LANDSCAPES IN TRANSITION
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CAPE TOWN SOUTH AFRICA 2012

ORGANIZED BY
Institute for Landscape Architecture in South Africa

2012 STUDENT LANDSCAPE ARCHITECTURE DESIGN COMPETITION PRIZE WINNERS

FIRST PRIZE *IFLA Group Han Prize for Student Landscape Architecture*	TITLE AUTHOR(S) INSTITUTION	*Floating Module for Floating Town* Hui Li, Danzi Wu, Lu Feng, Aiai Bao, Shuai Sun School of Landscape Architecture, Beijing Forestry University, Beijing, China
SECOND PRIZE *IFLA Zvi Miller Prize*	TITLE AUTHOR(S) INSTITUTION	*Floating Life: Floating farmland System of Chomra in Bengal* Shenchen, Jiang Mengya, Li Mengdi, Lizi Chongqing Chongqing University, Chongqing, China
THIRD PRIZE *Merit Award*	TITLE AUTHOR(S) INSTITUTION	*Heaven Over Hell* Feng Hejing, Chen Kaili, Zhang Shu, Yang Wenqi, Hu Lei Faculty of Landscape Architecture, Huazhong University of Science and Technology, Wuhan, China

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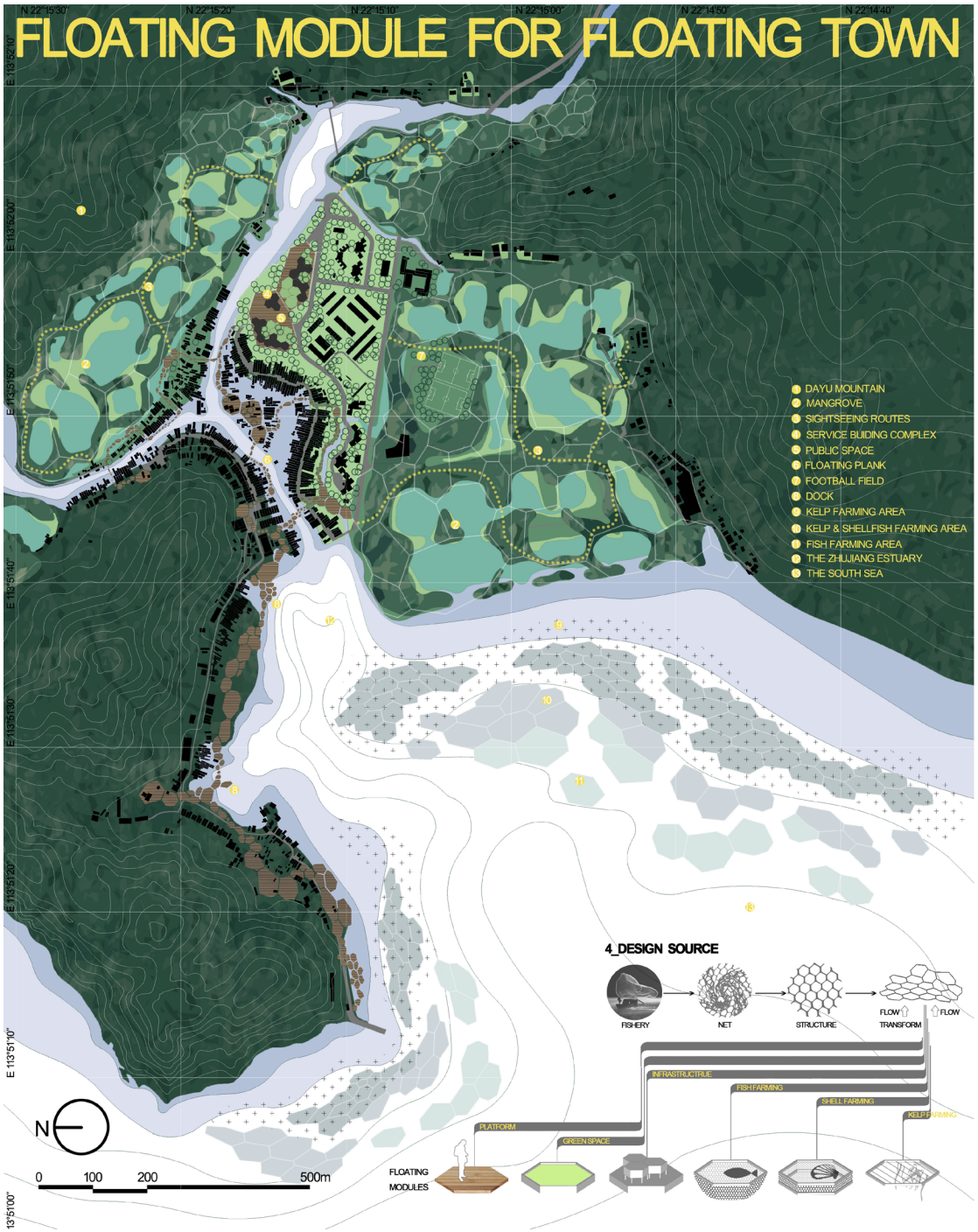
JURY NOTES

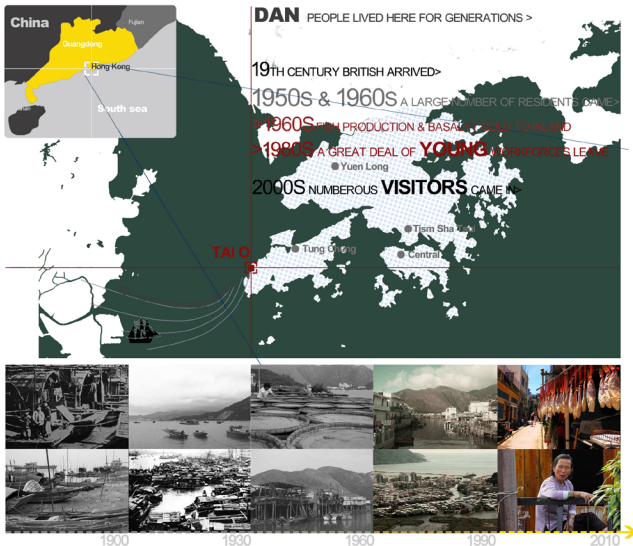
The project is outstanding in its initiative to address an urgent and complex problem with rigor and creativity across the scales of townscape, site, and constructed detail accounting for fluctuation through time. Not only was the problem well-conceived as one of integrated issues, but the design solutions synthesized ecological, cultural and economic dimensions in innovative ways. Dealing with immediate concerns of sea level rise and threatened urban fabric, the floating system was designed to grow both flood mitigation structures and rebuild the ecological fabric of the depleted marine environment.

This project demonstrated the capacity of landscape architecture to reclaim natural and cultural landscapes. The project site is Tai O, one of Hong Kong's earliest communities and an expression of Dan culture. It is a flood-prone fishing community of stilt houses in an intertidal zone characterized by limited circulation, common space and a degraded environment. The project was based on traditional aquatic living customs and proposed a modular system to improve infrastructure, circulation, public space, and fishing opportunities.

