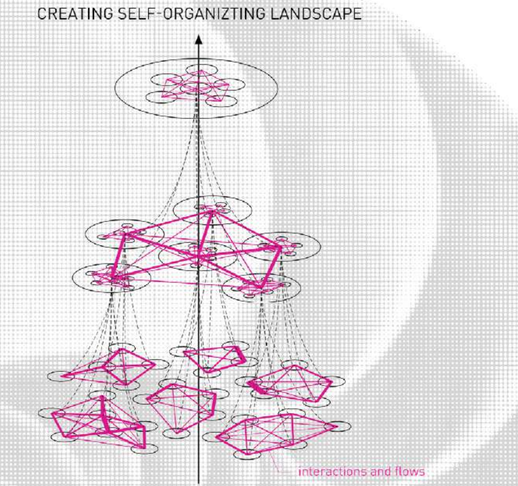
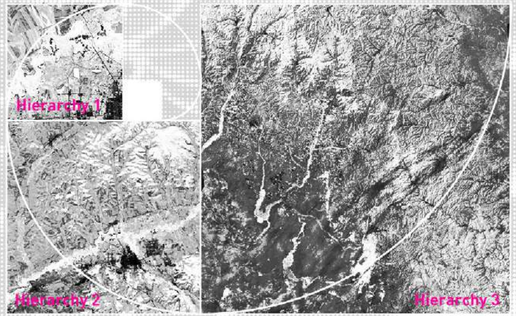
PORTFOLIO

ZHANG MENGHAN





RECURRENT LANDSCAPE PATTERNS IN DIFFERENT SCALES

LANDSCAPE IN EVOLUTION

CREATING A RESILIENT NOMADIC LANDSCAPE FROM BOTTOM UP IN HULUNBUIR

AWARD: HONOR AWARD OF 2017 ASLA STUDENT AWARDS, ANALYSIS AND PLANNING CATEGORY

LOCATION: Hulunbuir, Inner Mongolia, China
SIZE: 260.000km^2
COLLABORATOR: Liu Jingyi, Wang Mingrui, Li Nating, Shang Erji, Zhou Juelin

Based on analysis of complex factors influencing the evolutionary process of Hulunbuir, the landscape is considered and created as an agent-based self-organizing system from bottom up, which is resilient and adaptable to the environment and ever-changing in time. Rather than landscape configurations, rotational Units are proposed as the main strategy rearranging the different forms of land uses to occupy particular patches in a recursive sequence to solve conflicting human activities . Specific approaches are further explored and proposed for grassland restoration, grass-forest intercropping, mine tailings restoration, water supply improvement, groundwater replenishing and wind energy utilization in some envisioned future scenarios.

STUDY AREA

World Pasture Distribution

Hulunbuir in The Inner Mongolia Autonomous Region of China is a steppe-forest ecotone in the east of Mongolian Plateau bordering agrarian areas.

Traditional nomadic pastoralism in the Mongolian Plateau is of high ecological adaptability to the local natural conditions.

Ecology of Pastoralism

EBB OF FLOW OF THE NOMADIC PASTORALISM IN INNER MONGOLIA

Before 13th century
Several centrally organized yurts surrounded by a drapery formed a unit called *Gulieyan* for nomadic and military activities.

13-17th century
An decentralized form of organization called *Ayil* gradually replaced *Gulieyan*.

1271-1279
Kublai Khan unified China and founded Yuan Dynastity.

500 BC
Mongolian yurt appeared.

1368
The Mongolians lost regime in China but still ruled the Mongolian Plateau.

800 BC
Nomadic pastoralism became the dominant form of land-use.

1206
Genghis Khan united all Mongolian tribes and established the Mongol Empire. The nomadic pastoralism was in its prime.

1624-1644
The Manchu took control of China and the Mongol Plateau. The Qing government established states and counties in the Mongolian Plateau to strengthen the central power. Nomadism were limited within each county.

1740s
Immigration of agrarian populations was permitted by the government.

1876
Due to a great famine, a large number of peasants rushed in, cultivating grasslands for survival.

1902
Under the financial pressure of the *Boxer Indemnity*, the Qing government enacted a reclamation policy. Large areas of grasslands turned into farmland.

1983-2000
With the *Household Contract Responsibility System* promoted since 1983, grasslands turned into individual herding households, resulting in reduced livestock mobility and fragmented landscape.

1949-1983
The PRC government took control of Inner Mongolia. The cultivated area in Inner Mongolia increased dramatically from about 4 to 5.3 million ha. Simultaneously, large-scale resource extraction has started since the 1950s.

Formative period

1200 Prosperous period

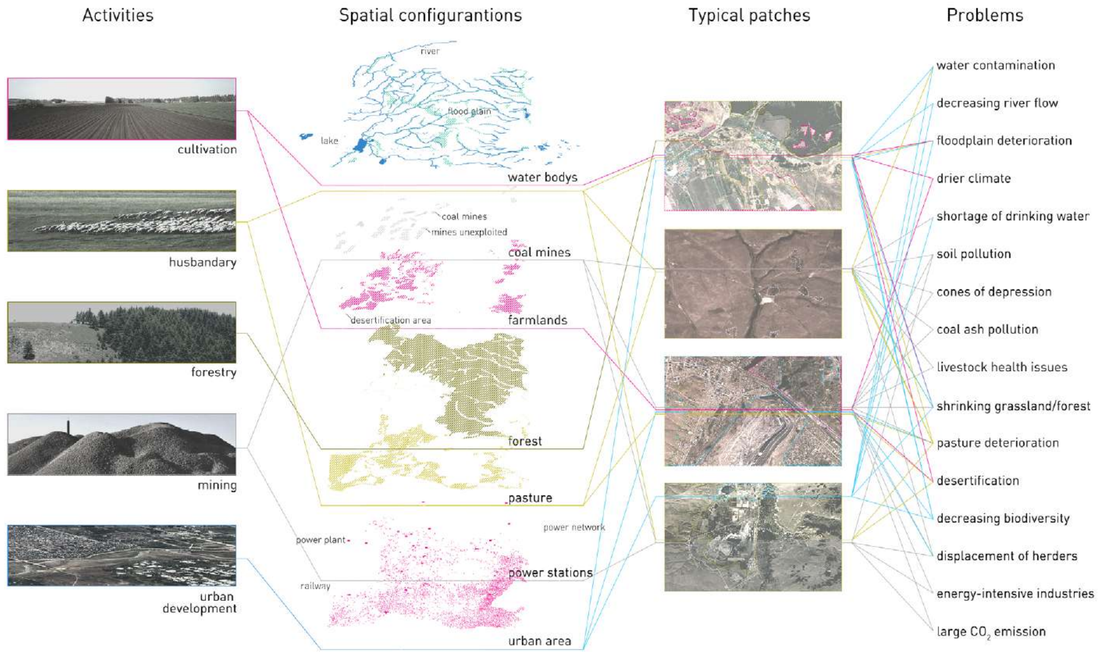
1600 Agrarian culture invasion

1900

2000

Nomadic pastoralism was once prosperous, but the land use competition between pastoralists and agrarian populations had never ceased in history. Today, the traditional nomadic lifestyle is coming to an end with the process of industrialization and urbanization.

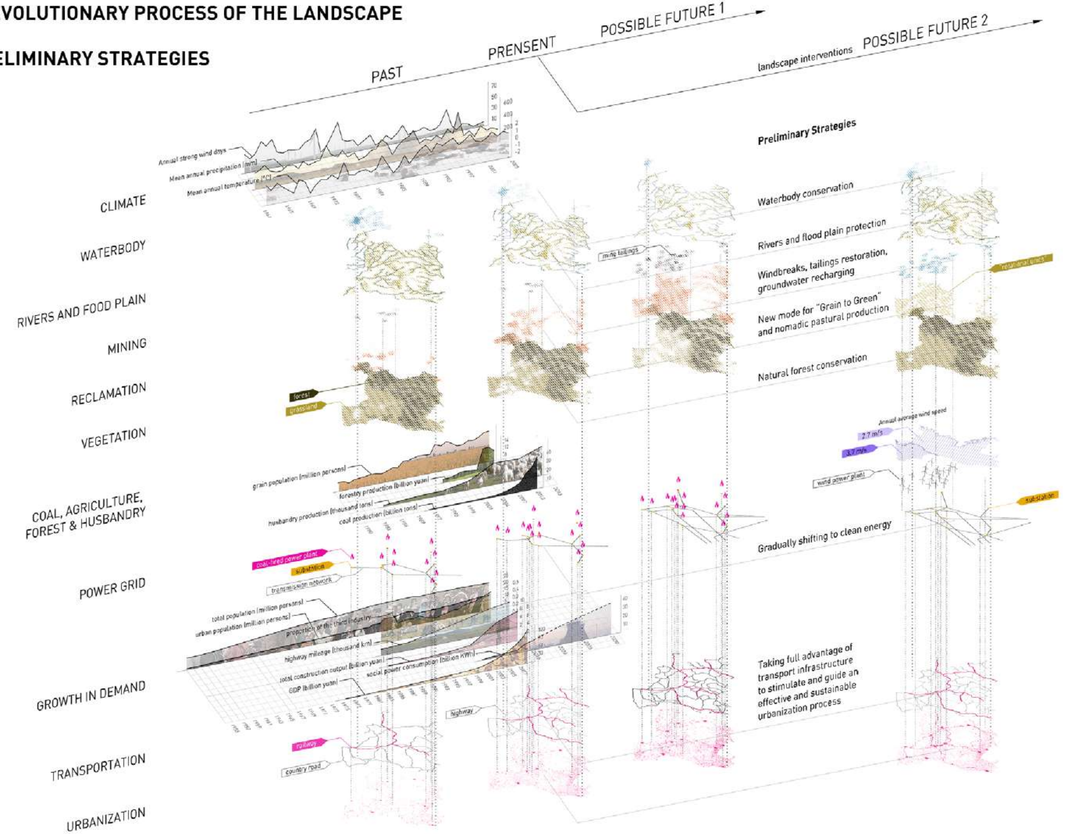
CONTRADICTORY LAND USES



Various forms of land uses coexist in the landscape, developing in an unsustainable way, competing for land, water and other resources and mutually restricted. The inorganized way of land uses has led to landscape fragmentation and many other problems.

COMPLEX & DYNAMIC FACTORS INFLUENCING THE EVOLUTIONARY PROCESS OF THE LANDSCAPE

& PRELIMINARY STRATEGIES



Rather than the static and defensive view of a picturesque Hulunbuir landscape, strategies are proposed focusing on an operating and ever-changing urbanization process in flux, and simultaneously taking the conservation of the natural and cultural landscape into consideration.

SELF-ORGANIZATION PROCESS

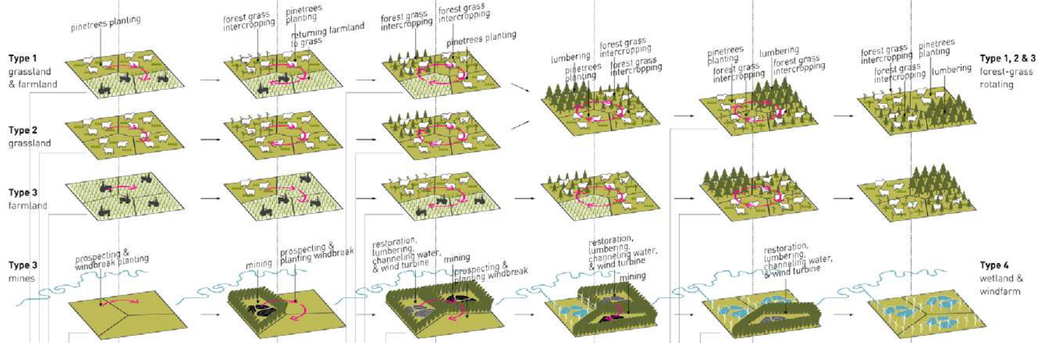
present | 5 yrs later | 10 yrs later | 15 yrs later | 20 yrs later | 25 yrs later

HIERARCHY 1

Defining agents:
villages in
landscape patches

villages

Ways of interaction:
rotational units



Interactions

The emergence of Hierarchy 1

Each village is defined as a basic agent. *Rotational units* are proposed where different land uses or activities occupy a patch in a recursive sequence designed to turn the once conflicting activities to mutually premise and contributive.

SELF-ORGANIZATION PROCESS

present | 5 yrs later | 10 yrs later | 15 yrs later | 20 yrs later | 25 yrs later

HIERARCHY 2

Defining agents:
towns

towns

Ways of interaction:
rules for
town growth

Interactions:
Flows from
villages to towns

The emergence of Hierarchy 2

HIERARCHY 3

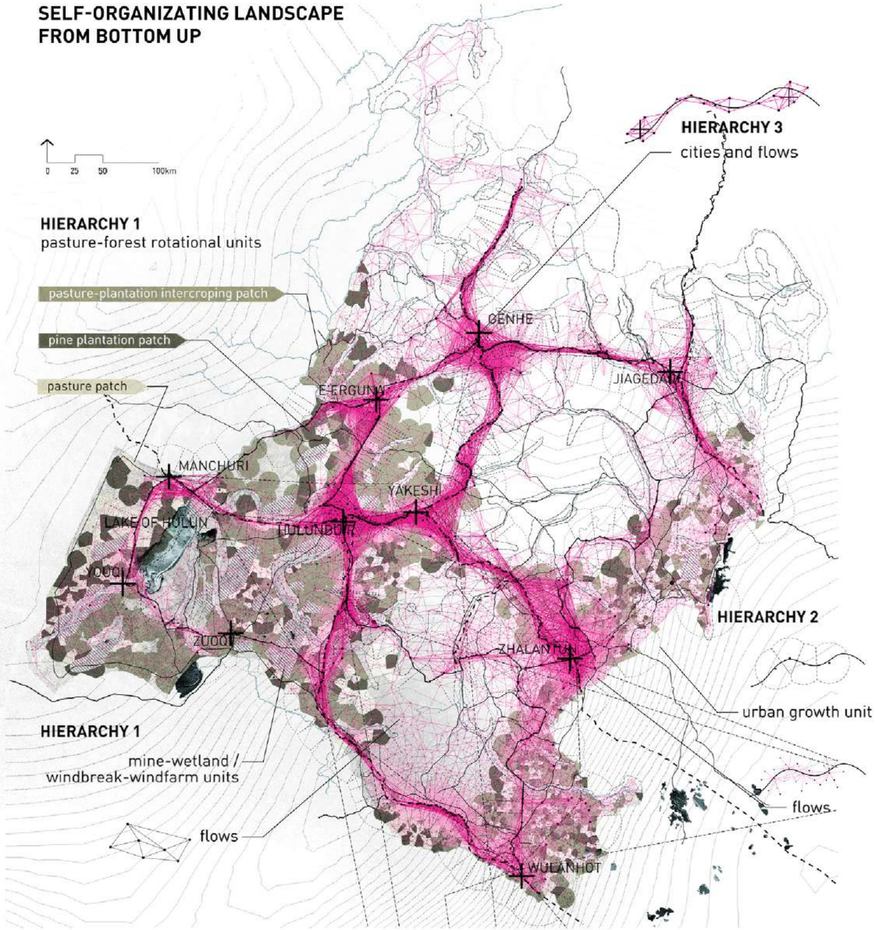
Defining agents:
big cities

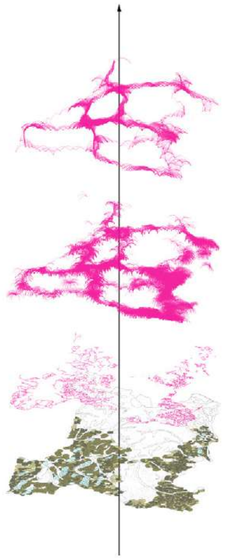
Interactions:
Flows from
towns to cities

The emergency of Hierarchy 3

Based on hierarchy 1, towns are defined as agents of hierarchy 2, where products and energy from hierarchy 1 are gathered, processed and transported, growing along transport infrastructure. After that, hierarchy 3 would emerge as networks of the big cities in the region.

