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M.S. AUD GSAPP COLUMBIA 2020

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TABLE OF CONTENTS

SUMMER SEMESTER

URBAN DESIGN
THROUGH TRANS-
FORMATIVE
SYSTEMS:
NEW YORK CITY
09

A RESILIENT IBZ
12

FALL SEMESTER

FABRICS AND
TYPOLOGIES
HYDERABAD
KAVADIGUDA
21

THE CLIMATE
CRISIS:
IMAGINING A
GREEN NEW
DEAL IN THE
HUDSON VALLEY
27

THESE BOOTS ARE
MADE FOR WALKING
30

SPRING SEMESTER

COTTON
KINGDOM
NOW
NEW ORLEANS
41

URBAN TRANS-
FORMATION
ALONG A GLOB-
AL TRANSECT:
THE GREAT RIFT
VALLEY
TEL AVIV-YAFO
ADDIS ABABA
BEIRA
47

SEEDING THE
MACHAMBA
52

SUMMER SEMESTER

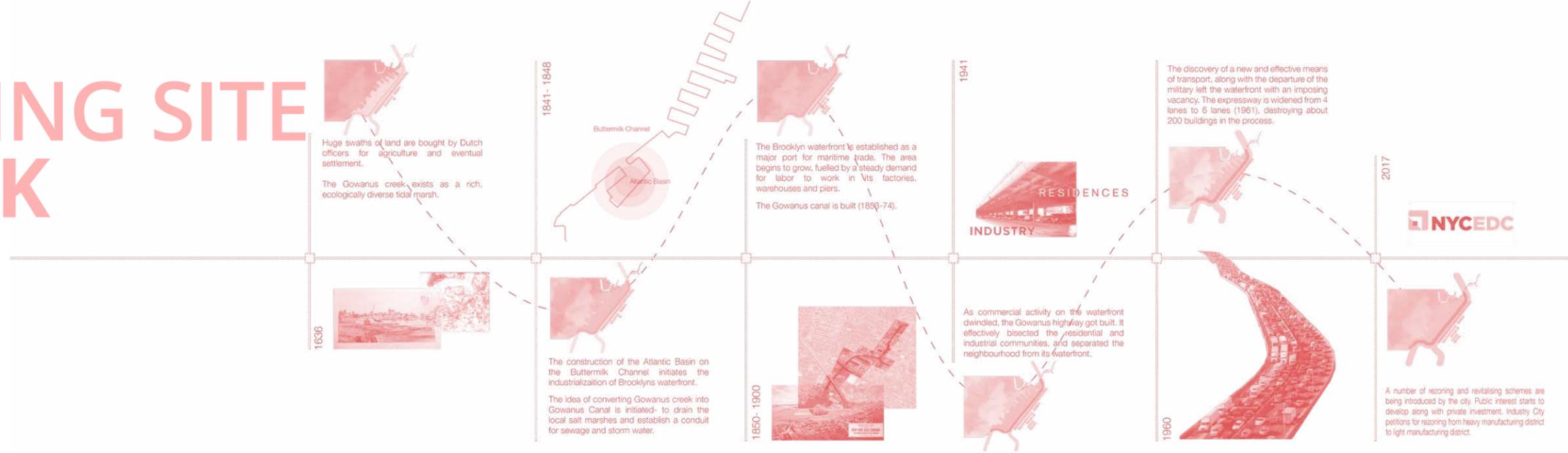
FALL SEMESTER

SPRING SEMESTER

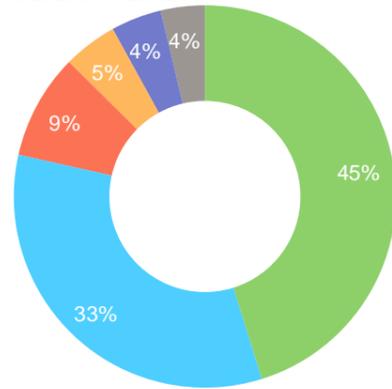
**URBAN DESIGN
THROUGH
TRANSFORMA-
TIVE SYSTEMS:
NEW YORK CITY**

CONSTRUCTING SITE SUNSET PARK

Collaboration w/ Sharvari Rajee and Danwei Pan

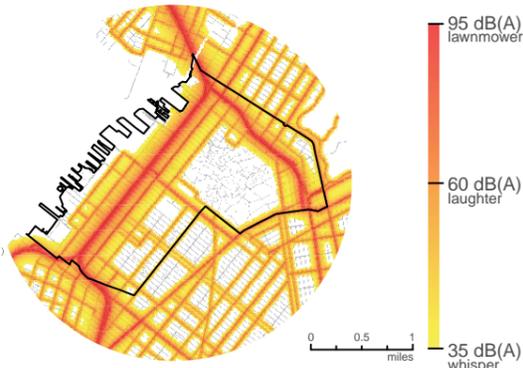


PUBLIC HEALTH



- Heart Disease
- Cancer
- Flu/ pneumonia
- Lower respiratory diseases
- Stroke
- Diabetes melitus