FLOATING MODULE FOR FLOATING TOWN



4_DESIGN SOURCE



1_HONG KONG'S EARIEST COMMUNITY

Tai O is located in Western Lantau Island of Hong Kong's New Territories, which is surrounded by mountains on three sides and facing the ZhuHai seaport, perhaps the most famous one of Hong Kong's existing fishing villages. Sediments of the three mountains form shallows in its inner bay.

Tai O is an intertidal zone, the rise and fall of the sea ranges huge, which becomes muddy ponds at low tide. It becomes a natural habitat of various species because of the favourable natural and geographical environment.

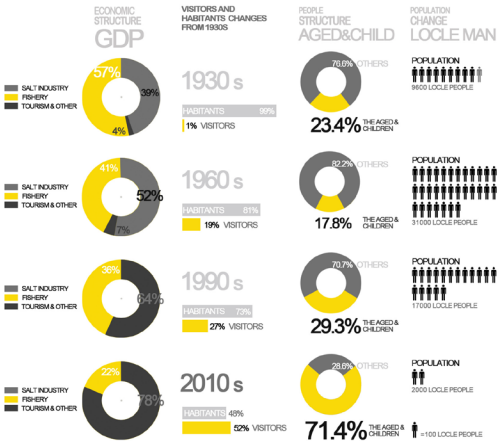
2_TRADITIONAL AQUATIC LIVING CUSTOMS

Tai o is divided into two places by SanYong. Many river courses and stilt houses constitute the unique characteristics of its fishing culture. The traditional Dans drift out onto the water all their life, and their homes are boats.

3_ANCIENT INTELLIGENCE OF NATURAL CONDITION TREATING ATTITUDE

Tai O is an old fishing village with a long history, which is in the Northwest of Lantau Island. The local industry were mainly fishing and salt trading long time ago.

But in recent years, the development of tourism industry increasing fast. Because of the favourable natural and geographical environment, Tai O once became an open port with fishery flourishing.



The main source of economic are fishing and salt trading, Tai O takes HongKong and the Mainland as its economic hinterland in the Early Period of 20th Century.

It is in the 50's and 60's that the two main industries reached the peak.

Along with the influence of industrialization and urbanization, many people switch to other vocations, which leads to the decline of salt industry.

Also, fishermen are forced to go to deep sea to catch fish since the in-shore fisheries near Pearl River are resource-exhausted, therefore fishing is declined.

Q and A

1_VICIOUS CIRCLE

The quantity of fish is reducing, the industries is declining, the population is moving out, the living environment is deteriorating. Economic recession, energy loss, environment deteriorated. In recent years, the development of tourism industry increasing fast, which influence the lives of the local residents.

2_PROBLEM

Poor infrastructure
Declined industries
Deteriorated ecology

3_CURRENT SITUATION

Unique architectural form
Tai O's chief feature is the beauty of the scene and the stilt houses on the water —— huts, which are piscatorial residence.

Natural landscape
We can still feel the appearance of fishing village which normally seen in earlier period of Hong Kong.

Traditional fishing
Tai O's history of fishing dates back to 400 years ago.

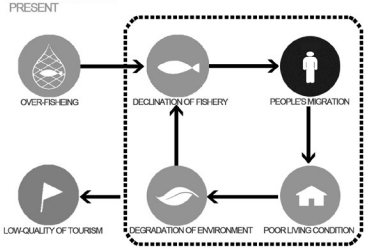
4_QUESTION

Based on Dans' traditional aquatic living customs and ancient intelligence of natural treating attitude, can we add some"Floating Module" in and around the town, which can transform people's lives?

5_SOLUTIONS

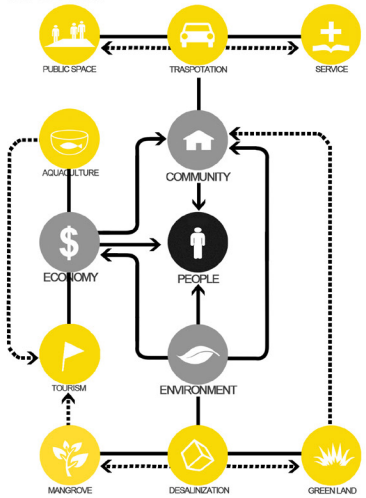
Develop Tai O's existing advantages, adjust industrial structure, gain income, improve living conditions and infrastructure construction, build up perfect eco-systems, comprehensive develop tourism, strengthen the vitality and influence of the district.

VICIOUS CIRCLE
PRESENT

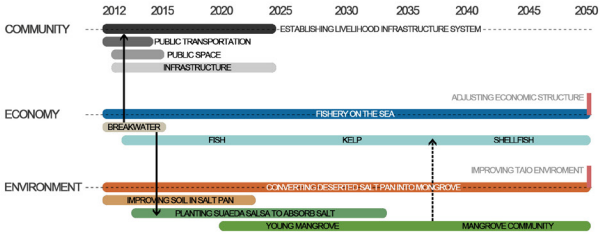


ADVANTAGES
CURRENT SITUATION

VIRTUOUS CYCLE MODE
PROPOSED MODE



PHASED IMPLEMENTATION
FROM 2012 TO 2050



MUDULE 1_**FLOATING COMMUNITY INFRASTRUCTURE**

Floating Plank
Provide a passage crossing through the whole community for inhabitants and tourists. Add green area for the community
Isolate rows of huts to prevent fire and reduce fire damage.

Floating Infrastructure
Added medical and educational services for the community.
Added economic services.

Floating Square
Set up large squares and floating stages in huge gathering places such as GuanDi Temple.
Added sports space.

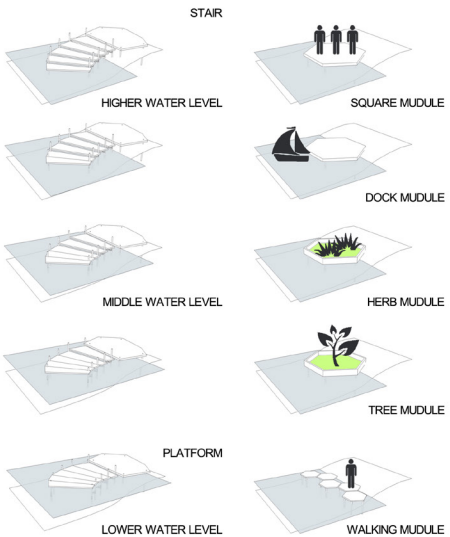
Floating safety protection
Set up building fireproof isolation area.
Added habitat restoration area.

