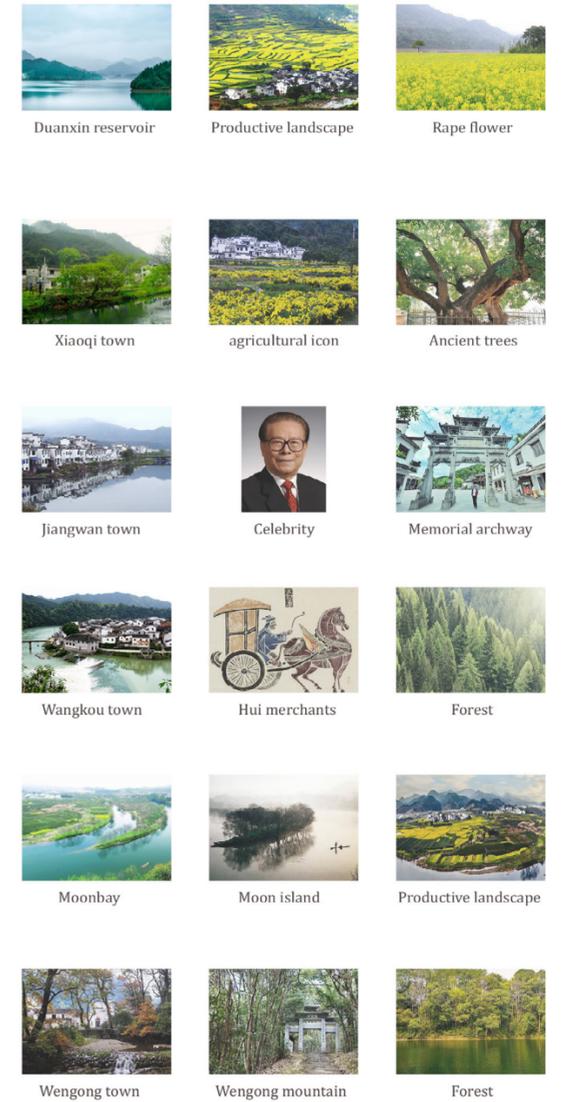
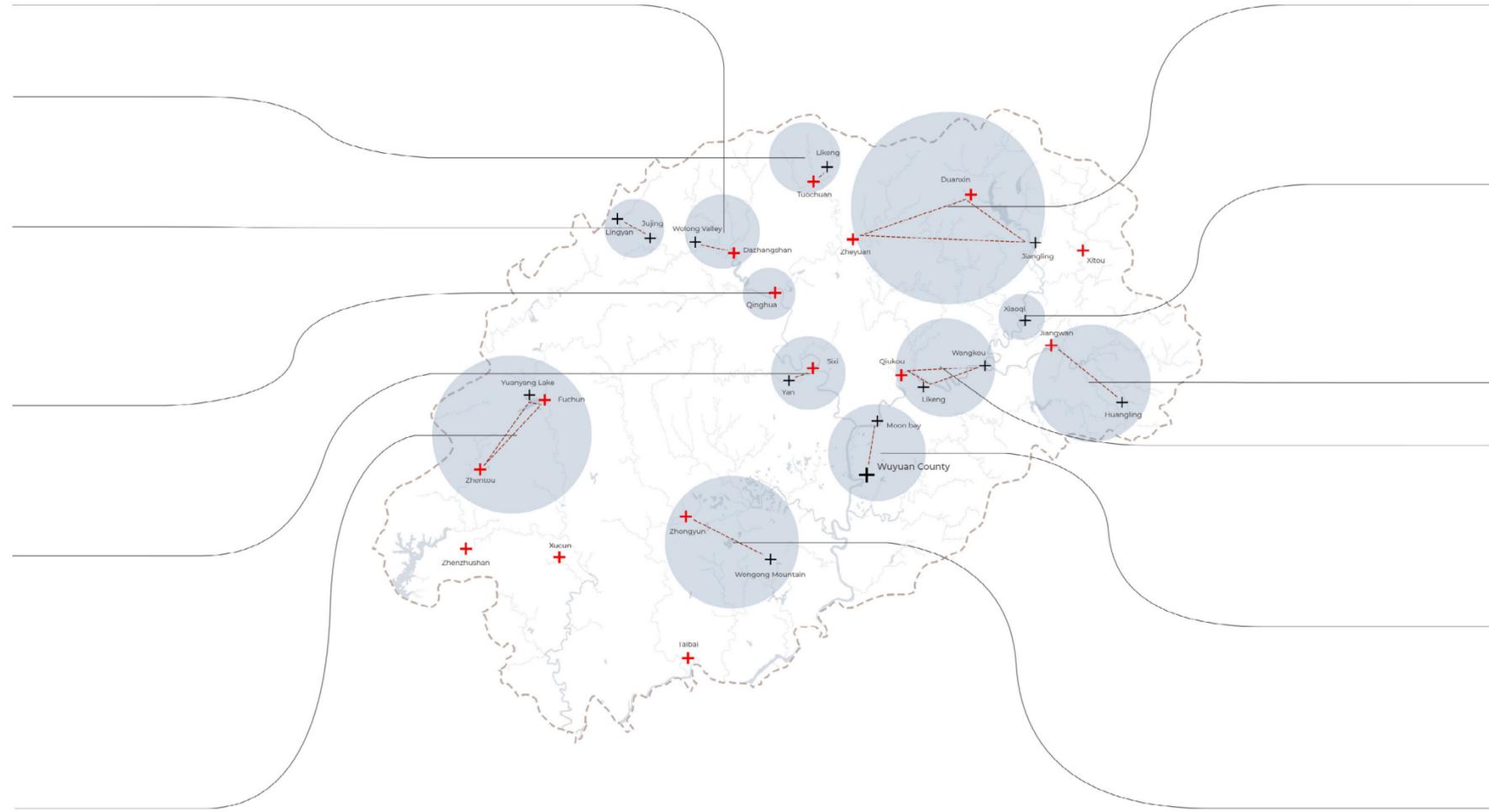
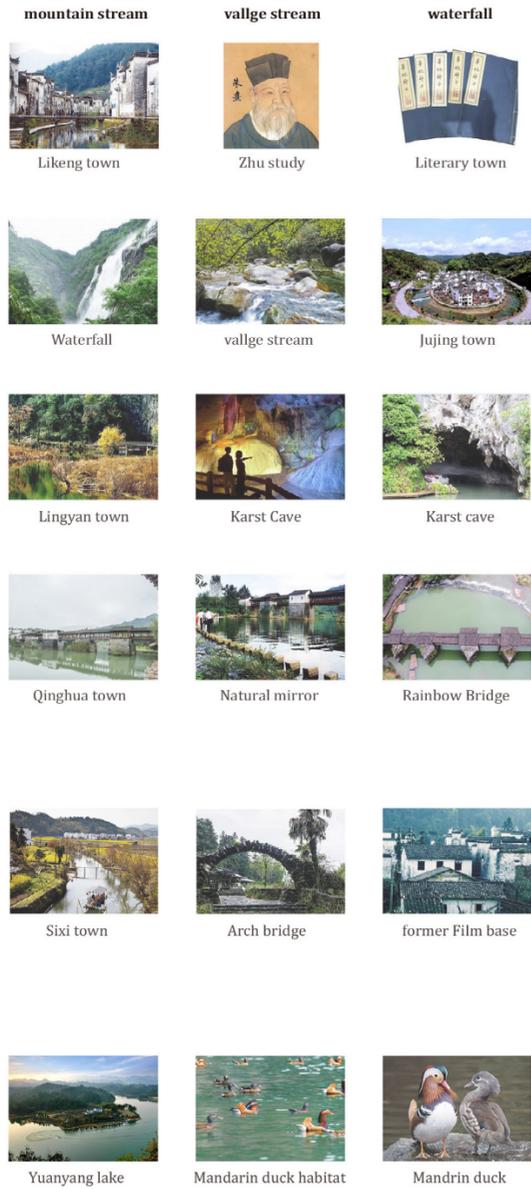
Existing Tourism Development Model

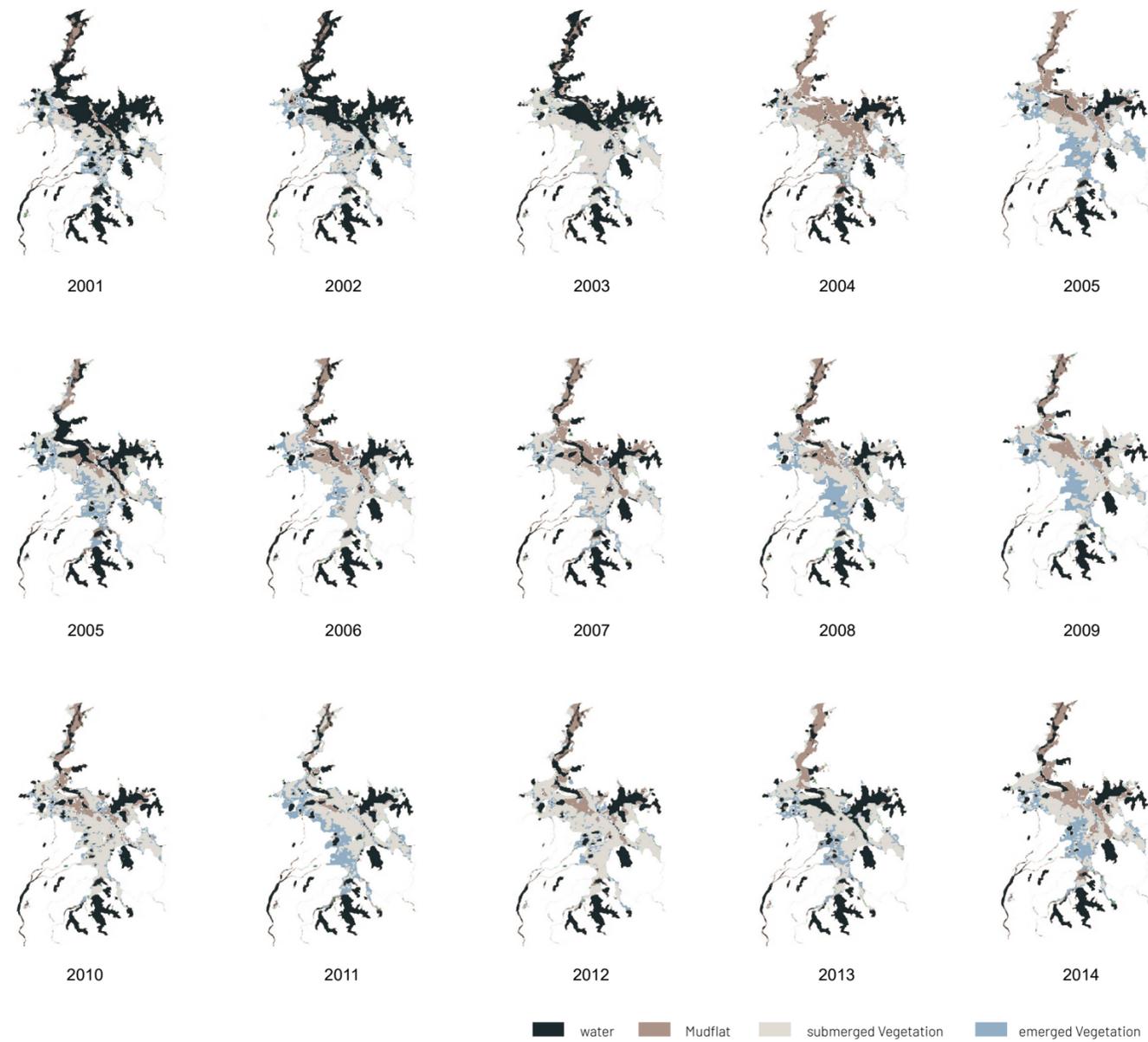


Existing Tourism Development Model

There are three roles in the existing tourism model in Wuyuan as shown in the drawing, they are visitors, villagers, and investors. They benefit each other, but also harm each other (Jing Zhang,2019). The over-commercialized tourism mode does not provide the tourists a good environment to fully engaged in the local identities, which should be what they come for, and for the villagers and investors, many financial conflicts such as the participation in tourism development profit, the price of the rent in the village, etc. A more ecological, Participatory and interactive tourism mode is urgent. How to excavate the value of the identity, the water activities for the tourists to participate is important, at the same time, these tourists can help develop the villages. In a word, a win-win tourism development mode is urgently needed.

Identity Map of The villages In Wuyuan





04.2 - Water Mangement Imbalance Analysis



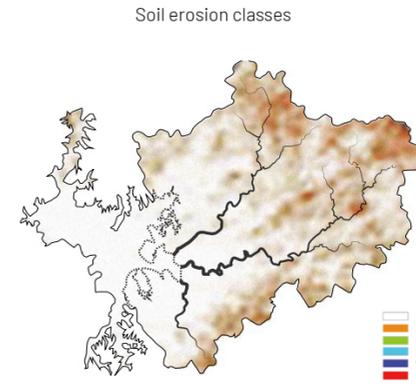
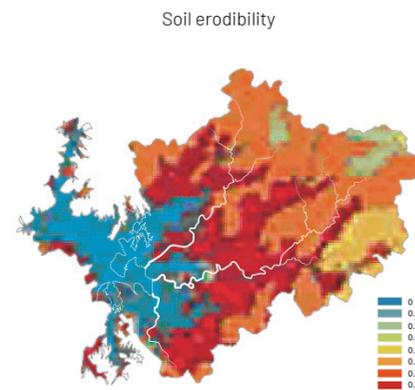
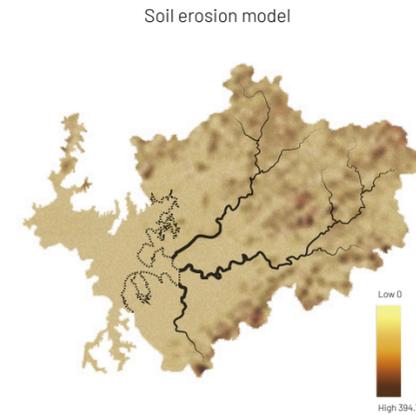
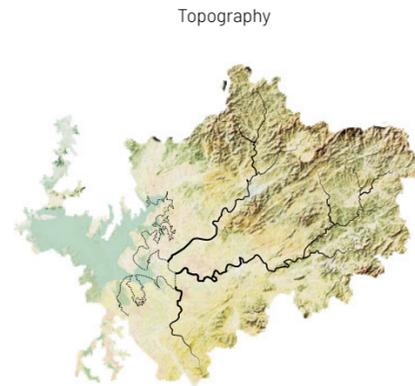
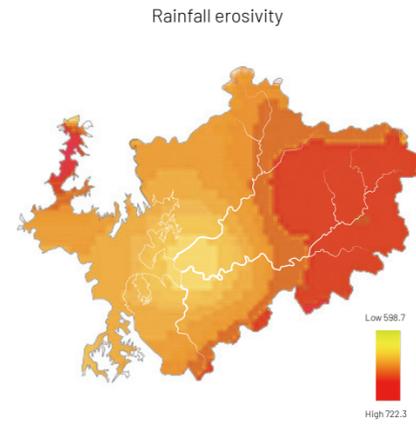
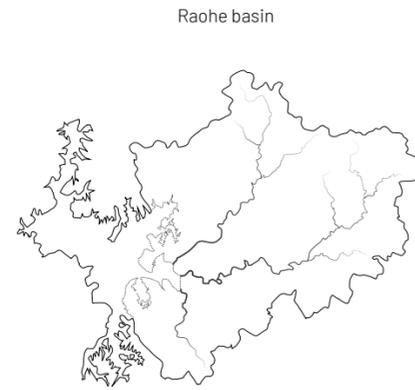
Regional Influence

The Torrential flood not only impacts the Wuyuan region but from a larger perspective, it also has a great impact on the Poyang lake. Since Wuyuan region is the source of one of the tributaries of Poyang lake. The soil loss from the upstream in the Wuyuan region gets accumulated in the Poyang lake with a gradually slower water flow.

The shrinkage of the lake is becoming faster recent decade from 2001. The emergence of mudflat and vegetable in the lake is getting faster. Few living habitats are left in the lake and some migratory birds that come here every winter are losing their home. One remarkable impact is since the winter in 2014, fewer birds are coming staying here. if the lake continues shrinking and no action will be taken. The Poyang Lake, the biggest fresh lake in china will disappear soon as the second Lop Nur.

Due to the historical plow of the hills along with the high topography in the Wuyuan area, the soil and vegetation loss in this area is of severity. and in the heavy rainy reason, the rainstorm washes off the soil to the river and the soil gets accumulated in the downstream without the protection from the vegetations. as shown in the mappings, Wuyuan region is one of the high-risk areas of rainfall erosivity and soil erodibility, and the soil erosion class is way higher than the downstream area (Yuan, L., Yang, G., Zhang, Q., & Li, H., 2016). The climate change is getting more drastic, no one can ever predict what will happen to this land soon. if not taking action to prevent the catastrophe happen, the whole Raohe basin will result in the irretrievable conditions.

Rainfall Erosivity and Soil Erodibility in Raohe Basin



Terraced Cropfield

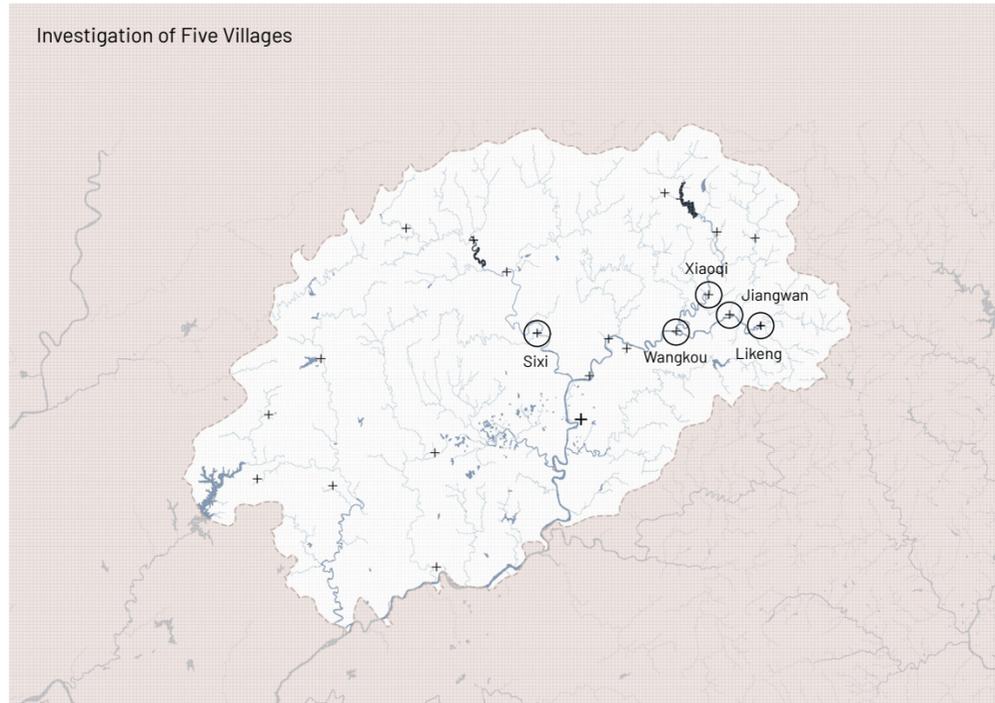


Causes of Flooding

The Causes of The Torrential Flood in Wuyuan

In conclusion, there are five main factors that cause the torrential flood in Wuyuan,

1. The precipitation imbalance and different volume of the river runoff in Wuyuan
2. The vegetation and soil loss led by the historical plow of the hills, along with the poor water retention capacity in Wuyuan.
3. The rising of riverbed caused by the sedimentation in the downstream of the river
4. The upward penetration of the groundwater because of the big pore of the soil
5. Barrier infrastructures crossing the river impede the flow of the water such as the dunes.



Demographic Characteristics of The Sample

Information	Category	Percentage	Information	Category	Percentage
Village	Wangkou	23.6%	Age	- 20	9.7%
	Jiangwan	34.4%		21 - 35	39.3%
	Xiaoji	13.9%		36 - 50	30.2%
	Likeng	16.6%		51 - 60	13.0%
	Sixi	11.5%		66 -	5.1%
Gender	Male	53.2%	Profession	Farmer	41.1%
	Female	44.4%		Self-employed	26.9%
Wether borned in this village	Yes	74.9%			
	No	22.7%			
Degree of education	Primary school or below	13.9%	Duration of Stay	Others	29.3%
	Middle School	43.2%		- 10 years	21.8%
	High school or secondary	31.1%		11 - 20 years	19.3%
	Collage or above	9.1%		20 years -	55.6%

Data Source: Donghao Wang, Jiangxi University of Finance and Economics

04.3 Investigation of The Villagers

Conclusion of the survey of the villagers

According to the field trip survey done by Donghao Wang, he went and investigate 330 villagers in different sexes and ages of five villages in Wuyuan, Jiangwan, Sixi, xx, xx, and xx. The survey consists of two parts, the general investigation of people's opinions about the development of Wuyuan, the place dependence, and the attachment survey. Prior to the conclusion extracted from the survey, It is important to introduce the definition of place dependence and place attachment.

Place dependence is conceptualized as the opportunities a setting provides for goal and activity needs (Stokols and Schumaker,1981), and place identity refers to the symbolic meaning a particular place has to an individual (Kyle et al.,2005). **Place attachment** is the emotional bond between person and place and is the main concept in environmental psychology. It is highly influenced by an individual and his or her personal experiences. There is a considerable amount of research dedicated to defining what makes a place "meaningful" enough to place attachment to occur.

Conclusion of the investigation of villager's opinion about the development of Wuyuan

1. The living environment nowadays is of great importance to the villagers but they still want better living qualities and environmental conditions.
2. The living environment and laendlich relationship are disrupted by over-tourism.
3. New housing areas and the maintenance of old houses must be needed.
4. The villagers want to get involved in the tourism development process and get profits from it.
5. Villages are lack of awareness of the importance and value of the heritages (Donghao Wang,2013).

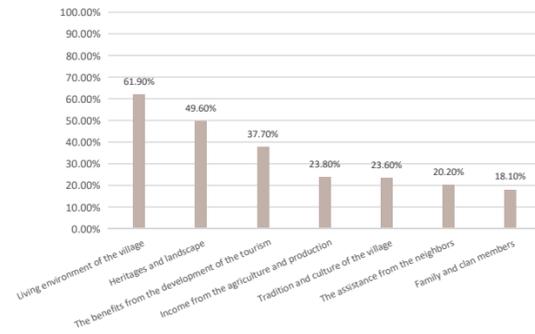
The conclusion of the survey of the villager's place dependence and attachment

1. The villagers are proud and satisfied in their villages.
2. The villagers prefer staying at home to going outside of the village
3. The living standard of the village needs to be improved urgently.

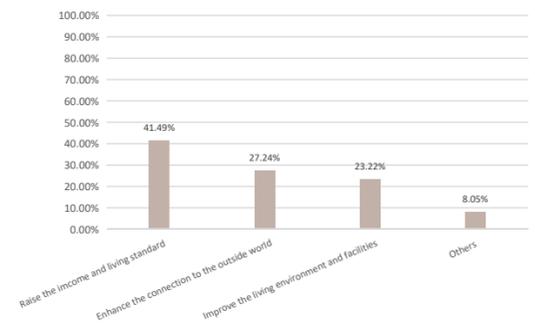
In conclusion, The villagers are proud of their villages and satisfied living in the village, however, they still want the improvement of the living qualities and environmental standard. Besides, the housing area is needed due to the increasing population in the village. What is more, over-tourism, in a degree, is a disruption to the village.

General Investigation of The Villagers

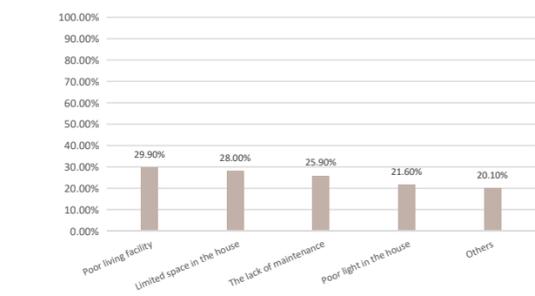
What is the most important thing to you



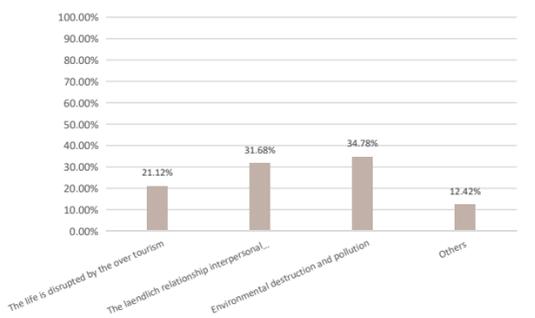
The biggest benefit of tourism development to the villagers



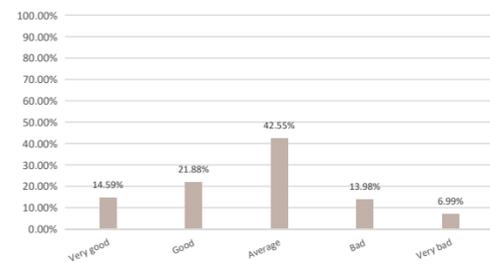
The main problem of housing



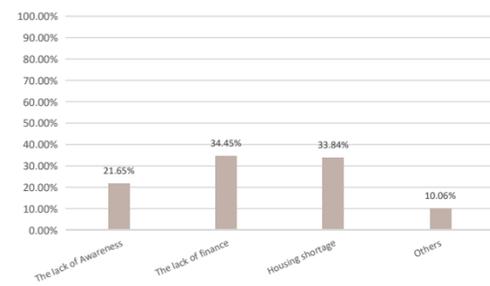
The biggest disadvantage of tourism to the villagers



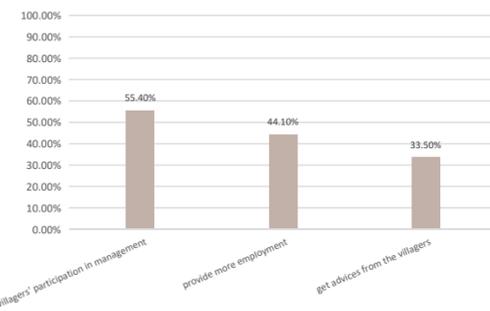
How do you feel about the Heritage Preservation status so far



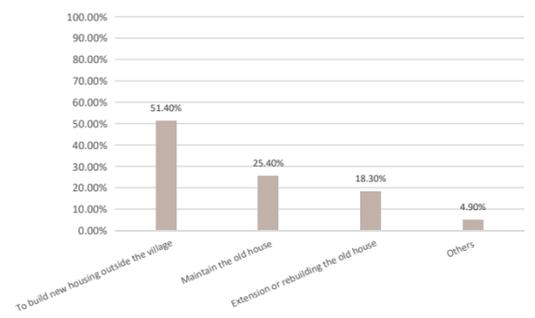
The biggest barrier to the Village preservation



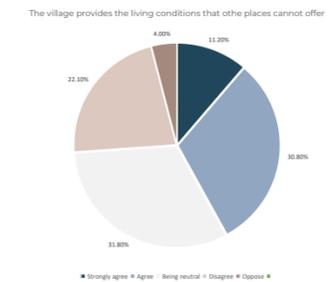
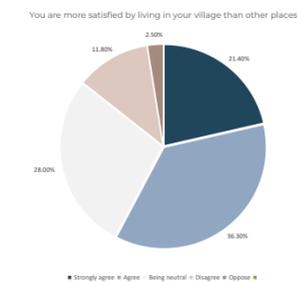
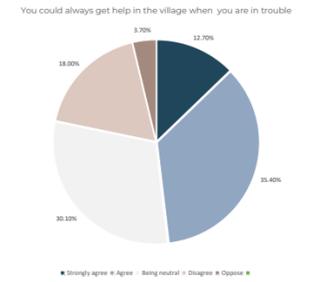
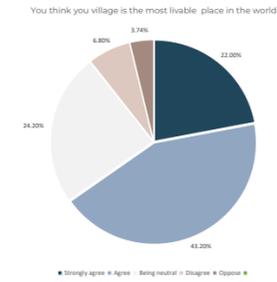
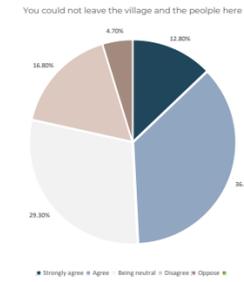
What do you think of the development of the tourism?