SELF-ORGANIZATING LANDSCAPE FROM BOTTOM UP





FLOWS IN THE VALLEY SECTION

Hierarchy 3: region scale

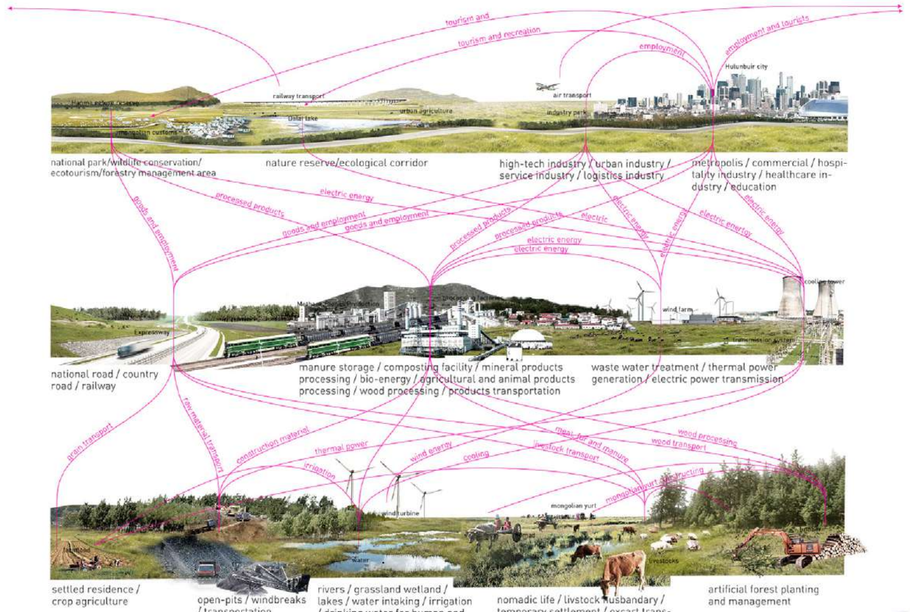
- commercial
- service industry
- education
- medical service

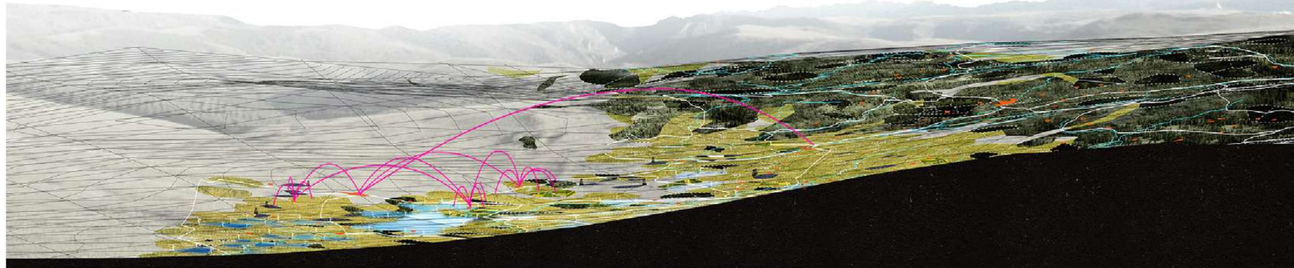
Hierarchy 2: town scale

- food processing
- industry processing
- storage
- transportation
- power generation

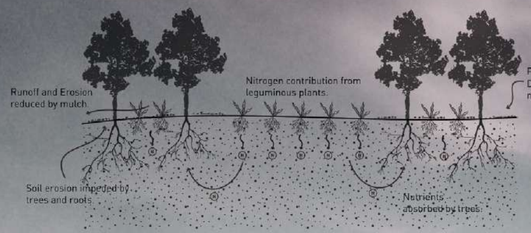
Hierarchy 1: village scale

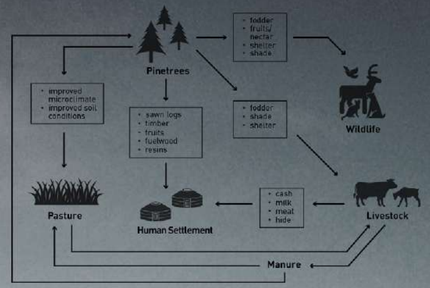
- cultivation
- grazing
- forestry
- mining

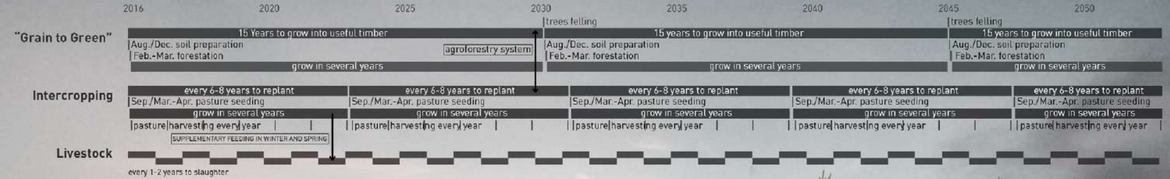




SCENARIO 1:
INTERCROPPING AND ROTATION







TIMELINE

SCENARIO 2:
ECOLOGICAL RESTORATION OF MINE TAILINGS

TIMELINE

SCENARIO 3:
WATER RECHARGING
IN FUNNEL AREA

1

2

3

mine

ground water level line

groundwater funnel area

railway

highway

water table contour

SCENARIO 4:
WIND ENERGY UTILIZATION

wind zone I

average wind speed: 2.7m/s
highest monsoon wind speed: 7.3m/s

wind zone II

average wind speed: 3.7m/s
highest monsoon wind speed: 15.6m/s

exportable wind farm

autonomous wind farm

wind power station

power transmission line

thermal power station

500m

250m

80m

550m

275m

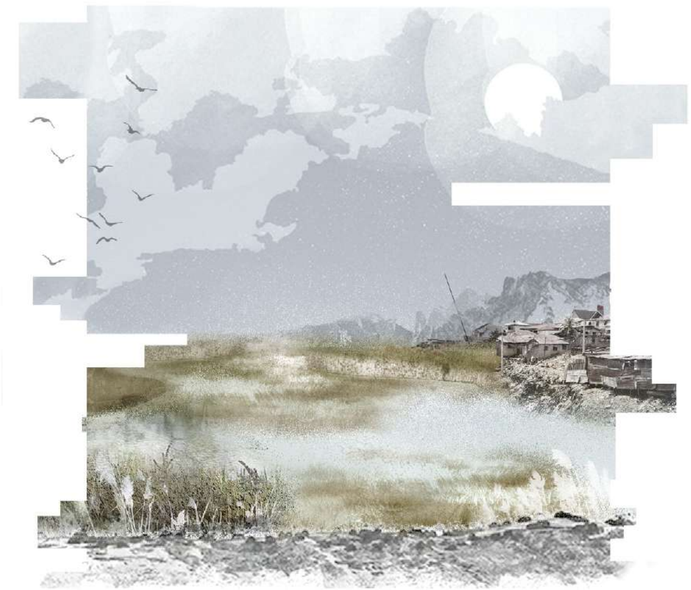
80m

120m

9x300MW

12x250MW
autonomous wind
farm in wind zone I

6x400MW
+6x250MW
exportable wind
farm in wind zone II



GRACE OF FLOOD

BUILDING A ROBUST LIVING RIVERFRONT VIA NATURE-BASED INTERVENTIONS

AWARD: 2ND PRIZE OF 2016 IFLA STUDENT COMPETITION JURY FOR THE BARCELONA INTERNATIONAL LANDSCAPE ARCHITECTURE SCHOOL'S PRIZE

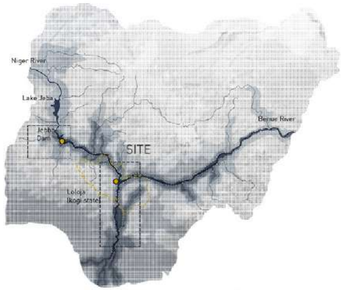
LOCATION: Niger river and Benue river, Lokojia
SIZE: 3,750km^2
COLLABORATOR: He Wei, Tan Li, Jin Lanlan

Faced with widely distributed floods during heavy-rain seasons that have tremendously aggravated poverty in Lokojia, instead of traditional engineering flood wall resulting in a waste of urban space and resources, our project seeks to find a solution at the confluence based an the idea resilience, and improve the development of the cities built downstream along the river. The curve dams make flood play a role of transporting sands to create a larger area to store water considering time effect. Except for protecting cities from flooding. it can ensure the water supply for irrigation and improving the eco-environment for further introduced tourism.

SEASONAL CATALOGUE

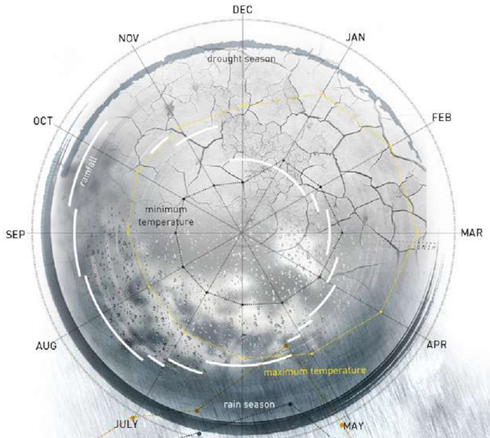
HALF FLOOD, HALF DROUGHT

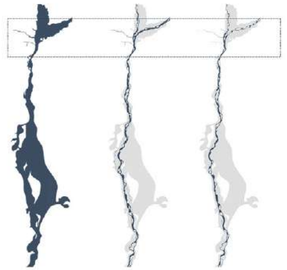
SITE



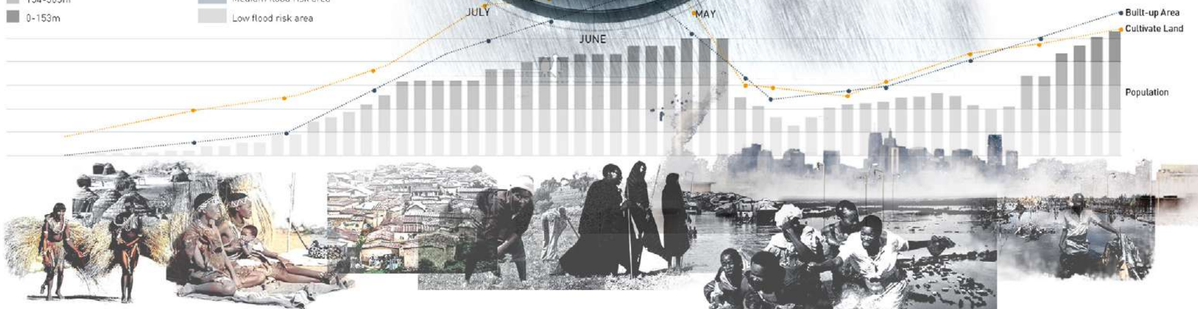
1526-3050m
611-1525m
306-610m
154-305m
0-153m

Water body
Flood affected area (2012)
High flood risk area
Medium flood risk area
Low flood risk area





Flood period | Nomal period | Drought period



SETTLEMENT 1875

The present settlement at Lokoja was established with small population and city.

CITY DEVELOMENT 1991

Kogi Sate was established with the administrative headquarters in Lokoja, leading to the expansion of the city and unsuitable settlements.

2012 RIVER FLOODING

The floods were termed as the worst in 40 years and affected an estimated total of seven million people with 363 dead and over 2.1 million displace.

A SOCIETY

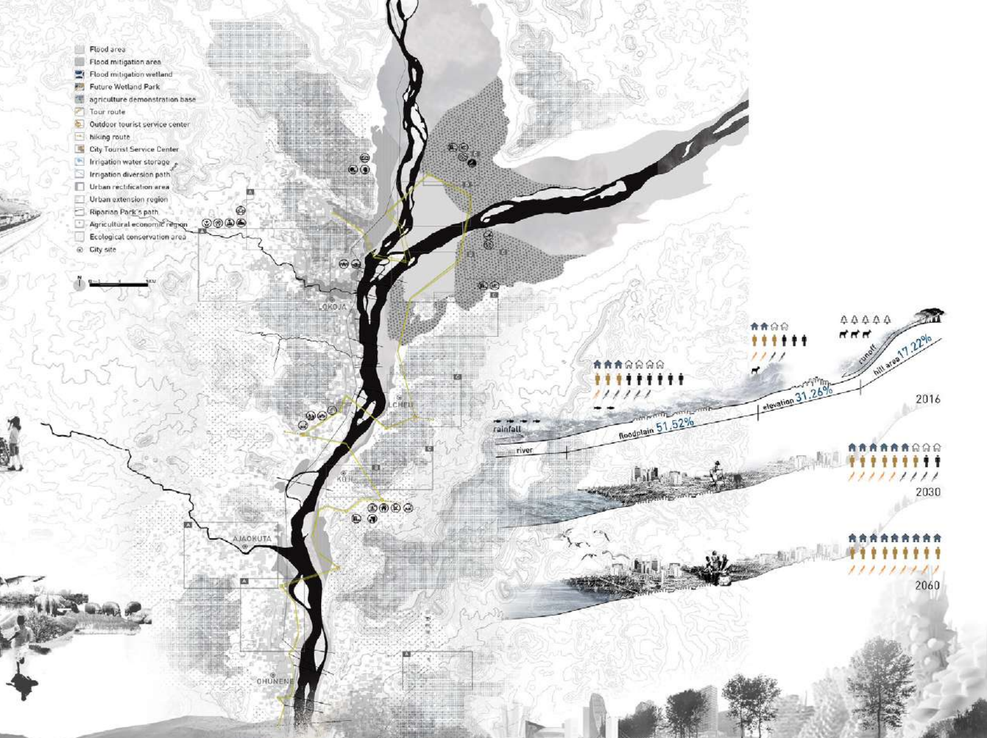
The ecological management of the flood brings opportunities for the sustainable development of the city and social life.

B ECONOMY

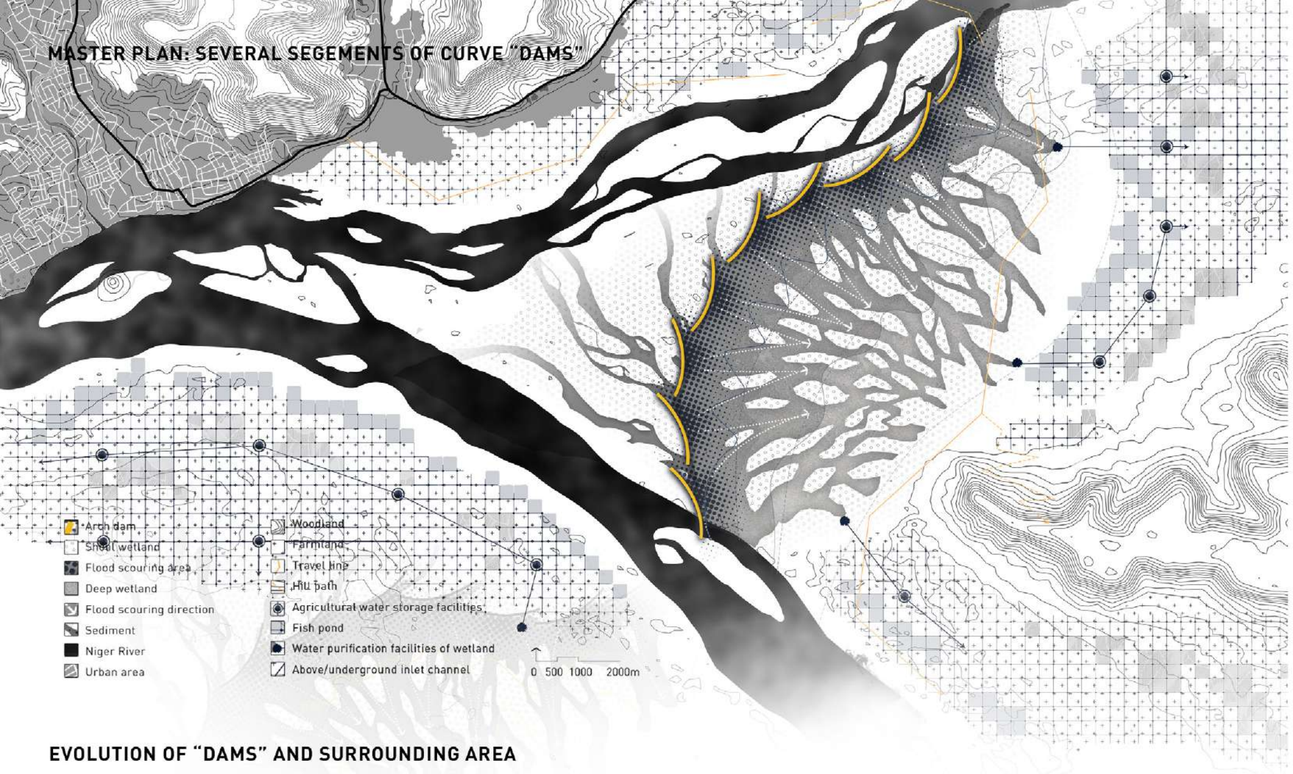
Agricultural development is based on the ecological management of the flood, which brings a variety of service industries, promoting the development of economy.

C ECOLOGY

The ecological restoration and protection also benifit from the management of the flood, realizing the harmonious development of society, economy and ecology.



MASTER PLAN: SEVERAL SEGEMENTS OF CURVE "DAMS"

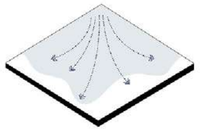


EVOLUTION OF "DAMS" AND SURROUNDING AREA

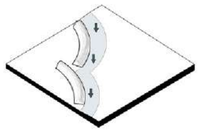
CONCEPT GENERATION

RESEARCH ON EVOLUTION OF FLOW

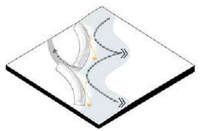
Present:
Flood goes everywhere.



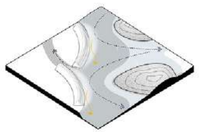
Phase 1:
Soil is shallowly excavated to build the dam protected by the gabion filled with stones.



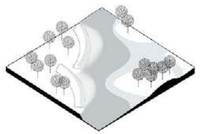
Phase 2:
Water and sediment are separated. Excessive water and sand run out through a gap between each two arch dams.