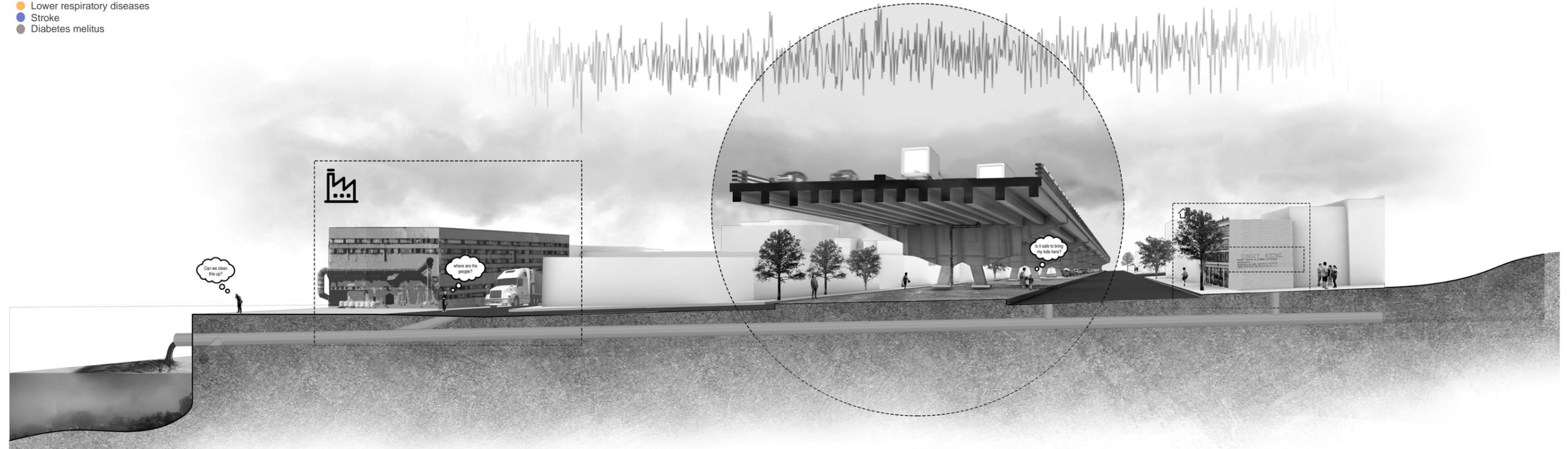
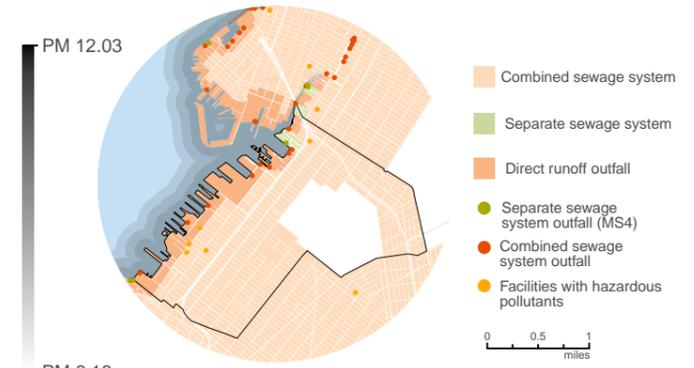
ECOLOGY



AIR POLLUTION



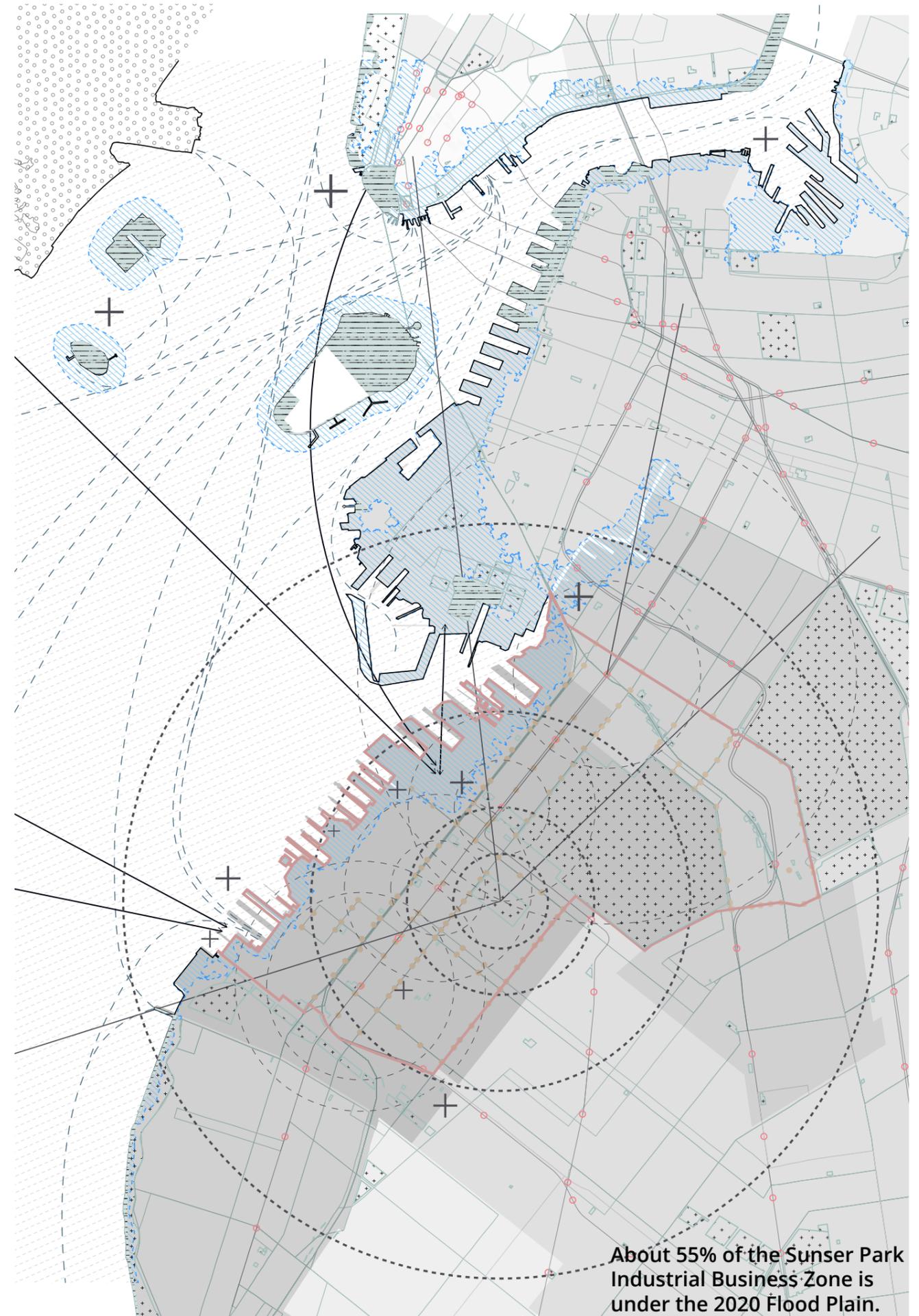
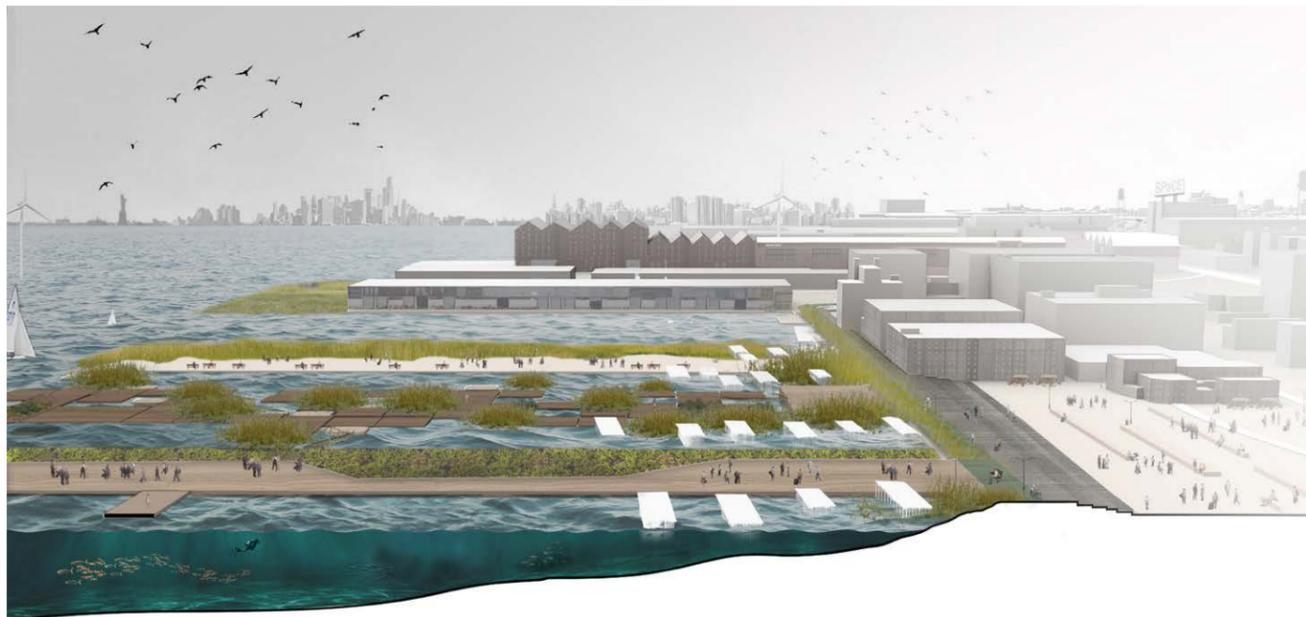
WATER POLLUTION