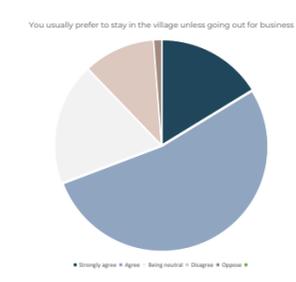
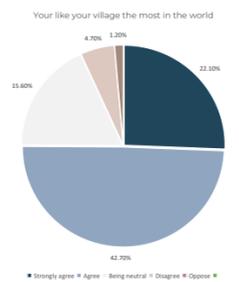
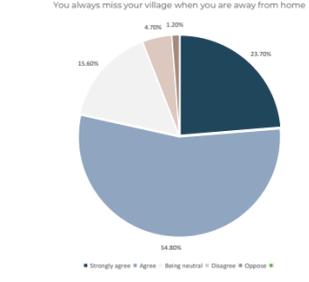
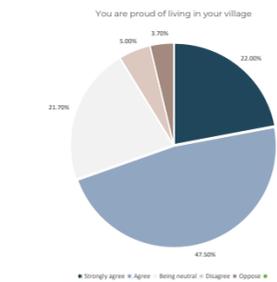
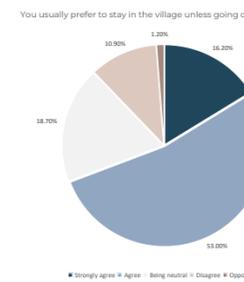
What do you think is the solution to solve the housing problem



Place Dependence Survey



Place Attachment survey



Data Source: Danghao Wang, Jiangxi University of Finance and Economics

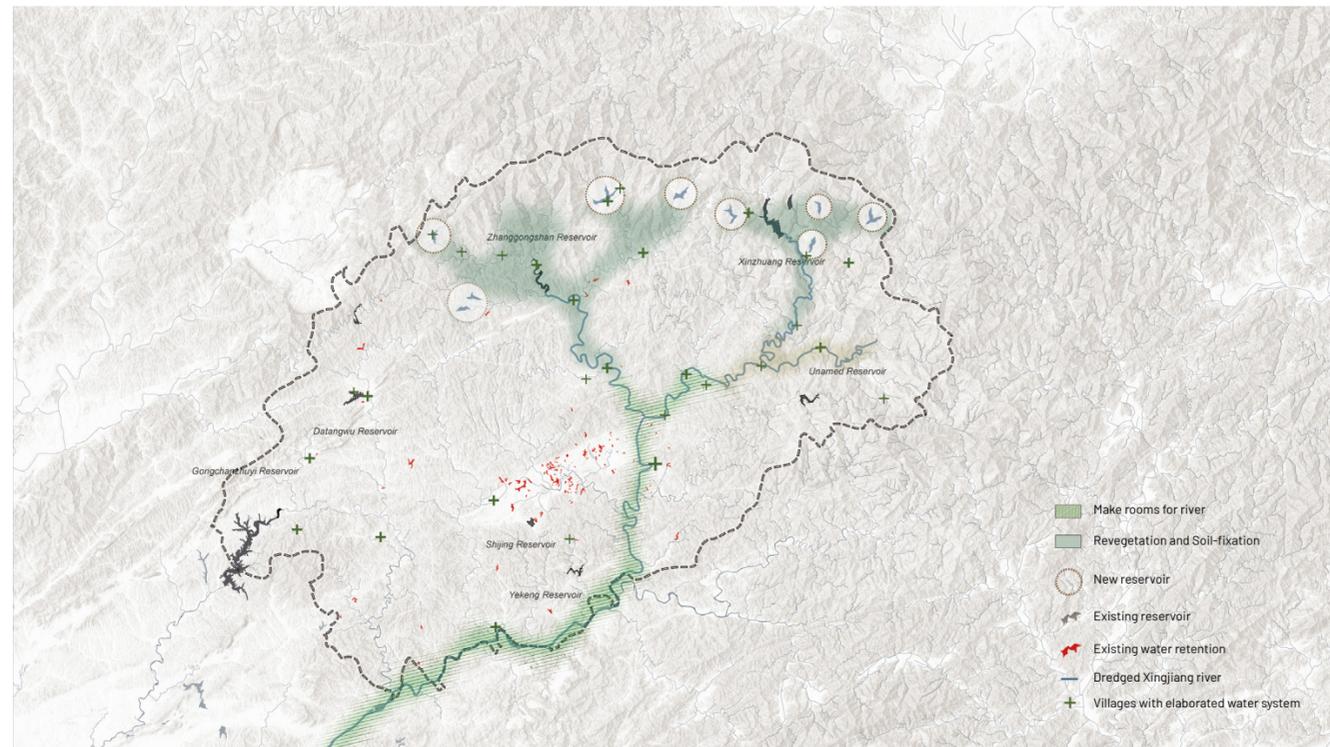
04.4 - Regional Vision and Strategy

Regional Vision for A Sustainable Green and Blue Framework

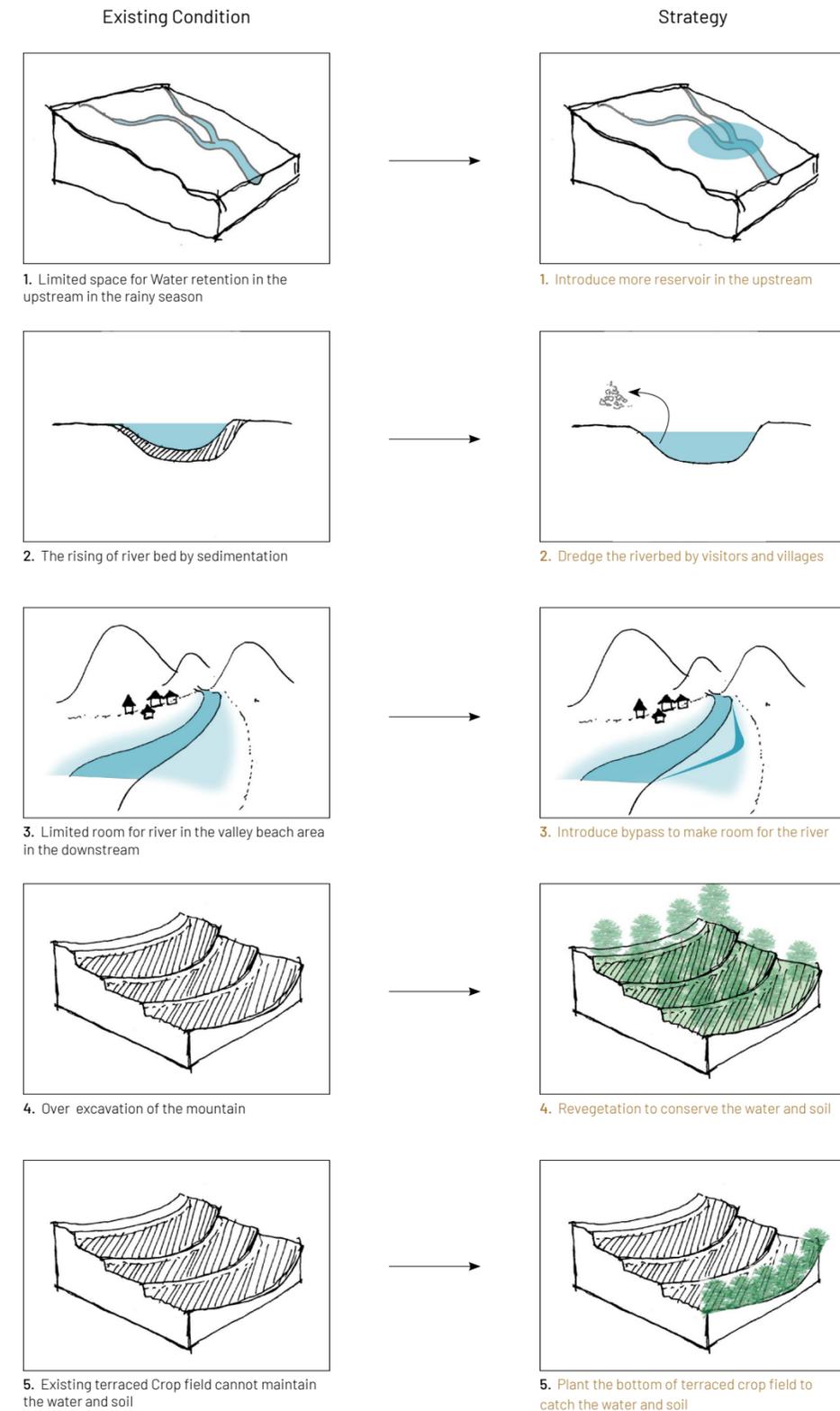
On the regional scale, a more sustainable and resilient green and blue framework are introduced to address the water management issues stated before. Based on the research, The proposal first focuses on introducing more water reservoirs in the upstream to collect more rainwater. On the one hand, they provide more water supply to the villages, and on the other hand, it catches the water in the severe rainy seasons to avoid the torrential flooding crisis in the downstream. The reservoirs can improve the regulation capacity of the water resource. The revegetation and soil-fixation are proposed to prevent the soil from being washed away by the rainstorm. Based on the research, The upstream is now facing a severe soil loss issue that influences now only Wuyuan, but also the whole region. It is encouraged to replant some of the mountain areas that are newly occupied by the agricultural field. In the preserved terraced crop field, more plants need to be positioned in the root of the terraced crop field for soil-fixation. There are more valley beaches in the downstream of Wuyuan, where more rooms for the river is needed. The flat valley beaches provide the chance to make a bypass for the river current. Besides, The yearly dredging of the river is proposed to avoid the rising of the riverbed. The dredged soil and sedimentation can be used for the plantation and soil fixation in the upstream. On a small scale, it is proposed that every village build up a more resilient and sustainable water system such as small water ponds.

It is also promoted that the villagers and tourists participate in the revegetation and the dredging process as voluntourism. Through this long process volunteering work, people learn the water knowledge and contribute to the construction. More importantly, a new tourism model is encouraged that tourists are not only consumer Wuyuan but also a role that help develop this region. Under this new green and blue framework, the water management imbalance will be addressed and voluntourism will be achieved.

Proposed Regional Green and Blue Framework



Strategies on Regional Scale



Strategy on Local Scale



Vision of Village Scale for Regaining, Remodelling and Revitalizing The Watery Life

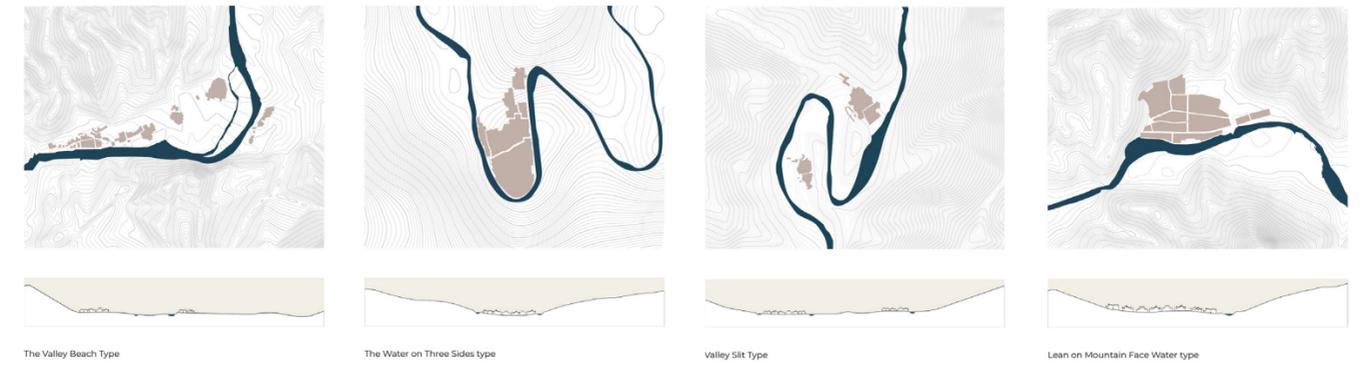
Following the strategy proposed in the regional green and blue framework, The drawing shows the ambition to bring back people's relationship to the water and redefine life in the countryside. The vision of village-scale consists of two parts, the first part is to evaluate the traditional water system in every village, revalue the quality and extract the knowledge of it. With the case study review, it is proposed to bring a new water element to the village to formulate a more sustainable and cultural water system.

The second part is to raise the identical and cultural aspects of the village by designing various public spaces linked by the new water system. To enrich the rural life for both the inhabitants and tourists, it is encouraged to design multiple water activities and water events taking place in the public space. The tourists and villagers would be participating in these activities and events to value the water identity and culture of the village, but more importantly, they will fancy the countryside life that they cannot experience in cities.

Conclusion of Strategic Goal

1. A more resilient and ecological green and blue framework is proposed to make the villages more sustainable and resistant to the climate change.
2. A new tourism model is promoted to enhance visitor's relation to this waterscape in the villages in Wuyuan
3. To enhance the living quality and environment for the inhabitants in the villages.

Four Type of Relation Between The Village and The Environment



Exemplary Design Village : Wangkou



Exemplary Villages Design as Paradigm

As what is stated in the regional Design Strategy, One selected Villages will be introduced and design as the paradigm to the rest of the viallges in Wuyuan. The reason of choosing this villages is that firstly, this villages cover the four charataristics of the relationships between the villages and nature in this region. Secondly, This villages is almost the most famous villages in Wuyuan that have developed its special natural and cultural identity in history, which attracts millions of visitors. Therefore, By showing the design of this villages, It can well illustrate the regional strategy and become paradigms of the villages.

Exemplary Design Village: Wangkou

Wangkou Village is located in the middle part of Xingjiang River, where two tributaries converge. In the relationship to the nature, Wangkou belongs to the water on three sides type and lean on mountain face water type . The village lies on a slop leaning the mountain and facing the water. Walking from the mountain through the village to the waterfront, a sequence of mouatin landscape, croffield landscape, Allies, Waterfront shows the natural value of the village, but what makes the village more attractive is its diverse culture and tradition. All These natural and cultural identities have become the iconic feature of wangkou that becomes the Top1 touristy spot in Wuyuan. However, as more and more visitors coming here with improper tourism model, The villagers and villages are trapped in a vicious circle, The villagers gave up their old way of living closely with water, enbracing the tourism. For the tourists, The commercial and superficial way of tourism fails to enable them to experience and percieve the value of the village, the water landscape, water culture and tradition and the chemistry of the circular and sustainable countryside life that has been existing for centuries. Hence, How to develop the watery village to reach a new balance of sustainbale countryside life is needed for both the villagers and tourists.



PART 5

Exemplary Village Design

05.1 Site Analysis - Wangkou

05.2 Diagnosis and Proposal

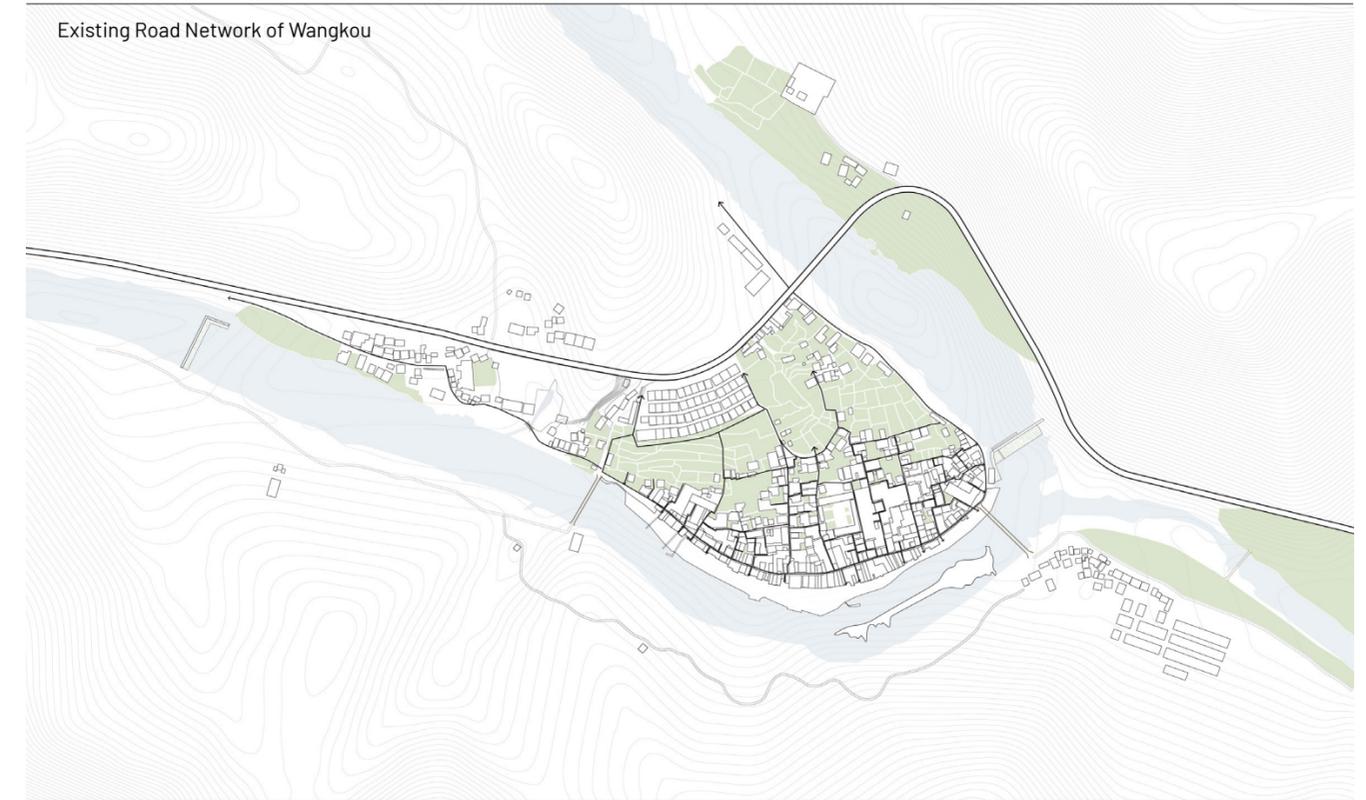
05.3 Design Implement

05.4 Detailed Design

05.1 - Site Analysis - Wangkou

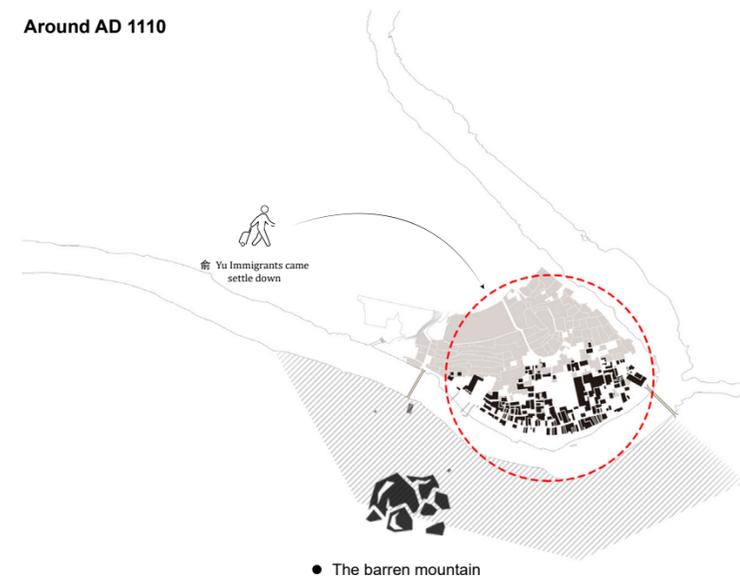
Historical Development of Wangkou

The first Yu settlers immigrated to Wangkou around AD 1110 in the Song dynasty. Wangkou Village was called Yongchuan in at the beginning and later changed to Wangkou, which means clear water in Chinese, indicating the clear water in the river in the village. The village is located on the root of a barren mountain and facing another mountain. In the Chinese Fengshui theory, this geographical condition reflects Ominous omen of nature. However, a good way to address this situation is to turn the barren mountain to the green forest. Through decades' plantation to the barren mountain, it became a diversified forest, protecting this land and the people here. Later in Ming and Song dynasty, The villagers started to trade and do business with exotics due to the limitation of the agricultural production in the mountain area. Therefore, Wangkou became the starting and the biggest trading harbor of Wuyuan.

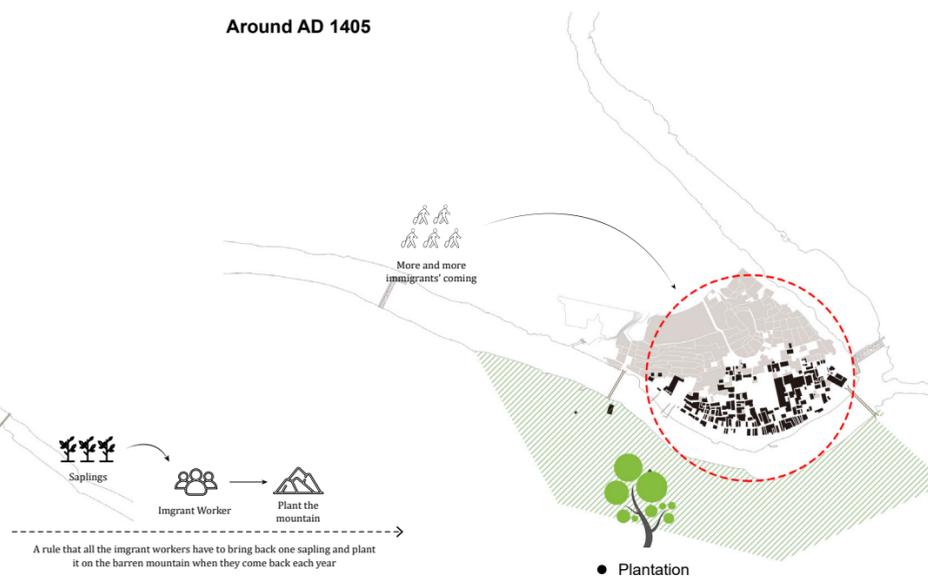


Historical Storyline of Wangkou

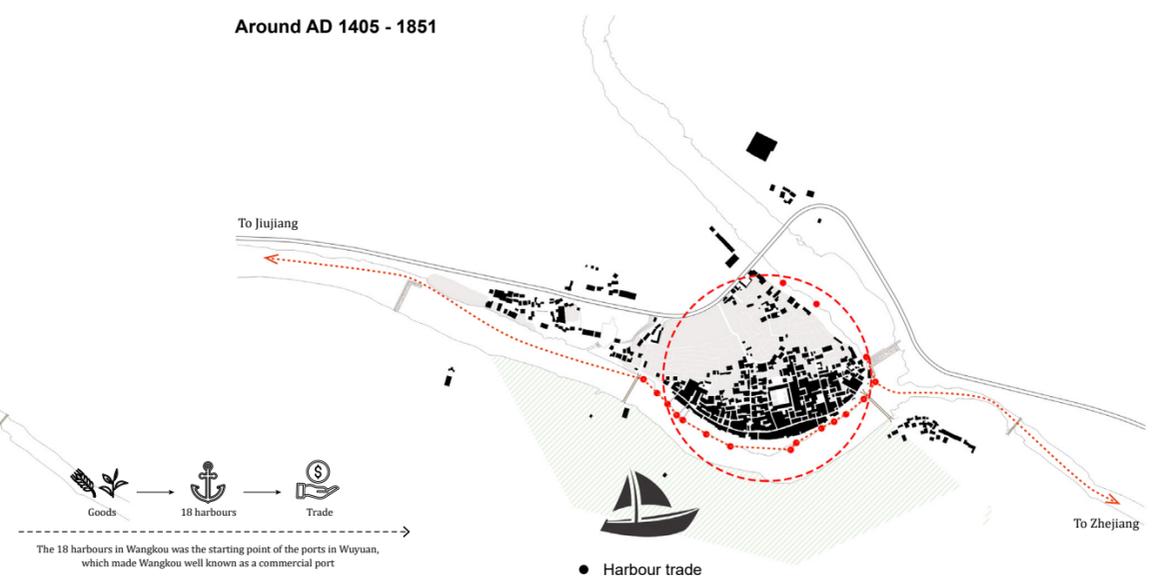
Around AD 1110

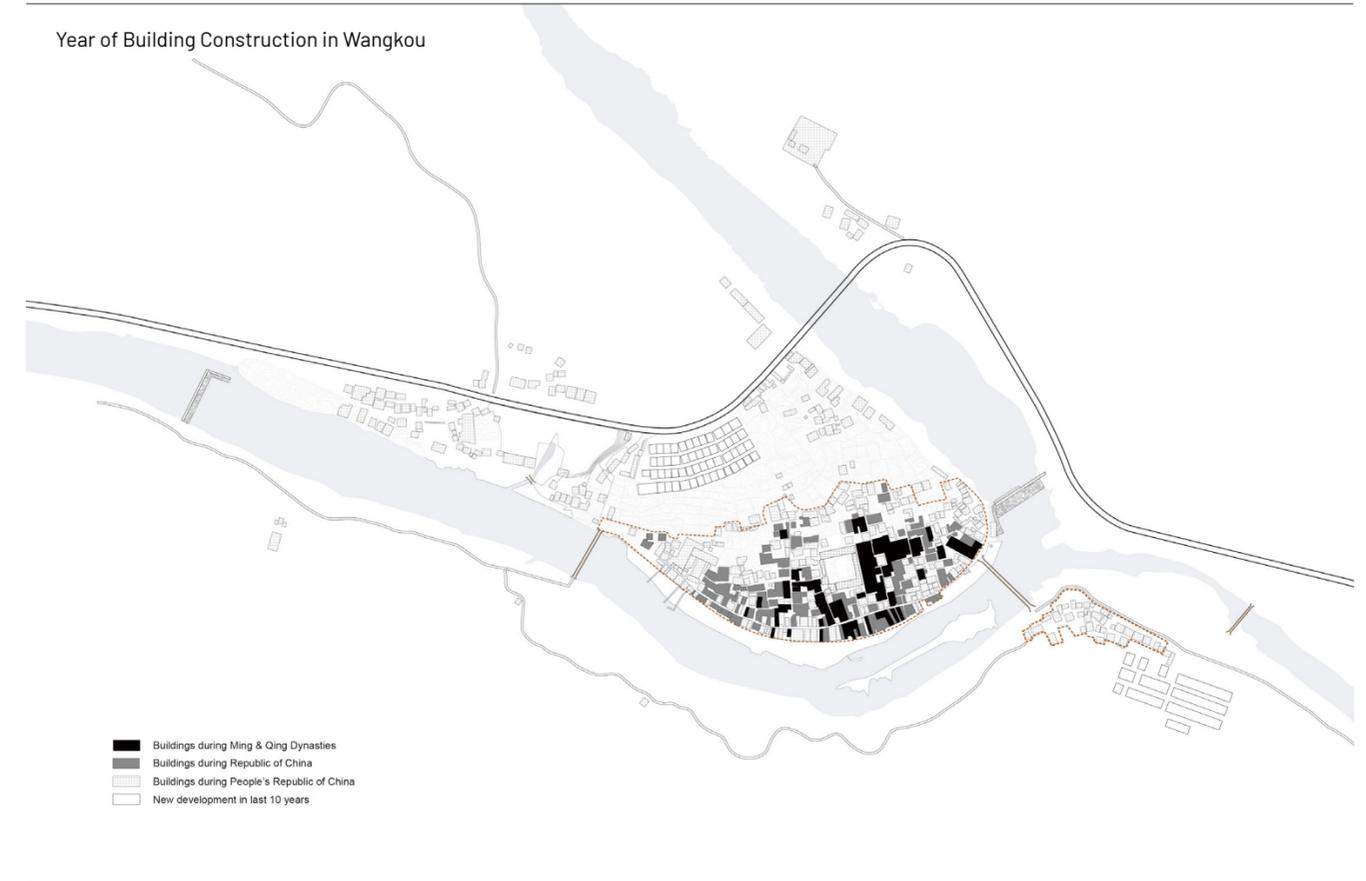
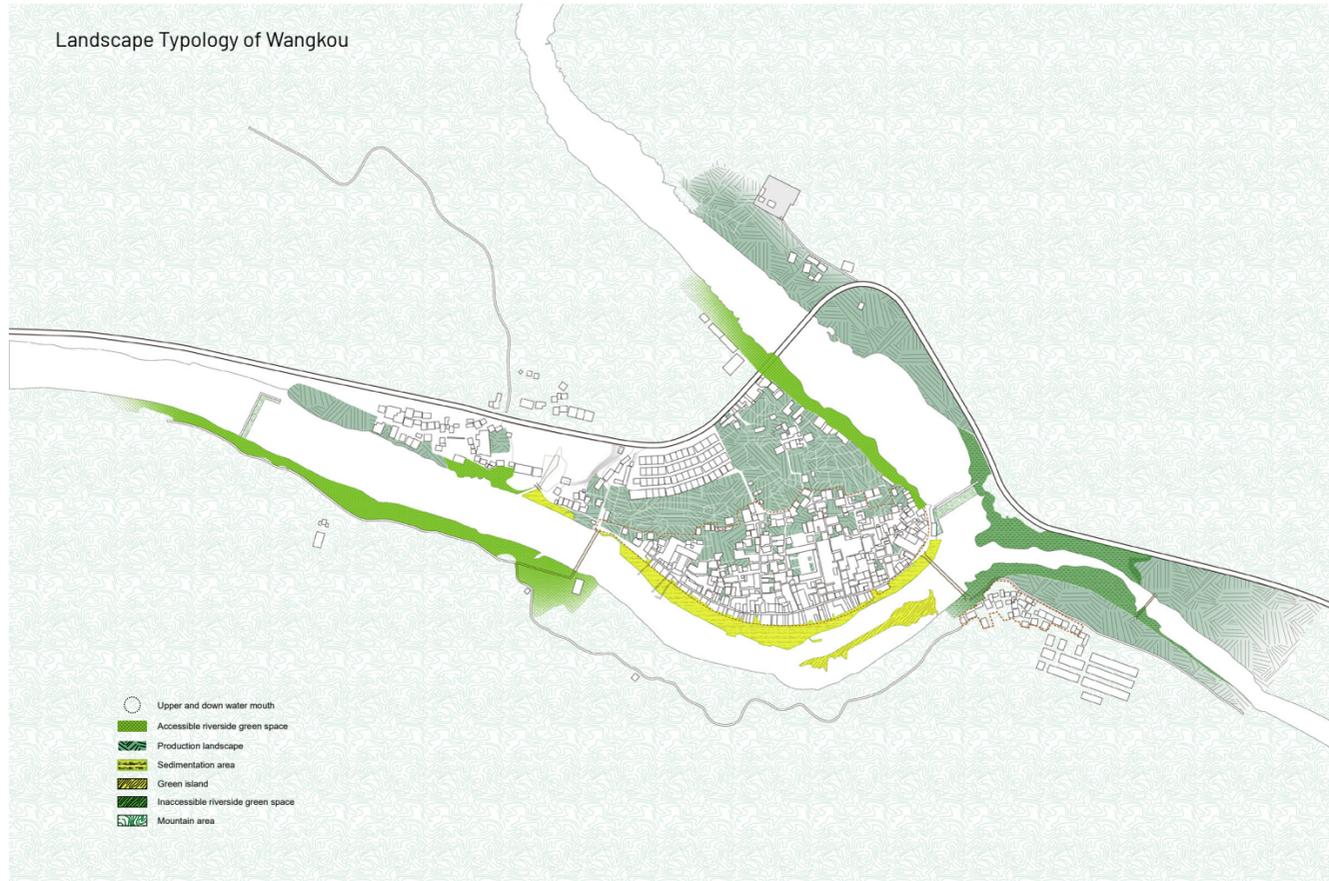