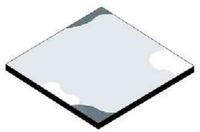
Phase 3:
The area near the dam is constantly sunken and expanded. The other side of the dam forms into the wetland.



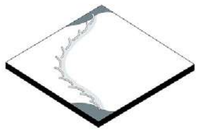
Phase 4:
A relatively stable shape of the concave area and the wetland are formed with water storage capacity enhanced.



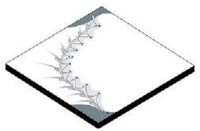
Present:
The area is entirely affected by the flood.



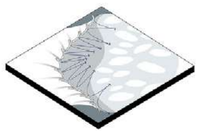
Phase 1:
The dam is composed of several segments.



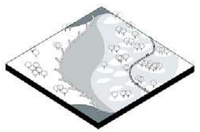
Phase 2:
Initially, a small shoal against the dam is formed by floodwater rushing past.

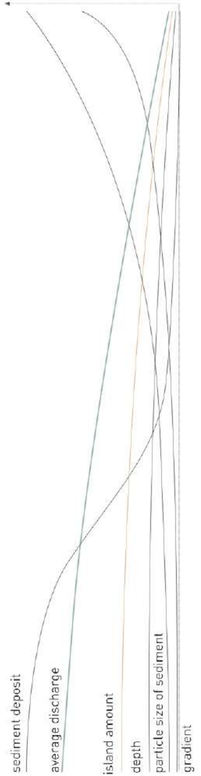


Phase 3:
The purpose-built dam guides the flood to form a concave area.



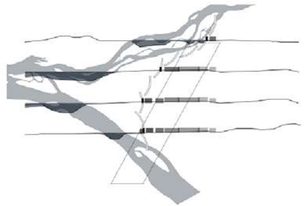
Phase 4:
It works to release flood water, store water for irrigation and increase biodiversity.



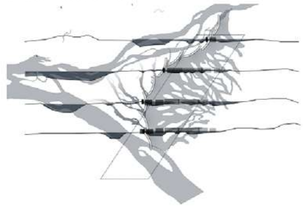


BIGGER STORAGE VOLUME

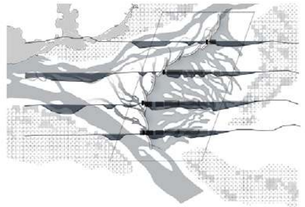
1. Minimal intervention



2. Let nature work

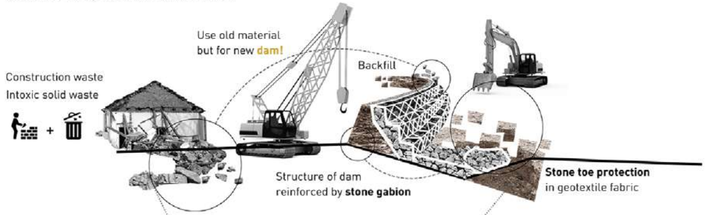


3. Sustainable development

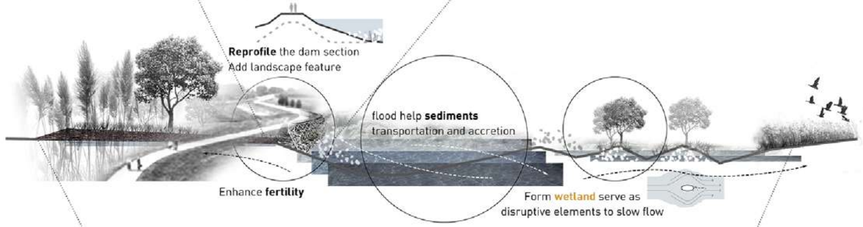


FEASIBLE METHOD OF CREATING "DAM"

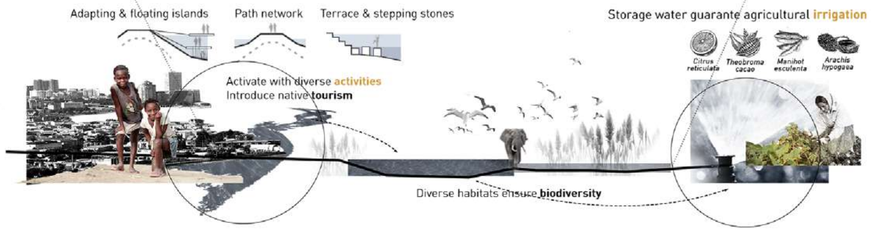
The design takes low labor and low resource consumption into account by recycling construction waste to build the dam with the structure of the main body and gabion filled with stones.



With the help of purpose-built structure, a larger area will be created by nature to store water during a period of time. The flood enhances the fertility of the soil and contributes to forming the wetlands.

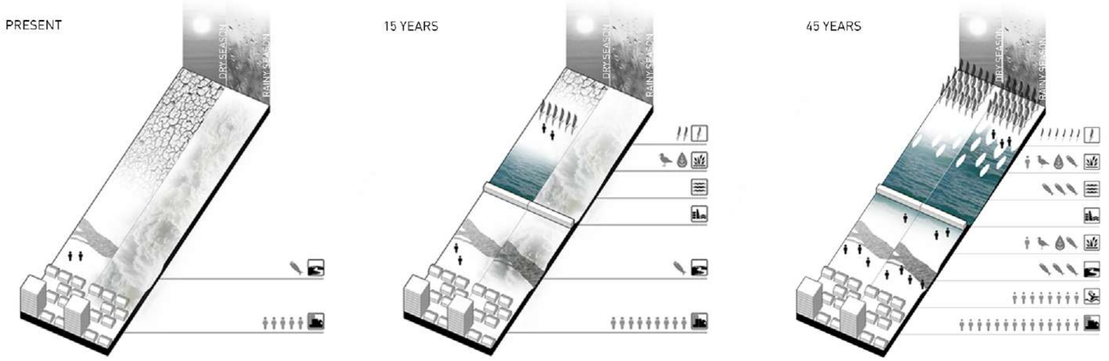


The formed area and wetland have a function of absorbing water, which reduces the threat of flooding to the city. Without crisis of the flood, cities coexist in harmony with river, agricultural irrigation is guaranteed, leading to sustainable development of the area.



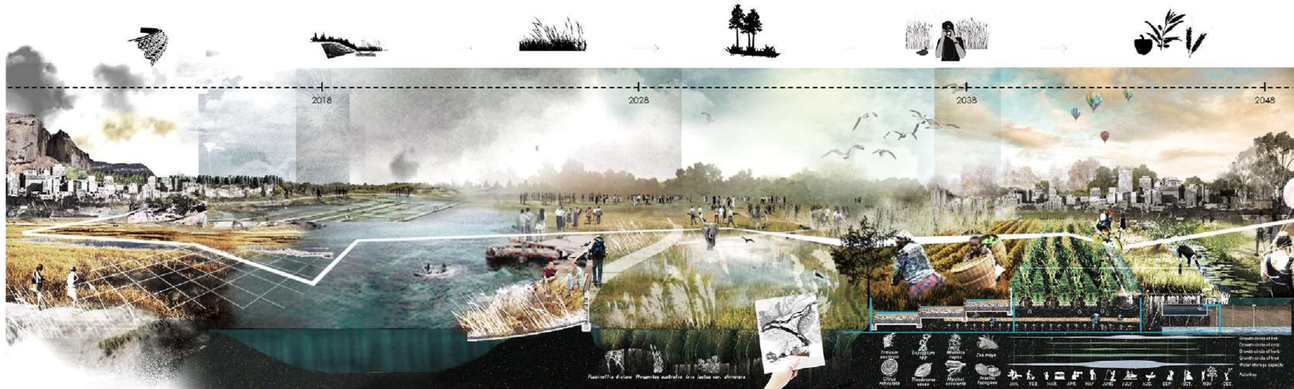
SEASON ANALYSIS

DIFFERENT SCENARIOS IN FLOODING AND GROUGHT PERIOD CONSIDERING TIME EFFECT



BETTER LANDSCAPE, BETTER LIFE

A RESILIENT, LOW-COST, UTILITARIAN SOLUTION BENEFITING THE WHOLE SOCIETY



REVIVING AGRICULTURE

With the gradually increasing capability of water storage inside the dam, the introduced flood discharge and irrigation systems would provide the farmer with an ample and continuous supply of water, enrich the species of crops and animals. The espansion of lake to store water, the stability of water volumn and the improvement of water qualityu make it better to use for agriculture and aquaculture.

SHAPING WETLAND

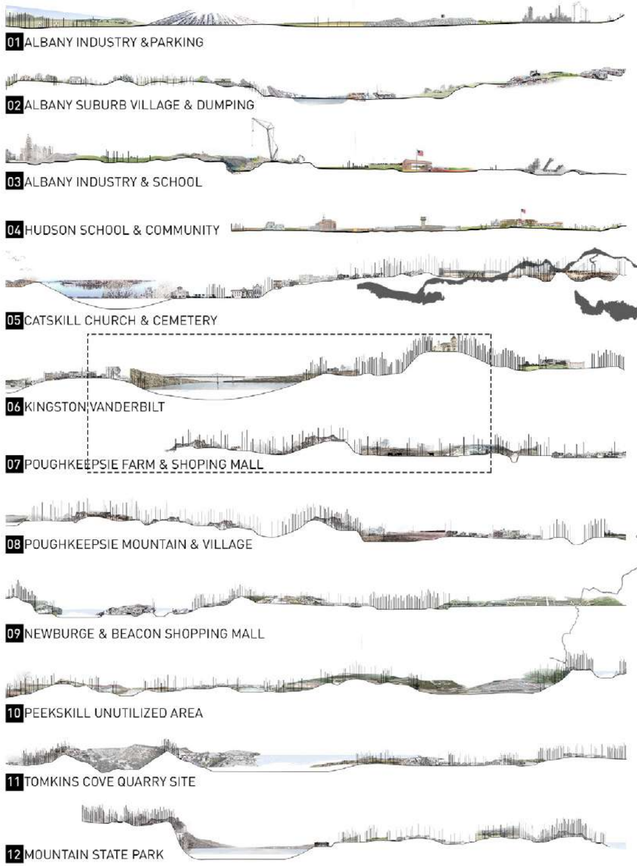
The improved environement will increase the quality of landscape resources in the region. Diverse ecological environment and native tourism introduced into the area along the river will undeniably flourish, linked to different cities and even larger area.

CREATING DAM

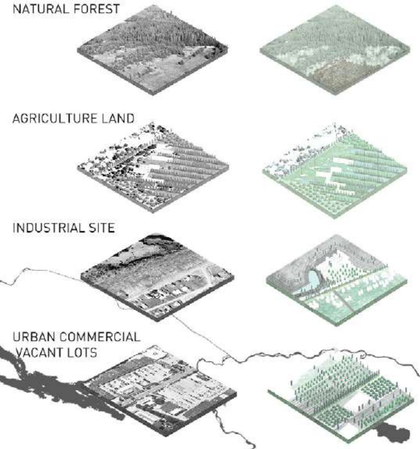
In order to protect cities from floading, our plan is proposed to improve the construction and development of the cities built downstream along the river by solving the problems at the confluence. The curve dam, which is built from construction waste, composed of several segments designed to separate the water and sediment. The flood plays an imdispensable role of transporting sands to create a larger area to store water considering time effect.

STUDYING HUDSON VALLEY THROUGH SECTIONS

BASED ON SPATIAL POTENTIAL OF REFORESTATION

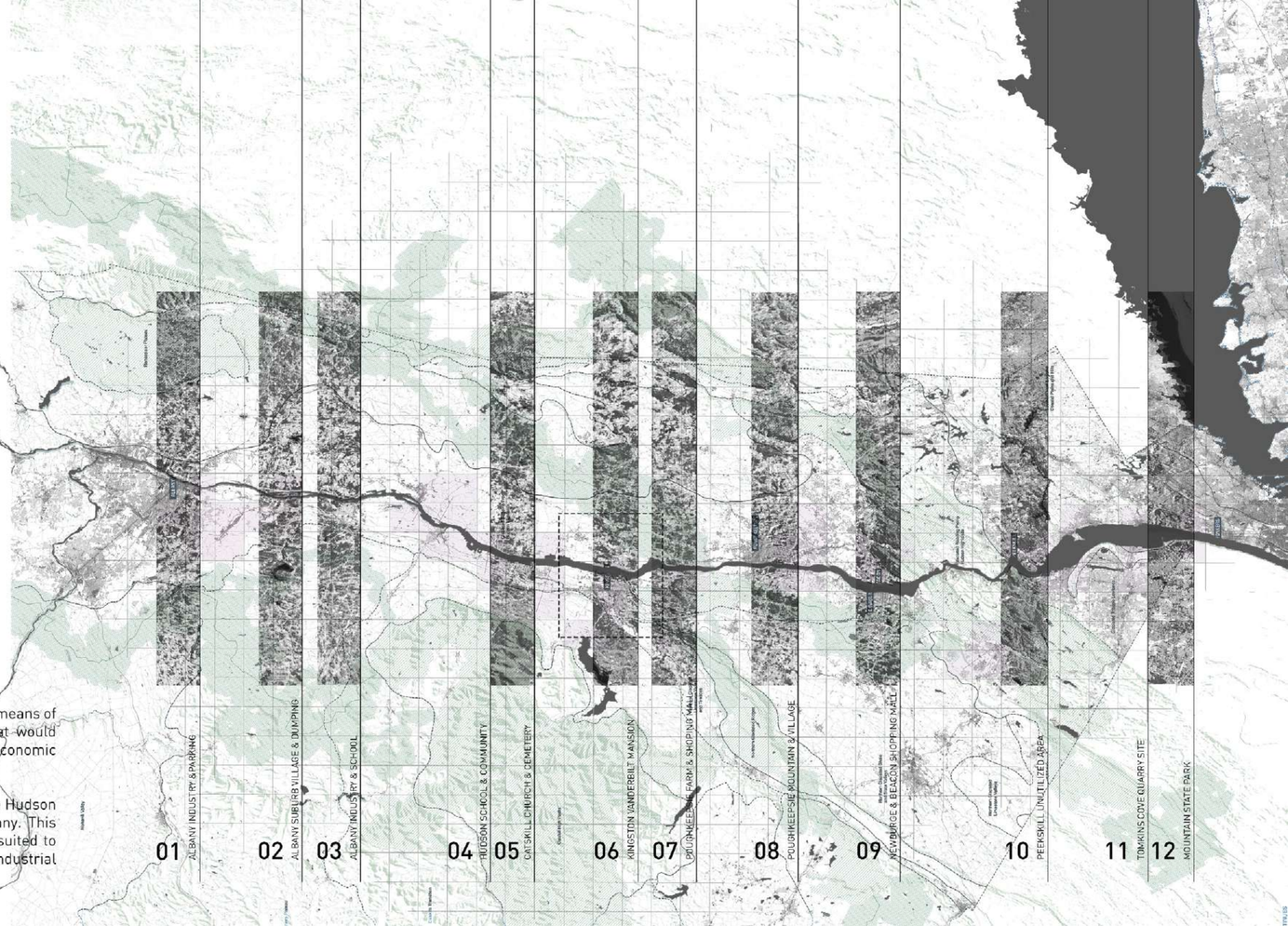


IDENTIFYING FOUR TYPOLOGIES



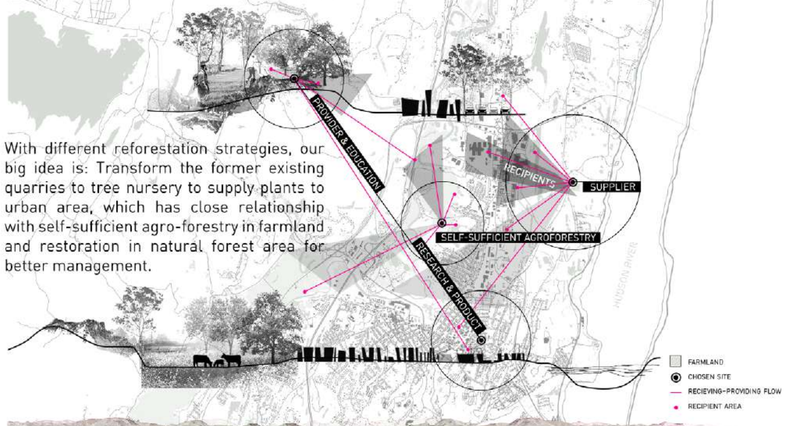
In response to potential benefits of reforestation as a viable means of carbon sequestration, we focused on natural systems that would create green space for communities while generating economic benefits including industry, jobs, recreation, etc.

To determine ideal location for this initiative, we studied the Hudson Valley through a series of sections, from Yonkers to Albany. This helped us to identify four topologies that would be better suited to reforestation. They are: natural forest, agriculture land, industrial site, urban commercial vacant lots.