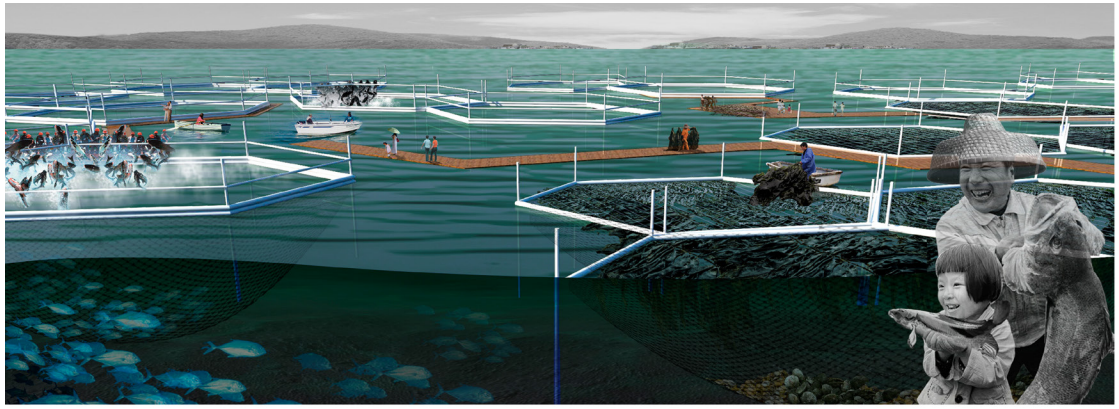
Service Infrastructure
—— based on Dans' water-living life

On the first step, we use the "Floating community infrastructure modules" to improve the community of the town. We built floating planks to provide a passage crossing through the whole community for inhabitants and tourists, and to isolate rows of huts to prevent fire and reduce fire damage. At the same time, we set up large squares and floating stages in huge gathering places. Then we provide medical and educational services for the community.

Half Day Tidal Cycle
The floating platform slides up and down by lever, creating a landscape changing with the water level.

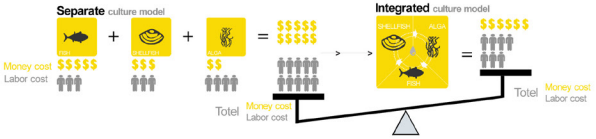
Floating Mudule
Based on Dans' traditional aquatic living customs and ancient intelligence of natural treating attitude, we add some "Floating Modules" in and around the town

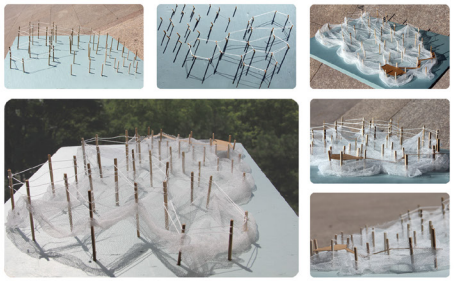




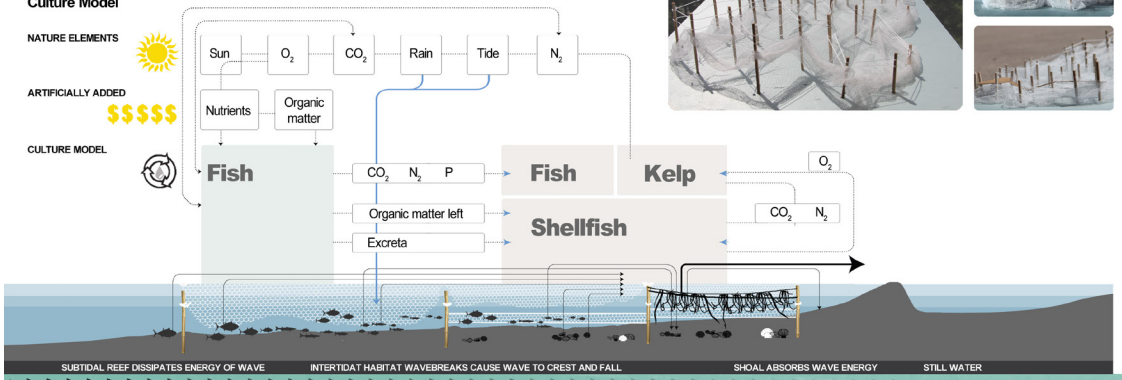
MODULE 2_**REVITALIZE THE LOCAL ECONOMY**

Money & Labor Cost





Culture Model



MUDULE 3_**ECOLOGICAL REMEDIATION**

A long time ago mangrove growth in Tai O creek and beach, Salt and development of cultivated land of mangroves have been serious damage.

Can we **restore** the mangrove ?

1 A tropical temperature: ✓
The average temperature of the coldest month should be higher than 20°C, the annual average temperature difference must be less than 5°C.

2 Silt composed of fine particles ✗
(Sueada salsa improved soil)

3 wave force: ✓
To be the wave of small, sand and mud to be able to deposition, mangrove seedlings to be able to implantation growth. The huge waves will not only take away the sand and mud will be washed seedlings of mangroves is difficult to form.

4 sea: ✓
Salty water to the exclusion of other terrestrial plants. mangroves become the dominant plants of the coastal, estuarine.

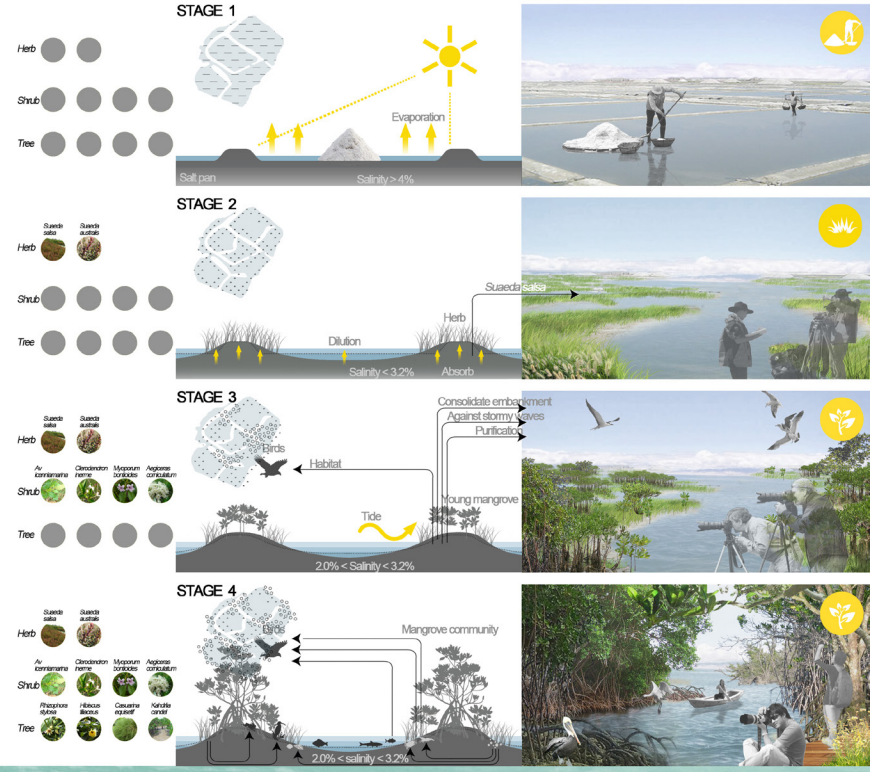
5 broad intertidal zone: ✓
The broad flat intertidal zone, can provide a large area of mangrove habitat, mangroves can expand growth.

Restore the mangrove, Remedy the ecology.

Mangrove forest is defined as the plant community that grows in tropics and subtropics, which mainly consists of the species of Rhizophoraceae and other families.
They play a very important role in the environment, they are the nursery of the marine lives and they contribute significantly to the water purification and bio-diversity. Thus restoring the mangrove forest would definitely be meaningful to the ecology, ecology remediation starts here.
Our strategy includes two aspects: de-salinization and silt deposition.

De-salinization:
The problem of salinization is derived from the salt industry which enormously threated the mangrove forest. We introduce some pioneer plants which are well suited to the high-salinity environment, as these plants grow, the salinity of the earth would be decreased and the environment would become more suitable for the mangrove to grow.