A RESILIENT IBZ

Collaboration w/Niharika Shekhawat and Minjung Lee

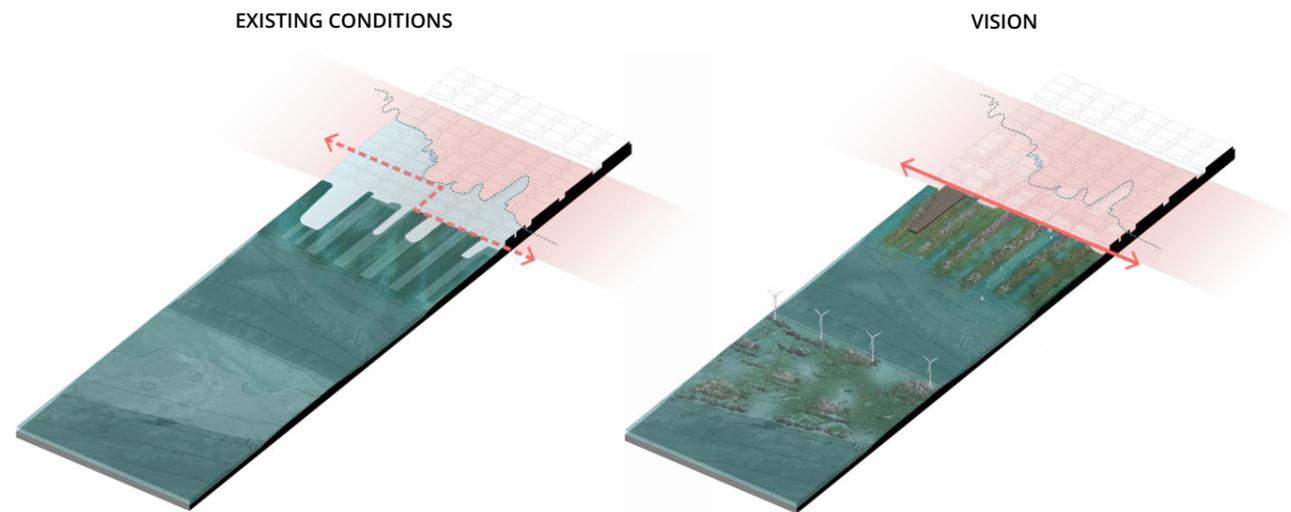
New York is the largest regional economy in the United States; manufacturing is a major contributor to its growth. Currently, the city of New York has twenty-one Industrial Business Zones. Eighteen of these are located in waterfront sites. Global warming, sea level rise, and extreme weather conditions threaten the IBZs, their ecosystems, and the prosperity of their communities. This project aims to provide a resiliency framework to protect the waterfront Industrial Business Zones through the lens of ecology, community, and economy.



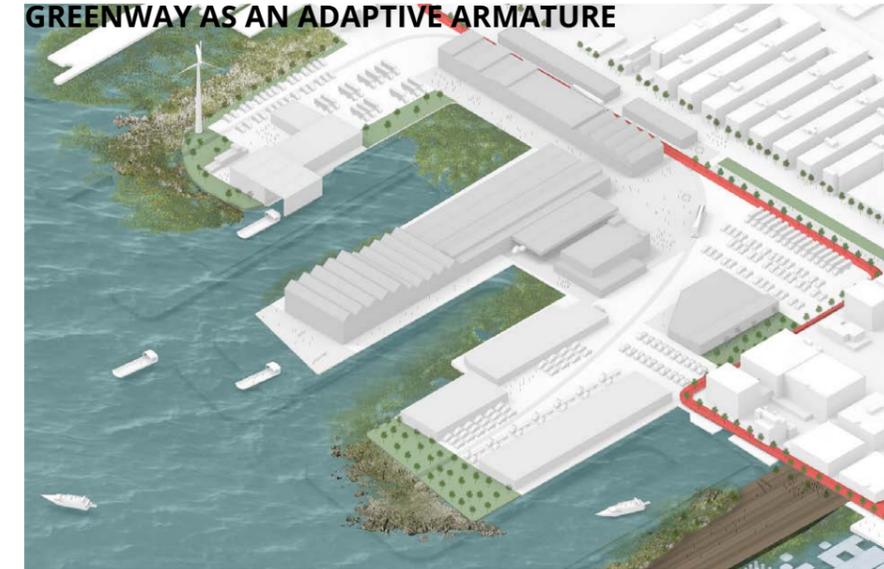
About 55% of the Sunser Park Industrial Business Zone is under the 2020 Flood Plain.

The strategy is to take advantage of the existing infrastructure, such as the vestiges of the old port and the existing greenway route, to help redefine the edge conditions of the waterfront.