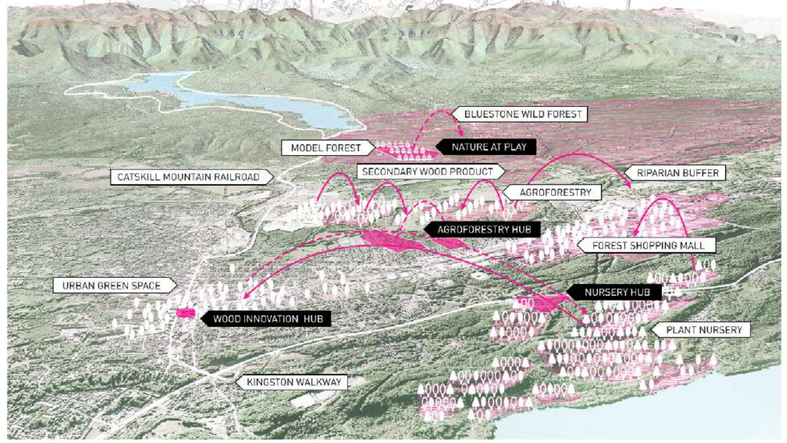


REFORESTATION SYSTEM

DIFFERENT REFORESTATION STRATEGIES



With different reforestation strategies, our big idea is: Transform the former existing quarries to tree nursery to supply plants to urban area, which has close relationship with self-sufficient agro-forestry in farmland and restoration in natural forest area for better management.



POST MINING

We proposed existing run-down quarry as tree nursery, with bunch of greenhouse, visitor center, amphitheater, wetland park. In this particular post industrial site we also created "room size" observation spot for experience the scar of nature.

URBAN LOTS

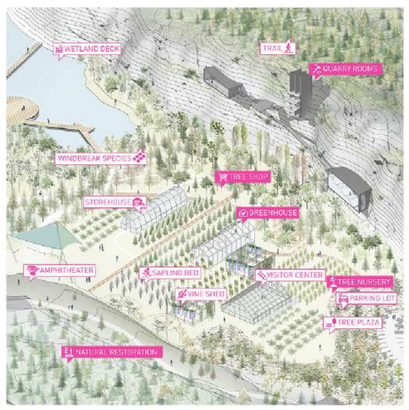
Most of shopping mall in urban area has oversized parking lot. so we will take over all the space that doesn't need to be parking lot and driveway to plant trees with stormwater management and public creation in long term.

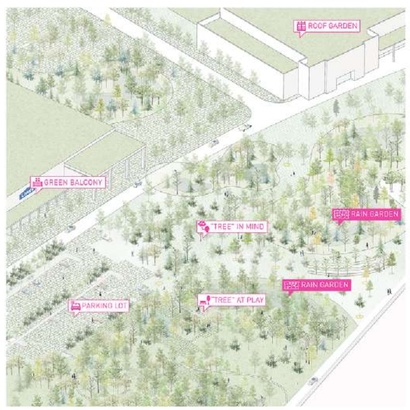
FARMLAND

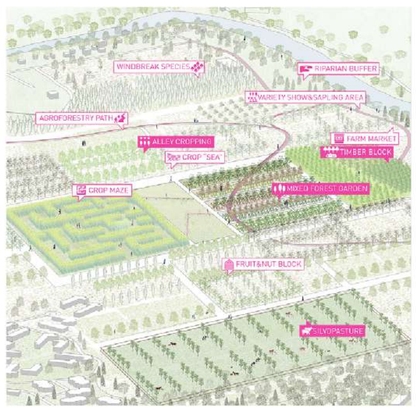
In this existing community-based farm, to let farmer get more economic benefit, we proposed a forest garden, with black walnut, poplar for fast milled timber, woody crop for harvesting fruit and nuts, also with better space for seasonal events and education programs.

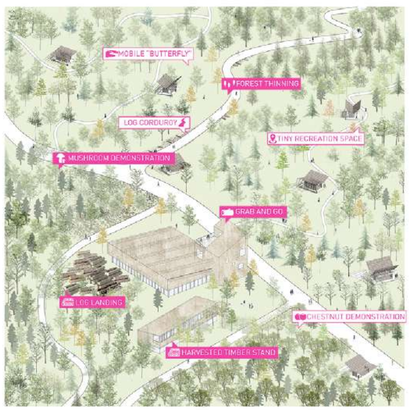
FOREST FRAGMENT

In Bluestone wild forest, we bring American chestnut back, seasonal events like mushroom pick. High-tech sawmill for tree harvesting selection that supply material to wood intervention center and a butterfly shaped mobile camp for nature exploring in tree spacing are proposed after thinning trees.





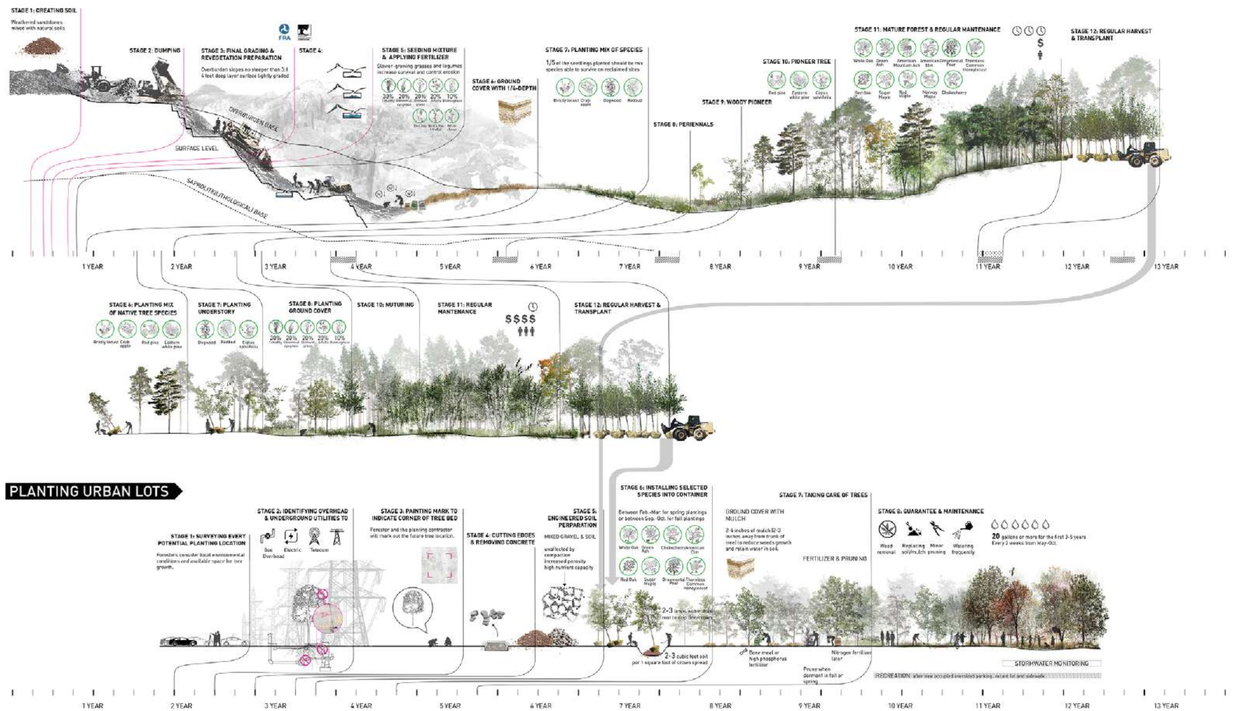




LONG-TERM & COMPICATED REFORESTATION PROCESS

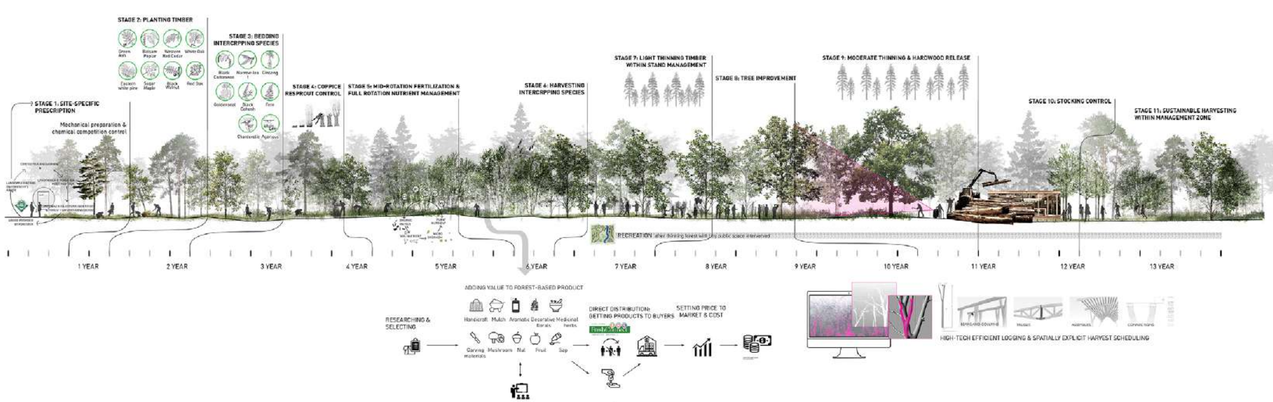
FOR POST MINING, URBAN LOTS, FOREST FRAGMENT, FARMLAND

PLANTING POST MINING

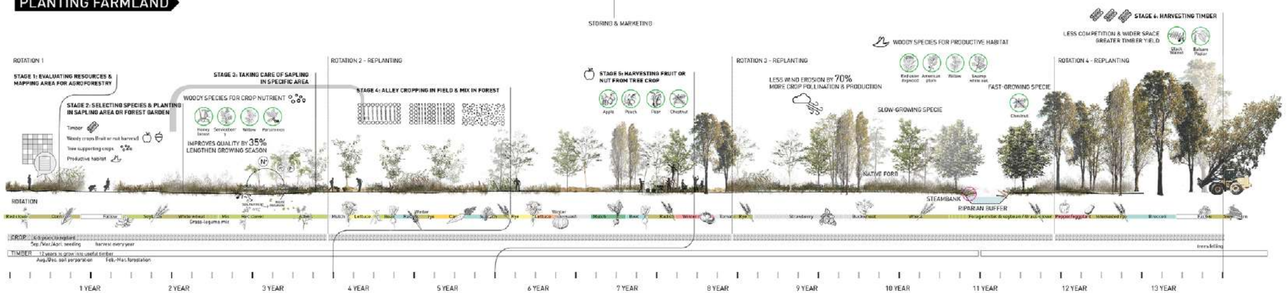


PLANTING URBAN LOTS

PLANTING FOREST FRAGMENT



PLANTING FARMLAND

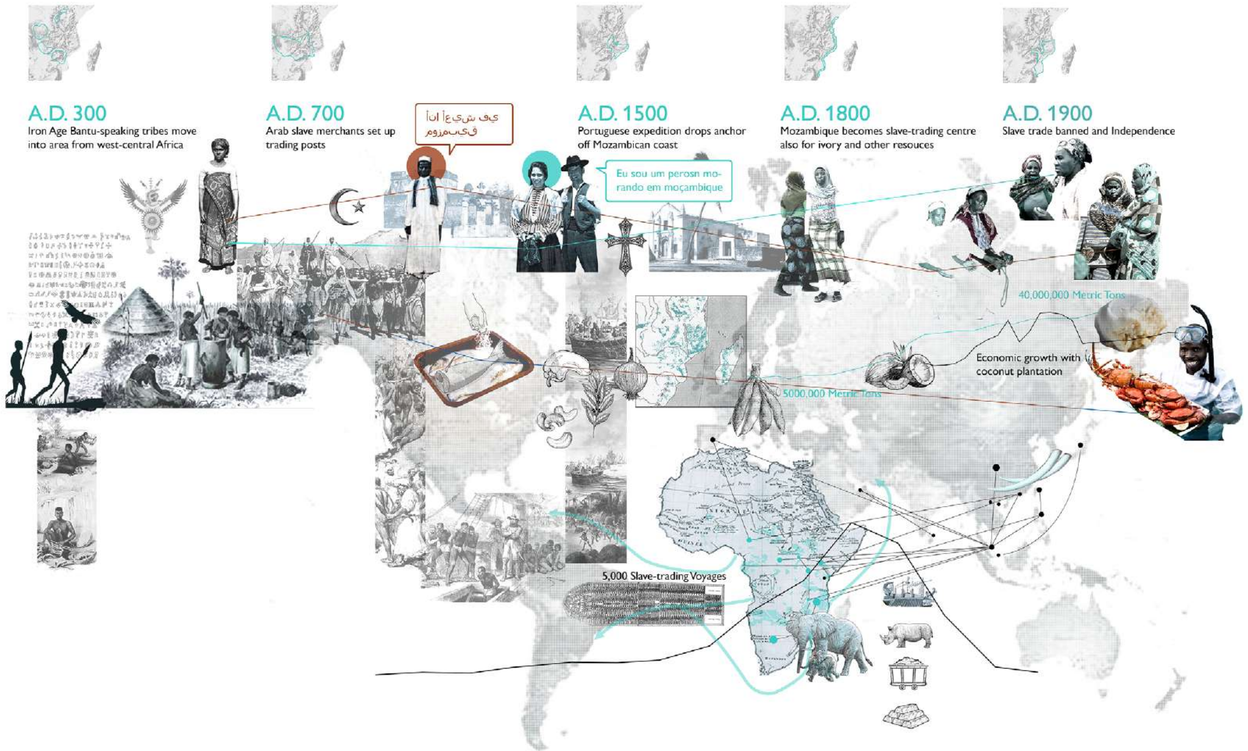


Fast-growing strategies are proposed in post mining sites for urban tree supply, while natural-growing for site preparation, which need a lot of works including soil stabilization and erosion control. With easily transplant and fast-growing tree species that are tolerant to urban environment, reforestation without conflicting with existing infrastructure will create green infrastracture with long-term stormwater management and recreation space.

Introducing different thinning process, high-tech timber selection, planting multispecies are proposed to make forest better managed and increase economic benefit. Agroforestry is applied with crop rotation, nutrient improvement, wind break species, and species that can create productive wildlife habitat and strengthen the water buffer