Silt deposition:
As we analyzed before, to restore the mangrove, we need to re-establish the silt which is composed of fine particles and clay. So we build some mounds along with the hexagonal structure to guide the mangrove to develop in a network. These mounds would not only provide the orginal silt supporting the mangrove seeds to germinate but also help increase the rate of silt deposition and fuel the growth of the mangrove in the long run.



SECOND PRIZE *IFLA Zvi Miller Prize*	TITLE AUTHOR(S) INSTITUTION	*Floating Life: Floating farmland System of Chomra in Bengal* Shenchen, Jiang Mengya, Li Mengdi, Lizi Chongqing Chongqing University, Chongqing, China

JURY NOTES

This project demonstrated the capacity of landscape architecture to address environmental emergencies: in this case, extreme flooding that characterizes the landscape of Bangladesh. Using a traditional technology of rafts piled with vegetation, the project proposed creating safe, dry places for residents during flood events. This technology could be extended to create spaces for other, longer-term uses. Plants on the rafts put down roots, and temporary surfaces become permanent, elevated places in the flood zone, transforming flood victims from nomadic to more settled conditions. The project suggested that low-cost, low-technology solutions utilizing local expertise could be found for emergency conditions.

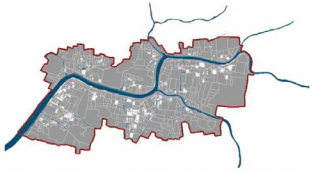
FLOATING LIFE

—— the floating farmland system of chomra in Bengal

Backguound

The most striking characteristic of Bangladesh are low-lying, streamy, high temperature and rainy.

In Bangladesh, 80% of the population are peasants, which has the traditional agricultural way of life, by means of farming and fishing to maintain the family's living.

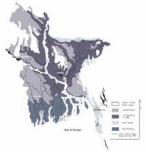


KEY PROBLEM

Through the analysis of background, climate, geographical conditions and other aspects of Bangladesh, we confirmed the flood is the most main factor of local residents' life. After comparing the local residents in peacetime with flooding period of the life condition, and discussing the needs of the local residents, we put forward the major problem in the task--lacking of land can be lived on in the flood period.

Introduction

Every year the flood brings huge quantities of soil nutrient for Bangladesh, which is good for the development of agriculture, at the same time, the flood drown buildings, cause damages to crops. Therefore the local should avoid the disaster brought by the flood, and benefit from the water.

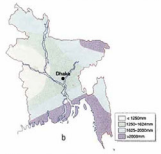


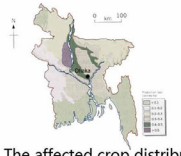
Bangladesh floods distribution

There are different rate kinds of water disaster, tidal waves, flooding, such as heavy rain is the main factor.

Dry weather and the monsoon season rainfall distribution

Precipitation is insufficient in dry season, which goes against the growth of crops.





The affected crop distribution proportion

The damage to crops can be serious to more than 50%, most of the affected area ratio is between 25% and 40%.

What can we do?

Ensure the security

Provide a safer lifestyle in flooding period for the local to maintain the basic survival.

Provide places for a variety of purposes

Combined with the local technology, offer them a site to live in flooding period to meet the basic survival request of local residents, as well as form the unique landscape.

Create comfortable environment

After meeting the basic survival request, combining with the existing facilities, complete the constr--uction for residents, providing good landscape environment, making people not only survive , but also live better life.

Analysis of current situation

Agriculture

Flood drown farmland and damage the crops. In the flooding period, farmers have no farming land, losing life source.

Residence

The flood damages houses, making many people displaced from their homes.

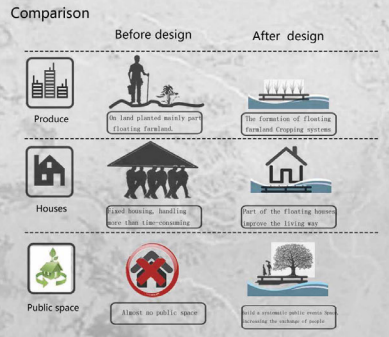
Transportation

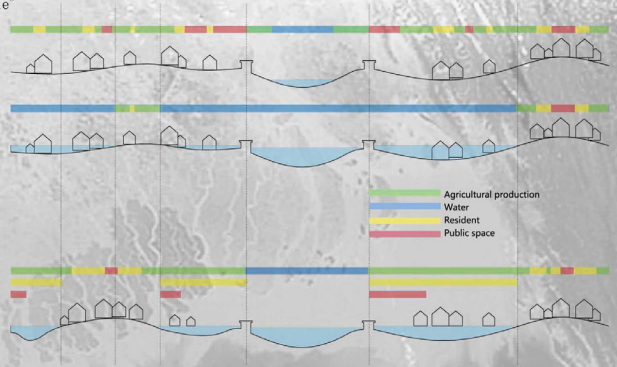
Flooding roads and blocking the traffic make life more difficult in flooding period.

Analysis of site

Design vision

Transforming lives: As time goes by, the plant keeps growing and succession, the residents' living conditions improve. At the prospect of transforming the local from "the flood nomads" to "water people"





Hierarchical overlay

According to the current situation of this site and contrary to the living conditions of local residents, we make traffic, agriculture and living into system, then add each system to get conclusion.

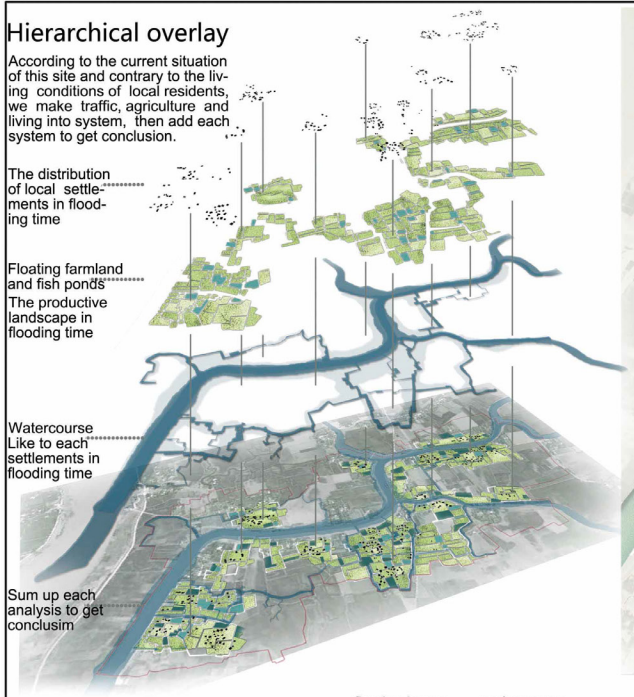
The distribution of local settlements in flooding time