Around AD 1405



Around AD 1405 - 1851





Old harbours



Sediments



Weir



Shore



Accessible Riverside



Cultivated Terraces

Landscape Typology of Wangkou

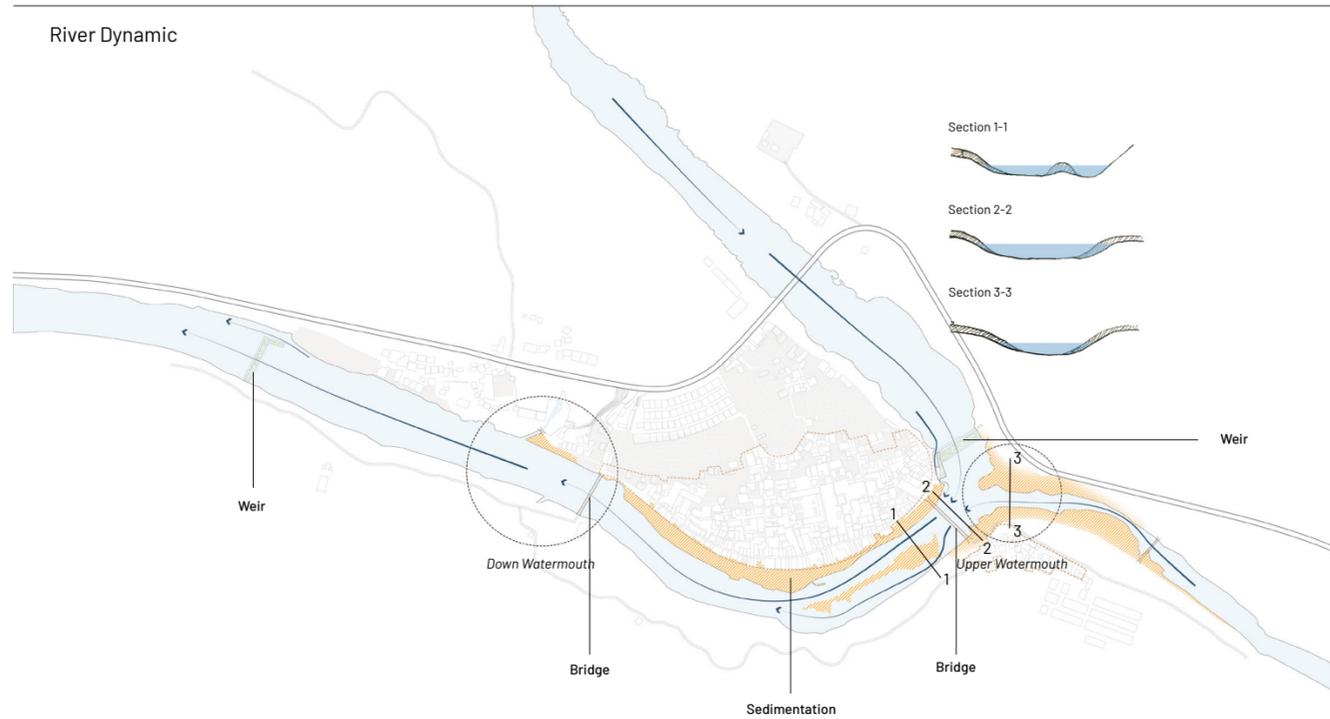
Same as the rest of Wuyuan Area, The dominant landscape feature of Wangkou is the agricultural and water landscape that embraces the residential area. The landscape resources in Wangkou is of Diversity, However, The landscape quality along the river is yet to be developed. For instance, there are few accessible riverside green spaces for people to experience, No strolling plank through the cropland for people to stroll around, etc.

Year of Building Construction in Wangkou

Thanks to the preservation policy, all the ancient buildings from Ming and Qing dynasties are well conserved in Wangkou as the black building blocks in the map. What embraces the Ancient buildings are the constructions in 20 century, These shows the Building morphology of Wangkou. In the past 10 years, due to the increasing population here, The village started to expand to the west and north with a new housing project, However, These houses do not follow and respect the existing morphology of this village and imbalance the long existing relationship between the village and Nature (Zhang, B.,2017).

Image Source: <https://www.qd1024.com/wu-yuan-wang-kou-yi/>

River Dynamic



Water Dynamic in Wangkou

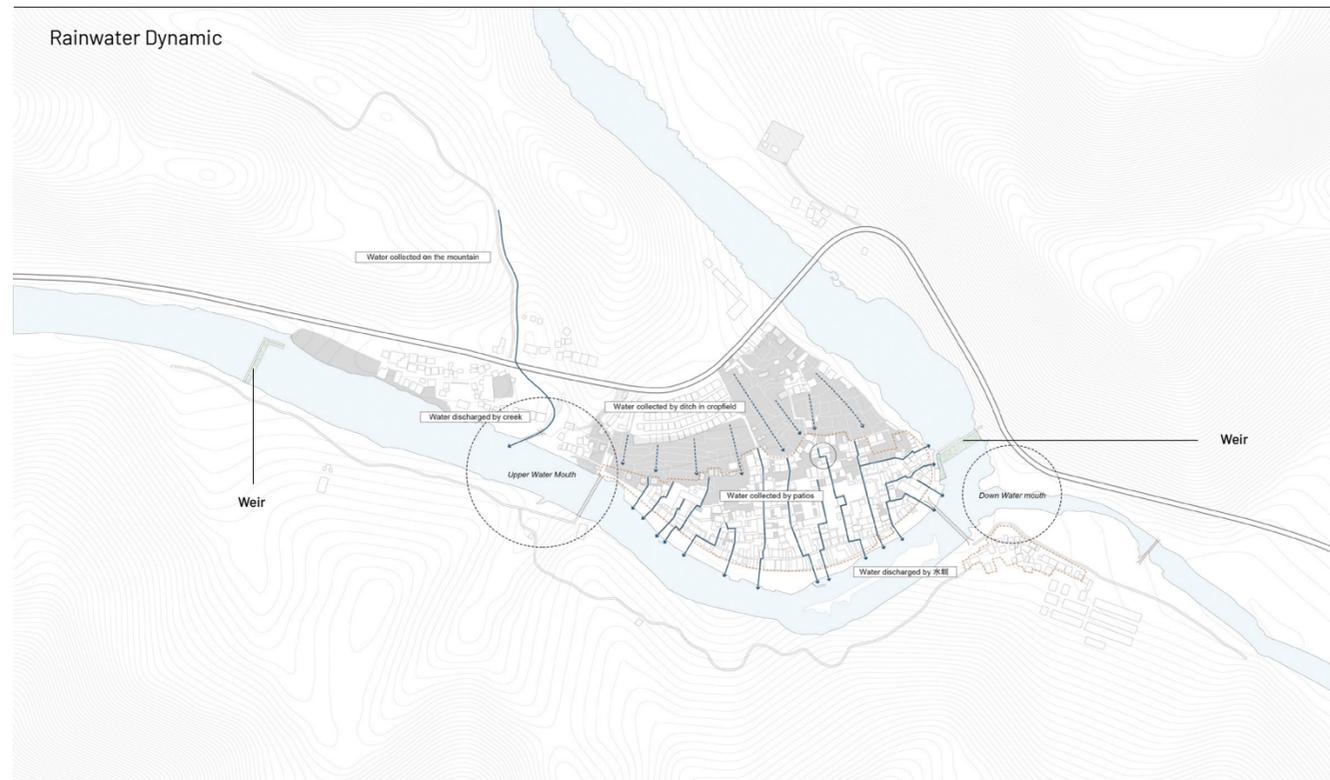
River Dynamic

Two Tributaries of Xingjiang River converge here, Where the village is located. What makes Wangkou special is its two water mouths, one is in the upstream called upper water mouth, the other one is in the downstream called down water mouth. With three sides embraced by the river and the advantaged condition of the watercourse, Wangkou became the biggest harbor of Wuyuan Area in history, it was also the starting point of the good trade. However, Due to the seasonal flood caused by the rainstorm in the past as well as the Swirl driven by the confluence of the tributaries, Two weirs were built to slow down the current for shipping, and to store the water for irrigation. But, As the sedimentation process happens in the inner curve of the river, Now the River is getting narrower, left the riverside barren and inaccessible. Nowadays, Because of the drastic climate change, The flooding issue caused by the acute rainstorm and riverbed rising is deteriorated, In The rainy season in April and May, The river floods half of the village. In the Dry season, There is not enough water for Irrigation.

Rainwater Dynamic

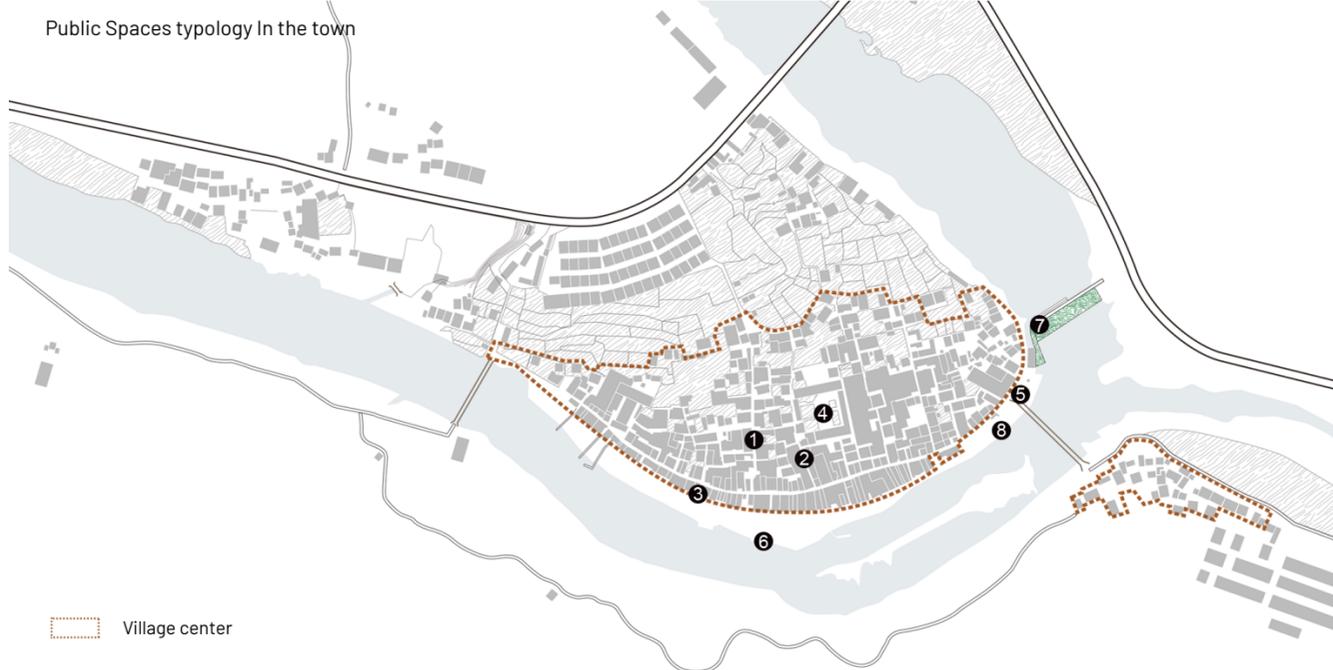
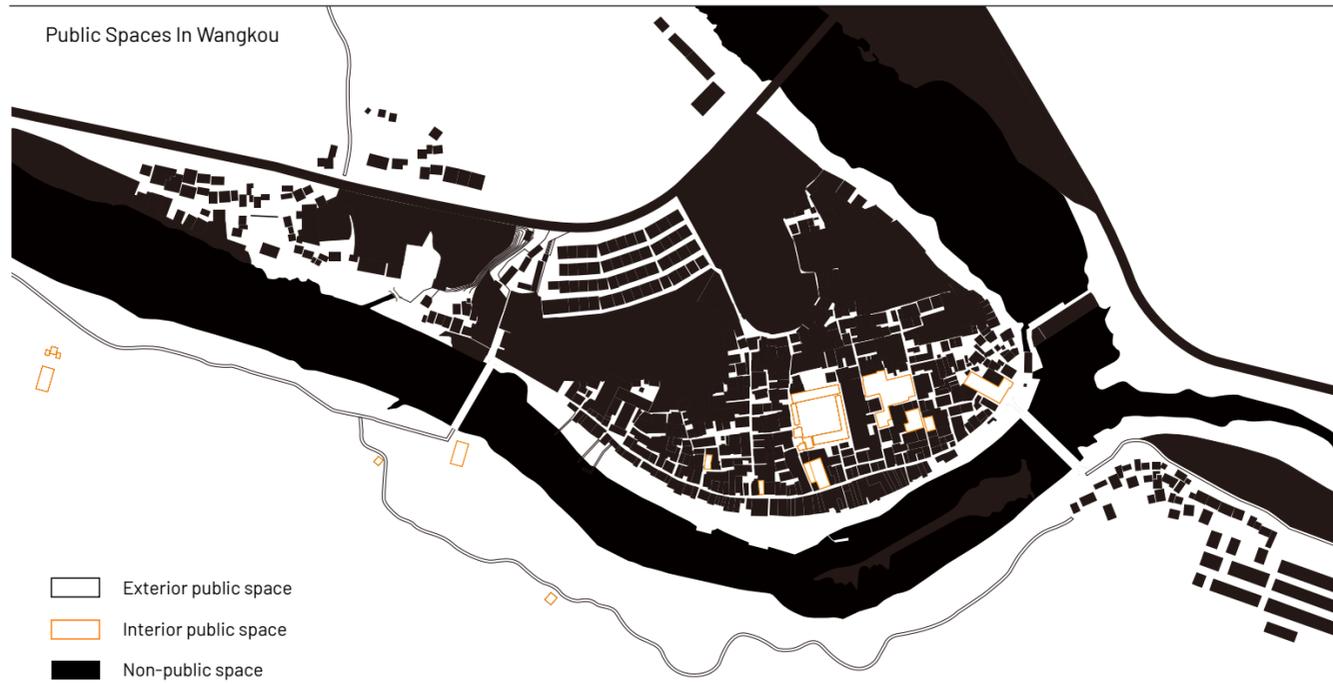
The villagers' wisdom of how to collect, use the water in the past is well illustrated in the drawing, The villagers made use of the typography, directed the water from the mountain and irrigated the crop filed. The idea of collecting and use the water also is achieved in the household In the Village. By the traditional Courtyard in the Hui style Building in the village, The water is collected through the tile roof and goes down the eave to the underground. The water goes through the whole house before being discharged. water traditionally is the symbol of wealth and fortune in Wuyuna, So directing the water through the whole house is to catch and hold the water, the wealth and fortune at home. The villagers also used the Allies in the village as the main ditch way to dispose of the water, 18 main ditches in the main 18 allies in the village formed the main water disposal structure (Wang, H.,2009). All the water will be discharged directly to the River. What's more, The Little creek in the western part of the village is accumulated by the rainwater from the mountain. The function of excavating this creek is to use the gradient of water to drive the waterwheel for grinding crops.

Rainwater Dynamic



Evaluation of The Historical Water System

As mentioned in this problem statement, the regional flooding threats the village, and the value of these circular water structure in the past is not being gradually neglect by the people. Some of these waterworks are now demolished because people gave up some water activities what their ancestors had been doing for centuries. However, it cannot be denied that some of the circular water structures and water works are not following the principle of today, for instance, the wasted water need to be collected and purified before being disposed to the river, the rain water in the village is not largely restored and collected for daily use and irrigation, etc. From a perspective of nowadays, as a landscape designer, the task of how to revalue and regain the identity and quality of the historical water structure in the village is needed. The value and wisdom of creating the circular water system need to be extracted and preserved. At the same time, The task of how to develop and modernize a more sustainable and up-to-date water system with landscape spatial quality serving for both the inhabitants and visitors is needed as well.



Public Space Inside The Village



1 Alley 2 Alley Alley Alley Alley to the river

Main User : All the villagers and the tourists

Interior Public Space in The Village



4 Hongxin Square Hongxin Square 5 Ancestral Hall

Main User : some villagers and the tourists

Public Space Outside The Village



6 Riverside 7 Weir 8 Old harbour Old harbour Old harbour

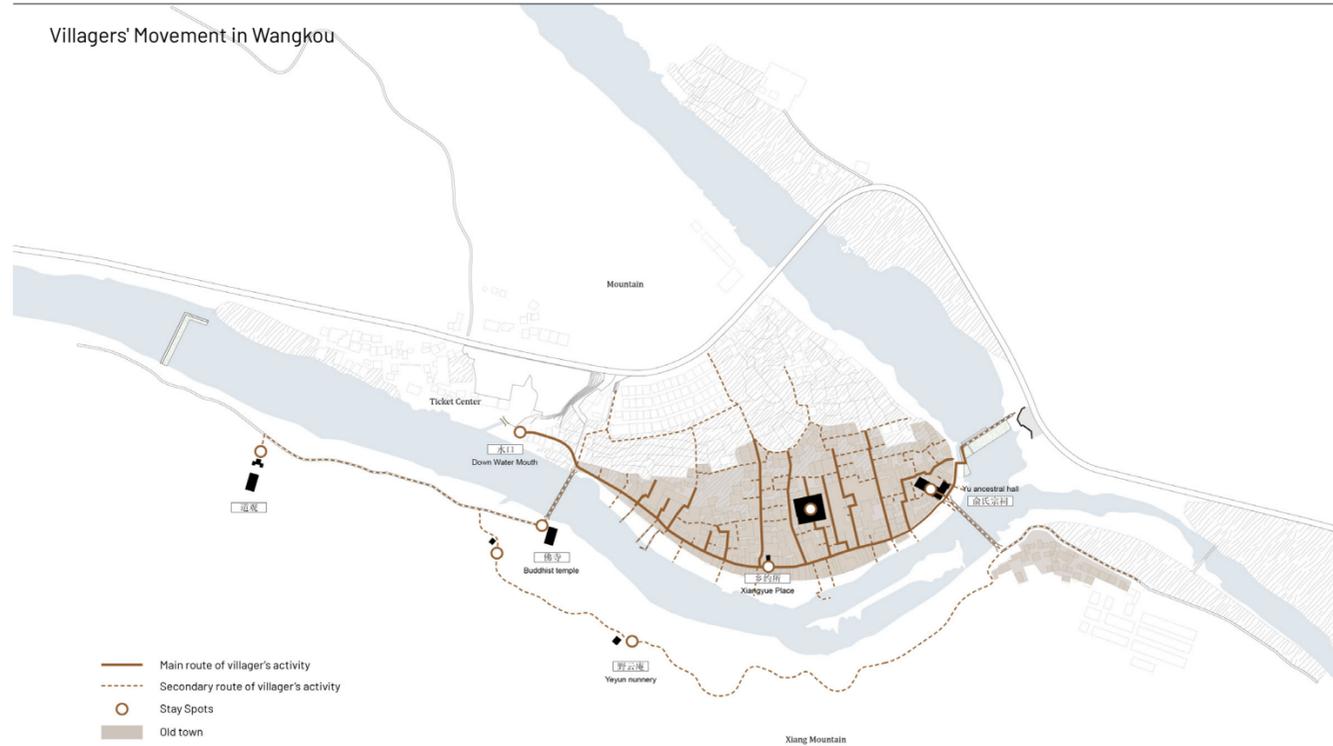
Main User : Female Villagers and few tourists sketching

Existing Use of The Public Space

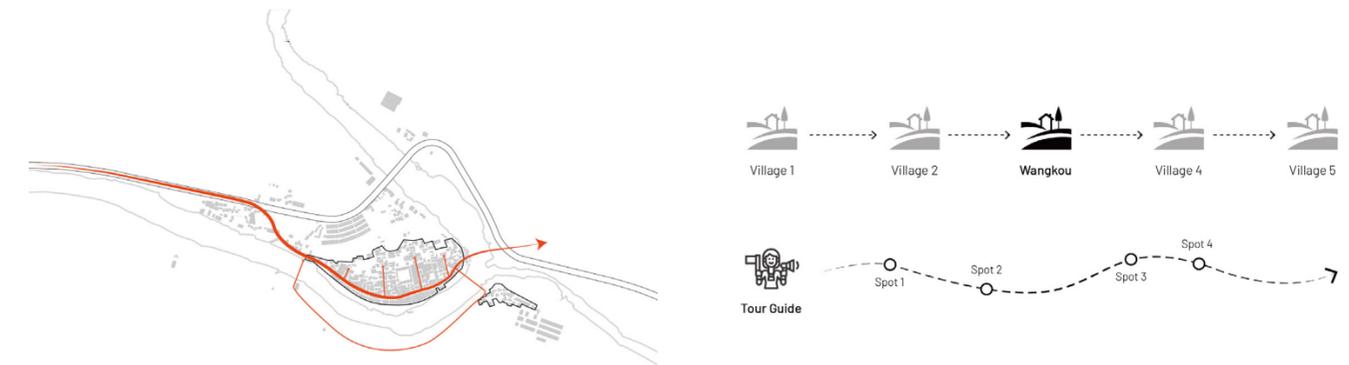
One Obvious Phenomenon of the people's use of public space in Wangkou is that most people prefer to stay in the allies. The allies become the social space for people to gather and communicate. As shown in the pictures in the allies, people eat, chat, read, and chill in such narrow spaces. However, The interior public space in the village is mostly used for big events, such as dancing, sacrifice, worship to the ancestors, etc. Another phenomenon is that the public space along the riverside is rarely used by the man, but many women, this is because the women use the river to wash clothes as their daily activities.

The public space typology in the village is of diversity, But the form of the space is comparatively monotonous compared to that in the urban area. People prefer to stay and gather somewhere close to their houses but are not willing to go out to the crop field or the riverside. Alley and interior spaces are the main gatherings and social places in the village.

Villagers' Movement in Wangkou



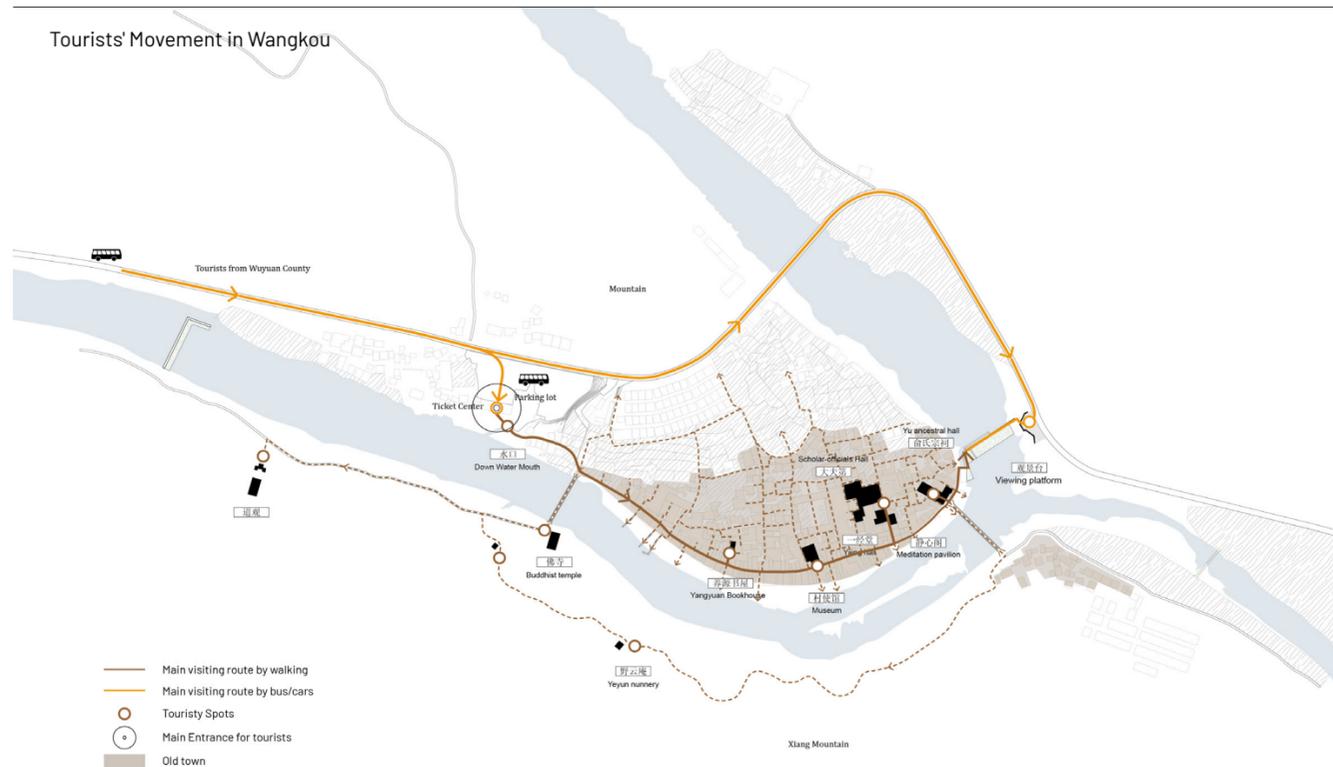
Tourists' Visiting Route 1 - Fast Line



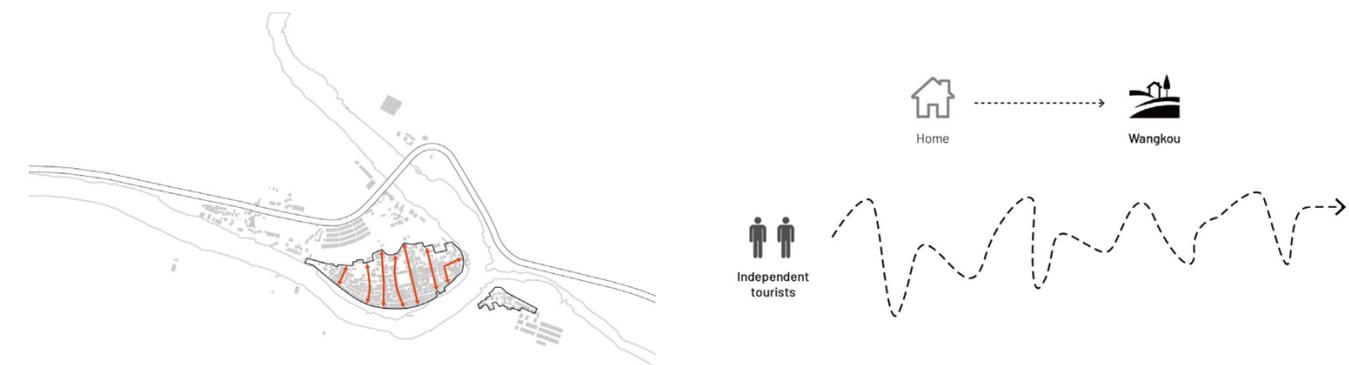
Visit Route1 - Fast visiting by tour company (One day's visit)

There are two types of tourists in the town, The first type is those visitors guided by the tour company, they would follow the linear designed fast visiting route by the guide. The second type is the independent visit, the visitors of this type would follow the designed visit route and other detours.