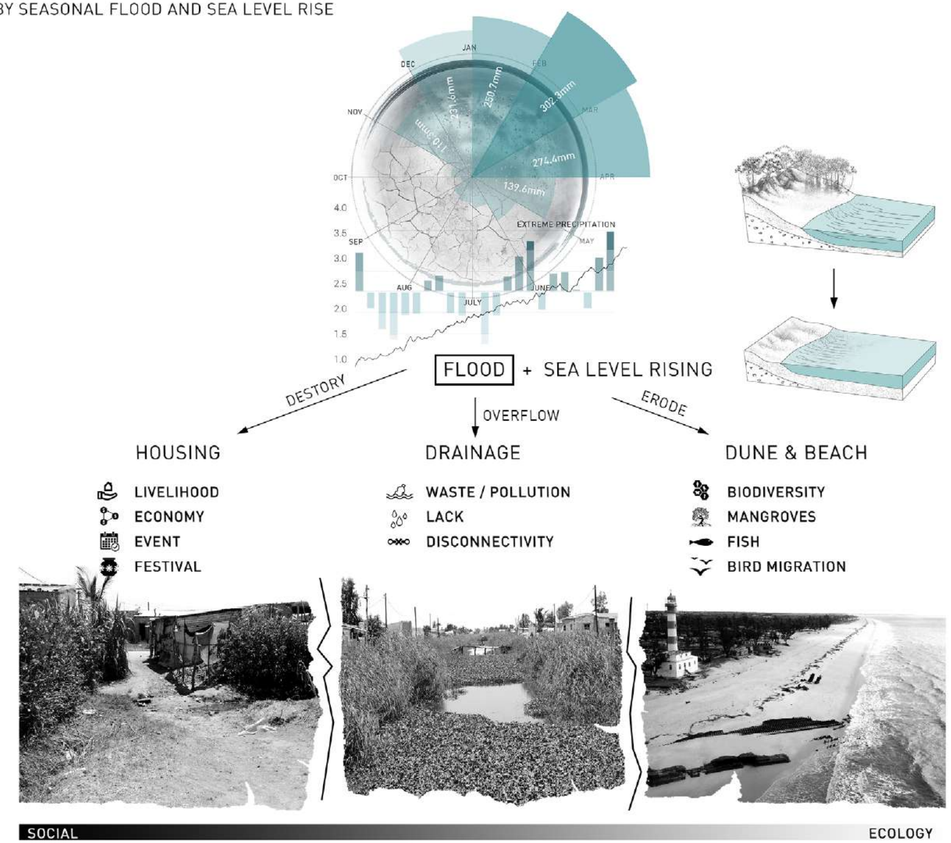
TIMELINE OF MOZAMBIQUE

A LONG HISTORY STRONGLY INFLUENCED BY COLONIZATION



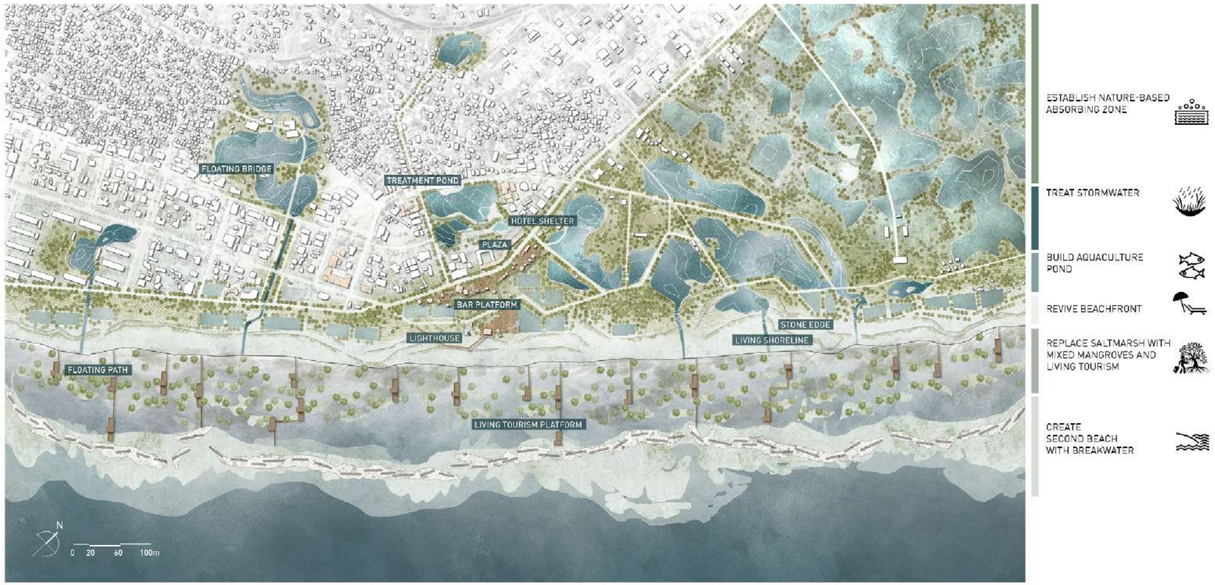
CURRENT CRISIS

MAINLY CAUSED BY SEASONAL FLOOD AND SEA LEVEL RISE



REGENERATIVE VISION 2100

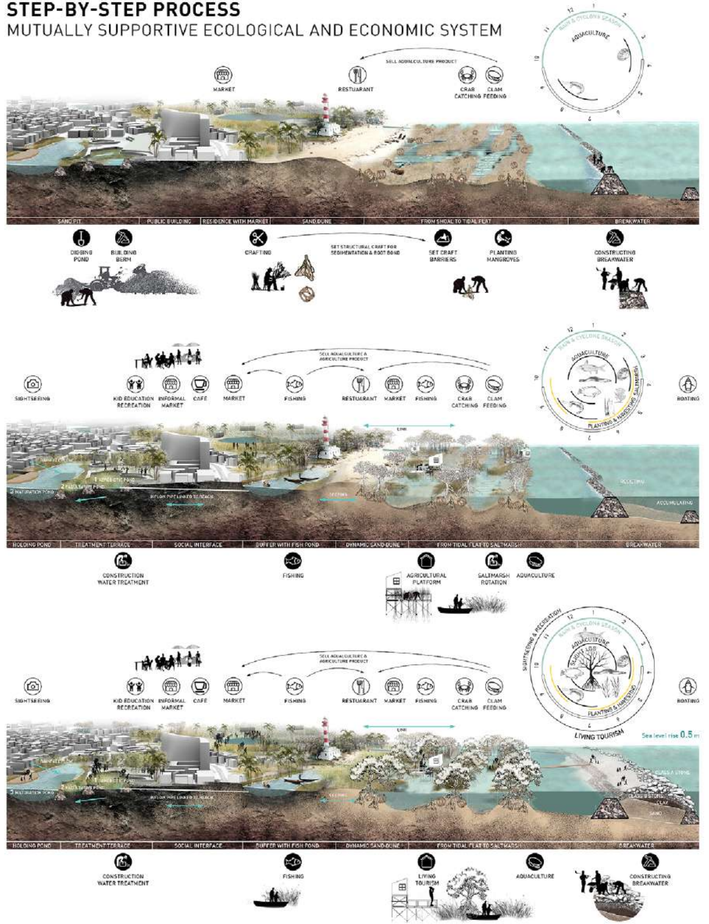
CREATING LIVING SHORELINE-MIXED MANGROVES-SECOND BEACH INTERFACE



With introduced breakwater, expanded tidal flat, reinforced beachfront and treated storm water, conserved salt marshes become an accessible nature-based absorbing zone. With more sediment and mature mangroves that replace salt marshes, regenerative vision in 2100 is like a living shoreline-mixed mangroves-second beach interface, with in-between aquaculture ponds, floating path and platform linked together as coastal living tourism, to not only ecologically restore the coastline, but also revive it and introduce a new way of life that meet local demand.

STEP-BY-STEP PROCESS

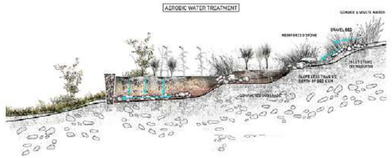
MUTUALLY SUPPORTIVE ECOLOGICAL AND ECONOMIC SYSTEM



PHASE 1 2030

TOWARDS PRODUCTIVE TIDAL FLATS

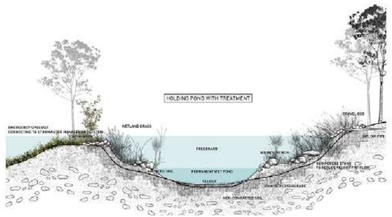
1. Introduce breakwater utilizing coral reefs to resist tidal flood and accumulate sediment
2. Expand tidal flats with artificial barriers
3. Reinforce beachfront with stone reefs



PHASE 2 2030

TOWARDS ROTATIONAL PRODUCTIVE SALT MARSH

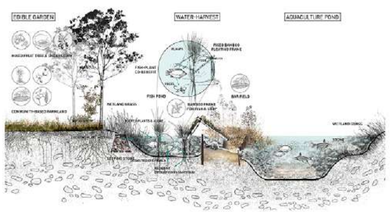
1. Create floating wooden platform for aquaculture and agriculture, arrange rotation in salt marsh
2. Build aquaculture pond
3. Treat stormwater with ponds while providing public space



PHASE 3 2100

TOWARDS MIXED MANGROVE WITH LIVING TOURISM

1. Reinforce sediment with clay and stones
2. Create second beach as public belt linked with floating path and wooden platform for living tourism
3. Replace saltmarsh with mature mangroves

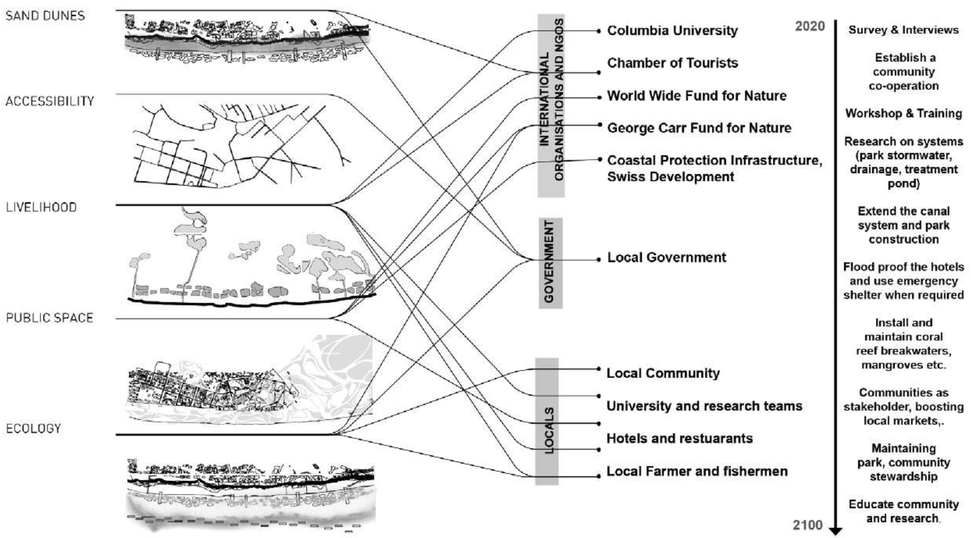


FRIENDS OF LIVING COASTLINE

A COLLABORATION BETWEEN THE GOVERNMENT, THE LOCALS, AND SELECT INTERNATIONAL ORGANIZATIONS

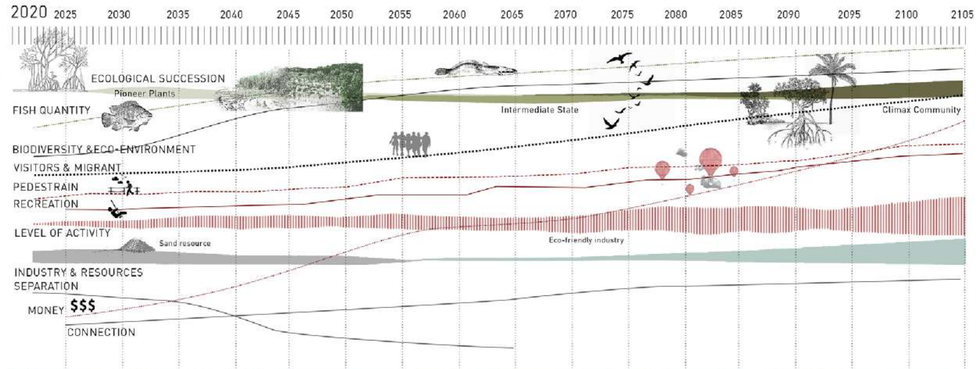
The primary stakeholders:
local communities,
(university can research on the systems)
(laborers can receive training in aquaculture, construction, and management)

Tourism Tax will be used to develop the park.
NGOs and local businesses will provide funding for maintenance and ancillary expenses.

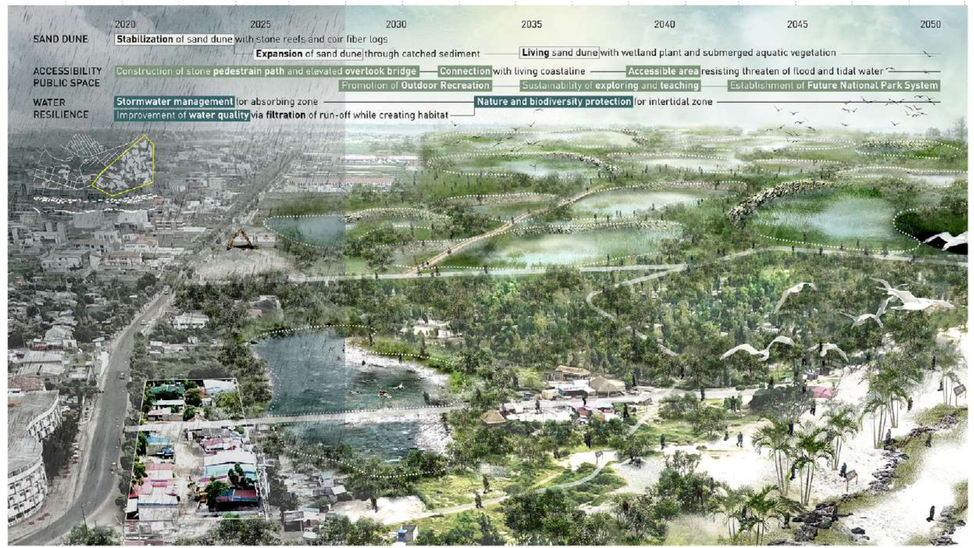


FUTURE OF LIVING COASTLINE

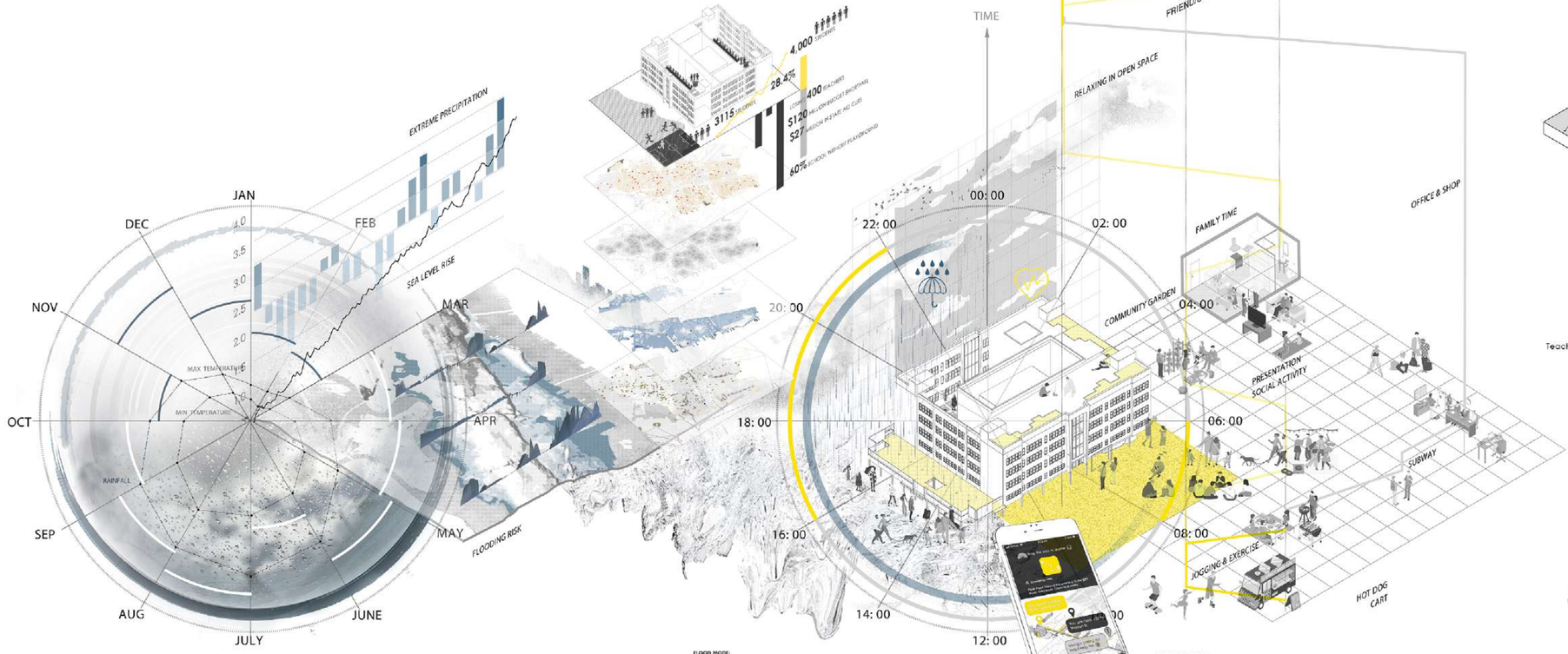
BUILDING A ROBUST ECONOMY USING NATURE-BASED INTERVENTIONS



A bright future of the living coastline will be expected through a series of detailed arrangements, aiming at conserving Africa's history and culture, protecting nature and increasing biodiversity, ensuring educational sustainability and nurturing living cultures and communities, thus the future National Park system will be shaped.