Floating farmland and fish ponds

The productive landscape in flooding time

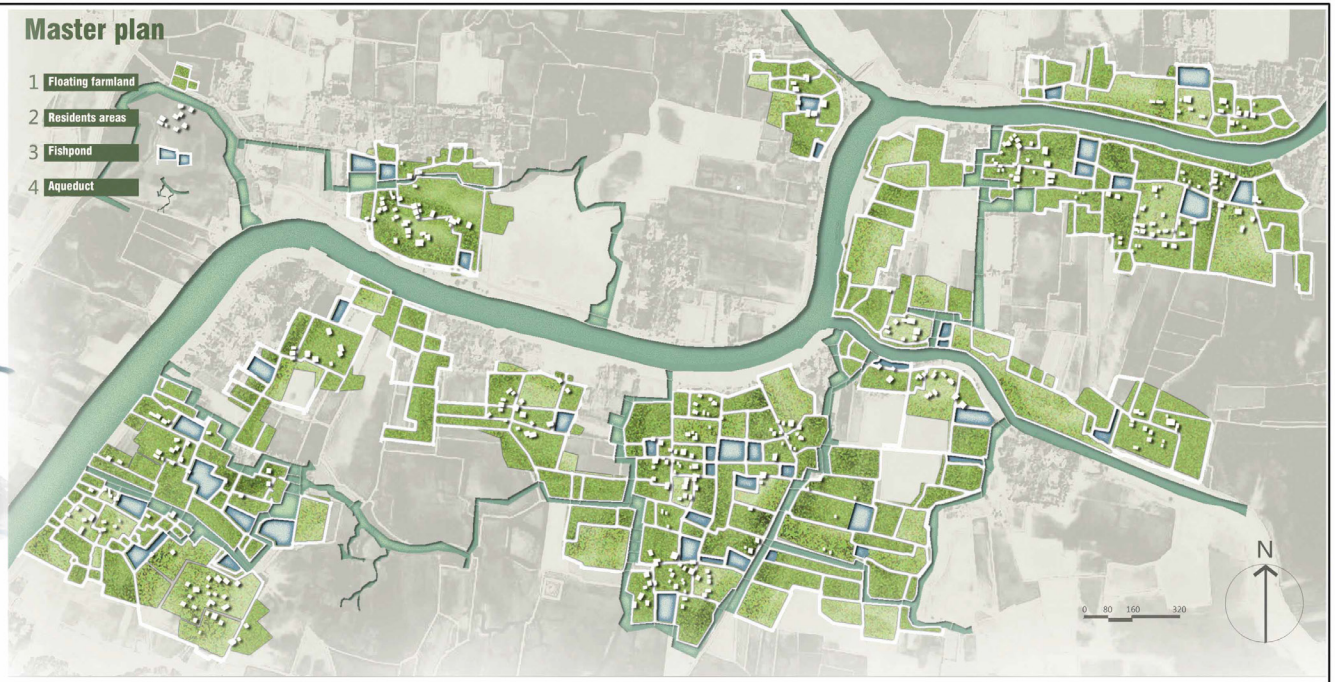
Watercourse Like to each settlements in flooding time

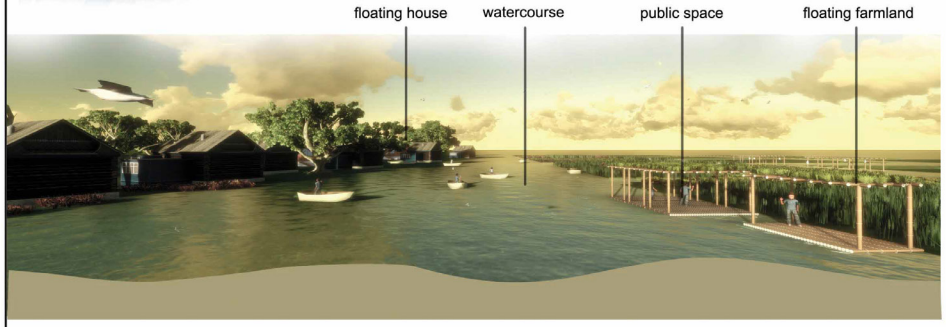
Sum up each analysis to get conclusim

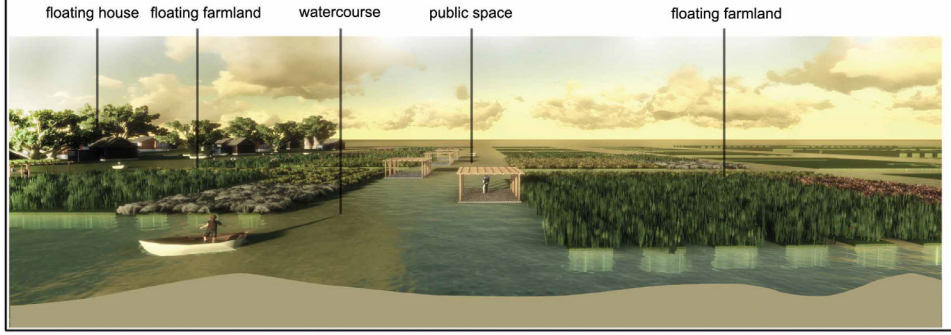


Master plan

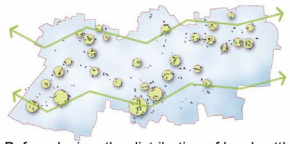
1 Floating farmland
2 Residents areas
3 Fishpond
4 Aqueduct



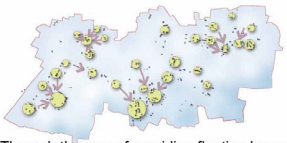




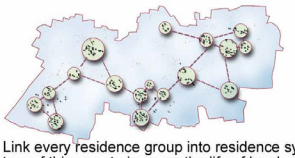
Living and site



Before design, the distribution of local settlements is scattered,and the flood leaves local residents no place to live,so they have to leave local residence to move to another place.



Through the way of providing floating house for local residents,we can make residents live together , and small settlements gather into large settlements to become residence group.

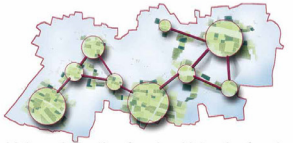


Link every residence group into residence system of this area to improve the life of local residents.

Production and site

Flood lead to no arable land for this area in flooding time,and it also lets local residents lose their income to make them live hard.

Combine the local skill and the way of floating farmland to make arable land for this area in flooding time,then through the production of crop to meet the need of basic survival.

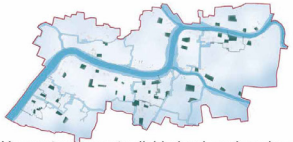


Link each floating farmland into the farmland system.

Watercourse and site

There are many rivers in this area,and we can use boat as transportion. But each tributary lack connection,it reduce the reachability.

Through the arrangements of local topography and the transforms of some land,we can make watercourse and water nets as transport nets.



Use watercourse to divide land, and make use of local water resources to set up fish ponds for fish and shrimp.

Crop

Fruits and vegetables

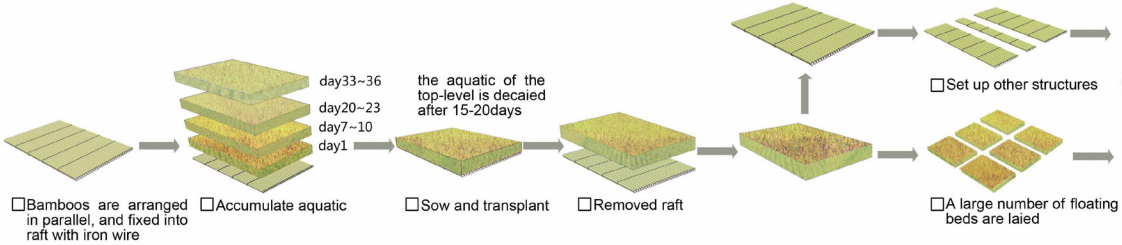
They can choose common crops of Bengal to plant, not only it provides convenient source of seedlings,but also they can do experiments to select the best for Soilless Culture. Bengal use this new technology can gain bumper harvest.