Tourists' Movement in Wangkou



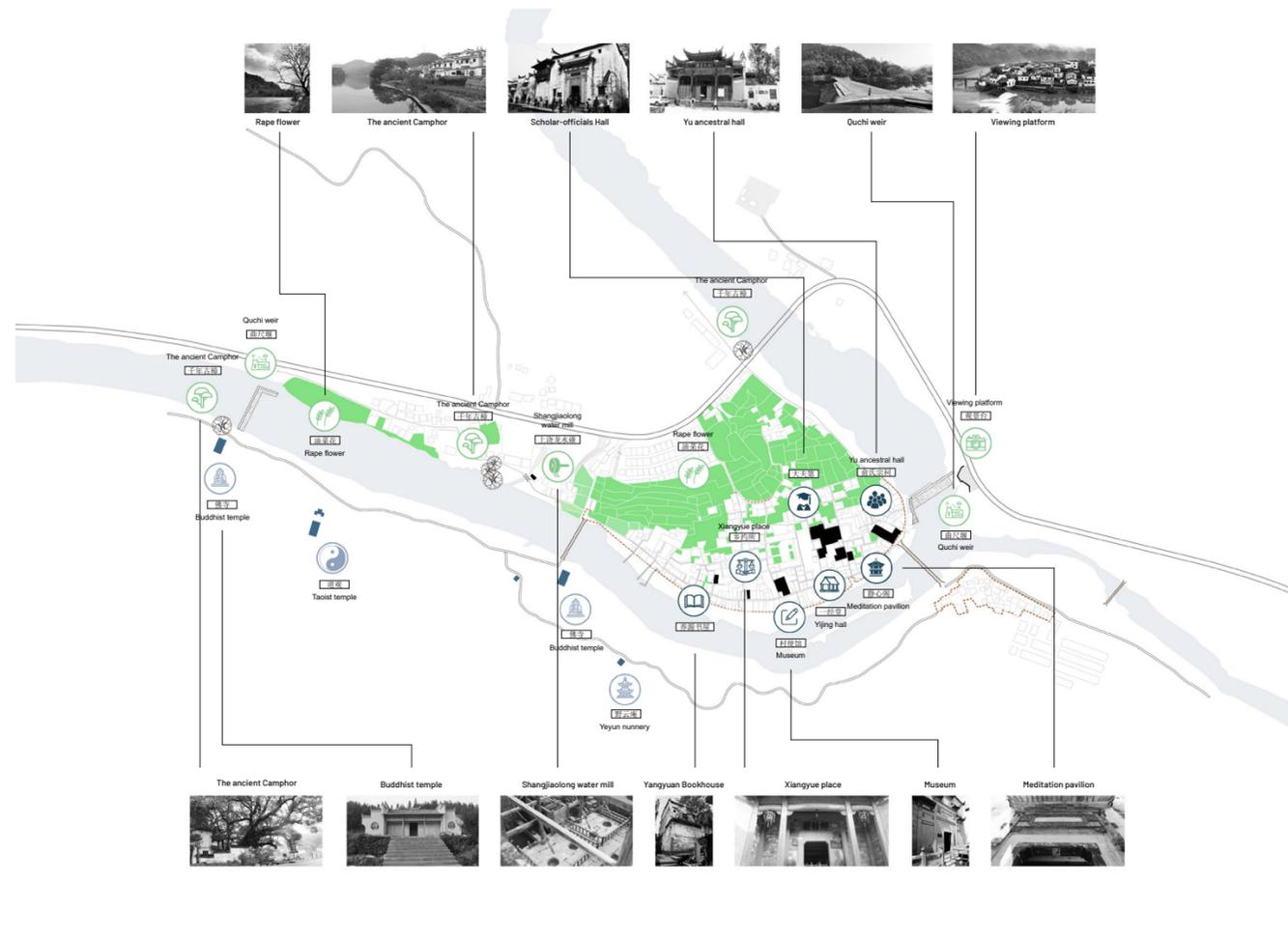
Tourists' Visiting Route 2 - Detoured Line



Visit Route2 - Independent visiting by private car (One day's visit)

The local villagers' movement is mostly restricted in the allies in the town, town allies have been their place for gathering, meeting, and daily activities. Some farmers and females would go to the river and the crop field for activities.

Identity Map of Wangkou



Rape flowers



The ancient camphor



Scholar-officials hall



Yangyuan bookhouse



Yu ancestral hall



Yu ancestral hall



Museum



Buddhist temple



Meditation pavilion

The Identity And Value of Wangkou

Wangkou attracts millions of visitors coming here for tourism because of its iconic rural landscape and culture. However, Mostly visitors could not see the constant identity and value of this land. As guided by the tourism company, The tourist mostly will go through all the iconic and most touristy spots promoted by the tour company in the village in a very short time. Therefore, the image form is what most tourists come for. However, from what is shown in the identity map. The attractions of the village not only lies in the center of the village but also the surrounding environment of the whole area. The big context of natural and cultural value in the village presents the real facade of life in the countryside. And this is what tourists should come for, the mountain, the water landscape, the agricultural landscape, the narrow alley, and the tradition and culture. All these elements weave this land.



Museum



Viewing platform

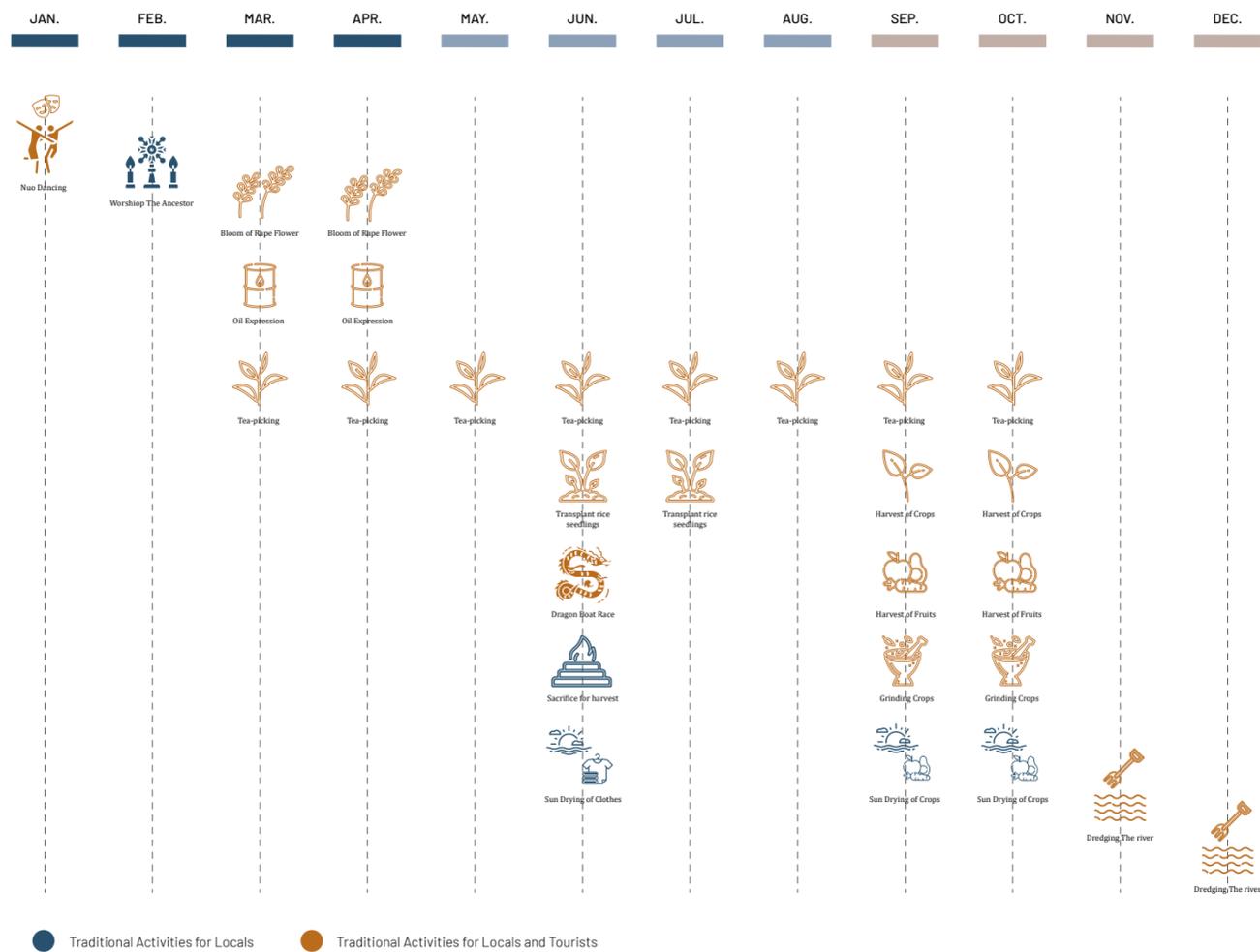


Shangjiaolong water mill



weir

Annual Water Activity and Events in Wangkou



傩舞 Nuo Dancing
Ritual dancing for the sake of a good weather for the crops in the coming year as well as the wish for driving away evil spirits

祭祖 Ancestor Worship
Annual worship to the ancestors for the best wishes for the villagers

油菜花开 Bloom of Rape Flowers
In Mar. - Apr. each year, the bloom of the rape flowers attract millions of visitors coming here for sightseeing

榨菜籽油 Oil Expression of Rape Flowers
The Rape flowers can be expressed to oil, which is one of the main industry of Wangkou



采茶 Tea-picking
APR. - OCT. each year is the time for green tea picking up, the experience of picking up the tea attracts many tourists

插秧 Transplant Rice Seedlings
Due to the mountain climate, the seedlings of the rice started at June till July, each year, there is a competition of seedlings between the farmers and the visitors

祭五谷神 Sacrifice for Harvest
To invite a good harvest of the coming fall, the villagers sacrifice to the God of Crops in order to make the best wishes

赛龙舟 Dragon Boat Race
In Dragon Boat Festival every year, there will be a dragon boat race

夏晒 Summer Sun Drying
When the summer is coming, villagers will expose the humid clothes under the sun to avoid the clothes of getting mildew



作物丰收 Harvest of The Crops
SEP. - OCT. each year is the harvest of crops

水果丰收 Harvest of The Fruits
SEP. - OCT. each year is the harvest of fruits

水碓作坊 Grinding Crops
After collecting the crops from the field, some crops need to be grinded by the waterwheel driven by the water

秋晒 Fall Sun drying of The Crops
In the fall, the villagers will start the sun drying of the crops to retain the freshness of food for winter storage

洗河 Dredging The River
Traditionally, the leader of the village will organize the villagers to dredge the riverbed to avoid the flooding. Now visitors are encouraged to participate in this activity

Introduction of The Annual Water Activity and Events in Wangkou

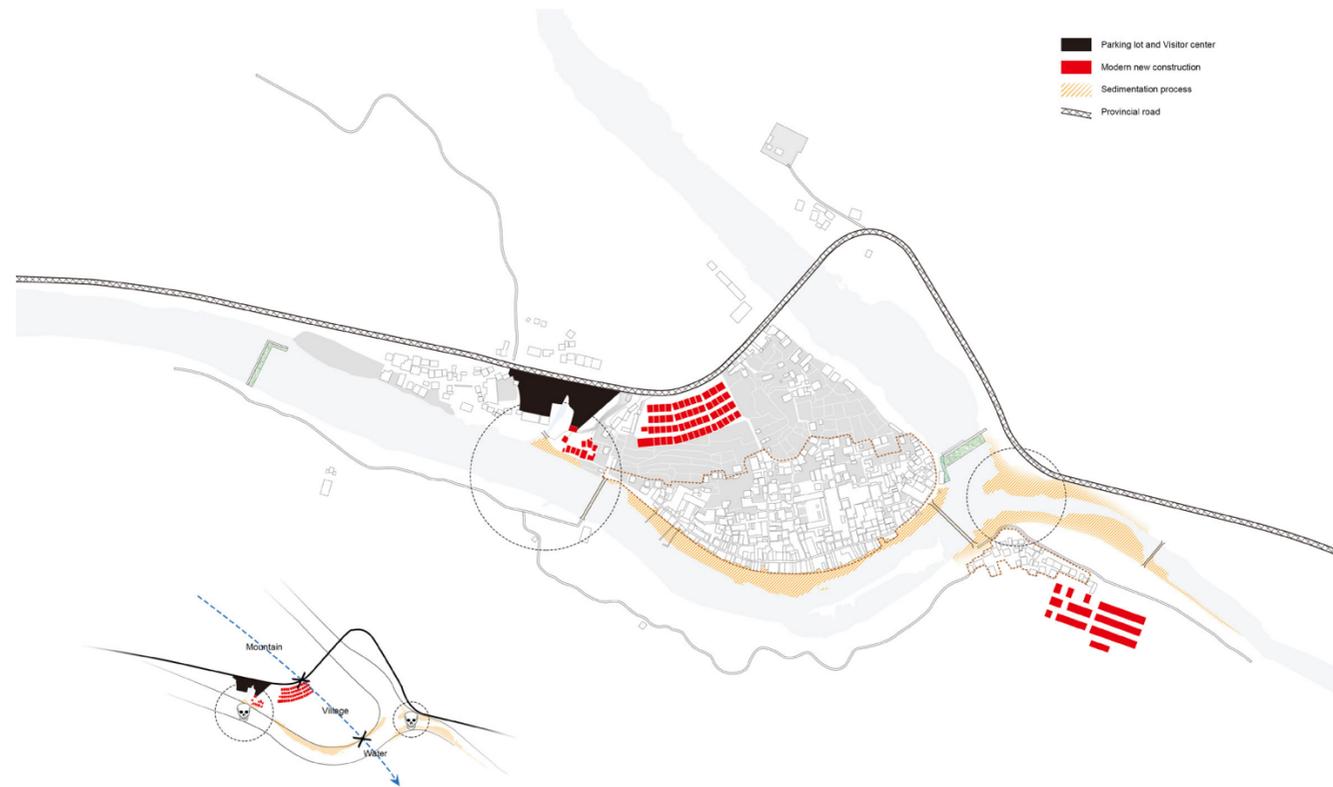
Annual Water Activities and Events in Wangkou

In the cultural and traditional aspect of Wangkou, The diverse water activities draw a lively picture of the countryside life in here. The annual water activity and events show the cultural value of Wangkou that people harmoniously live and work with the water

People's Neglect to The Annual Water Activity and Event

For the villagers, they started to neglect this relationship to water and water-related work as tourism develops. For the tourists, they did not pay attention to the cultural and traditional value of the water-related activities and events, which are the true value and identity of this village but focus on the superficial image aspect of the village.

The Interferential Elements in the Village



The Interferential Elements - The Construction and Sedimentation in The Village

After the tourism development project started in early 2000, New housing projects and touristy infrastructure construction started, such as the parking lot, visitor center, Hotels. These huge infrastructures took the place of the green spaces and traditional heritage areas in the village, such as the water mouth. The water mouth is now replaced by the parking lot and visitor center, where there used to be full of trees and temples. The huge New housing project and the expanded provincial road in the north part of the village break the existing relationship between the village and nature. The sedimentation process along the river occupies the original narrow watercourse, causing severer flooding in the rainstorm season.

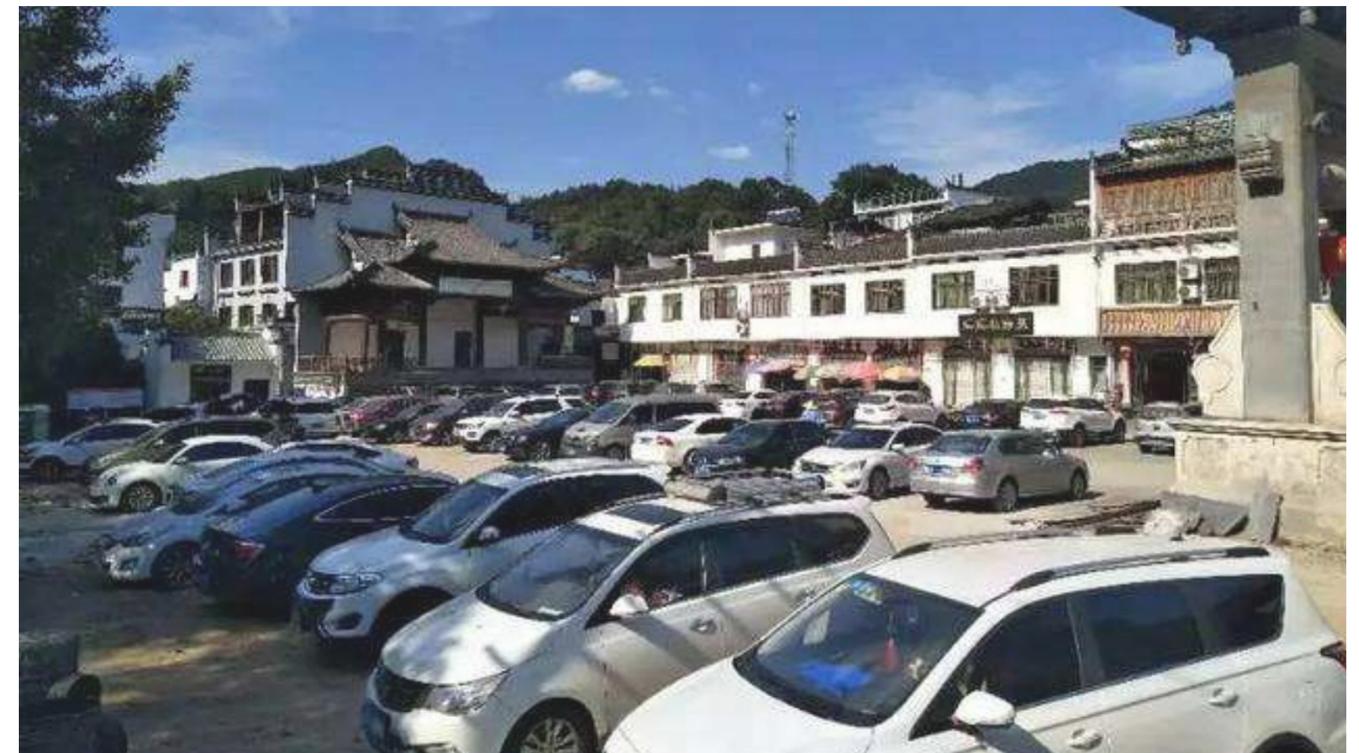
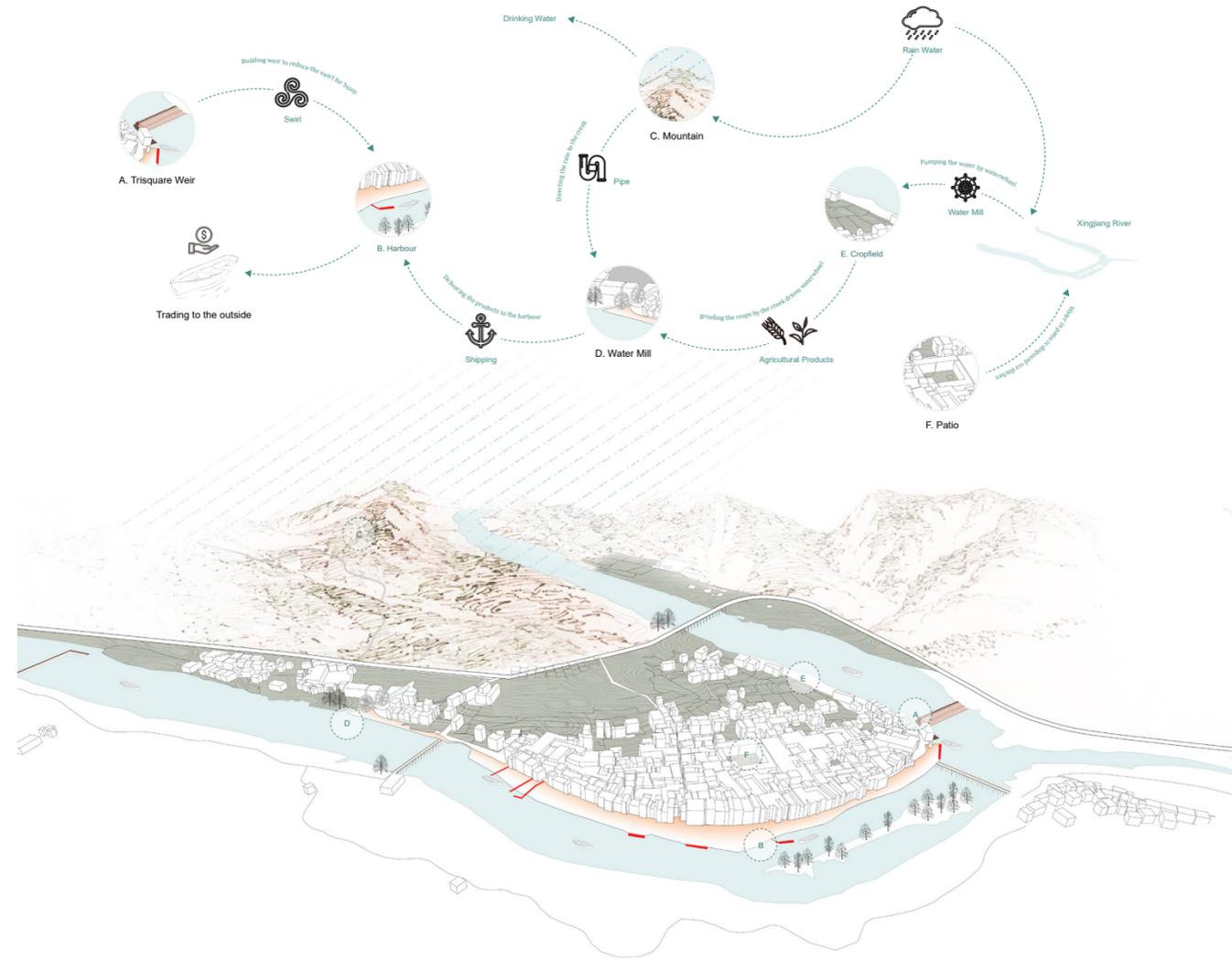
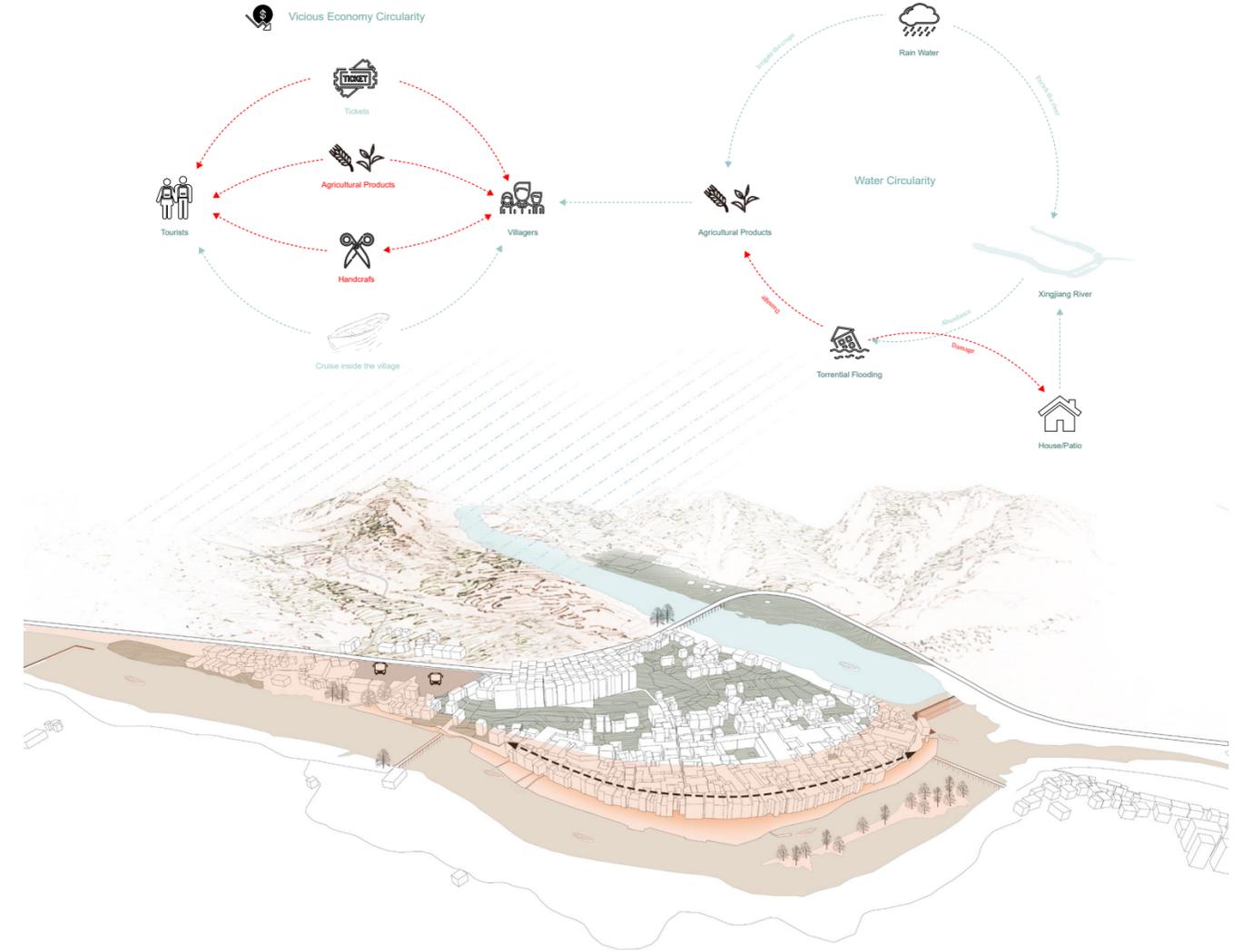


Image Source: <https://travel.qunar.com/p-pl5701883>

The Circular Life In The Past



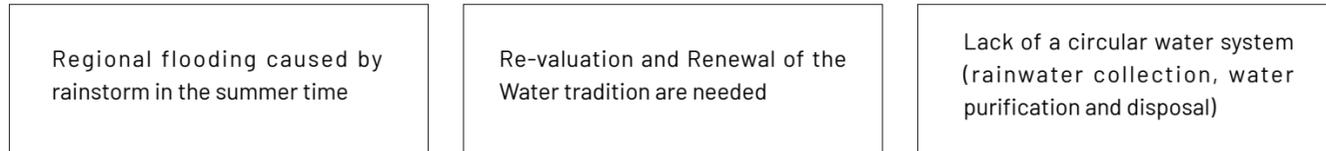
The Vicious Circular Life Now



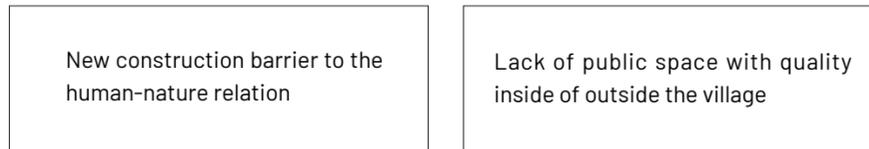
05.2 - Diagnosis and Proposal

Diagnosis

Water Issues



Public Space Issues



Industry Issues

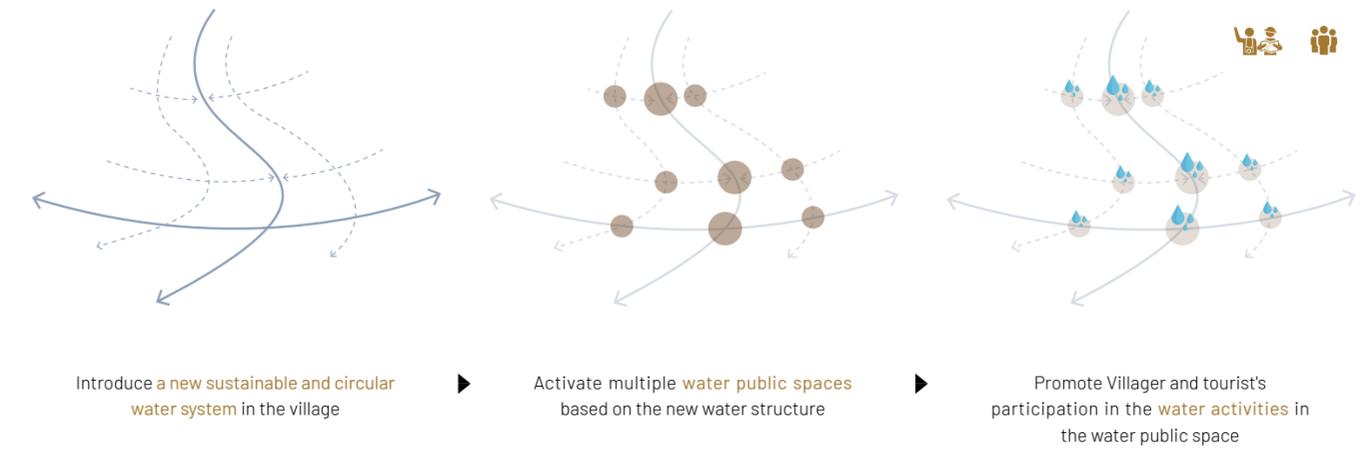


Culture and Tradition Issues

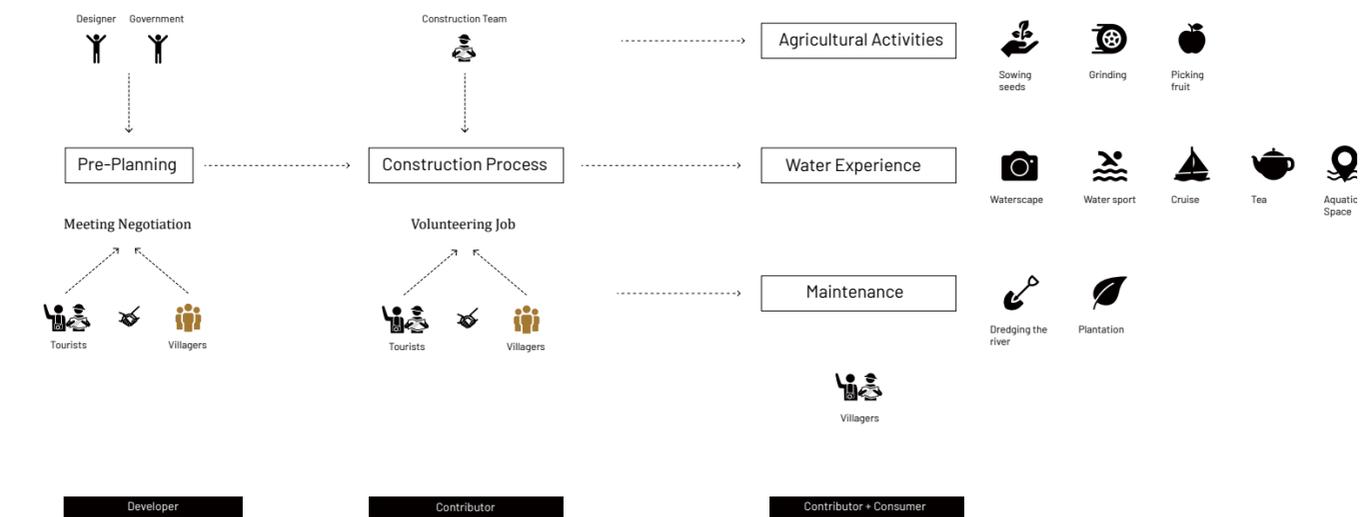


Proposal - Creating A New Balance of Living With Water

Concept



Promote Village and Tourist's participation in the Watery Rural Life

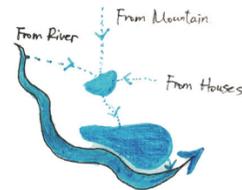


Principles From The Relevant Case Study

PROJECT:

Hongcun Traditional Water System

Direct water and Retention in the Village



The Idea of directing water from the Mountain, river and house for daily use, agriculture and fire-fighting

Water Retention as Public Space



Turn the water retention area in the village to public space for social activity and events

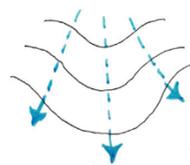
Gaohuai Village Rural Revitalization Overall Planning, China
- L.J.Design Limited

Water Purification by Gravity



Gravity drives the water purification system with indigenous plant

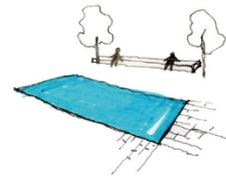
Using The Force of Topography



Use the forces of nature, minimal manual interference

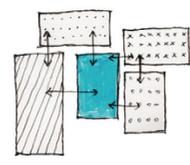
Hesilu Village Landscape, China
- Sasaki

Modernize The Village with new Element



Adding Urban Design Element and adapt it to the indigenous environment

Hybridization of Agro-activity



Establish connection & sequence between activities

Renewal of Fengqiao Town, China

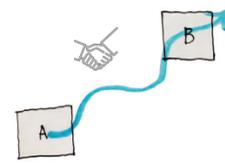
- Architectural Design and Research Institute of Zhejiang

Enhance Tourists and Villagers' Participation in The Build-up Process



Promot tourists and villagers' participation in the design process and maintenance of the village

Increase Cross-district Networks



Put pressure for an integrated territorial landscape transformation

Bring New Element

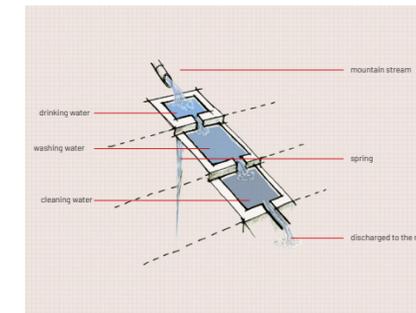
Adapt

Traditional Element

Wangkou

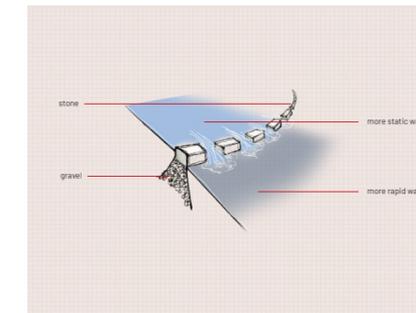
Principles From Studying The Traditional Water System in Wuyuan

三叠井 Triple Terraced Wells



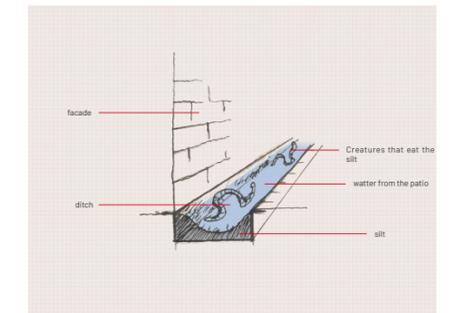
The terraced water pools or wells that recycle the water

石塌 Catch dune



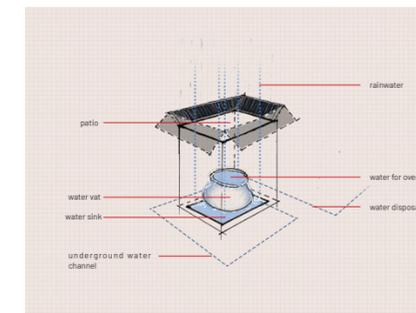
A Stone Structure that Catches the water to rise its level

排水明沟 Ditch



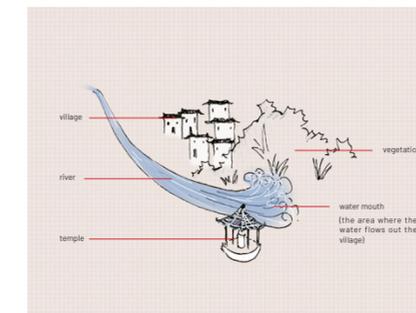
The ditch attached to the facade to discharge the water

天井 Courtyard



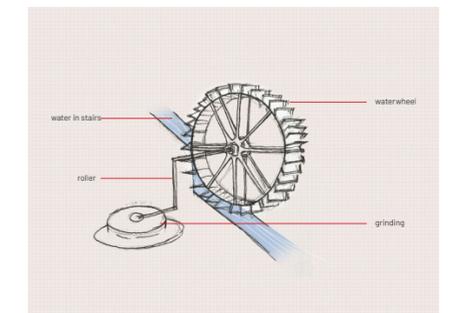
The Architectural structure used to catch the rainwater and light

水口 Water mouth



The area where the water flows out the village

水春作坊 Waterwheel Grinding



The Structure that utilize the height different dynamic of the water

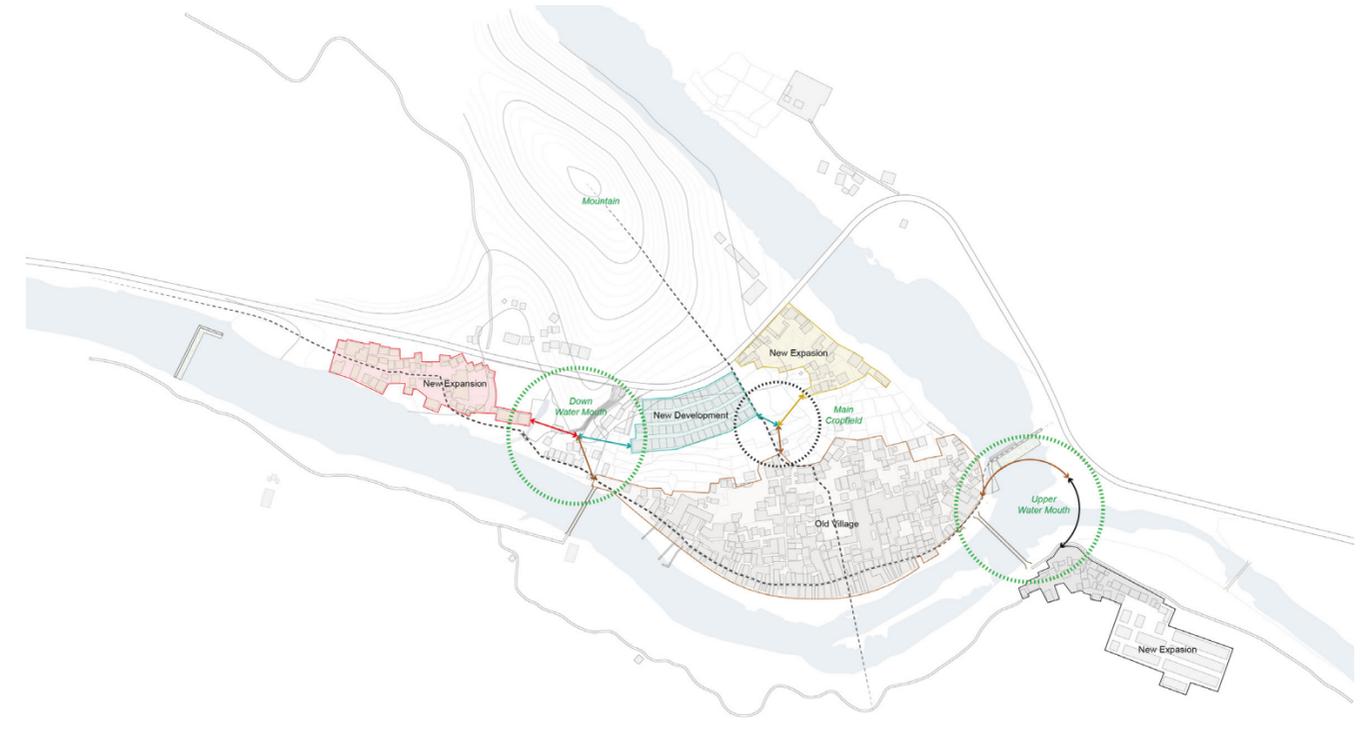
Emphasize Two Main Axes as The New Framework of Wangkou



Emphasize Two Main Axes as The New Framework of Wangkou

There are two existing main axis in the village, One is the axis from the mountain to the riverside through the village, which is the 'drama' of the landscape. This axis shows the relation between the village texture and the surrounding environment, the mountain, and the water. In this axis, The landscape typology changed from the mountain, the crop field, the alley, and the waterfront. The constant quality and value of the rural landscape compose this axis. Another axis is the linear riverside space embracing the whole village, What is along the riverside in the village is the busiest area, the commercial shopping street, where most tourists stay. This two axis can inspire the new structure of the village in the design. By emphasizing these two axes as the new main structure, all the existing road networks and attraction spots will be connected as a new framework based on the new circular water system. The public spaces in this two axis will also activate people's social interaction, on the one hand, they will gather people in the public spaces in the town. On the other hand, they will disperse the crowd in the town center to enable them to experience the multiple and diverse rural water landscape in the whole village. Under this framework, People will not only focus on staying in the allies but also stroll around in a sequence of public spaces to better experience the lively rural life in Wangkou

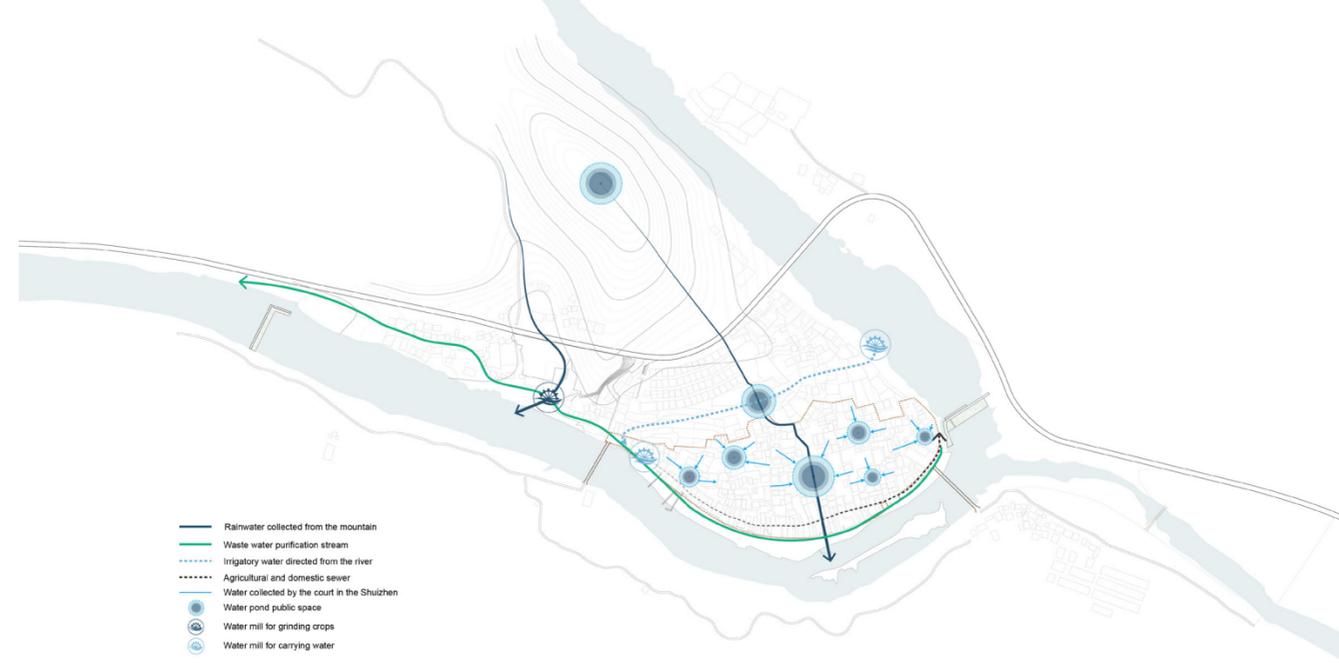
Junctions as The Binders to Increase Inter-district Network



Junctions as The Binders to Increase Inter-district Network

According to the existing disconnected districts in Wangkou, The old town and new development area don't have coherence in the big context. However, The junctions areas between each part have great potential to serve as the role of binder to increase the inter-district network. The map shows the possibility of reinforcing three binders, ones are the upper and down water mouth on the left and right part of the village, they used to be green spaces with temples because of people's belief that the water mouth can catch the wealth and fortune in the village. Nowadays, The down water mouth is occupied by the parking lot and visitor center, and the upper water mouth is left barren. They have the potential to serve as the public green space connecting the old town and the new development area in the future. What is the middle of the village is the crop field, and it can be developed to a public space to enhance the connection and coherence between the old town and the new housing area.

Potential 1 - Introduce A New Circular Water System



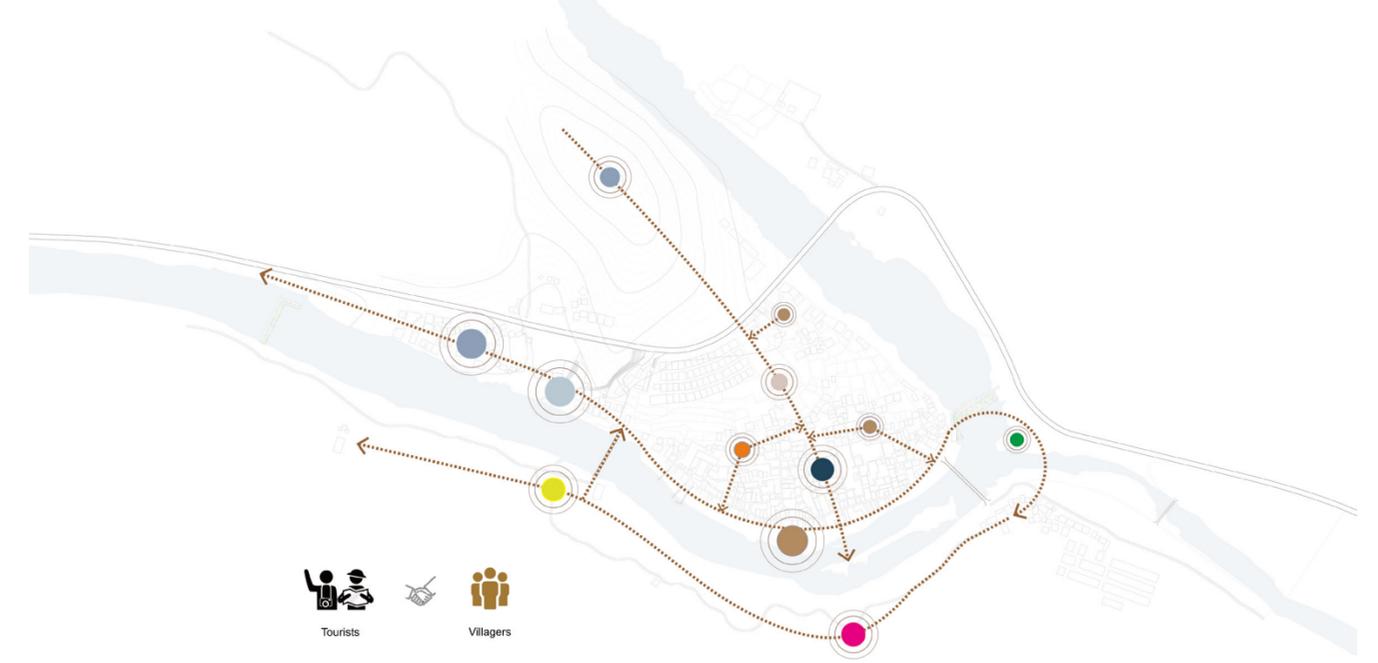
Potential 3 - Enhance Cultural Aspect of The Village



Potential 2 - Activate Multiple Public Spaces Based on The Water System



Potential 4 - Promote People's Participation



Context of Axis 1



05.3 - Design Implement

Design Exploration - Axis 1

The landscape components of axis 1 changes as a linear sequence from the mountain, the crop field, the square, the alley, and to the waterfront. This sequence enables people to experience the constant value and quality of the rural landscape. Several existing public spaces can be transformed as the gathering place with water retention. It is proposed to introduce linear water flow from the mountain to the riverside. The rainwater collected on the mountain will flow over multiple different types of water retention areas and get disposed to the river.

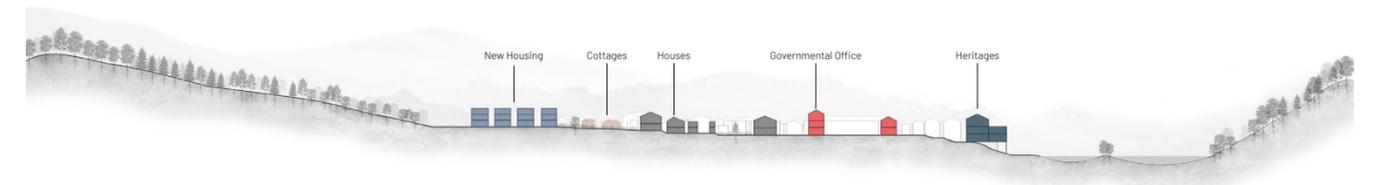
Landscape Components of Axis 1



Existing Section



Building Typology in The Section



Axis 2 as The Link to Increase Inter-district Connection



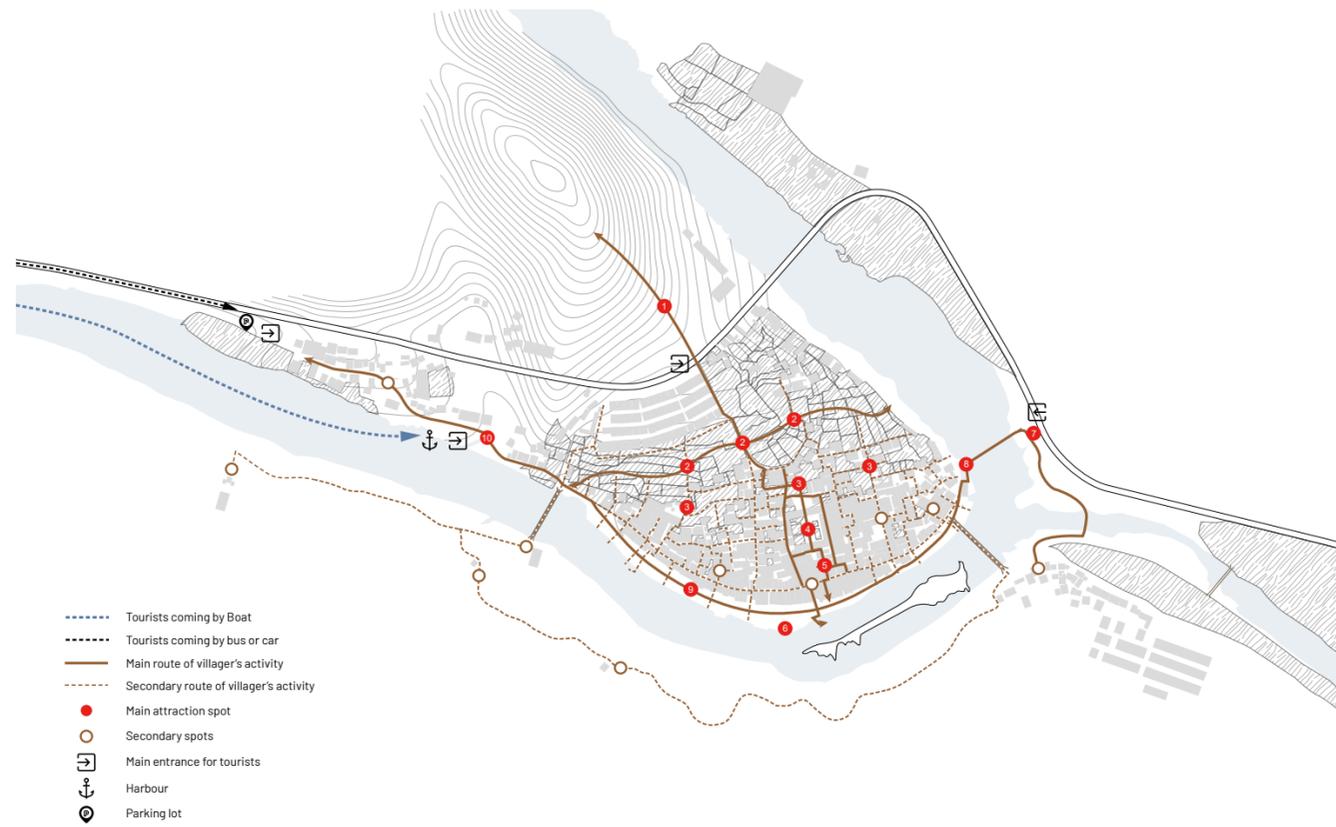
Design Exploration - Axis 2

The landscape components of axis 2 consists of three parts and two nodes. The three parts are the river sedimentation area in the old town, the new expansion on the right part on the map, and the new development area on the downstream part. The two nodes are the two water mouths. As what is illustrated before, The sedimentation area enables people to experience the riverside of the village, only women are using this area for daily cloth washing, most villagers and tourists are not willing to step in this area. However, In the past, 18 old harbors are scattered along the river edge, where used to be the busiest area in the village. It can still be traced that the riverside connects 18 main allies towards 18 old harbors. In the past, The water mouth was where people gather and socialize, the value of the water mouth is proposed to be gain back. Therefore, It is proposed that the two water mouths can be transformed as a public green space with multiple functions to enhance the connection and coherence between the old town and the new expansion area. What is more, By increase the landscape quality of the riverside axis, people will not only stay in the allies inside the village but to experience and explore the quality of the riverside landscape.

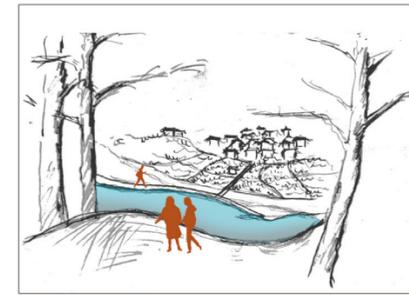
Landscape Components of Axis 2



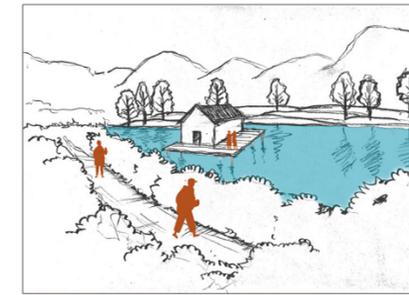
The new water public space network for inhabitants and tourist



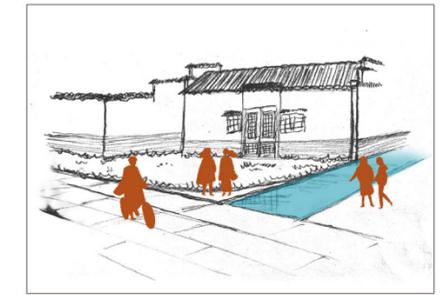
Sketches of The Attraction Spots



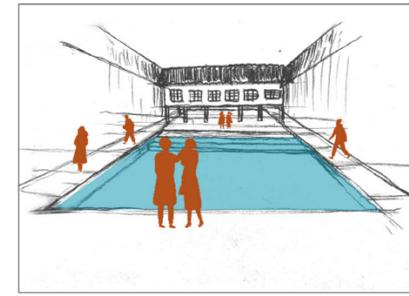
1 Recreational Mountain-scape



2 Agricultural Cropfield and Cottage



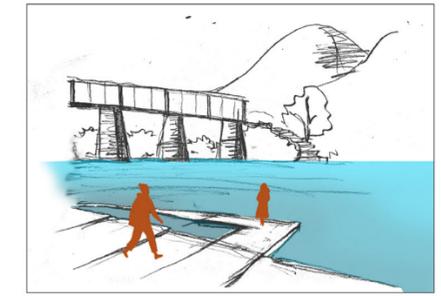
3 Private Garden Landscape



4 Hongxin Water Square



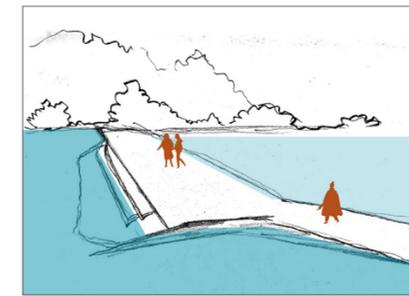
5 Ancient Alley Scape



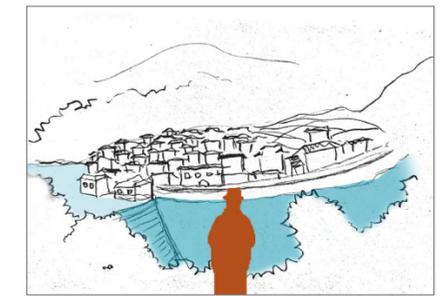
6 Waterfront - Old Harbour heritage



7 Water Purification Stream



8 Ancient Weir



9 Viewing Platform

The new water public space network for inhabitants and tourist

Based on the existing people's movement and the proposed two new Axis in the village, the proposal is to invest multiple attraction spots in the village to form a water public space network. People can choose a different route to experience a different quality of the rural landscape in Wangkou. For instance, If some tourists come here only for the fast-line, they can explore the main axis of the village. But for those people who have more free time, they could detour around to experience and perceive the different types of spaces at a slow pace. By creating this network, a wide value of the village, the identity is excavated. Villagers and tourists would explore the different quality of the rural life, and more importantly, people are not coming here just for the image form of the village but for the identity and value of the village.

Water as The 'Note' of The Route

A variety of Water Public Spaces will be introduced to highlight the quality of water landscape in Wangkou. By experiencing multiple visiting routes, Visitors would walk through different water public spaces such as the water retention on the mountain, the water pond in the crop field, the ditches in the alley, the water square and the riverside. Villagers will regain the identity of the village where they live, and the visitors would have a more educative and interactive journey in the village.