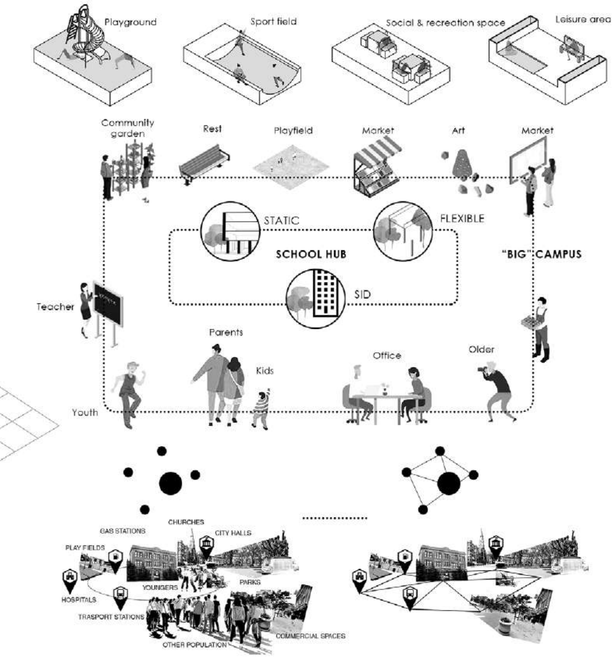


FLOOD CYCLE
INCREASING RISK DUE TO CLIMATE CHANGE



COMMUNITY CYCLE
DIIFERENT SCHEDULE FOR SPACE USE

RESILIENCE NETWORK
AN OVERALL SYSTEM CONNECTINGINFRASTRUCTURE WITH PEOPLE



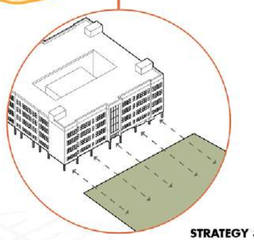
REGENERATIVE VISION

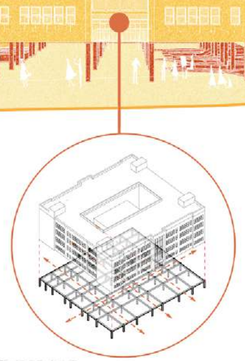
CREATING COMMUNITY RESILIENCE ADAPTING TO CLIMATE CRISIS

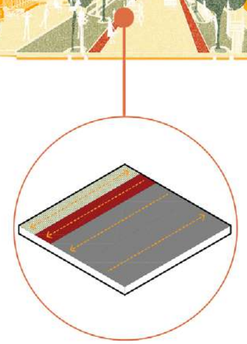
STRATEGY 1
INFRASTRUCTURE

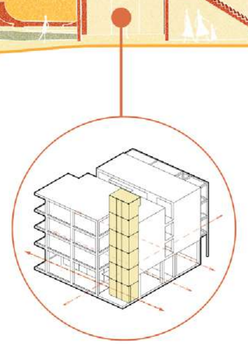
STRATEGY 2
SAFE ROUTES

STRATEGY 3
GREEN SYSTEM
AND PERMEABILITY

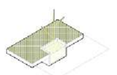




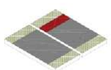




STRATEGY 3:
GREEN SYSTEM & PERMEABILITY

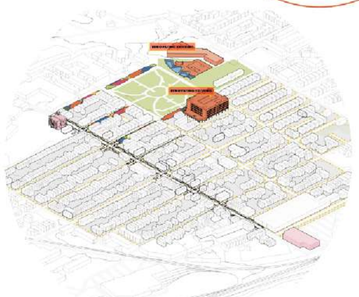


GREEN GARDEN
BED SYSTEM



RECONFIGURATION

STRATEGY 1B:
EXISTING SCHOOL EXPANSION



OPEN GROUND
FLOOR

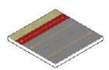
OUTDOOR
PLAY AREA

EXTENSION TO
THE PARK

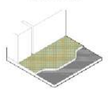
GREEN ROOF

STRATEGY 2:
SAFE ROUTES

SAFE CROSSING

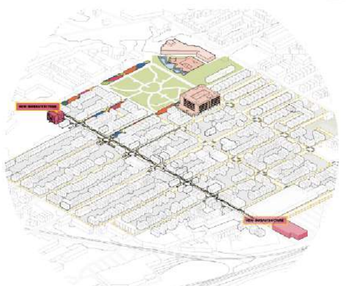


MULTIMODAL
STREET



VALUE STREETS

STRATEGY 1A:
NEW INFRASTRUCTURE

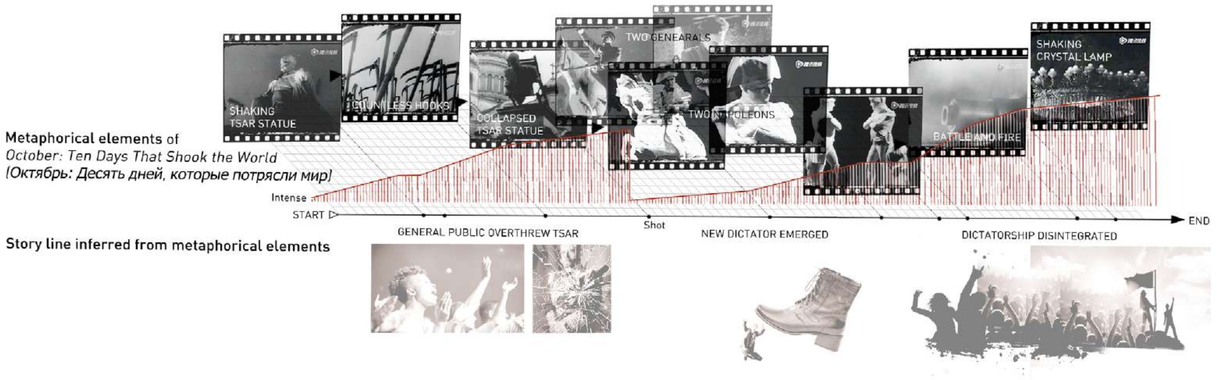


OPEN GROUND
FLOOR

COMMUNITY
SPACE & LIBRARY

CLASSROOMS

EMERGENCY
TOWER



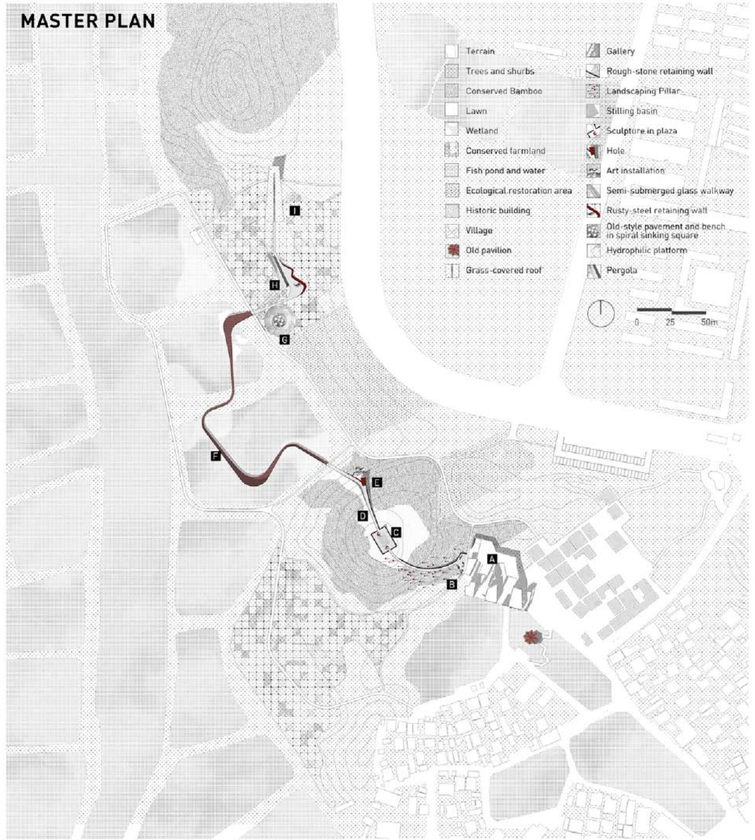
SENSATION ROUTE

AN ATTEMPT TO CREATE A STORY-NARRATING GARDEN INSPIRED BY MONTAGE

LOCATION: Foshan, Guangzhou, China
SIZE: 0.057km^2
INDIVIDUAL WORK

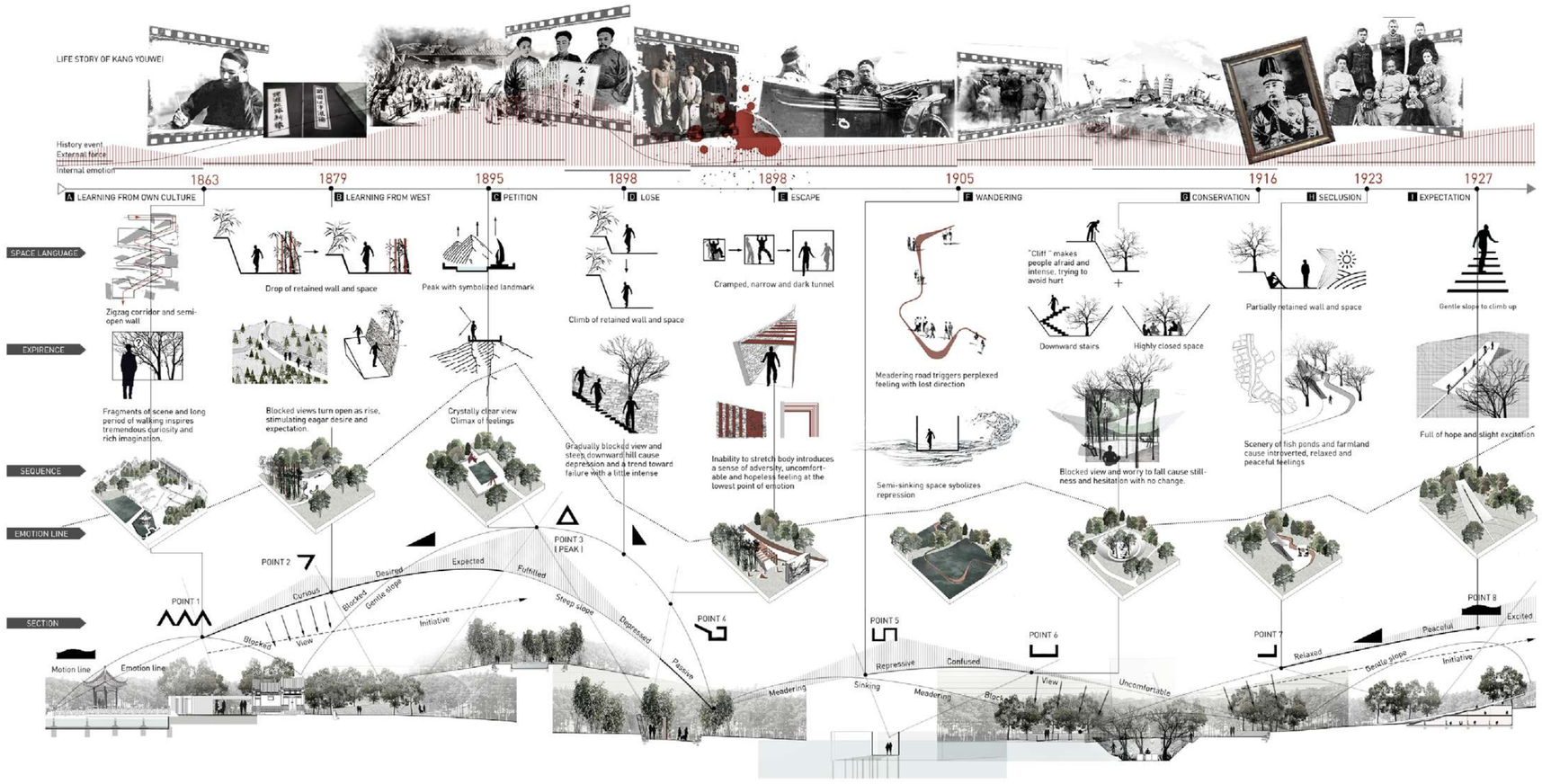
This project wants to recall a thinking through our experience in garden, which focuses on the human beings' psychological reflection towards what we see. Since gardens are made of three-dimensional shots, inspired by film-making theory, designers, can narrate a new story by utilizing changes of space to "manuplate" visitors thinking, like meaningful montages combined in a certain way. So with eight important life points extracted from the eminent celebrity in China, Kang Youwei, a new garden has been created, for the lasting memory of site and further development of tourism.

MASTER PLAN

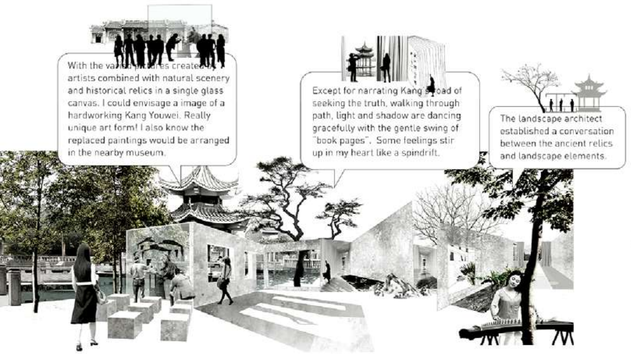


To narrate a life story of Kang Youwei, reveal the old memory and turn to a special tourism resource, I create eight points accordingly based on the terrain and status of the site: Learning from own culture, Learning from west, petition, lose, escape, wandering, conservation, seclution and expectation.

FROM LIFE STORY TO SPACE

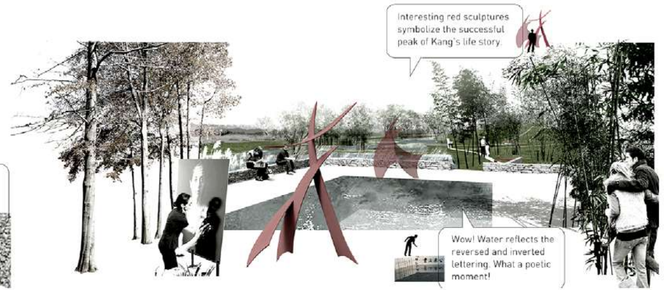


SECRETS WAITING YOUR EXPLORATION IN THIS SENSATION ROUTE



A LEARNING FROM OWN CULTURE

B LEARNING FROM WEST



C PETITION

E ESCAPE

F WANDERING

G CONSERVATION

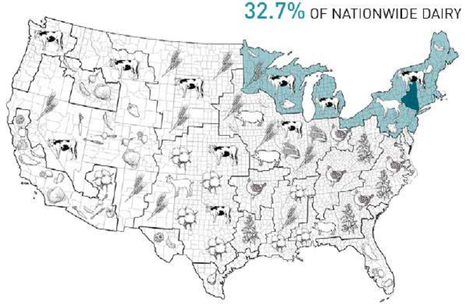
H SECLUSION

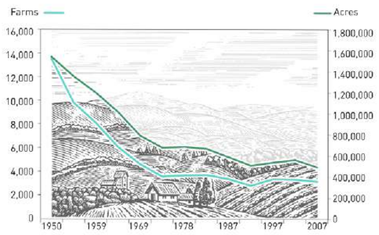
I EXPECTATION

GOT SOME DAIRY OR NOT?

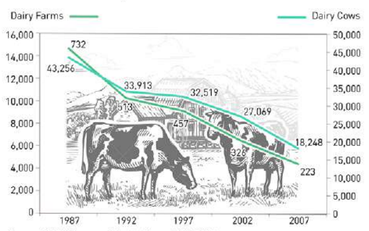
RESEARCH ON CARBON FOOTPRINT OF DAIRY PROCESSING IN HUDSON VALLEY

Understanding the importance and fragility of dairy in Hudson valley, Northeastern U.S., We measured the green house gas emission and resources use in dairy's supply chain including on-farm feeding and producing, processing, distribution and retail related to the entire dairy industry. It's time to consider if we should keep dairy in our one of the most popular food list.





Source: USDA Census of Agriculture, 1950-2007



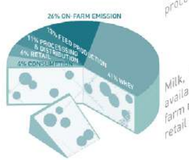
Source: USDA Census of Agriculture, 1987-2007

The green house gas emission and resources use of the general stages including on-farm feeding and producing, processing, distribution and retail in dairy's supply chain are measured. Milk, cheese, meat by-product were studied in terms of their impact on environment.

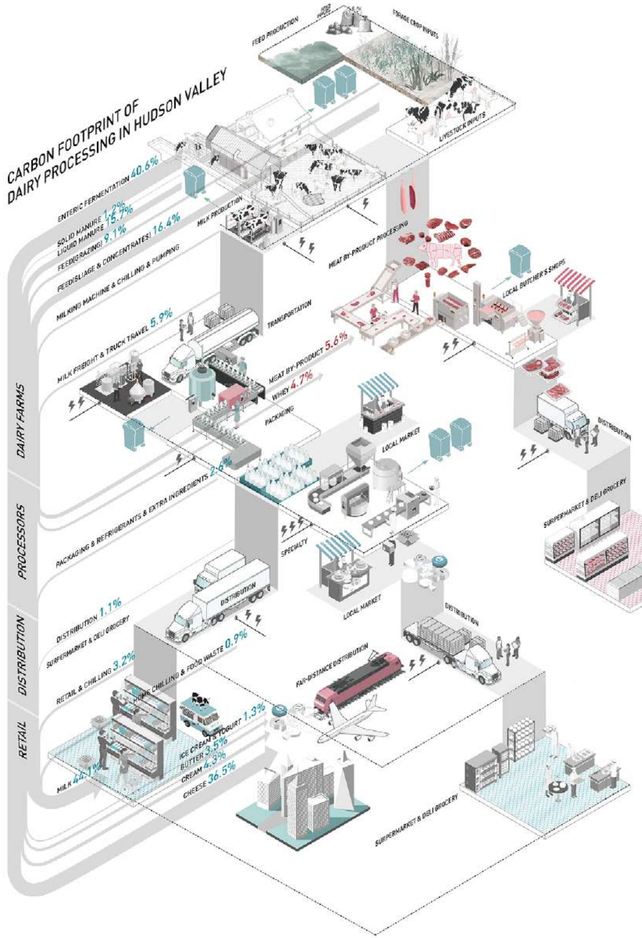
More than 3/4 of whole process owing to forage crop inputs, cows burps, farts and manure.

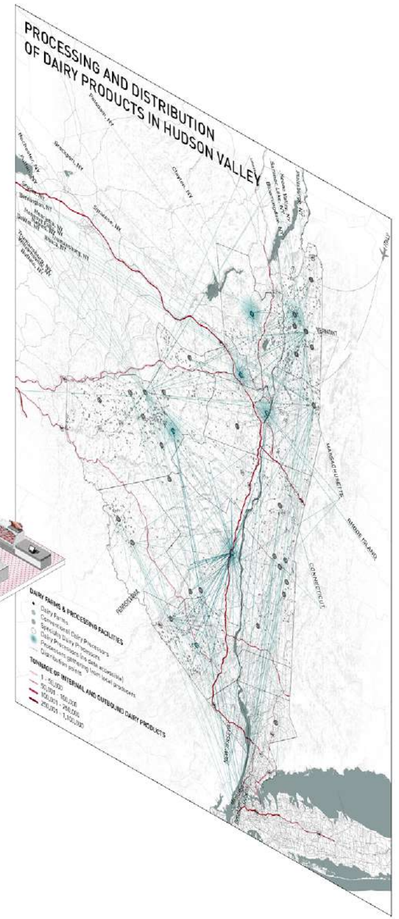
580 gallons of milk travels 500 miles from farm to processing company in insulated tanker trucks.