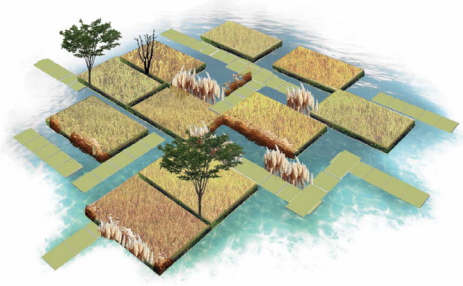
Fishing

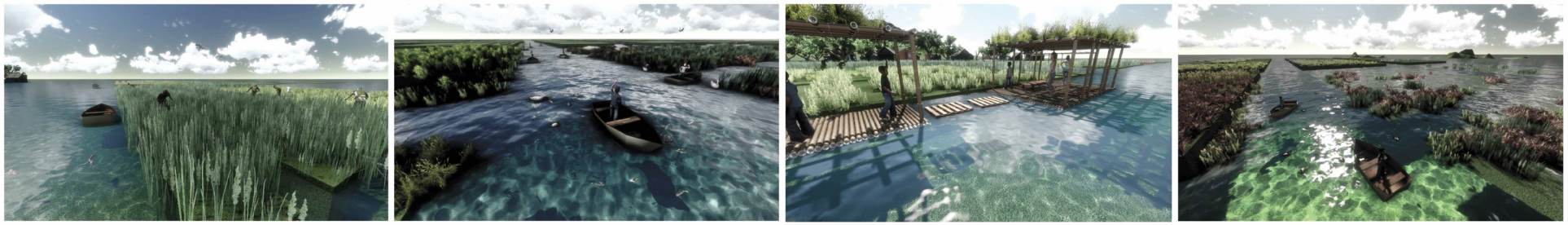
The water can be fishing of Benga is 2400 Zine Omadine. The annual climate is warm and rainy,so fish are growing fast and the growing seasons are long. And there are many natural fodder, so freshwater fishing has rich resources.

Bamboo cycling

Enlarge floor plan of farmland







THIRD PRIZE *Merit Award*	TITLE AUTHOR(S) INSTITUTION	*Heaven Over Hell* Feng Hejing, Chen Kaili, Zhang Shu, Yang Wenqi, Hu Lei Faculty of Landscape Architecture, Huazhong University of Science and Technology, Wuhan, China

JURY NOTES

This project demonstrated the capacity of landscape architecture to improve physical and social conditions in informal urban communities. Addressing the largest informal settlement in Wuhan, it tackled several very difficult problems—the safe passage of children through the settlement, the need for recreational and educational opportunities, and the need for productive space— with an innovative proposal that is at once well-conceived and resourceful. Based on a workshop with children and relying on recycled bamboo and local technologies, the project points to a professional future in which landscape architects increasingly work across disciplinary boundaries and in conditions outside the typical or normative realm of design. This project was inspiring in its gentle approach to working with the needs and dreams of children.

1 The Urban-Village is a unique social heritage in the process of rapid urbanization in China, but this is an abandoned social heritage.

China is in an era of rapid urbanization, the city's rapid expansion and the rush of Rural Migrant Workers from countryside into the city have generated a unique social heritage –"Urban-Village" which is a kind of slum with thousands Rural Migrant Workers and their families living in very poor condition. Under the invasively land-grabbing, a large number of peasants have been deprived of their arable land and have also been stripped from their traditional farming activities which were their cultural heritage. A peasant in the city struggles to find a job, but usually gets neither an urban job nor an agricultural plot for familiar farming.

2 Huaanli, is the biggest Urban-Village in Wuhan which is the biggest city in central China, however here is a forgotten corner forever.

Huaanli, is in the heart of Wuhan, the biggest city of Central China. It is close to Wuhan Railway Station, easily being approached by new comers rushing to the city by trains from countryside all over China. It has an area ca. 28.9 HA in total and has hosted almost 18000 Rural Migrant Workers or their family members. As a result of being cut by several railways and boring railway rumbles, here is almost a forgotten corner by the government and developers. Low rental and high accessibility to the Rail Station have made here an attractive distribution center for new coming Rural Migrant Workers and diverse criminals. High density, chaos, mafias, dirty and messy, all these have turned Huaanli into a dark forgotten corner.

3 The primary school on a roof supposes to be the hope for all residents in Huaanli, but it is a hopeless future.

Very poor condition and very crowded environment have forced the only school to set up on a building and its roof which has to host 375 pupils within less than 800 M2.Everyday trembling with fears, over three hundred children have to take a dangerous journey between this school and their home, going through busy railways, dark, narrow streets and intimidated by traffickers. Every year there are reported missing children or victims of traffic accidents. Child is the only future of every family here, but it is a hopeless future here.

Main Problems

No safe way in between school and home

Busy railways, narrow and dangerous streets have promoted higher traffic accidents and more crime cases in Huaanli. The minimal security can not be guaranteed so do the other basic human rights. The priority is a safe way between their homes and the school for all children in Huaanli.

No enough space for study and play

Huaanli, with its intensively self-made constructions and extremely high density, has only two main traffic arteries less than 5 meters, which are in the north and south and both are served as commercial streets. The rest traffic networks within Huaanli are mostly dark alleys no wider than 1-2 meter. Besides that "sky playground" on the roof, less than 80 M2, there is neither teaching space for school hours nor space to play in the after-school hours. The extremely poor conditions have jeopardized the normal social interactions among children or their parents. These are increasing cases of Children Autistic and poor social performance comparing with normal rate outside Huaanli.

No connection to their familiar agricultural activities in their own home villages

Huaanli's children following their parents to the city, are leaving the traditional farmland, leaving the agricultural culture once carved in his childhood. What they have to suffer in reality is the hard and dangerous life within the Urban-Village and what they can not help missing is the happy life they once enjoyed in beautiful farmland embraced with incense from grains, fruits and vegetables, which is merely a distant memory.

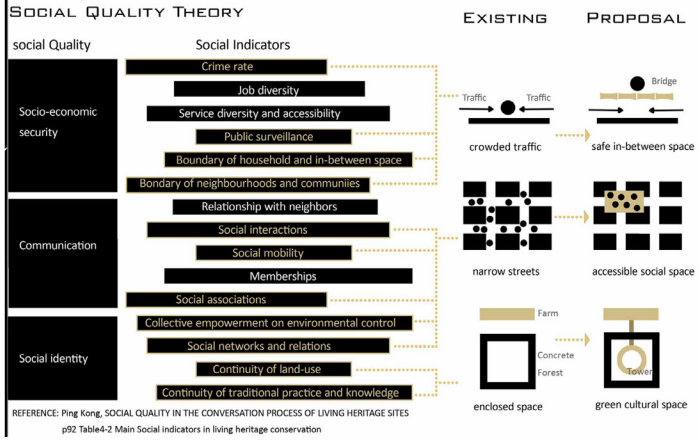
Children's Dreams

"Cities have the capability of providing something for everybody, only because, and only when, they are created by everybody."