Proposed Master Plan

LEGEND

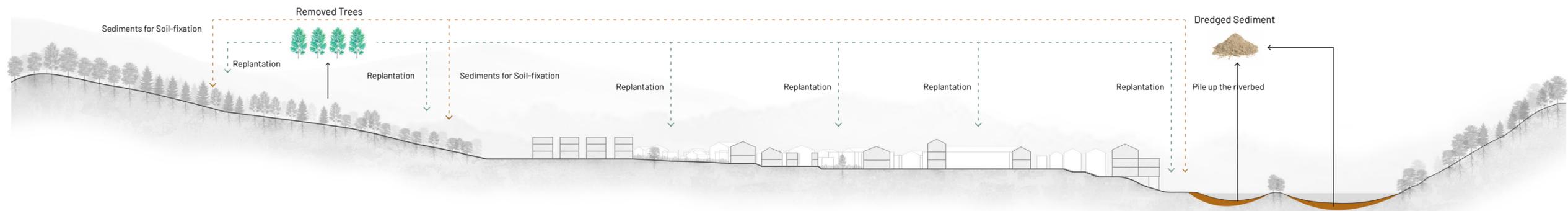
1. Proposed Master Plan
2. Small water reservoir
3. Water pond for irrigation
4. Orchard
5. Water garden in crop field
6. Private garden
7. Hongxing Water Square
8. Cafe
9. Riverside Square
10. Weir
11. Viewing platform
12. Upper water mouth
13. Water purification
14. Washing clothes area
15. Crop field
16. Rape flower sea
17. Want pond in new housing
18. Down water mouth park
19. Agricultural factory
20. New harbour
21. Ancient trees
22. New housing area
23. New parking lot
24. Xiang mountain



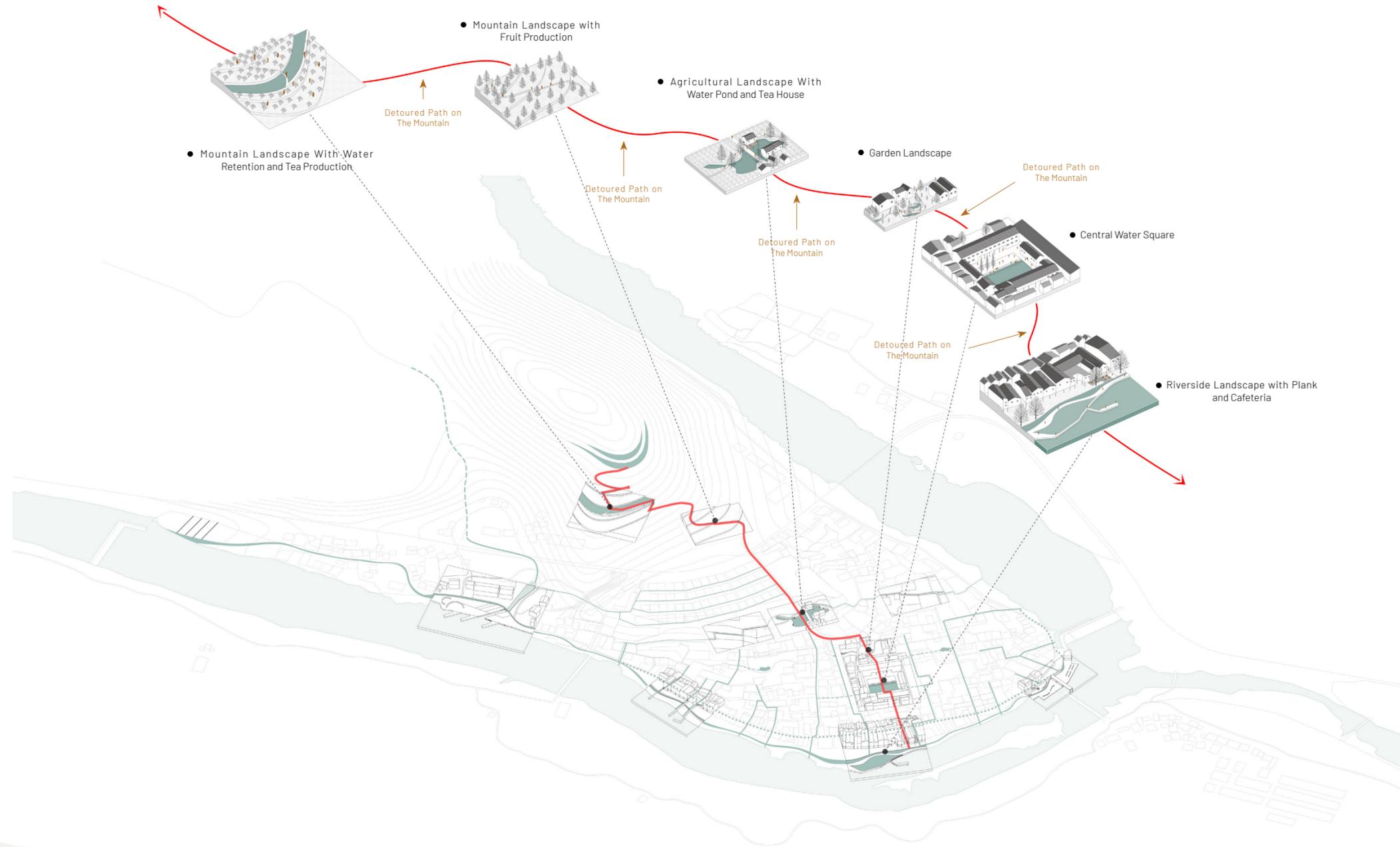
Plants and Birds

- | | | | |
|---|--|--|--|
| 
<i>Cinnamomum camphora</i> | 
<i>Ginkgo biloba</i> | 
<i>Cerasus subhirtella (Miq.) Sok.</i> | 
<i>Metasequoia glyptostroboides</i> |
| 
<i>Salix babylonica</i> | 
<i>Zelkova serrata</i> | 
<i>Osmamthus fragrans var. thunbergii</i> | 
<i>Pterocarya stenoptera</i> |
| 
<i>Aix galericulata</i> | 
<i>Garrulax courtoisi</i> | 
<i>Alcippe hueti</i> | 
<i>Parus major</i> |
| | | 
<i>Urosphena squameiceps</i> | 
<i>Phylloscopus ricketti</i> |

Proposed Water System and Main Attraction of Public Space



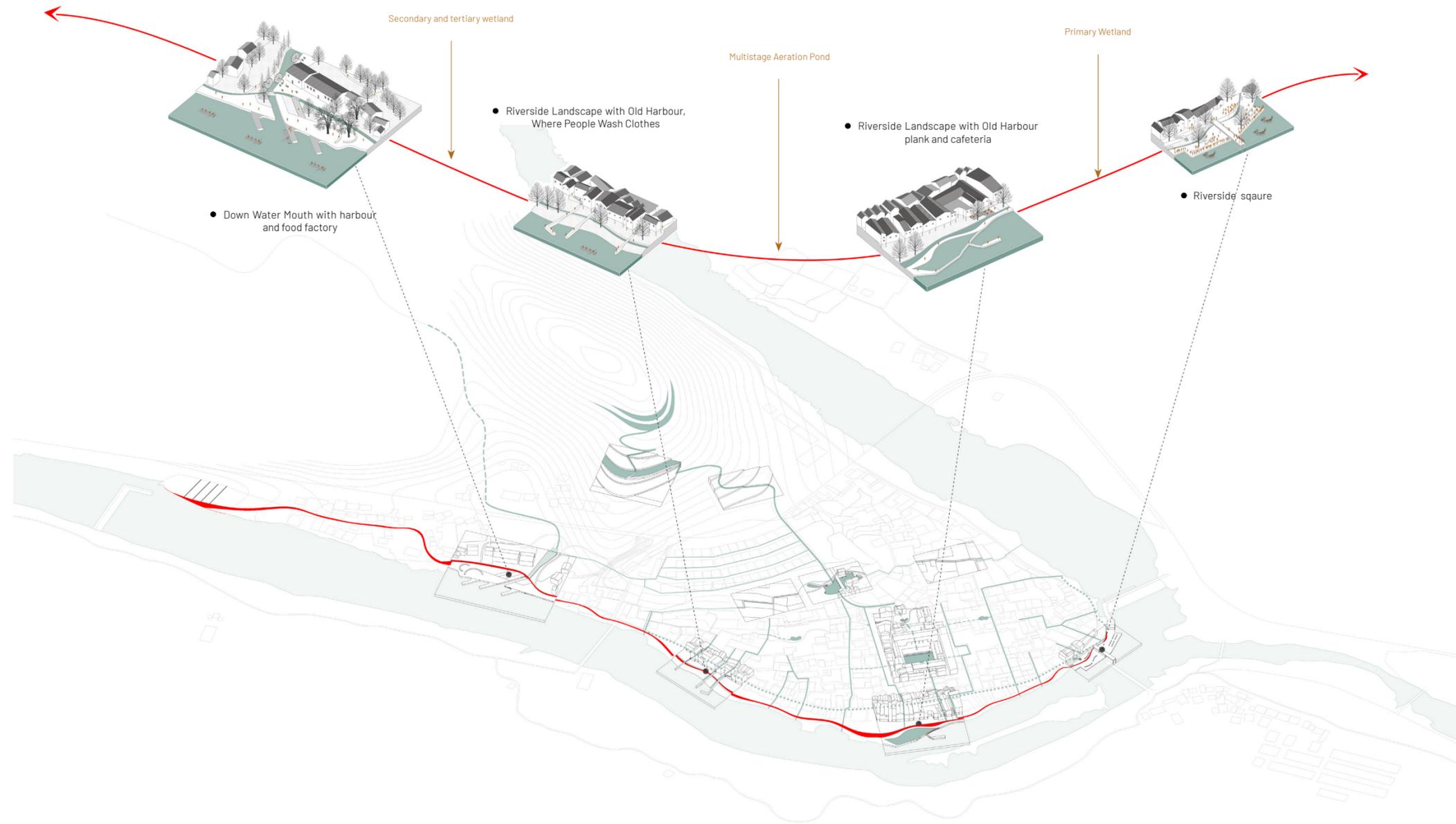
Spatial Sequence of Axis 1



Section

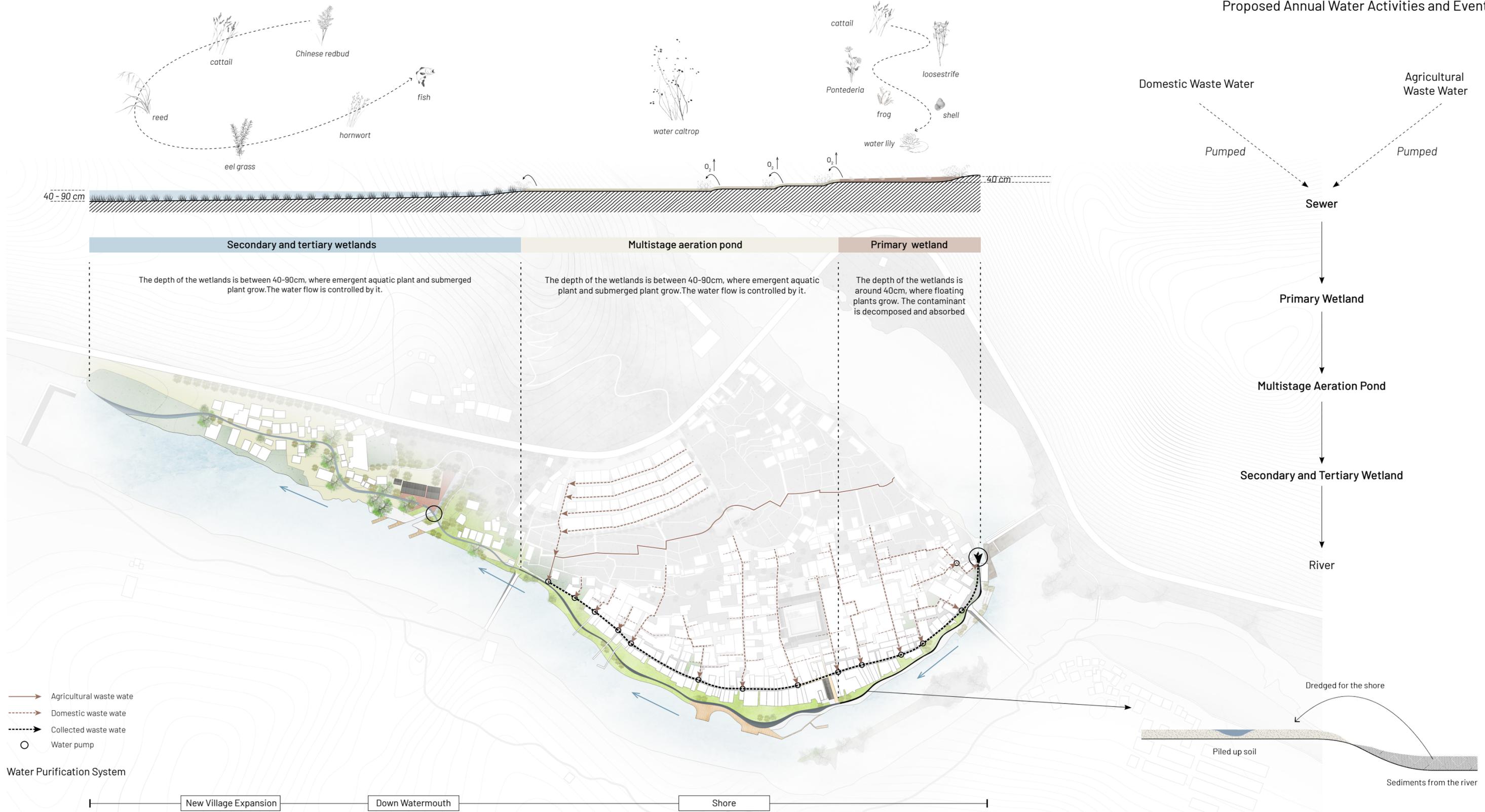


Waterside Experience of Axis 2

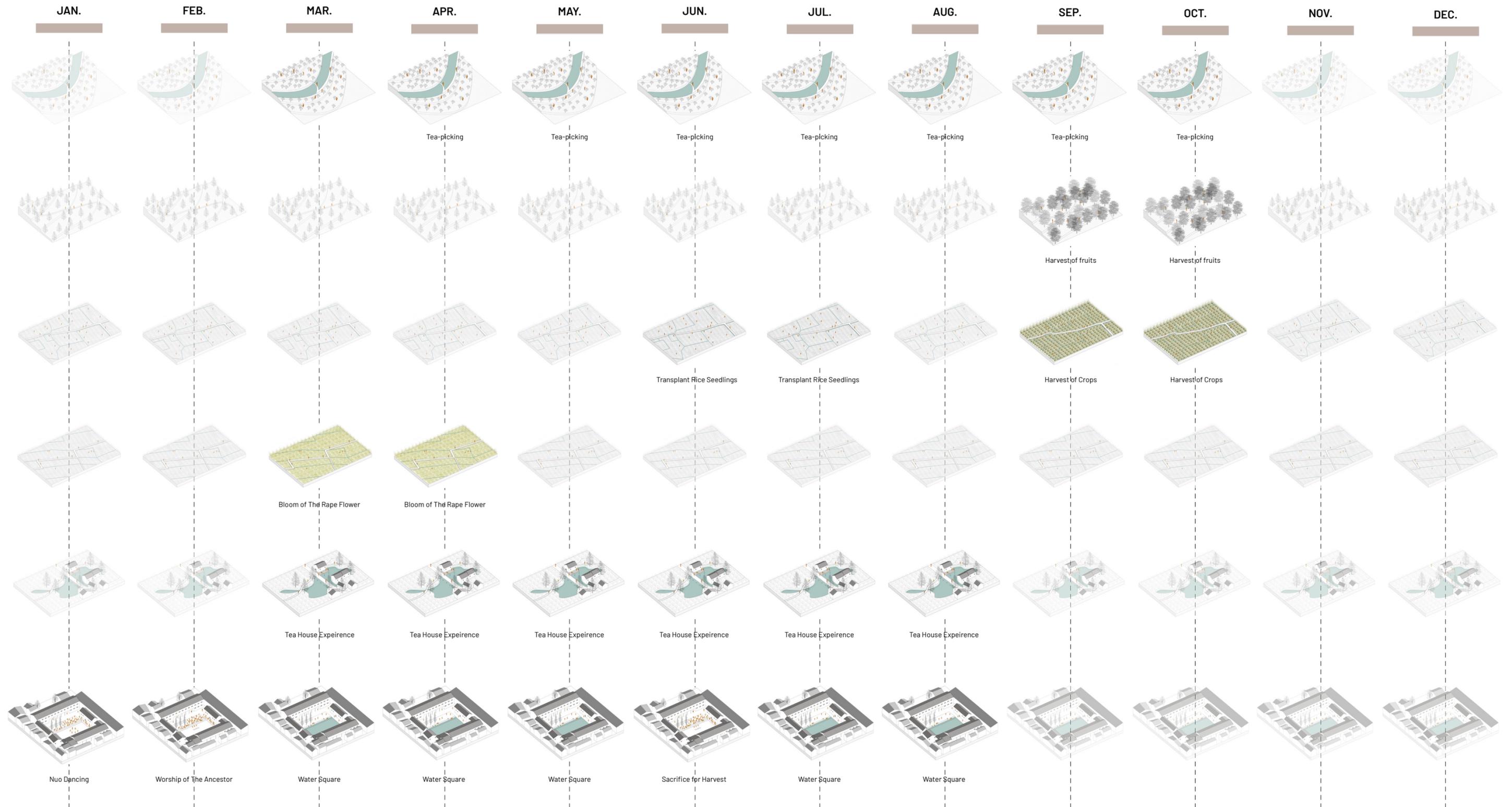


Water Purification System

Proposed Annual Water Activities and Events



Proposed Annual Water Activities and Events



JAN.

FEB.

MAR.

APR.

MAY.

JUN.

JUL.

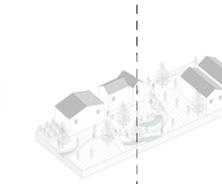
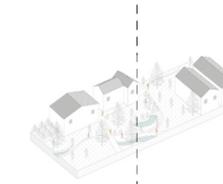
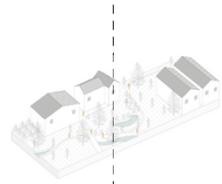
AUG.

SEP.

OCT.

NOV.

DEC.



Bloom of Flowers

Bloom of Flowers

Bloom of Flowers

Dragon Boat Race

Sun Drying of Clothes

Sun Drying of Crops

Sun Drying of Crops

Washing Clothes

Washing Clothes

Washing Clothes

Washing Clothes

Washing Clothes

Washing Clothes

Water Experience

Water Experience

Water Experience

Water Experience

Water Experience

Water Experience

Dredging the River

Dredging the River

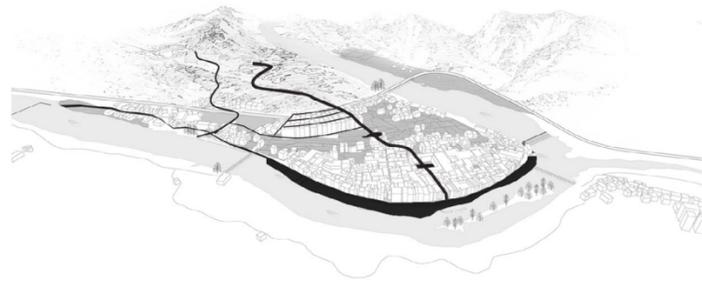
Oil Expression

Oil Expression

Grinding Crops

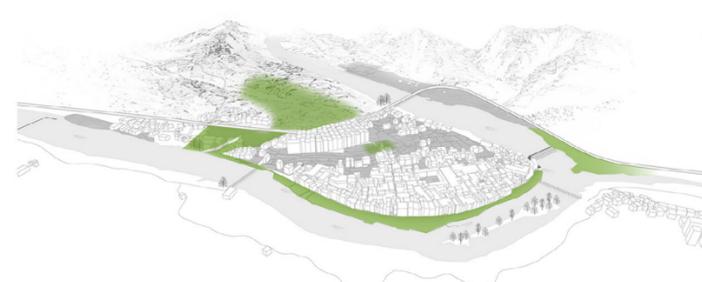
Grinding Crops

The Implementation of Master Plan in Phases



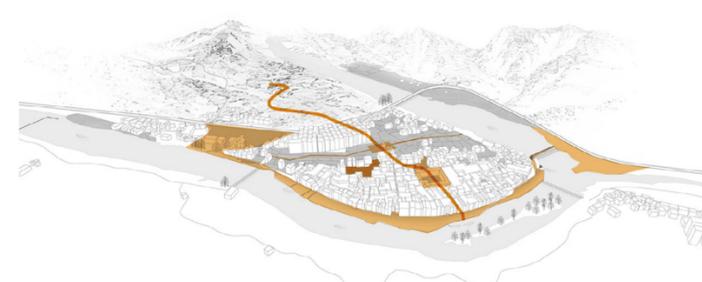
Earth-work of New Water System

The first phase of the implementation is the earth-work of the new water system. The main process of this is to dredge the sediments in the river and the excavation of water ponds. The sediments will be used for soil-fixation, and the removed trees from the mountain will be replanted in the newly introduced public space.



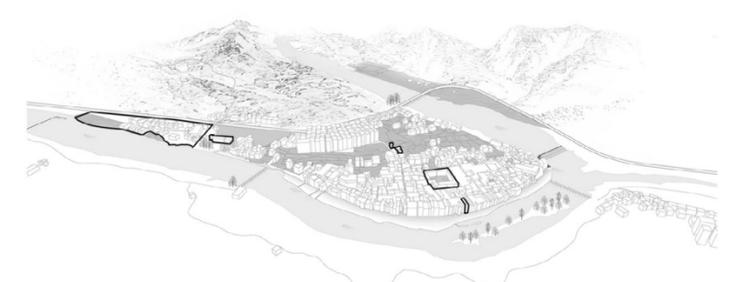
Revegetation and Plantation

At some point during the earth-work, the revegetation replantation process. The core is to use of vegetation for soil fixation to avoid the water and soil loss around the new water ponds. The replantation is to replant those removed trees to the public spaces.



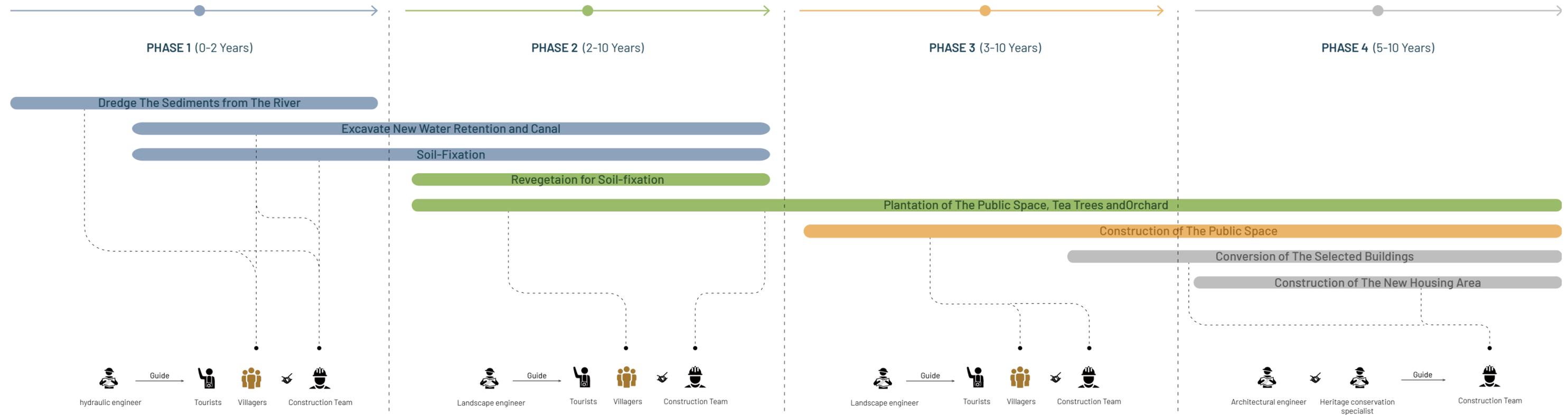
Construction of Public Spaces

Phase three is the construction of new public spaces after all the basic construction of the site. This process includes the square, the green spaces, the public space along the riverside.



Construction of New Housing

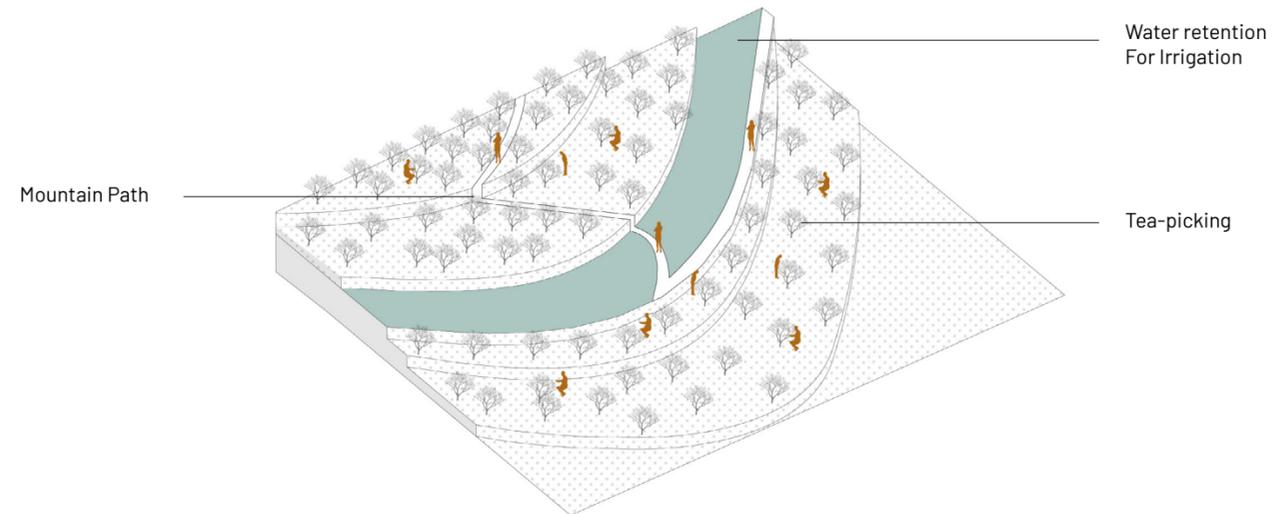
The final phase is to build up the new housing development in the western part of the village, besides, the conversion of the selected buildings in the town takes place as well.



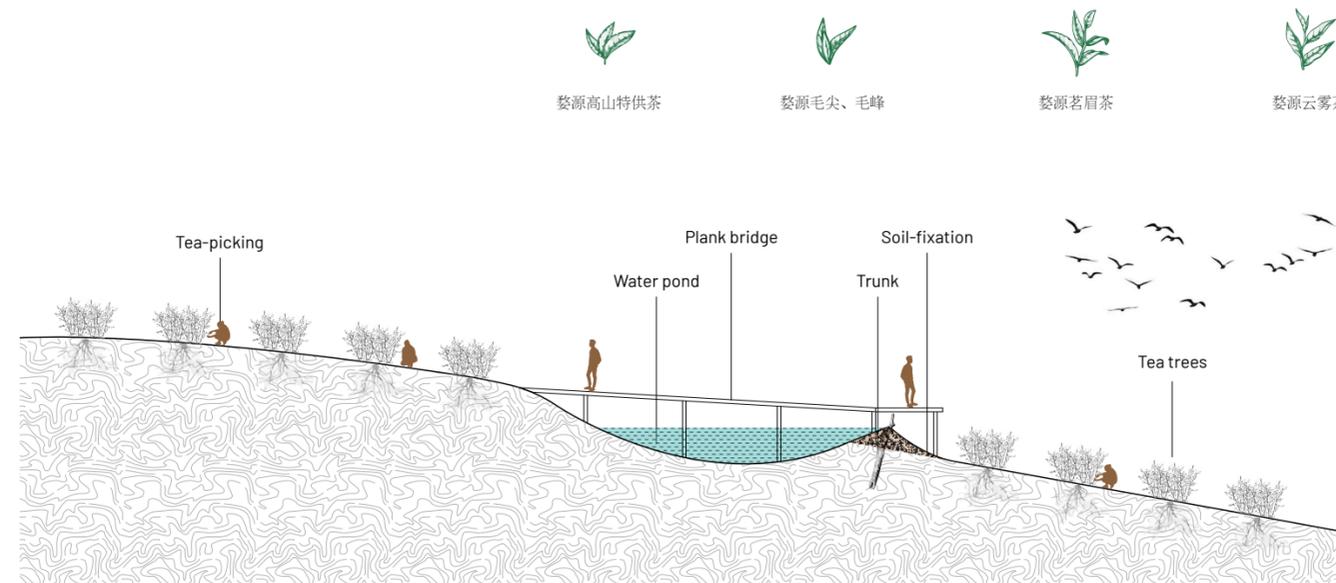
Intervention on The Mountain

Tea-picking Season **MAR. - OCT.**

Tea production has been a main industry and attraction in Wangkou for centuries, The intervention is to add the water irrigation pond in the tea production area for two purpose, firstly to catch the water for the daily use, secondly to irrigate the tea trees. Mar. to Oct. very year are the tea-picking season, when visitors can villagers can experience picking up the tea leaves by themselves. The visitors would bring the tea they picked up by themselves to the tea house in the crop field to appreciate it.



Section and Detail



Plantation of Fruits Trees **At The Beginning**

Fruit production used to be one main industry in Wangkou, Therefore, it is proposed to bring back the orchard to increase villager's income. The intervention is to add the orchard, where visitors can volunteer to plant the fruits trees. Some paths through the orchard are added for the visitors to experience the orchard and the view from the mountain. Almost 6 years after plant the trees, The visitors can come here for the flowers in the spring and pick up the fruits in fall.