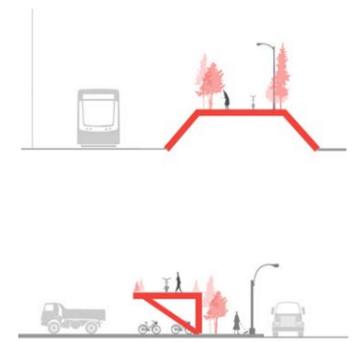
By strengthening and protecting its ecology, a stabilized shoreline would face less erosion. By increasing its flood storage capacity storm damage would be reduced. Hard infrastructure decays, while living shorelines naturally grow stronger over time.



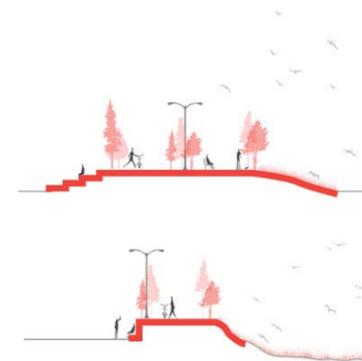
GREENWAY AS AN ADAPTIVE ARMATURE



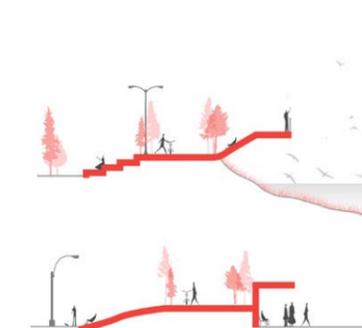
INDUSTRIAL BUFFER



PUBLIC SPACE LINK



OBSERVATION DECK





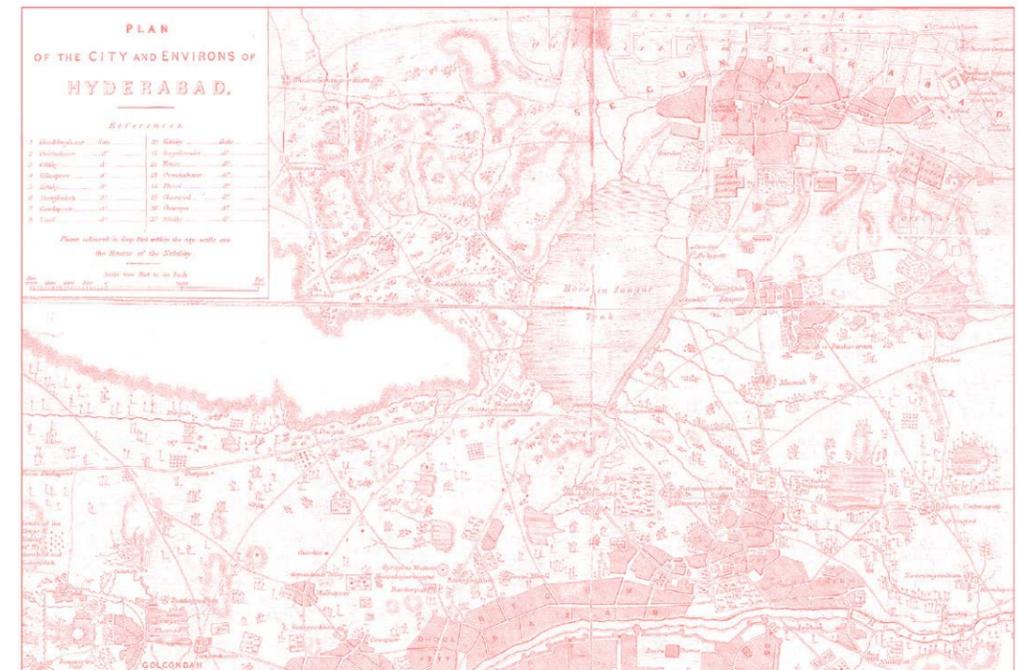
SUMMER SEMESTER

FALL SEMESTER

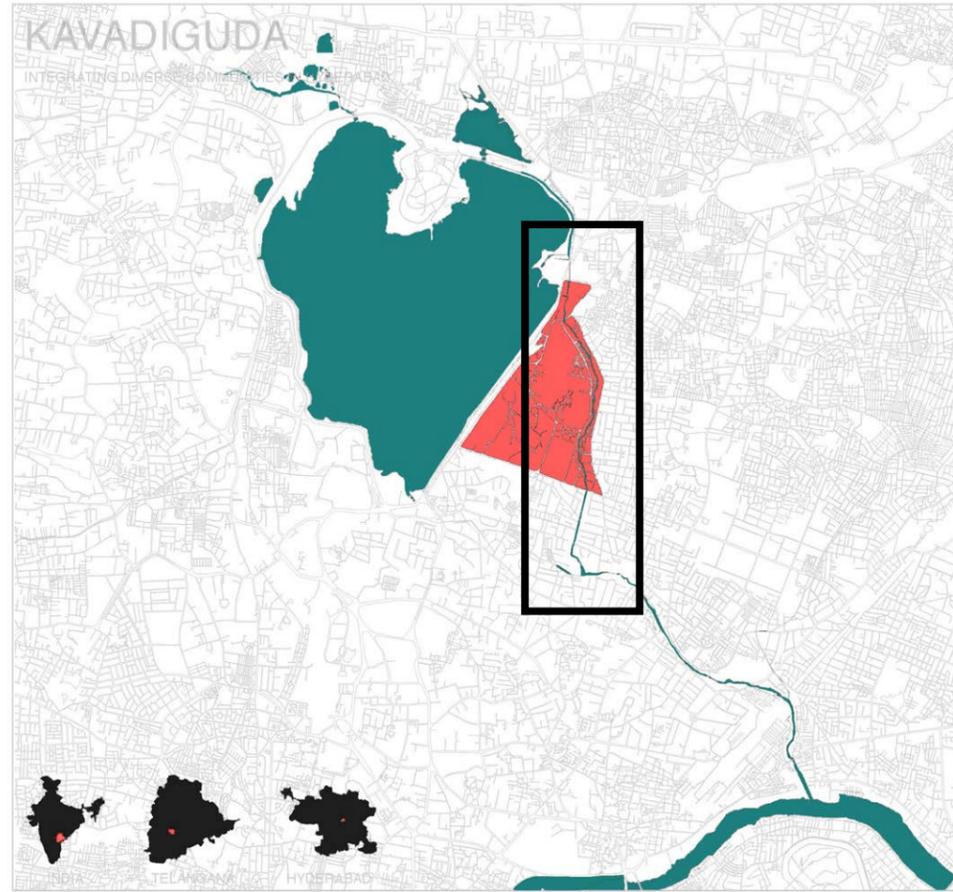
SPRING SEMESTER

FABRICS AND TYPOLOGIES HYDERABAD KAVADIGUDA

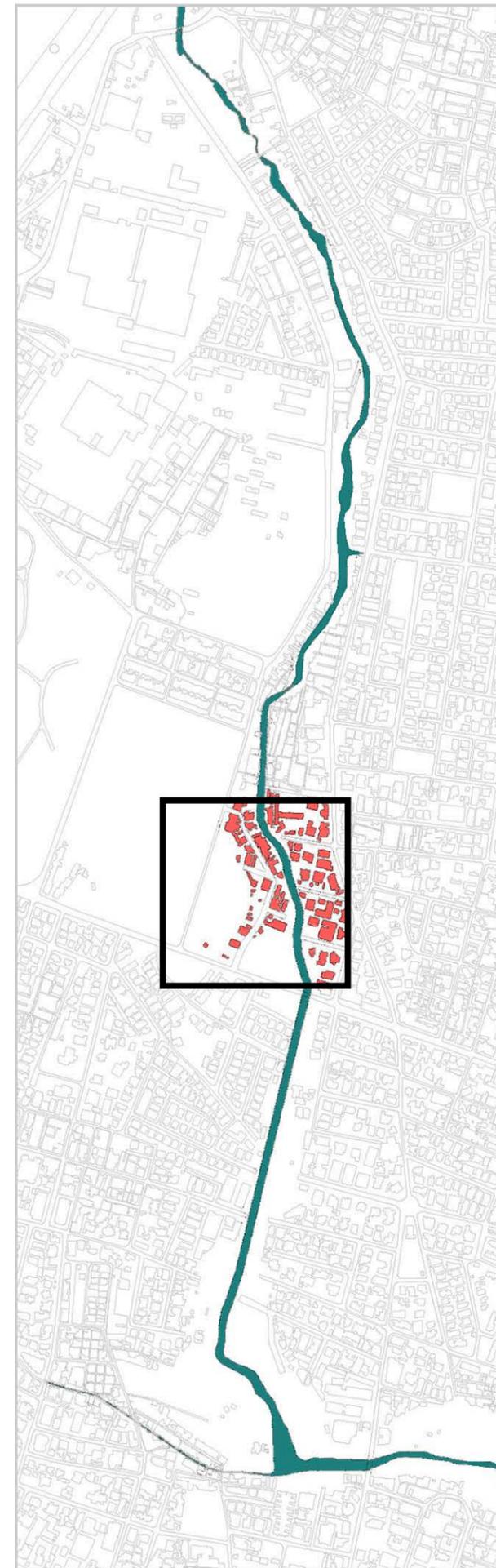
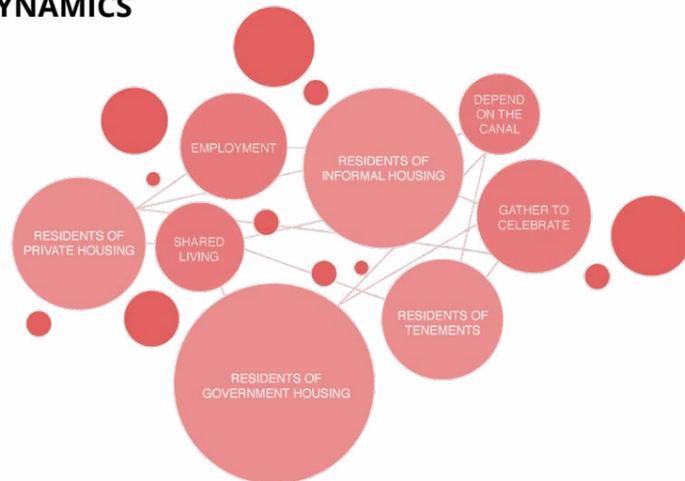
Collaboration w/Aasiya



Hyderabad is the capital of the newly separated state Telangana. KavadiGuda comprises a residential urban sprawl connecting two cities. The area was historically located at the edge of the industrial belt, bordering the agricultural district. As agriculture and industry declined, the area remained a cluster of unplanned housing developments, housing residents from all walks of life. KavadiGuda is divided into an eastern and western zone by the Musi Canal.