——Jane Jacobs, The Death and Life of Great American Cities

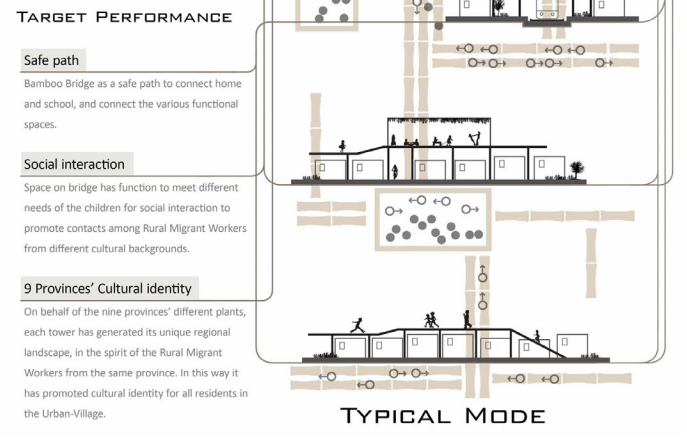
Scheme Theory

Social Quality Theory



REFERENCE: Ping Kong, SOCIAL QUALITY IN THE CONVERSATION PROCESS OF LIVING HERITAGE SITES
p92 Table4-2 Main Social indicators in living heritage conservation

Site Analysis



Target Performance

Safe path

Bamboo Bridge as a safe path to connect home and school, and connect the various functional spaces.

Social interaction

Space on bridge has function to meet different needs of the children for social interaction to promote contacts among Rural Migrant Workers from different cultural backgrounds.

9 Provinces' Cultural identity

On behalf of the nine provinces' different plants, each tower has generated its unique regional landscape, in the spirit of the Rural Migrant Workers from the same province. In this way it has promoted cultural identity for all residents in the Urban-Village.

Typical Mode

Agricultural plant configuration

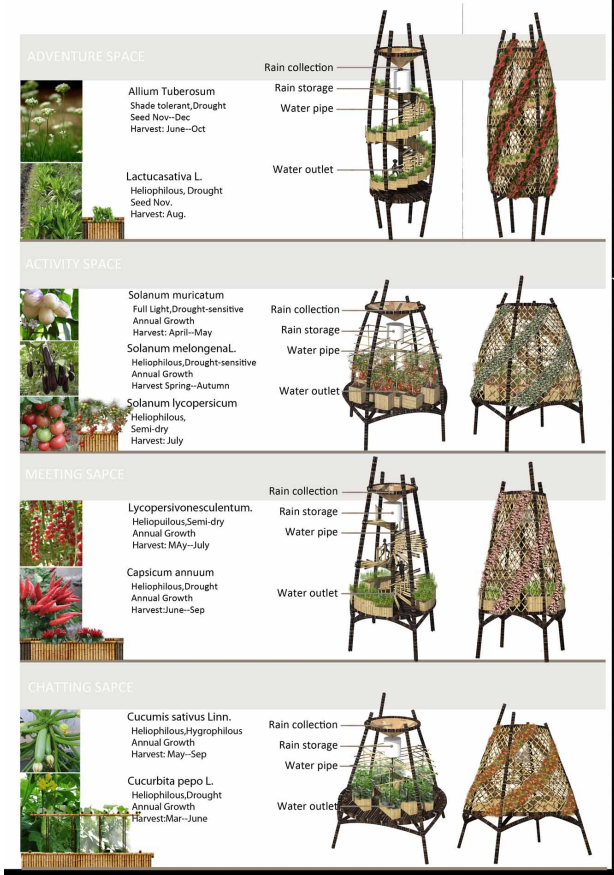
Profitable urban vertical agriculture

In the nine planting towers there is vertical farming, cultivation of high value-added crops and provincial representative flowers for various provinces, in order to maximize both the economic benefits and ecological benefits for the local residents.

The most refundable way from Urban Agricultural Tower

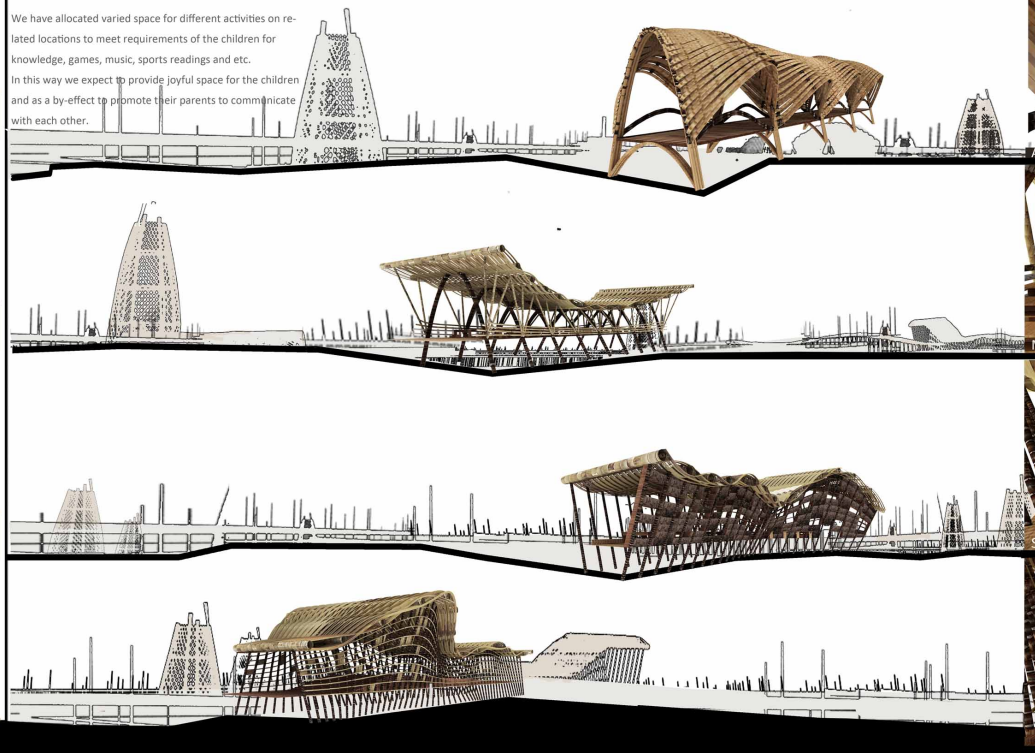
Grains, flowers, fruits and flowers planted in those bamboo towers will generate big economic refunding in the background of food shortage in the country. It gives chance for the Rural Migrant Workers to repick up their agricultural work in the urban context, which will benefit both the citizens and the urban farmers.