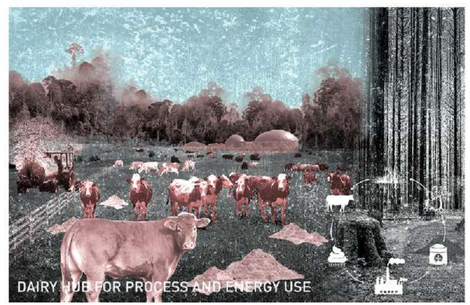
Among total emission 137 MMT, cheese, whey and other dairy are estimated 102 MMT, produced by more than 35 processing plants here.



Milk, dairy products are available in either local farm markets, or 178,000 retail outlets.

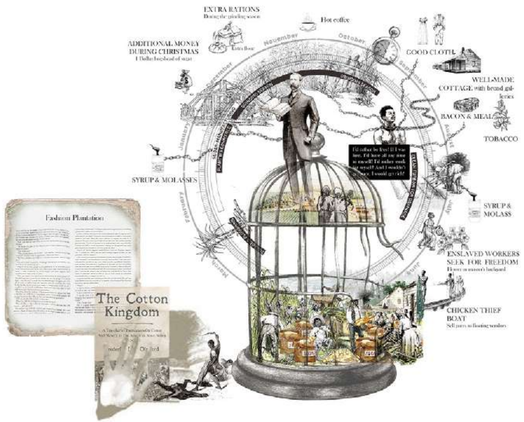


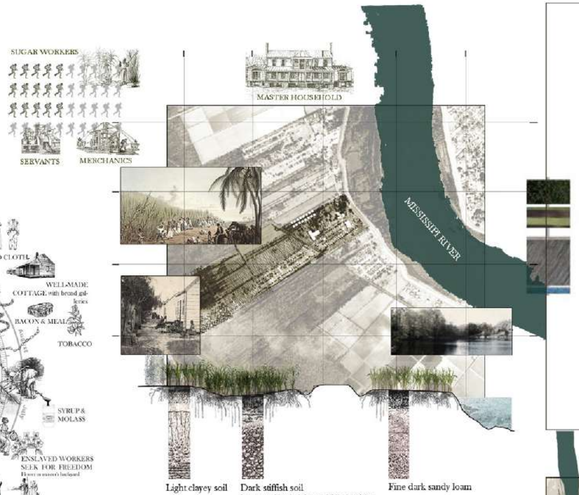


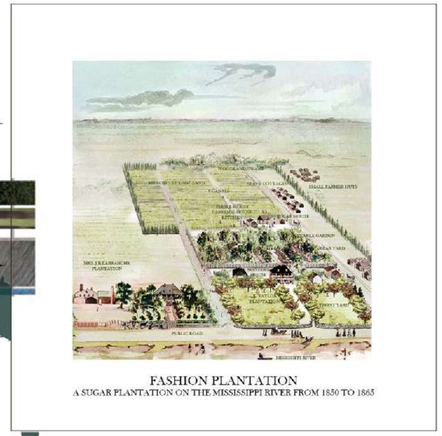


A "ROMANTICIZED" LANDSCAPE

UNCOVERING TRUTH OF ENSLAVED HISTORY, FASHION PLANTATION







The sugar plantations exhibit a distinctive visual landscape feature. Long ditches divide fields, laying perpendicularly to the Mississippi River. Olmsted introduces Fashion Plantation as a romanticizing version of the slave plantation, making light of condition of forced, enslaved life.

1743 Along the flat German Coast, the first attempt at levee building began.

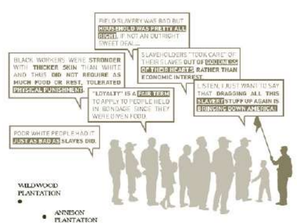
St. Charles Parish, St. James Parish, and St. John the Baptist Parish made up an historical area.

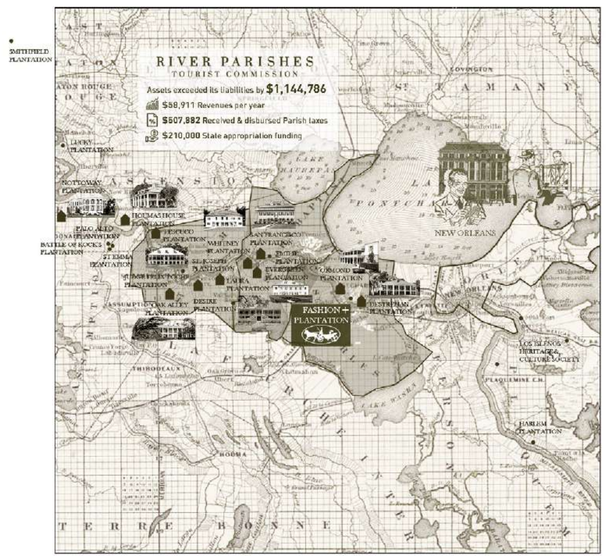
1795 ~ 1860 Growth of Louisiana Sugar Industry

1865 After Civil War, former slaves suffered most to make a living. They returned to the plantations and work for a wage or a share of crop or given land.

1900 The industry occupied farm. Oil was discovered and petroleum industry came in, which was money source for people who remain.

Today what remained were replaced with suburban real estate development. The master mansions are used for tourist attractions like weddings. The parishes were adding signages that only document name of the plantation and its owner if the plantation no longer exists.

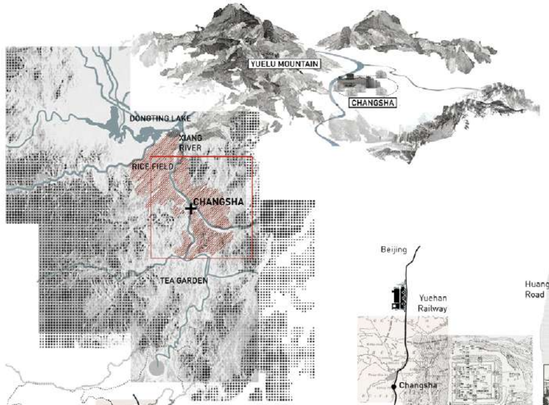


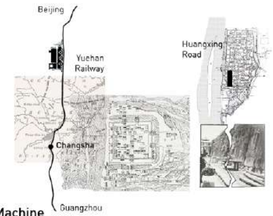


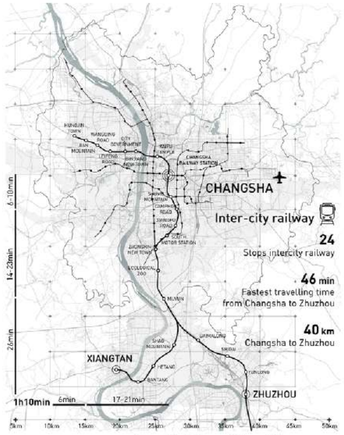
Memories of enslaved workers once living on these lands is missing. The remembrance were homogeneous and fantasizing about the landscape. Real estate shouldn't be developed at the expense of covering up history, but instead, finding a juxtaposition between the past and current that makes memory of place last.

CITY IN RECOMBINAT EVOLUTION

ANALYSIS OF LONG URBANISM HISTORY IN CHANGSHA







City of Faith

RIVER-DRIVEN

202BC-220
HAN DYNASTY
Feudal Princes

618-1279
TANG & SONG DYNASTY
Free from war, Economic flourishing in Southern China

City as a Machine

RAILWAY-DRIVEN

1636-1912
QING DYNASTY
Capital of Hunan
Powerful Xiang Army put down Taiping Rebellion
Benefit from Yuehan Railway

COMMERCIAL-DRIVEN

1904
Open dock

1917
REPUBILC OF CHINA
Demolition of city wall for commercial road at Huangxing Road

1938-1942
WORLD WAR II
Wenxi fire disaster
Battle of Changsha totally destoried the city

INDUSTRIALIZATION

1949-1965
NEW CHINA
Dock moved to south
Railway moved to east
Newly built industrial zone broke development structure along the river

CONNECTION

1965-1979
Close cross-river relationship between east and west part with Xiangjiang Bridge and Wuyi Avenue

Organic City

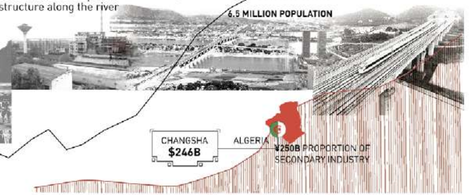
COMPLETION

1979-1990
Surrounding small towns began to develop
Set nine **satellite towns**

Mega City

REGION-WIDE

Since 1990
Changsha-Zhuzhou-Xiangtan Intergration with commercial belts



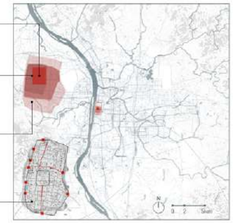
ARCHI-CITTA
City of Faith

770BC CHU KINGDOM
A military center in south Chu

202BC HAN DYNASTY
One of the founder of Han, Wu Rui, was King of Changsha

621 TANG DYNASTY
Prosperous due to social stability and the Grand Canal

1372 MING DYNASTY
A major tea markets in China



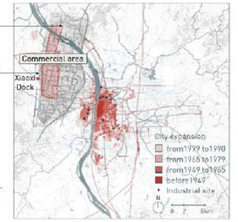
CINE-CITTA
City as a Machine

1904 QING DYNASTY
Powerful Xiang Army support Yuehan Railway, open dock

1917 REPUBLIC OF CHINA
Demolition of city wall for commercial road

1938 WORLD WAR II
Wenxi fire disaster
Battle of Changsha

1949 NEW CHINA
Newly built industrial area by manufacturing factories epanding to north and south

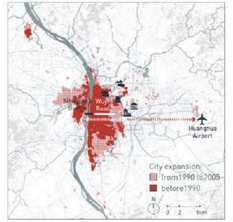


TELE-CITTA
Organic City

1965 CONECTION
Xiangjiang Bridge and Wuyi Avenue linking west and east

1979 COMPLETION
Filling vacancy with residence

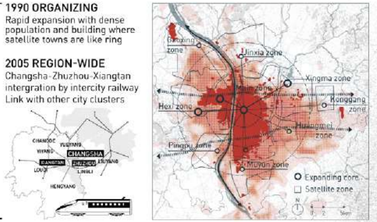
1985 EXTENSION
Extending west-east structure due to in-between cultural and landscape resources

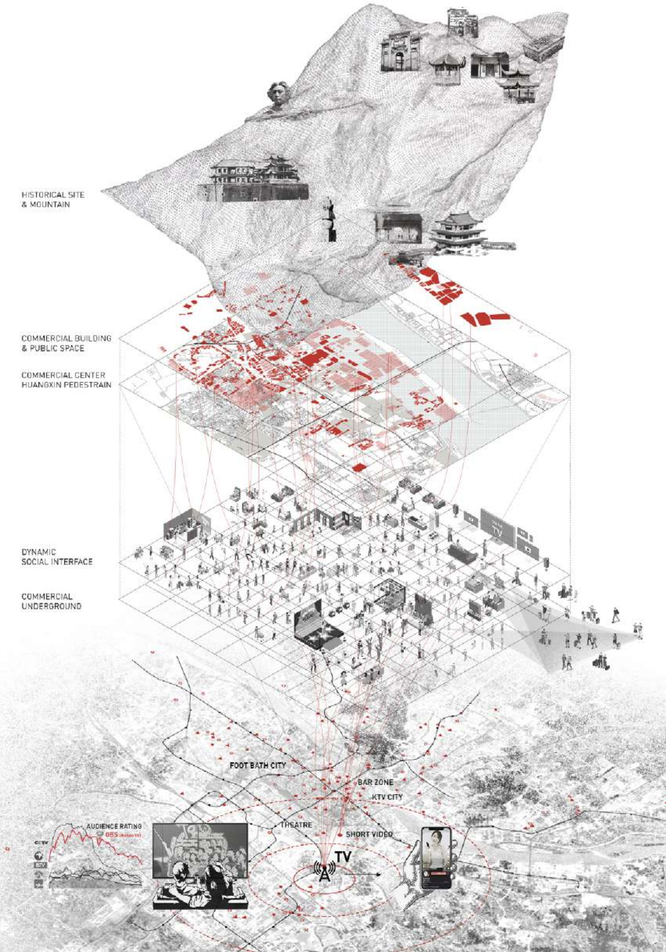


META-CITTA
Mega City

1990 ORGANIZING
Rapid expansion with dense population and building where satellite towns are like ring

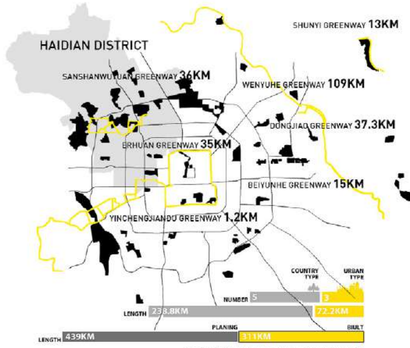
2005 REGION-WIDE
Changsha-Zhuzhou-Xiangtan intergration by intercity railway
Link with other city clusters



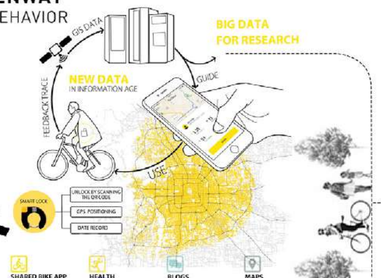


TECHNIC FRAMEWORK OF URBAN GREENWAY

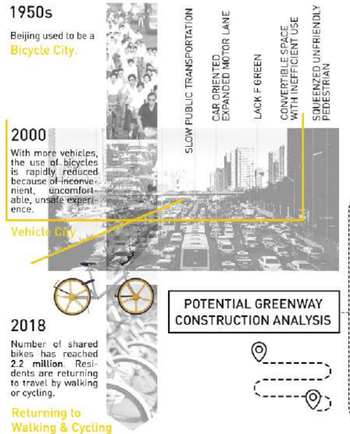
BASED ON SPATIAL POTENTIAL AND SOCIAL BEHAVIOR



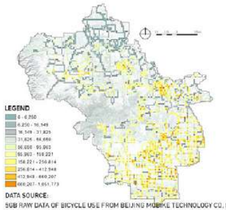
GREENWAY IN BEIJING



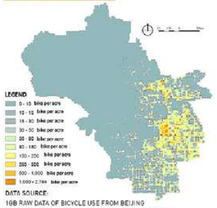
BIG DATA SOCIAL BEHAVIOR AND DEMAND ANALYSIS



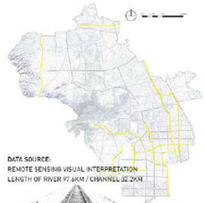
POTENTIAL GREENWAY CONSTRUCTION ANALYSIS



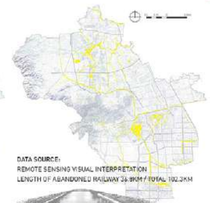
TRACK DATA **40%**



SHARED BIKE OD DATA **40%**



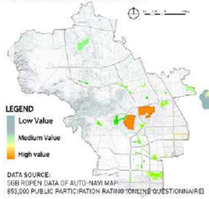
RIVER **20%**



RAILWAY **20%**

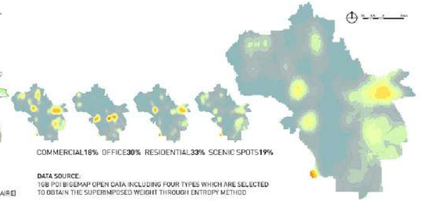
UNUSED CONVERTIBLE SPACE

LINEAR GREEN SPACE **20%**

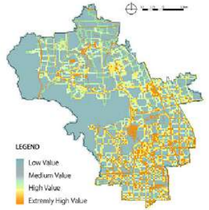


GREEN SPACE VITALITY **30%**

HIGH USE FREQUENCY SPACE



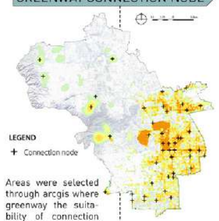
PUBLIC SPACE VITALITY **30%**



Cost raster data of greenway lines is selected based on the least-cost path model.

GREENWAY CORRIDOR SUITABILITY

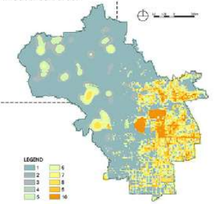
COST DIRECTION
COST DISTANCE
RECLASSIFY



Areas were selected through arcgis where greenway the suitability of connection node is at **10** while **8** in suburban area.