FABRIC DYNAMICS



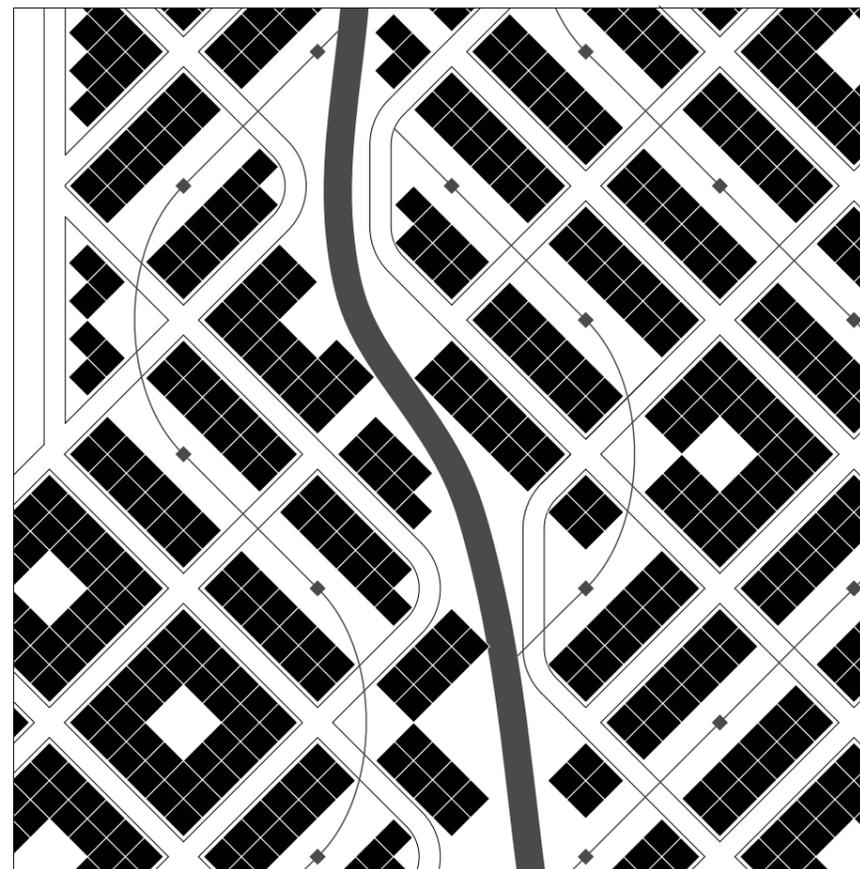
ANALYZING THE TYPOLOGIES

	<p>TYPOLGY 01 GOVERNMENT AFFORDABLE HOUSING</p> <p>YEAR OF CONSTRUCTION: 2017 POPULATION: 200 AREA COVERED: 20,000 SQ FT NUMBER OF UNITS: 14 FLOOR HEIGHT: 4 FLOORS</p>
	<p>TYPOLGY 02 MIDDLE CLASS RENTAL UNITS</p> <p>YEAR OF CONSTRUCTION: 2018 POPULATION: 100 AREA COVERED: 20,000 SQ FT NUMBER OF UNITS: 16 FLOOR HEIGHT: 2 FLOORS</p>
	<p>TYPOLGY 03 MIDDLE CLASS RENTAL UNITS</p> <p>YEAR OF CONSTRUCTION: 2018 POPULATION: 100 AREA COVERED: 20,000 SQ FT NUMBER OF UNITS: 16 FLOOR HEIGHT: 2 FLOORS</p>
	<p>TYPOLGY 04 INFORMAL HOUSING - SQUATTER SETTLEMENTS</p> <p>YEAR OF CONSTRUCTION: 2018 POPULATION: 100 AREA COVERED: 20,000 SQ FT NUMBER OF UNITS: 100 FLOOR HEIGHT: 1 FLOOR</p>