Bloom season



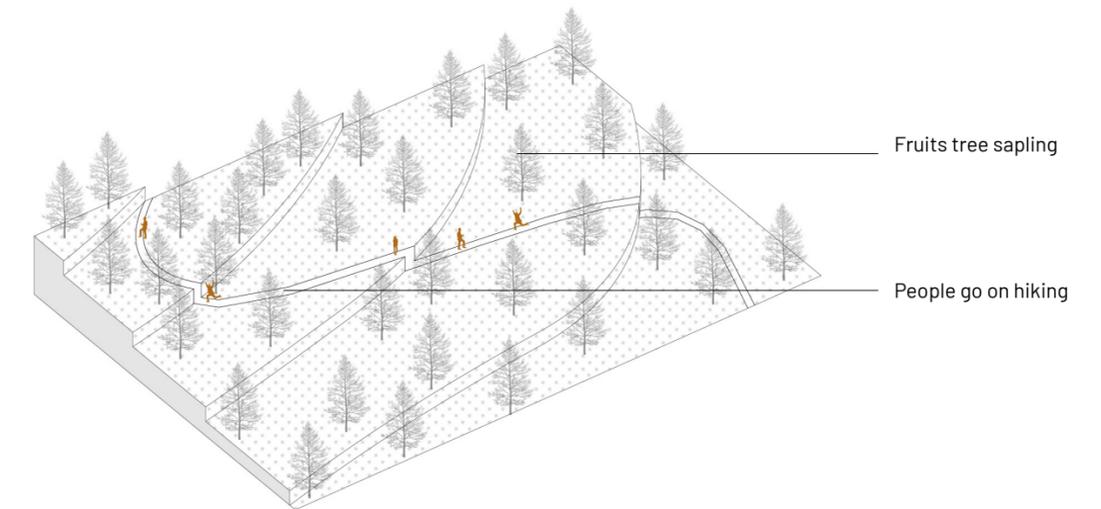
Eriobotrya japonica (Lindl.)



Pyrus spp.



Myrica rubra (Lour.)Zucc



Six Years

Harvest of Fruits **SEP. - OCT.**

Harvest season



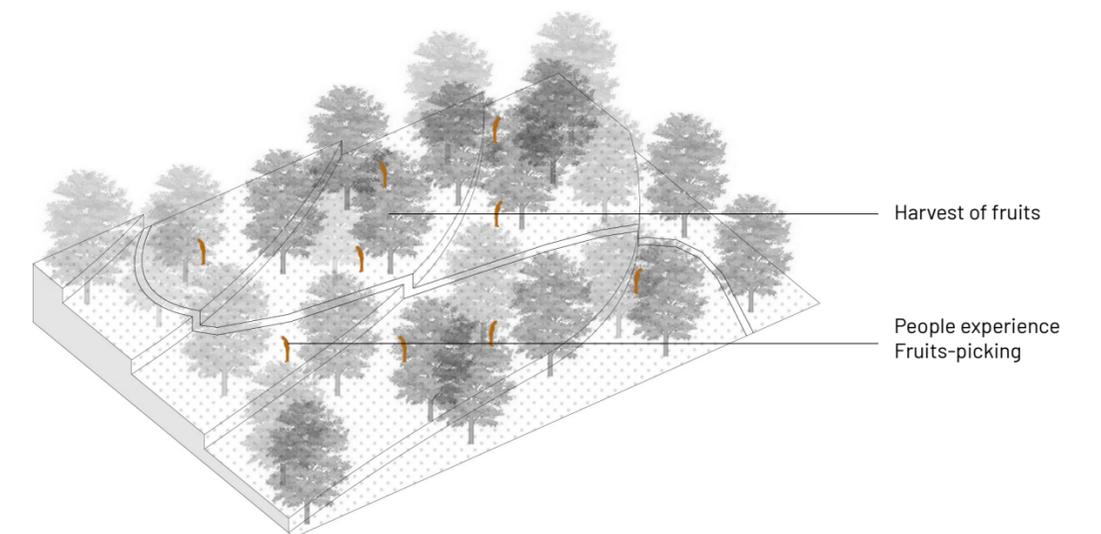
Pear



Loquat



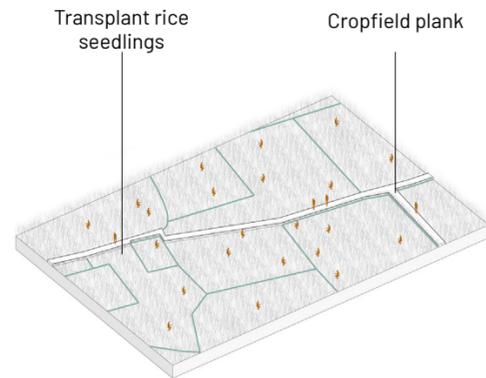
Waxberry



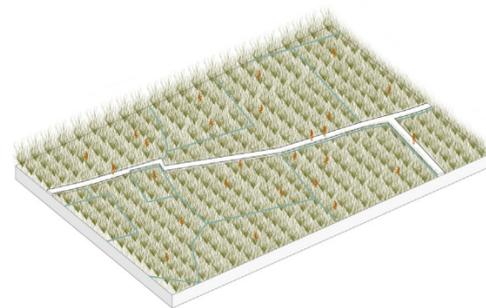
Intervention on The Cropfield

Transplant Rice Seedlings **JUN. - JUL.**

Every year between Jun.-Jul. is the time to transplant rice seedlings, It is proposed to hold the annual match to promote visitors and people's interaction, as well as education visitors with the agro-knowledge



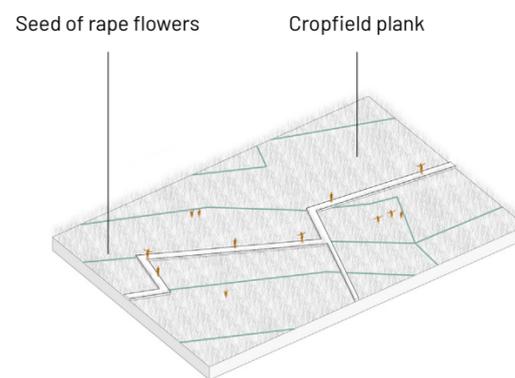
Harvest of The Crops **SEP. - OCT.**



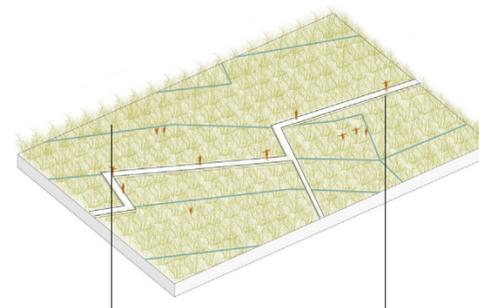
Transplant Rice Seedlings Match

Seedling of The Rape Flower

Rape Flowers sea is the most iconic landscape in Wangkou, However, there was no visiting plank for the visitors to detour in the flower see, The design is to propose a visiting path through the rape flower field for the visitors.



Bloom of The Rape Flower **MAR. - APR.**



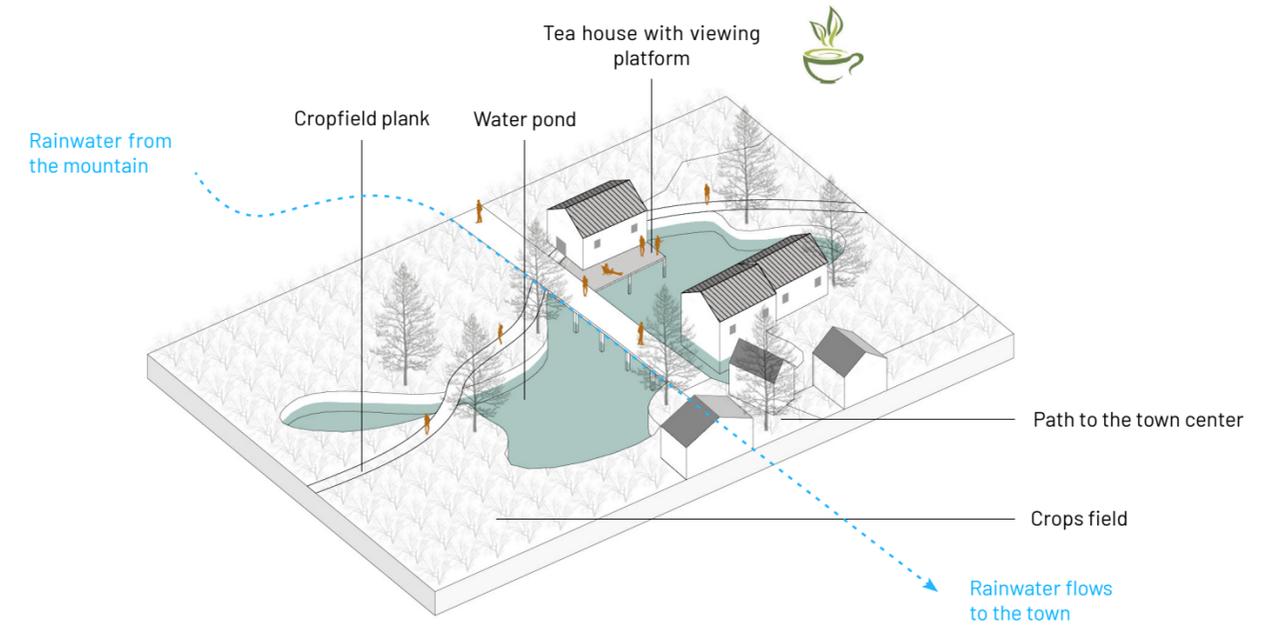
Rape flower-picking
People go sightseeing in the rape flower sea



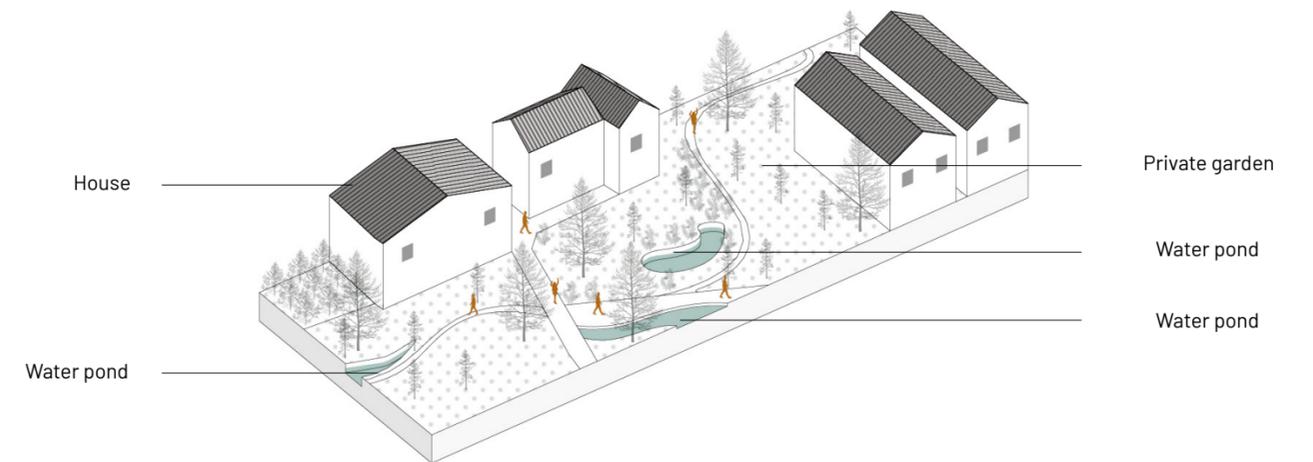
Rape Flower Sea

Tea Houses in The Cropfield **MAR. - AUG.**

After walking in the village, the first view comes to people's eyes is the cropfield landscape, As part of the new water system, the water from the mountain will flow to the water pond for irrigation. To highlight the quality of the quality of this place, 3 existing cottages are converted to the tea houses. Every year during the tea-picking season, the visitors can firstly pick the tea leaves and bring it here for tea appreciation. It is a nice experience to enjoy the flavor of tea and the peaceful view of the cropfield.

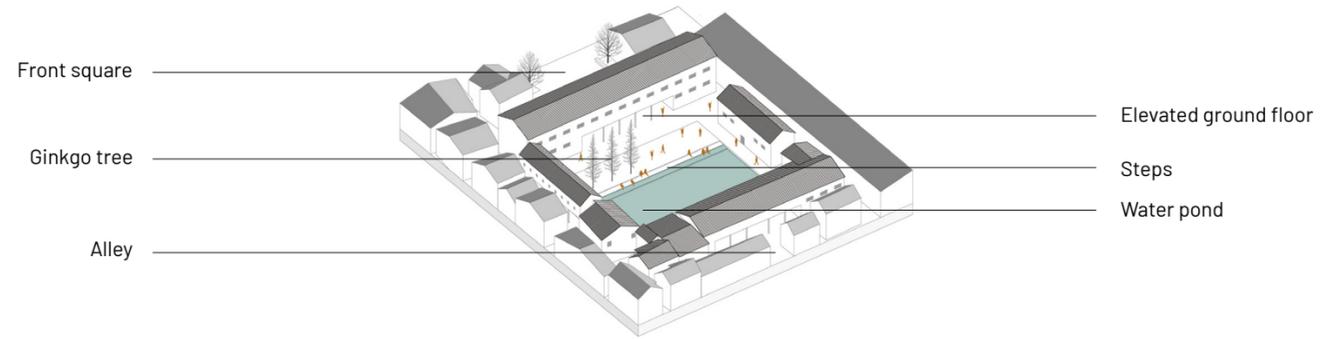


Bloom of Private Garden **MAR. - MAY.**

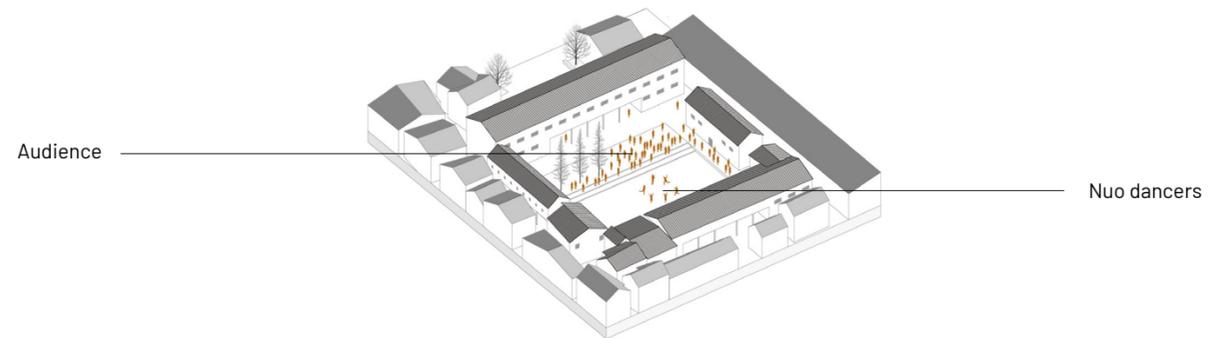


Intervention on The Town Center

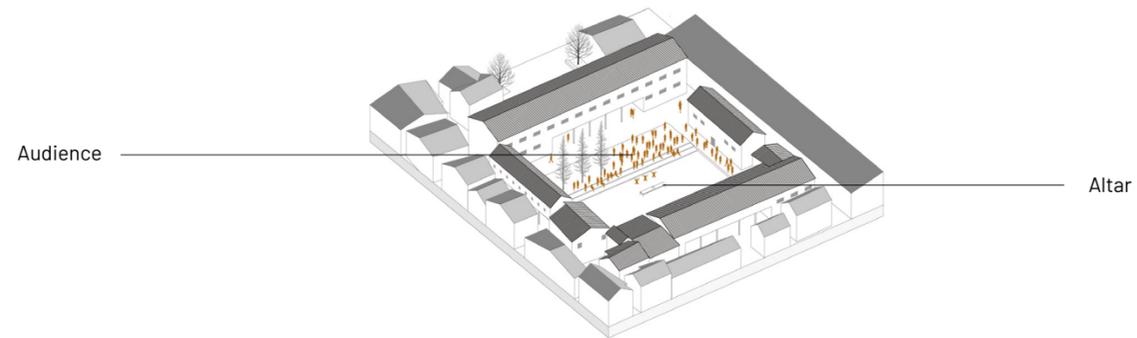
Sqaure Water Experience **MAR. - AUG.**



Nuo Dancing **JAN.**



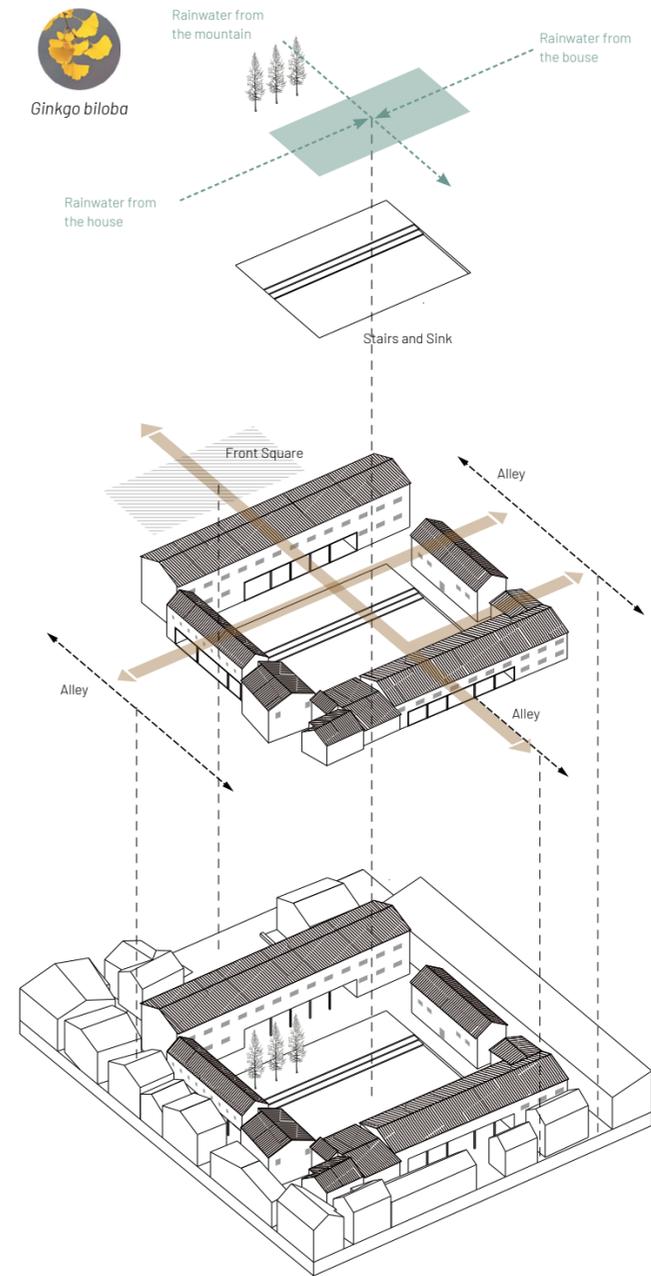
Worship to The Ancestor **FEB.**
Sacrifice for Harvest **JUN.**



The water flows from the garden to the introduced shallow water pool in Hongxi square where people gather, communicate, and participate in annual water activities and events. The design enables multiple activities happening here. In the rainy season, people can experience the water square, and in Jan., Feb., and Jun, Nuo dancing, Sacrifice to the ancestor, and harvest will take place. This square becomes a new public center for both villagers and visitors.

Sqaure Water Experience

As the main element in this square, a shallow-water pool is proposed to collect the rainwater from both the mountain and the houses. Three Ginkgo biloba trees are planted to enrich the color and vibe of the space.



Increase The Openness to The Alley

To make this square more accessible and open, It is posed to elevate the ground floor of the existing governmental offices to connect the designed front square and the surrounding alleies.

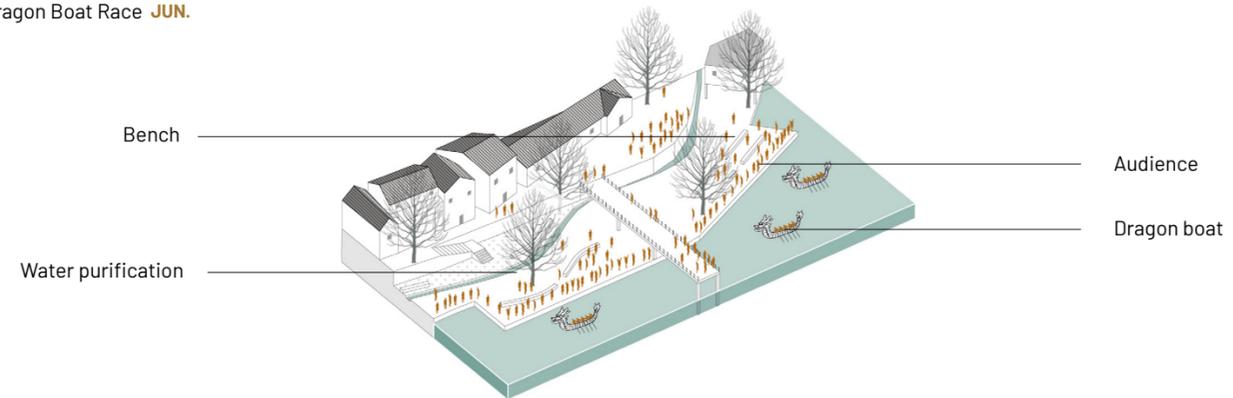
Hongxing Square A New Village Center

As the biggest public space in the village center, the possibility of it is to stress it as the new center of the village, where people gather and hold social activities.

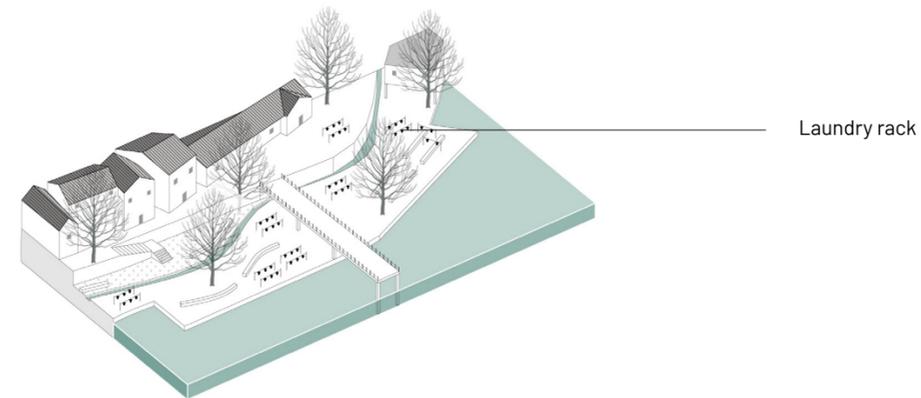
Intervention on The Riverside

This public space under the bridge is one of the busiest areas in the village, where people dry out their clothes and food. And it is the place where the annual dragon boat match starts. The design provides the multi-function of the place. Some benches and trees are added for daily use, During the big events period, there are more spaces for people to gather here compared to that in the past.

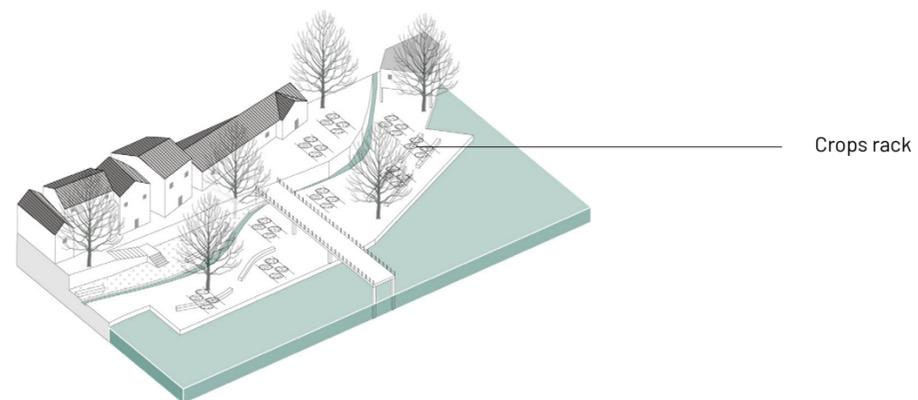
Dragon Boat Race JUN.



Sun Drying of Clothes JUL.



Sun Drying of Crops SEP. - OCT.

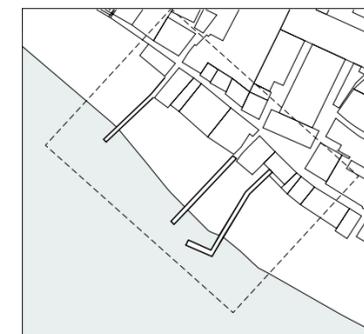


Washing Clothes and Water Experience MAR. - AUG.

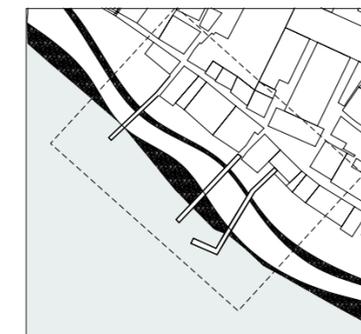
The intervention on this part is to preserve the existing old harbor structure for women to wash their clothes as well as for the visitors to go sightseeing. As part of the attraction spots along the riverside, the created water purification brook links these three strips, where people can stroll around.



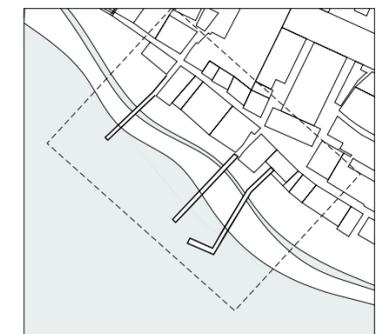
Generate Idea



Perserve the existing harbour strcture



Dredge the river and dig out a brook

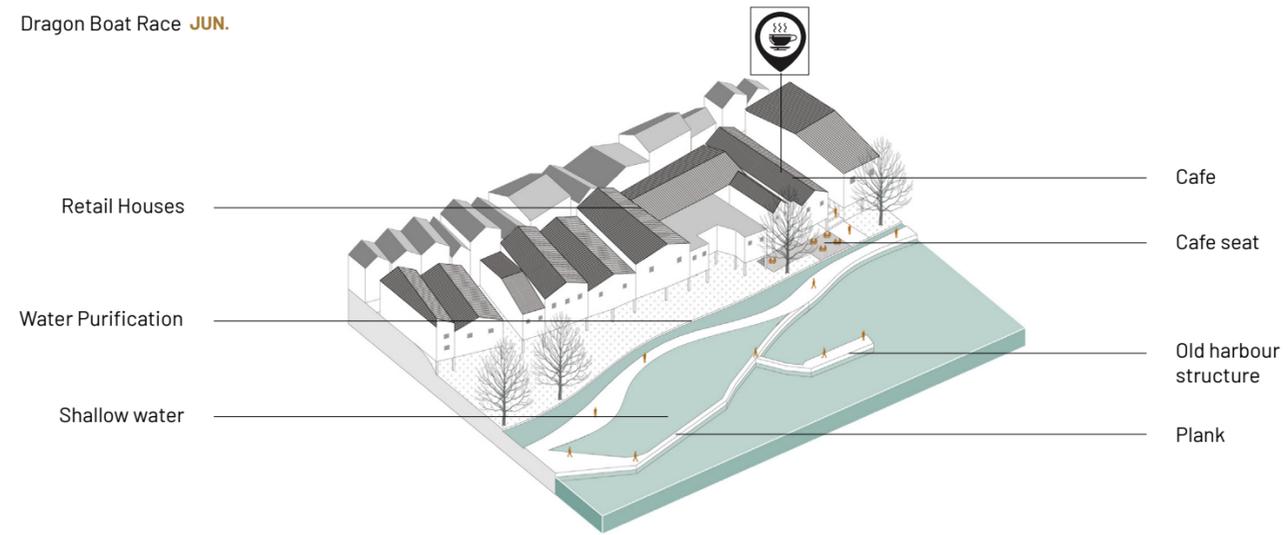


Creat Public space

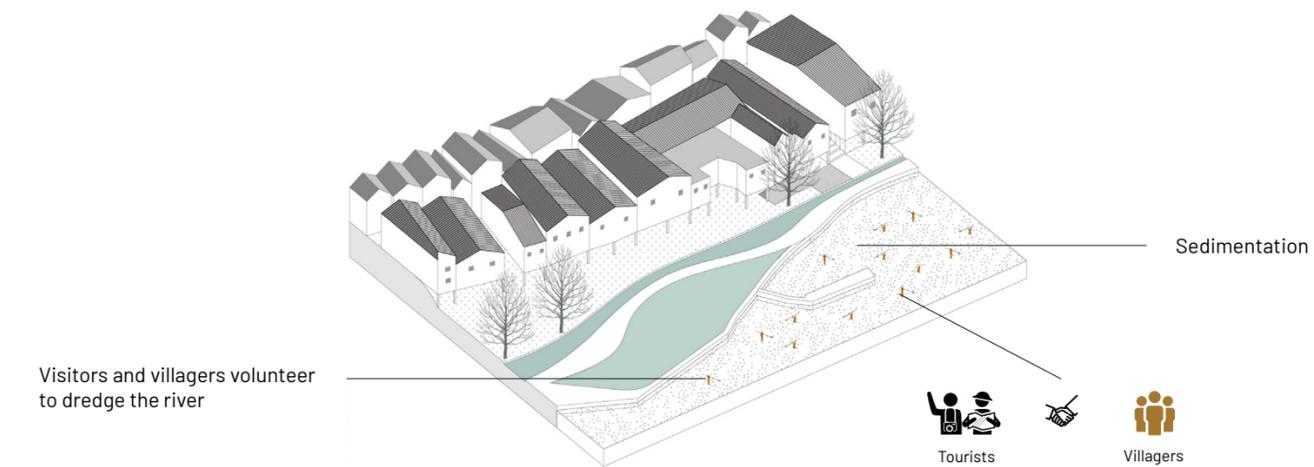
Intervention on The Riverside

As the terminate of Axis 1, This riverside is converted based on the existing harbor structure. The idea is to create a walking path on the river to get more water experience. A small shallow water pool is designed to hold water activities for young people and children in summertime. Besides, One riverside house is transformed into a cafe, where people can sit can enjoy the view of the river.