GREENWAY CONNECTION NODE

RECLASSIFY
SET POINT
OPTIMIZE MODEL
SET OPTIMIZED MODEL

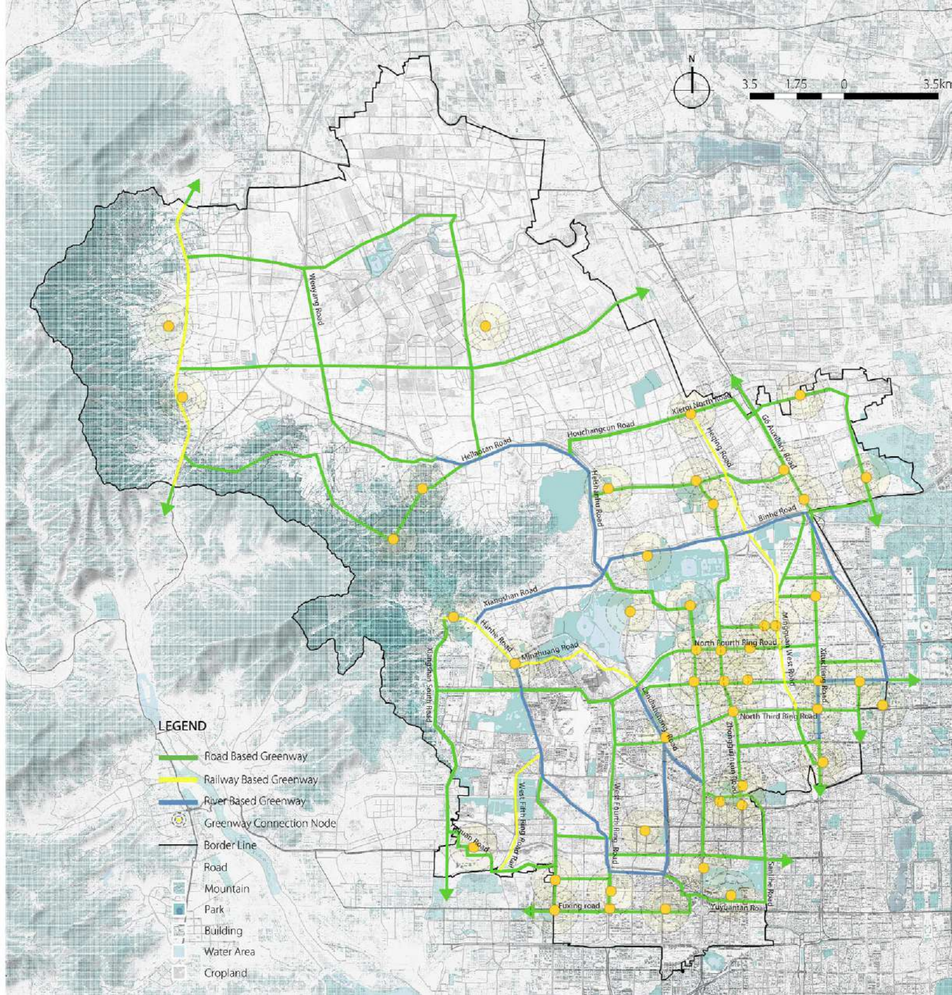


Use the cost path tool in ArcGIS. Take selected greenway connectionnodes as the starting and the ending point, the overlaid greenway corridor suitability as the cost raster layer, and use the cost weight distance function to obtain the least-cost path between the corresponding connection nodes.

CALCULATION RESULTS BASED ON LEAST-COST PATH MODEL

Based on the least-cost path obtained through the analysis of big data combined with ArcGIS, the building distribution and other limitations are taken into consideration, and a coherent, multi-functional and vibrant greenway network is formed.

PRELIMINARY SELECTION OF GREENWAY



CONSTRUCTION AND OPTIMIZATION MODELS OF URBAN GREENWAY

ROAD

HEIGHT

1 CLOSED
Applicable conditions: Urban highway without potential space.

3 HALF-SINKING
Applicable conditions: Urban highway with narrow space or non space available.

2 COVERED
Applicable conditions: Large pedestrian flow and traffic volume, requiring sufficient space on the ground for covered park.

LEGEND
Height Difference
Road Redistribution
River
Railway

REDISTRIBUTION

1 SIDEWALKS & BIKELANE
Applicable conditions: narrow road space without non-motorized lane.

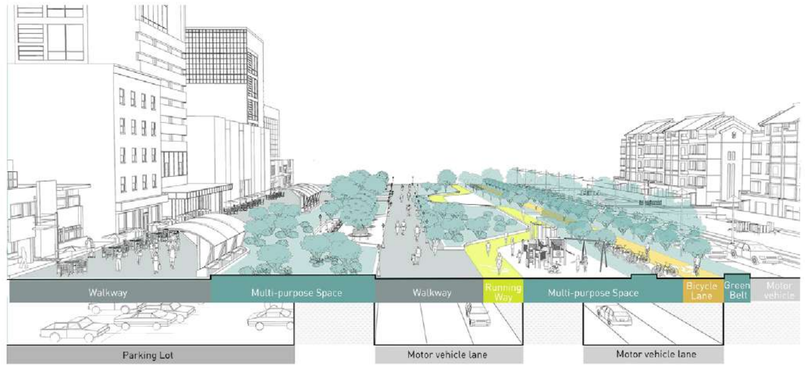
2 BIKELANE IN THE MIDDLE
Applicable conditions: Large road space with roadside parking occupancy.

3 MIDDLE SIDEWALK WITH BUS
Applicable conditions: Narrow road space with great demand for public transportation.

4 MIDDLE SIDEWALK WITH PEDESTRIAN
Applicable conditions: The road space is larger and the surrounding landscape is better.

5 SIDEWALKS & BIKELANE
Applicable conditions: The limited road space with no non-motorized lanes.

6 SINGLE SIDEWALK & BIKELANE
Applicable conditions: The roadside space is large and the roadside landscape is better.



RIVER

WIDTH<10M

1 CLOSE-TO-NATURE TREATMENT TYPE
Applicable conditions: On both sides of suburban ditches

2 LANDSCAPE TREATMENT
Applicable conditions: On both sides of urban ditches

LEGEND
Height Difference
Road Redistribution
River
Railway

REVETMENT

3 HYDROPHILE
Applicable conditions: Urban rivers with no available space on both sides.

4 NOT HYDROPHILIC
Applicable conditions: Urban rivers with limited available space.

8 ECOLOGICAL REVETMENT
Applicable conditions: Suburb of a city, a section of the river with more available space beside it.

WIDTH>10M

MIXED TYPE

5 HARD REVETMENT & PAVEMENT
Applicable conditions: Available space sections on both sides of the river.

6 ECOLOGICAL REVETMENTS
Applicable conditions: Available space sections on both sides of the river.

7 HARD REVETMENT & SOFT SITE
Applicable conditions: Available space sections beside the river. Non-hydrophilic condition.

RAILWAY

ELEVATED

1 COMMERCIAL SPACE UNDER BRIDGE
Applicable conditions: 1) Available space under bridge. 2) Larger pedestrian flow.

2 LEISURE SPACE UNDER BRIDGE
Applicable conditions: Available space under bridge. 2) Demand for leisure activities.

LEGEND
Height Difference
Road Redistribution
River
Railway

GROUND

3 COVER GREEN OVER GROUND RAILWAY
Applicable conditions: 1) High train speed need protection facilities. 2) Loud railway noise. 3) Limited leisure space.

4 PROTECTIVE ISOLATION OF GROUND RAILWAY
Applicable conditions: 1) Slow train speed. 2) Low railway noise. 3) Enough leisure space

UNDERGROUND

5 SINKING
Applicable conditions: 1) Railway occupies a large area. 2) Railway with high speed or noise. 3) Lack of leisure space.

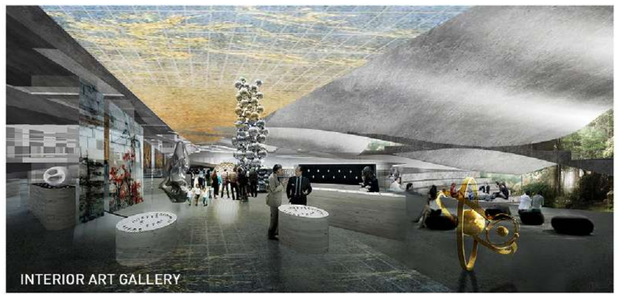
6 HALF-SINKING
Applicable conditions:1. Railway occupies a large area. 2. Suitable topographic conditions.

THE PICTURESQUE CITY

A NEW LINEAR LANDMARK INTEGRATING CULTURE, COMMERCE AND RESIDENCE

Based on the existing landscape of the site, the design intends to create a multi-functional complex deprived of the traditional image of the Chinese landscape painting. The lower floors of the buildings extend to form cover plates on the street, integrating the form and functions including culture, commerce and residence, which will become a new landmark of the city.

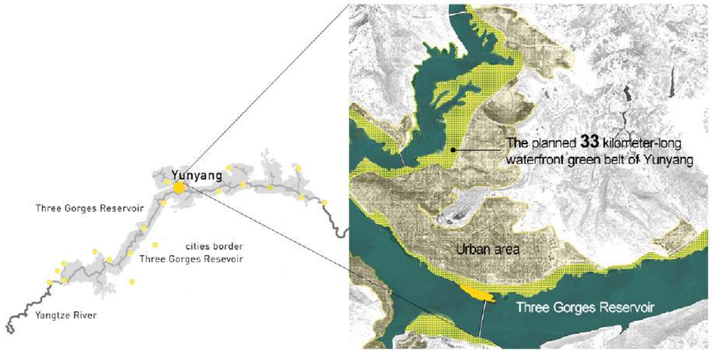

AUGMENTED REALITY OF SCROLL PAINTING


INTERIOR ART GALLERY


FLOWER TERRACE IN LANDSCAPE INFRASTRUCTURE


ACTIVITY GENERATOR

SITE LOCATION
YUNYANG, A CITY ON THE BANK OF THE THREE GORGES RESERVOIR

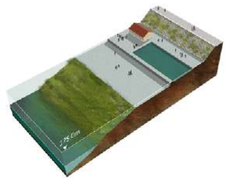


STRATEGY
FOR THE RESILIENT USE OF HYDRO-FLUCTUATION BELT

BEFORE >>>> AFTER

REVETMENT WORK AND HYDRO-FLUCTUATION AREA

SITTINGTERRACES AND BEACH



REVETMENT WORK AND SEASONAL FLOODED SWIMMING POOL

PLATFORM, SERVICE BUILDING, SWIMMING POOL

RABANDONED PENINSULA AND ISLAND

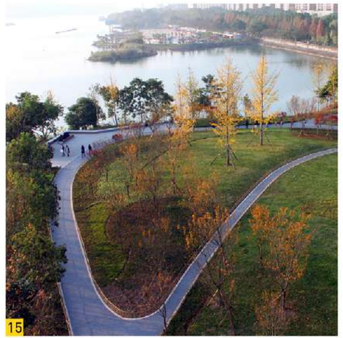
NATURAL-STYLED PARK, BRIDGE AND WATER PARK

The height difference between promenade and hydro-fluctuation became urban space with Yangtze River Bridge as background.

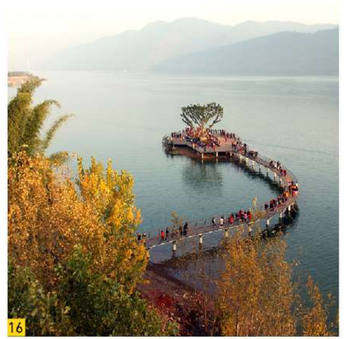
Sitting terraces and wooden platform define the edge of the beach and provide comfortable spaces. The beach offers children paradise.

The newly designed swimming pool and the aquatic playground replaced the flooded old one, provide the city with a vibrant water park.

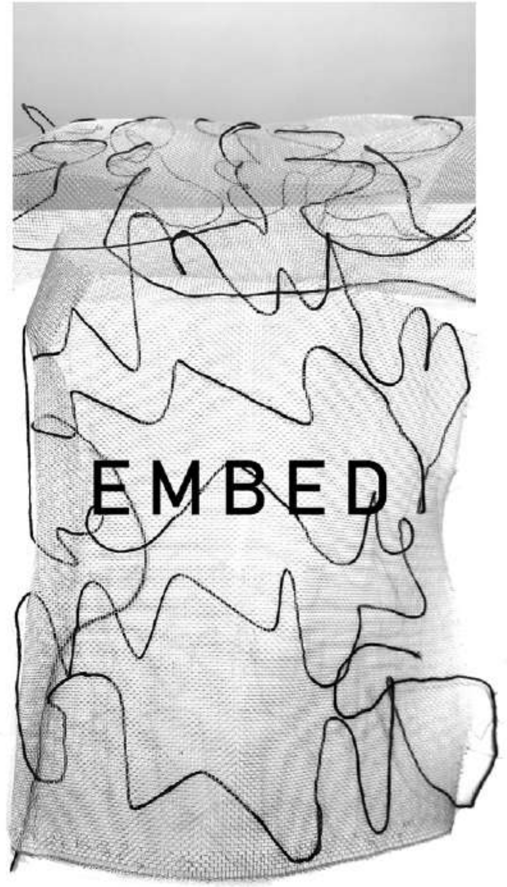
The topography of the Water Park is gently undulating, with a viewing platform set up on the existing mound for scenery of the garden.

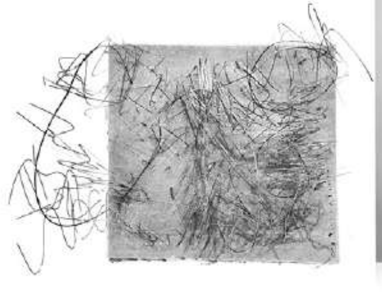


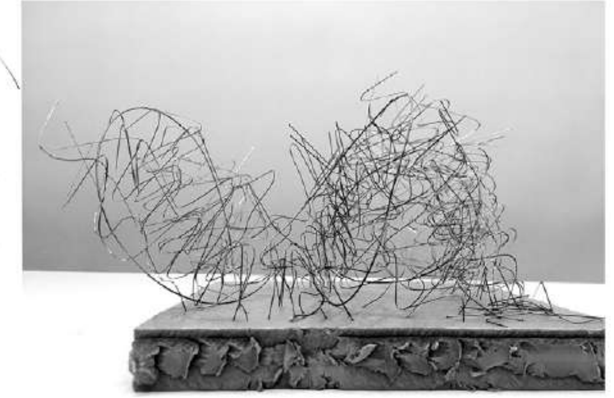
During high waterlevel period, natural-styled park and beach are separated. A path connecting them expose when waterlevel drops.



The platform is connected to the peninsula with a curve bridge, an excellent place to enjoy the unique landscape of the Yangtze River.

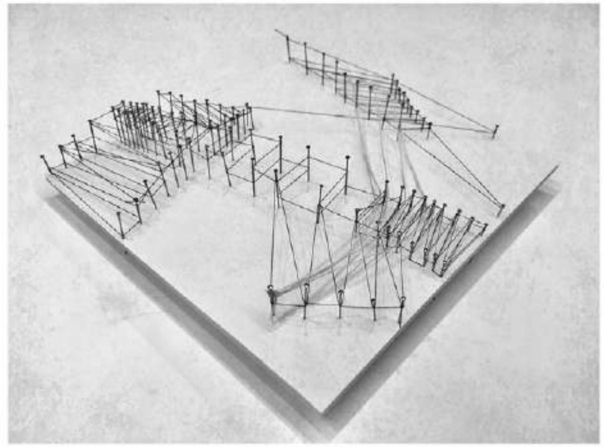


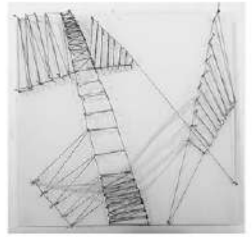


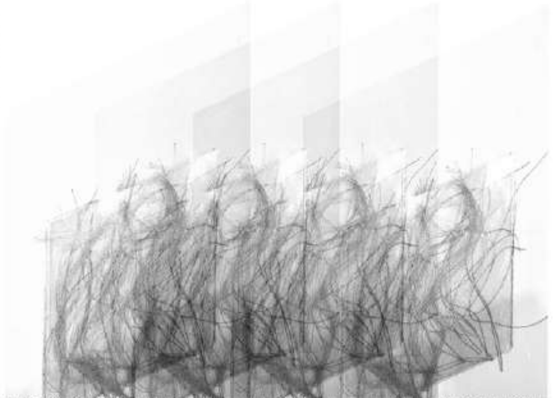


A line is a dot out for a walk.
—Paul Klee

A line is the path made by a moving point. There's an endless variety in what we think of as a line, also the line itself. Lines can be literal or implied. When I was drawing a series of lines and translating them into models, I felt my mind filled in the line between them. There is an internal structure or rhythm even in the lines which seem random and disordered.







HARD, BUT SOFT

STRAIGHT, BUT WINDING

ONE LAYER, ALSO MULTILAYER

Among all the four models I have translated, this is the model which I like least because it just seems like random hair on the floor. So if I am asked to talk, I just want to repeat it again and again because of the blank in my mind. Among all the four models I translated, this is the model I like least because it just seems like random hair on the floor. So if I am asked to talk, I just want to repeat it again and again because of the blank in my mind. Among all the four models I translated, this is the model I like least because it just seems like random hair on the floor. So if I am asked to talk, I just want to repeat it again and again because of the blank in my mind. Among all the four models I translated, this is the model I like least because it just seems like random hair on the floor. So if I am asked to talk, I just want to repeat it again and again because of the blank in my mind.