EXISTING
SITE PLAN



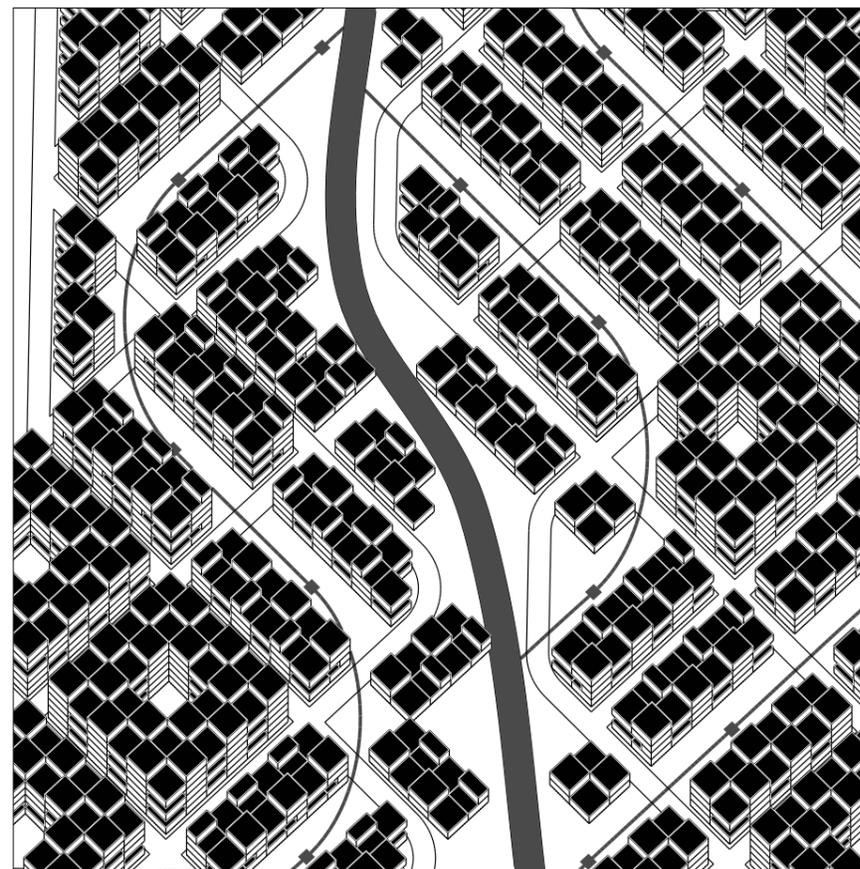
PROPOSED
SITE PLAN



EXISTING
SITE AXONOMETRIC



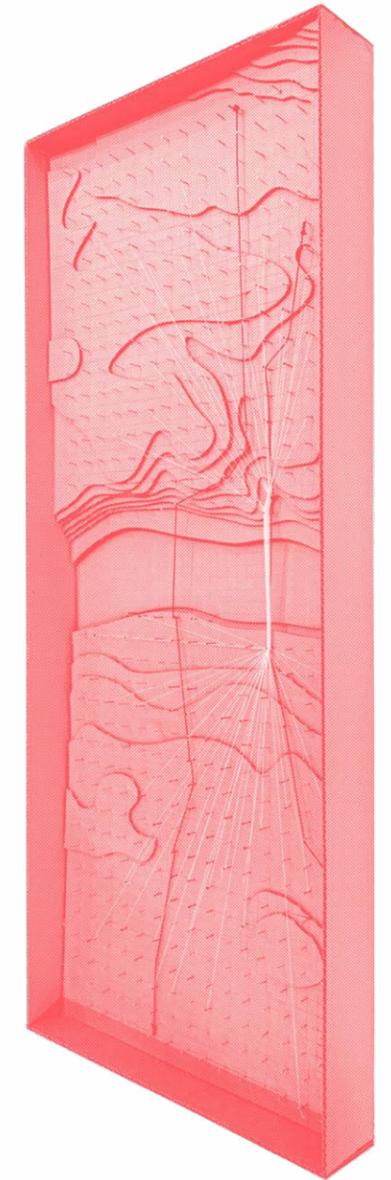
PROPOSED
SITE AXONOMETRIC



THE CLIMATE CRISIS: IMAGINING A GREEN NEW DEAL IN **THE HUDSON VALLEY**

CONSTRUCTING SITE POUGHKEEPSIE

Collaboration w/Kunal Mokasdar

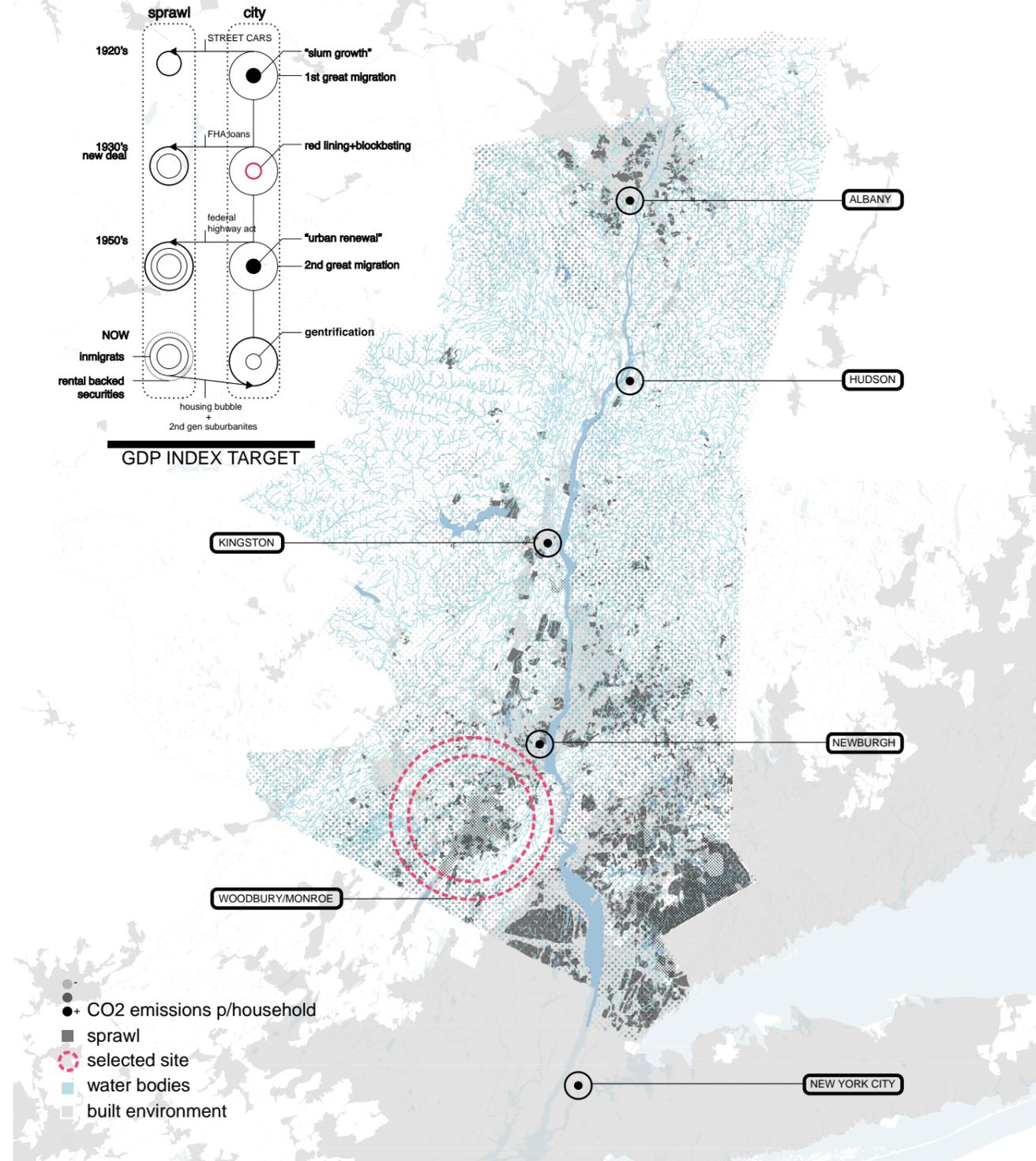


SLICE 13/29
STRONG CONNECTION BE-
TWEEN POUGHKEEPSIE AND
HIGHLAND.

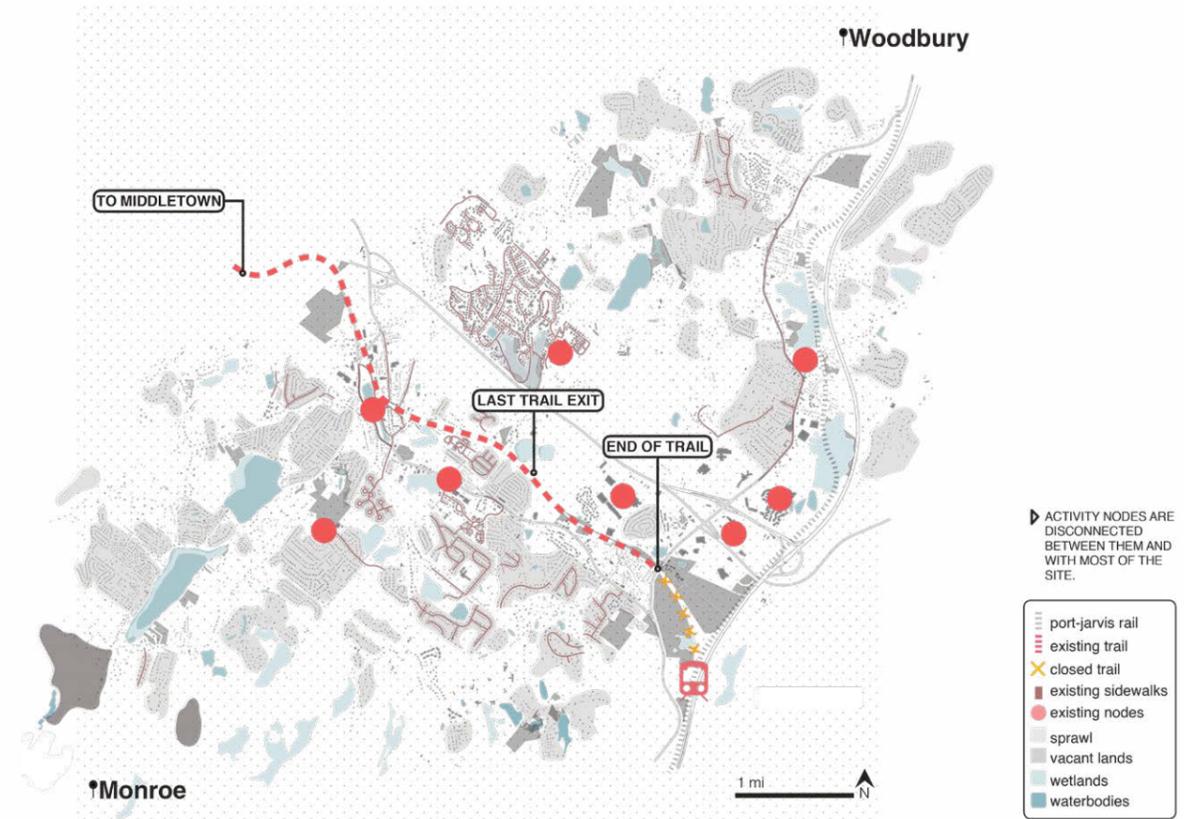
THESE ROUTES ARE MADE FOR WALKING

Collaboration w/Lino Caceres, Kunal Mokasdar and Yile Xu

Failed policies and speculation have enabled Sprawl to spread pollution across the Hudson Valley. The GND is an opportunity to create programs that empower stakeholders and redirect resources towards the reversal of this trend. Sprawl increases the dependence on private vehicles, and by replaces natural carbon-sequestering landscapes with artificial lawns; our strategy addresses both issues simultaneously. All we need is to update and equip existing infrastructure to serve its purpose: connect.