Dragon Boat Race **JUN.**

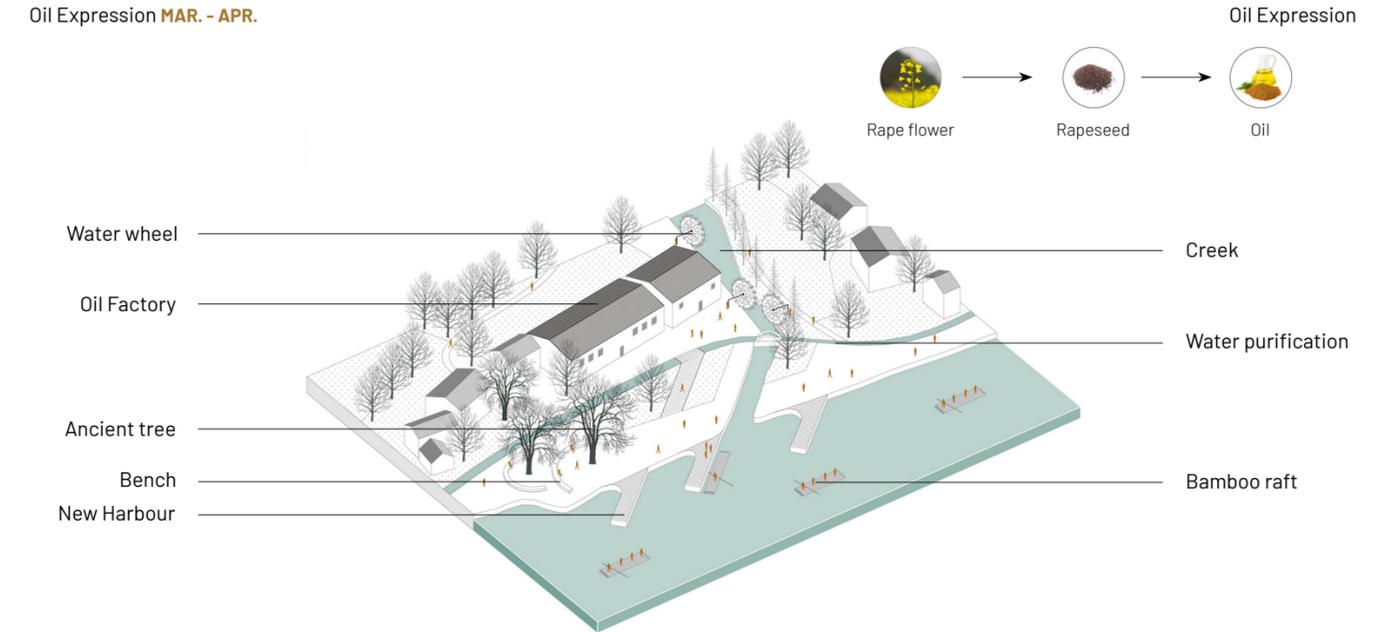


Dredge The River **NOV. - DEC.**

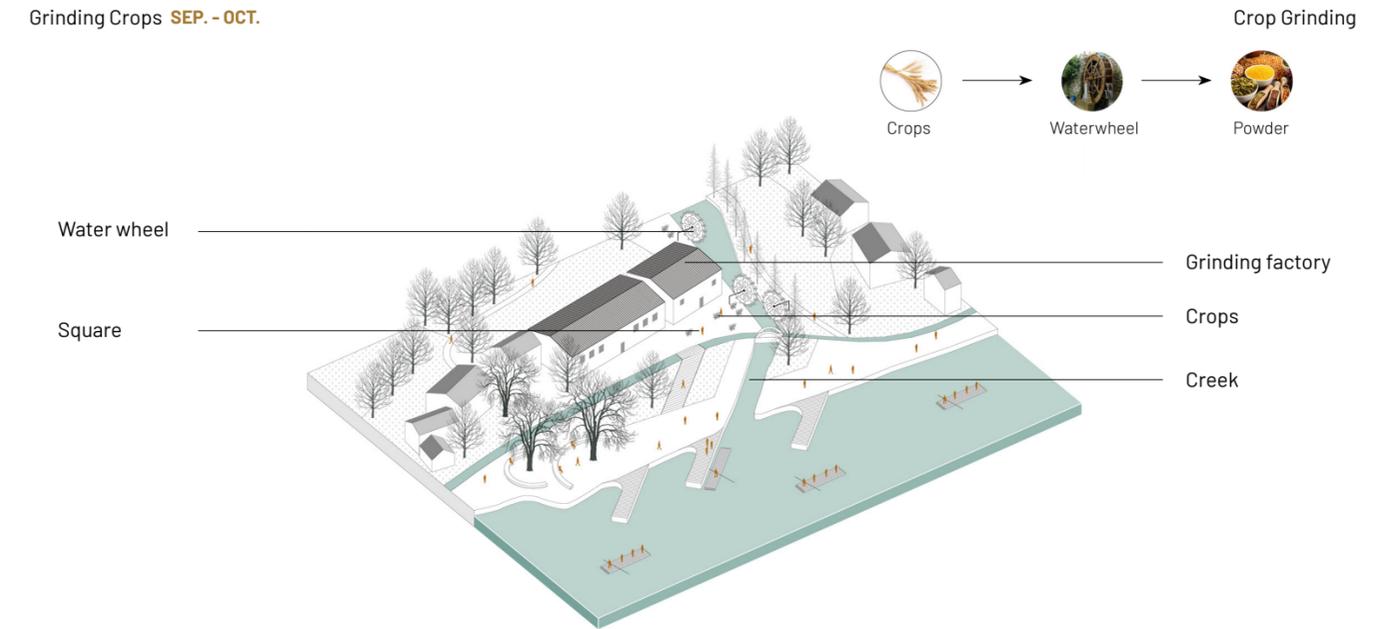


The transformation and revitalization of the water mouth are to convert it to a green space with multi-function, linking the old town and the new development area. All the Valuable landscape elements are highlighted by different designs. This place is where some agro-activities take place, for instance, In the spring, Visitors can pick the rape flower and get it expressed. In the fall, visitors can help the harvest and get crops grinded in the crop factory here.

Oil Expression **MAR. - APR.**



Grinding Crops **SEP. - OCT.**



05.4 - Detail Design



Little Brick Block



Slates



Quartzite



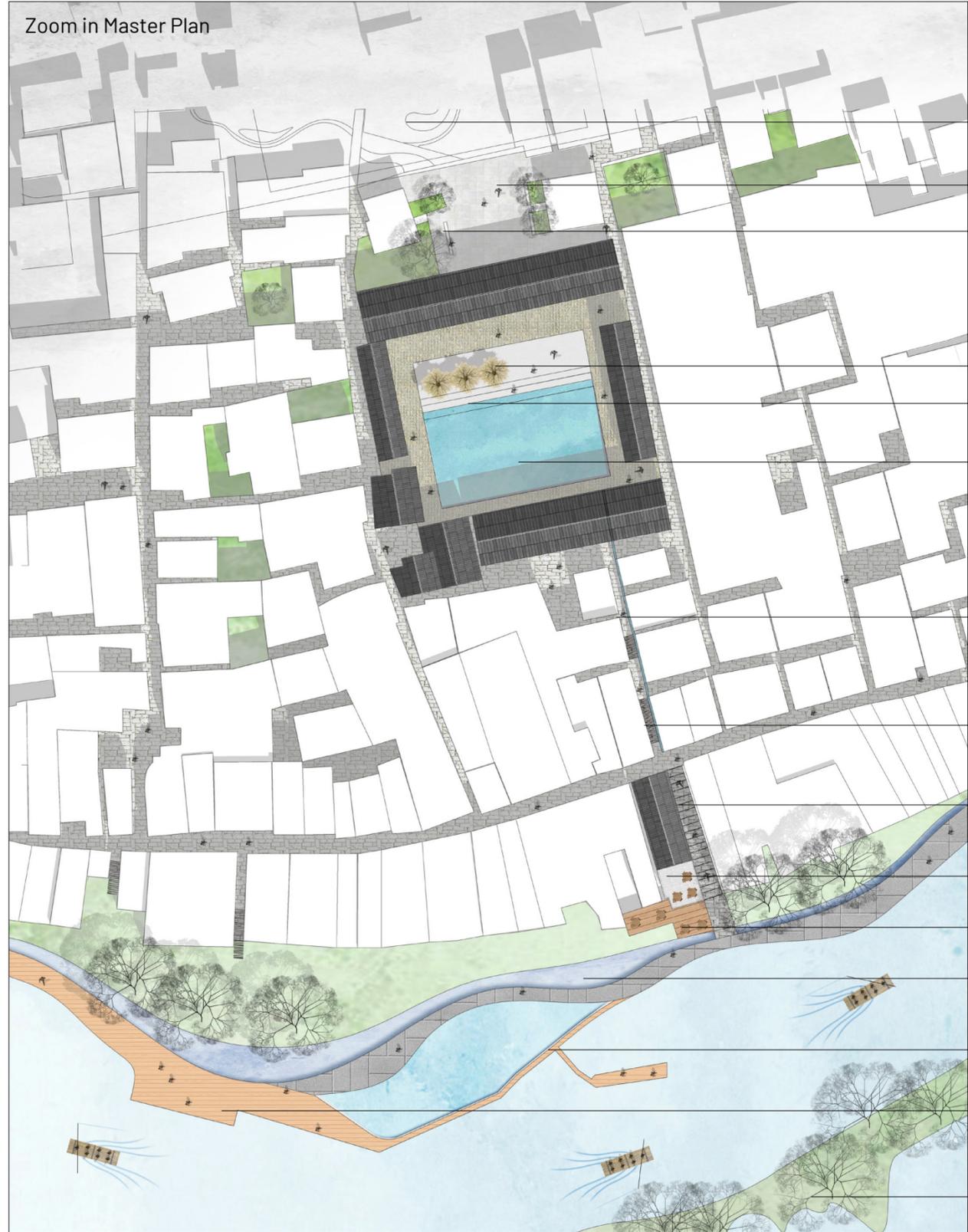
Brick Block



Wooden Plank



Concrete



- LEGEND
- Vegetable Garden
 - Front Square
 - Bench
 - Ginkgo biloba*
 - Steps
 - Water Pool
 - Highlighted Alley
 - Steps
 - Steps
 - Cafe Platform
 - Cafe Platform
 - Water Purification
 - Wooden Plank
 - Wooden Platform
 - Green Island



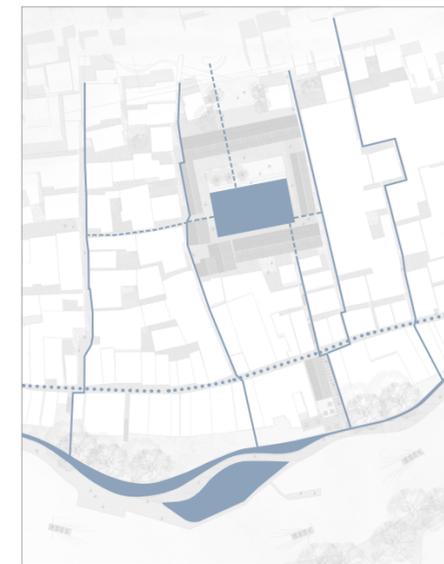
Zoom in frame

Accessibility and Public Space



Public space
Main Route
Connection to alley

Water System



Water body
Open drain
Spray drain
Sewage

A Continuous Water Experience



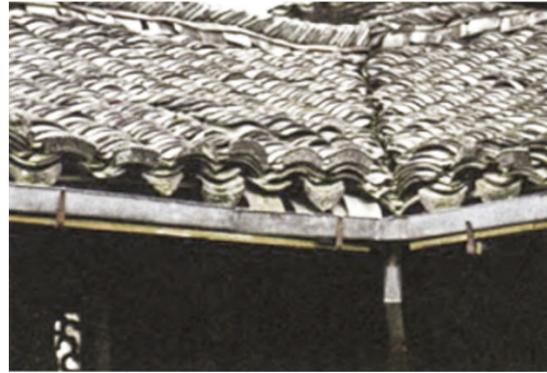
Section 1-1

Hongxing Water Square



Hongxing Water Square - Nuo Dancing





1. 青瓦屋檐 Tile Eave

雨露 Rainwater
天井 Courtyard
水枳上水口 Upper water pipe

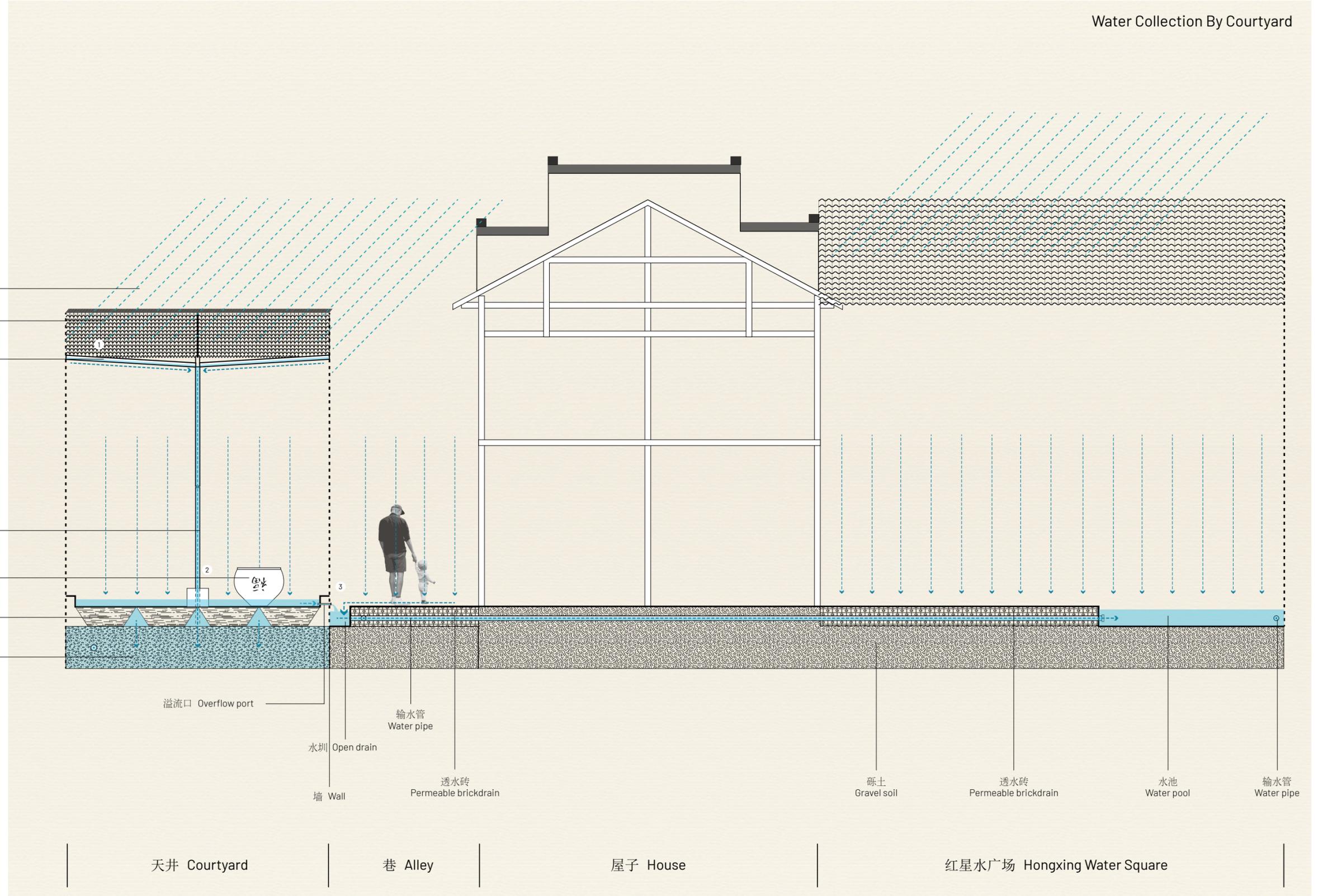
水枳下水口 Down water pipe
集水缸 Water vat
梯形条石 Trapezoidal stone
砂土，贝壳碎 Sand, broken shells



2. 水枳下水口 water pipe

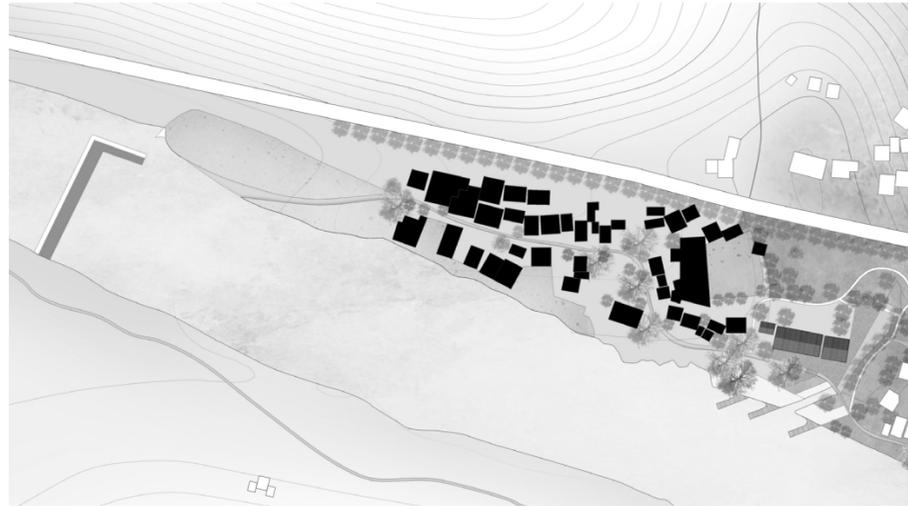


3. 溢流口 Overflow port



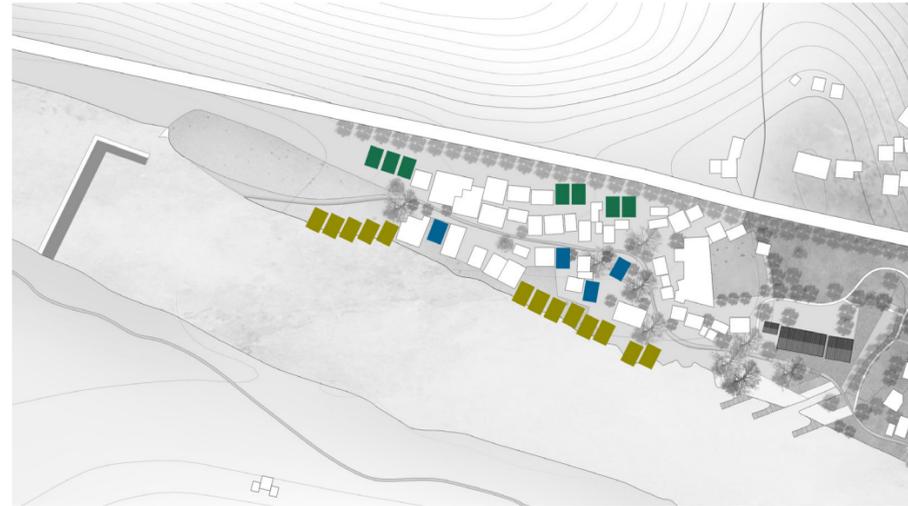
New Housing and Tourism Development

Accessibility and Public Space



The existing housing pattern in the new expansion area is fragmental, With the introduction of new water purification stream, The Fragments are binded.

Accessibility and Public Space



With the increasing needs for new housing development, The new expansion site is an ideal area to put new housing projects. There are three building typologies based on where they were placed in this area. The are riverside housing, Forest housing and streamside housing.

Accessibility and Public Space

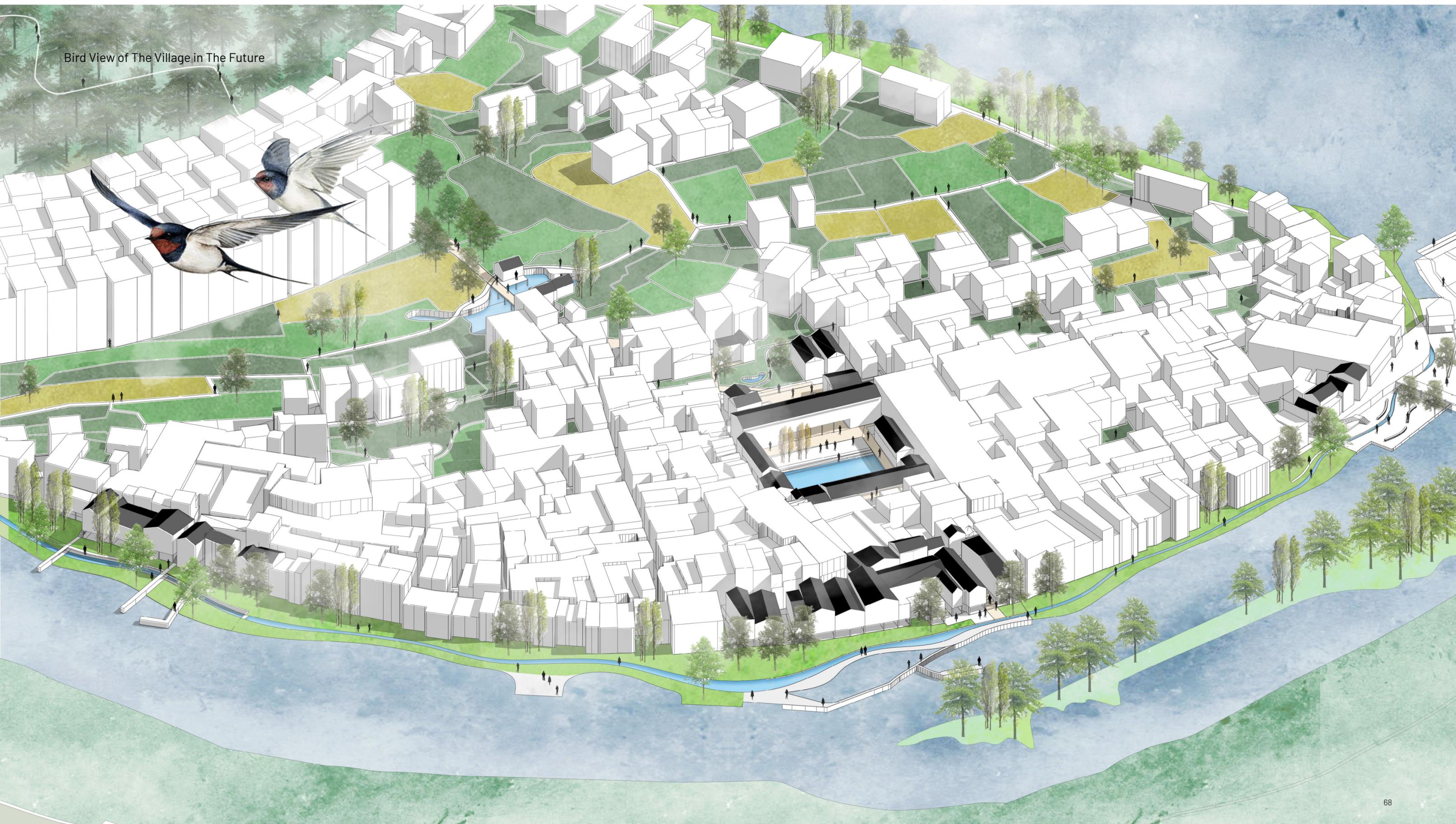


Since the existing visitor center and parking lot are replaced by the green space. New parking lot will be placed here in the mouth of the stream. And the visitor center will positioned here as well.

Reference of The Image of New Housing Typology on The Riverside



Bird View of The Village in The Future



REFLECTION

Reflecting through the relationship to Flowscapes Studio

As part of the Flowscapes Studio, This project follows the main theme of the Circular Water Story Lab. The Circular Water Story Lab focuses on designing with water elements from ecological, social, and economical perspective. The Lab also stresses the narratives in landscape design, bringing people's engagement in the design to promote the role of the human as an essential part of landscape architecture.

The thesis Project A New Watery Balance - Redefine The Scenic and Circular Waterscape in The Villages In Wuyuan, China Brings people's sight to the water villages in Wuyuan, China, which people Misunderstand as poor and backward lands. However, people could still see the value of the rural life that the villagers live and work with nature, the fresh air, the green forest, the silky water, and the precious culture, and therefore, many people come to the countryside for tourism. However, the improper tourism model causes some negative influence on the villages, such as the big crowd of visitors, the over-commercialization, and the disappearance of the water culture and tradition of the village. The Sever climate change even deteriorates this situation by water management imbalance. As a landscape Architect, This project is aimed to, on the one hand, gain back, remodel and revitalize the rural watery life for both the inhabitants and the visitors. On the other hand, It promotes people's participation in the water activities and events to educate and raise their awareness of the value and quality of rural life.

The relationship between research and design

The research of this project consists of three aspects, the study of the traditional water system, the evaluation of the existing tourism, and the study of the water management imbalance issues. By exploring these three main topics, The interrelation between each topic is structured for the designer to seek the potential and vision for the future of Wuyuan. In this project, Design by research, research design method is applied. The research enables the designer to formulate the design vision from scale to scale. The research and proposal on the regional scale provide the big context and guideline that the design works are responding to. The research and proposal on the zoom-in scale fascinate the designer to explore and enrich the design possibility that cannot be shown on the regional scale. This scale to scale research approach provides coherent scopes to the designer. In the design process, the designer would look back to the research part, questioning, thinking, and re-framing the error in former research. This design by research, research by design method enables the designer to have a more comprehensive sight in back-forth process.

Elaboration on research method and approach

The Method used In this project is,

1. Learn from history, the traditional water knowledge to extract the value and quality of it. This extracted knowledge represents the identity and quality of the design site. It can still be revalued as part of the design tools nowadays.
2. Explore the potential and proposal for the future of Wuyuan based on the research.
3. Investigate the relevant case studies of three fields, which can be of essential help to the Design. They are Urban acupuncture, Rural regeneration, and Voluntourism. Extract the essence of the theories and turn them into principles.

4. Adapt the extracted traditional knowledge and principals from the case studies to the design process based on the potential and proposal pointed out in the research part.
5. Design Implementation

The Influence of the Outcome

The water elements are the main theme of the project, which brings the interventions together. The outcome of the project consists of two parts. The first part is a regional planning framework as a guideline to the design part of the project. This stresses the potential and strategy on a large scale. The vision of the large scale scopes on the strategy regarding the flooding issue, tourism development, and the development of the villages in framework. The second part is an exemplary village design following the regional framework. The exemplary design part scopes on the implementation of bringing back people's relationship to the water in space and program design. This exemplary village design can be a paradigm for the rest of the region. Thorough the whole design implementation, It redefines countryside life. As mentioned in the fascination chapter of this thesis, people, in general, have a positive impression on the environment of the villages. But they mostly appreciate the picture of this place not the water identity. This design shows the ambition to give people the impression that rural life can be of quality and benefit, and people can have a colorful life living and working with nature in the countryside.

Limitation and Dilemmas encountered in doing the project

The most difficult part of the project is the research part. Since this project is a village Project in China, where the date and maps are comparatively limited. It is hard to find the resources and data of the site. What makes the project more difficult is that I spent a large portion of time working on reading the resources and visualizing the information illustrated by text only. At the start, it was really tough for me, however, later I started to enjoy the process of understanding and extracting the knowledge from the resource and the visualization. Because, through this process, I have a more comprehensive understanding of the site condition instead of acquiring the maps and drawings directly from others. I have grown up more critical thinking of what is the essence of the resource, doubt the possible arguments in it. The other difficulty I was facing is that I failed to go on a field trip to the village due to the strict lockdown by the Covid-19. Therefore, I need to read more resources and relevant cases to assume and test how things work out in the village. For instance, I figured out how the water system works in the project by studying another village in this region, which shares the same situation. After going through all these up and down, I have gained experience in my academic skill, but also the persistence and courage in facing difficulties and challenges.

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