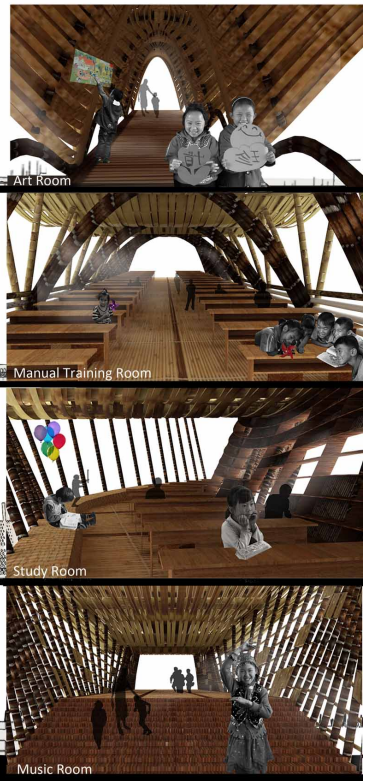
According to the conditions of different plants, we develop four models of the planting boxes in order to maximize the economic benefits from these vertical planting towers.



Space allocation for after-school activities

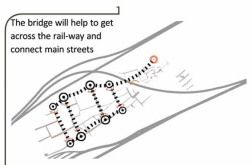
We have allocated varied space for different activities on related locations to meet requirements of the children for knowledge, games, music, sports readings and etc.
In this way we expect to provide joyful space for the children and as a by-effect to promote their parents to communicate with each other.

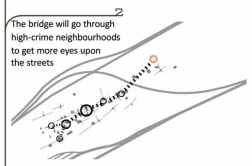


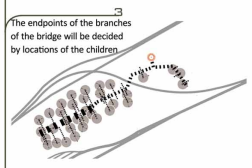


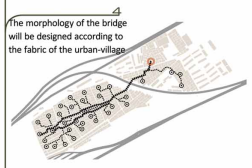
Heaven over Hell: Bamboo Bridges And Towers for The Children in Urban-Village

Design generation









Transforming

Based on the planting towers, we plan to create an ecological, economical and enjoyable landscape system through the permeation of green points from the bamboo bridge to the urban village.

1. What kind of bridge can be a safe way between school and home?

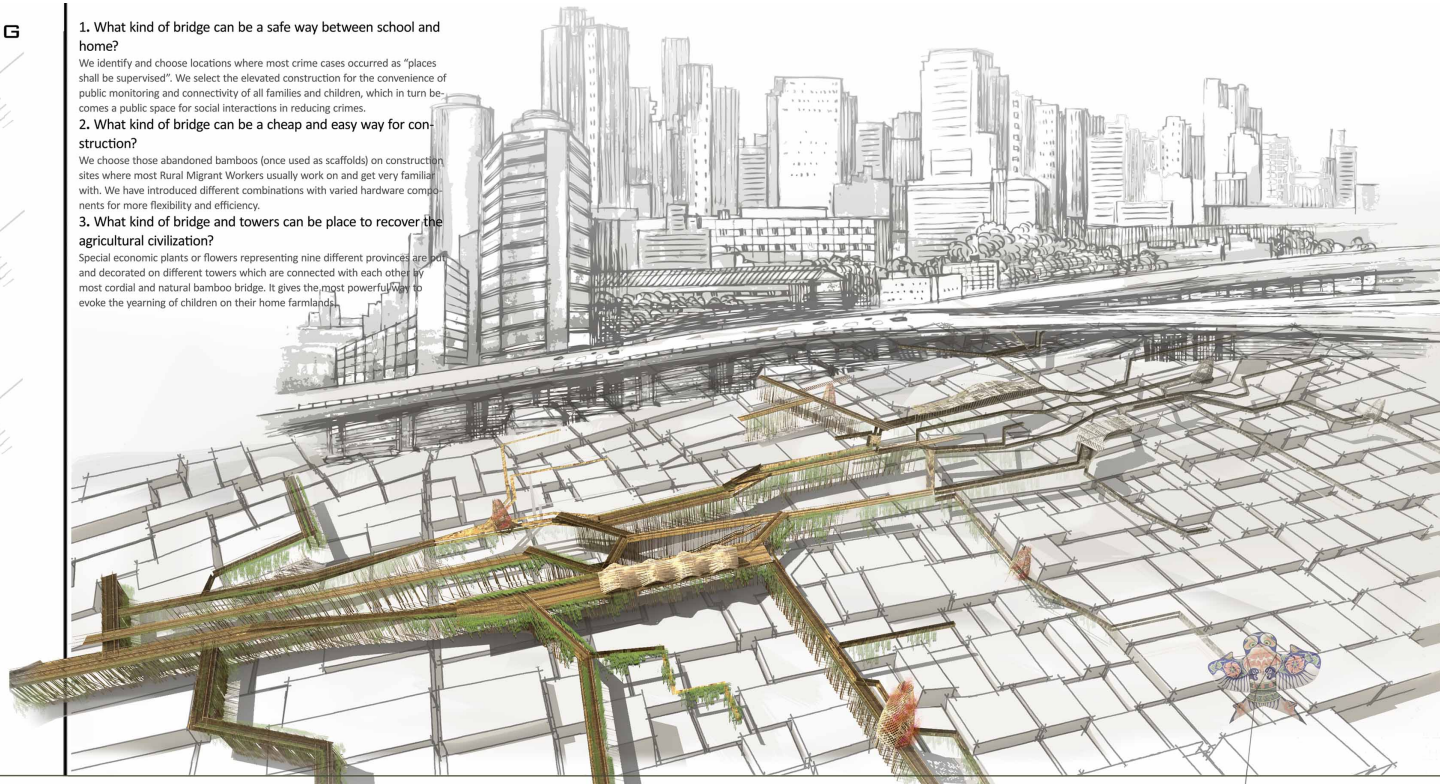
We identify and choose locations where most crime cases occurred as "places shall be supervised". We select the elevated construction for the convenience of public monitoring and connectivity of all families and children, which in turn becomes a public space for social interactions in reducing crimes.

2. What kind of bridge can be a cheap and easy way for construction?

We choose those abandoned bamboos (once used as scaffolds) on construction sites where most Rural Migrant Workers usually work on and get very familiar with. We have introduced different combinations with varied hardware components for more flexibility and efficiency.

3. What kind of bridge and towers can be place to recover the agricultural civilization?

Special economic plants or flowers representing nine different provinces are put and decorated on different towers which are connected with each other by most cordial and natural bamboo bridge. It gives the most powerful way to evoke the yearning of children on their home farmlands.



Heaven over Hell:

Bamboo Bridges And Towers for The Children in Urban-Village

The cheapest and the most recyclable material

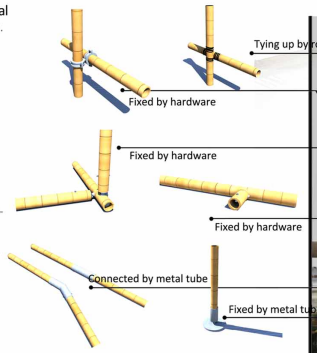
Bamboo is one of the cheapest building materials in China. We thus collect bamboo and plastic waste from construction sites to build the Bamboo Bridge and Tower to minimize the construction cost.

The material with the most recognizable cultural identity

Since ancient time Bamboo has become a traditional Chinese landscape plants which gives more cultural identity and intimacy by poets and rural children.

The easiest way for constructing

Bamboo is one of the most convenient and traditional Chinese building materials which the Rural Migrant Workers are very skillful in constructing.
The combination between bamboo and other metal components has maximized the convenience and flexibility of bamboo. We have deliberately designed varied nodes for different connections.



Connection structure