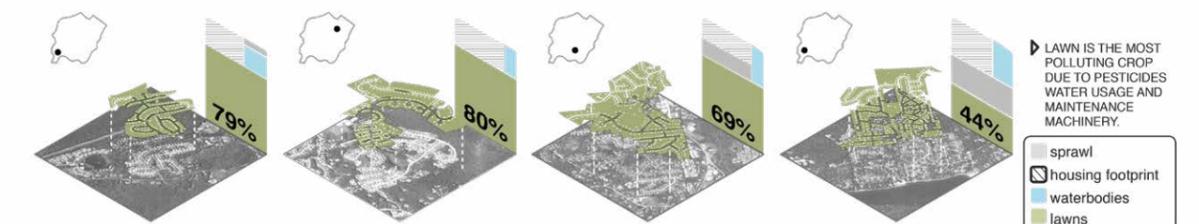
EXISTING DISCONNECTION



WHY DO WE PREFER CARS?

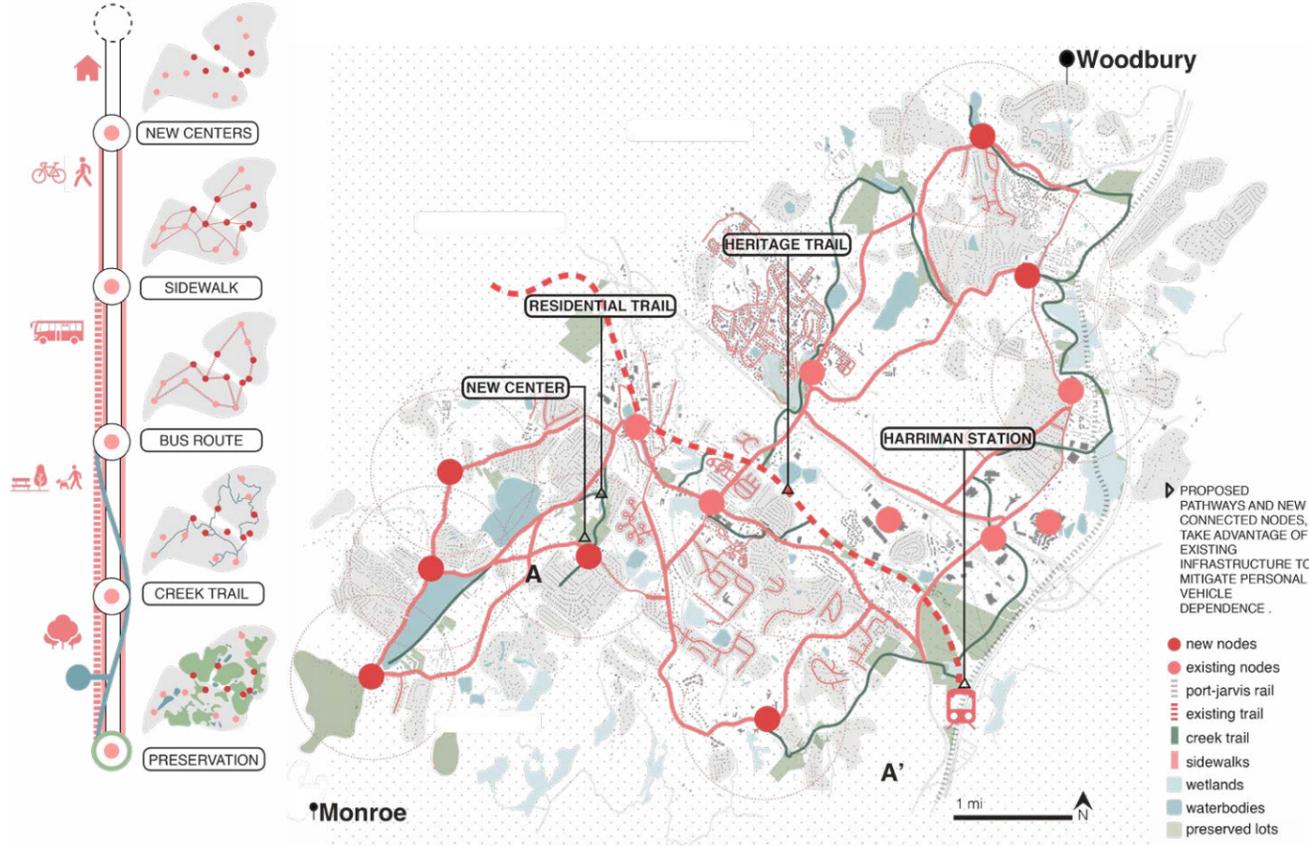


SPRAWL'S LAND USE

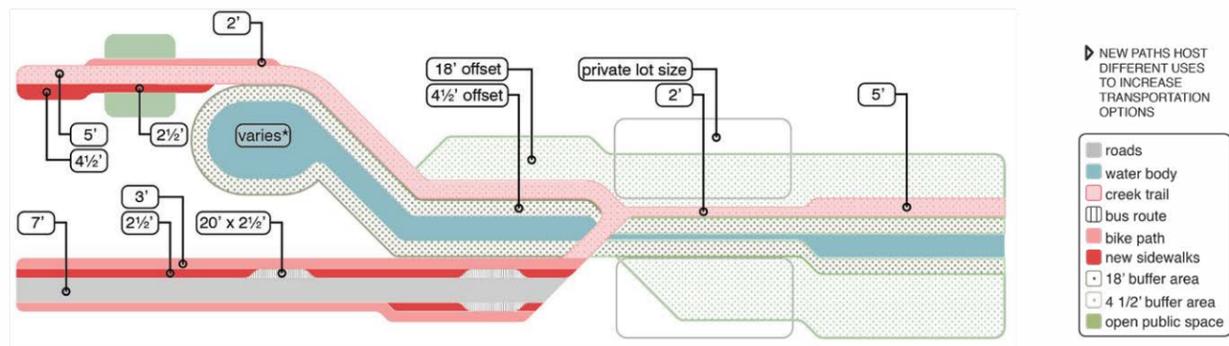


We bolster existing activity nodes and promote the creation of new ones. Newly protected grounds derived from enforcing existing guidelines create room for green corridors that puncture the boundaries of isolated communities, integrating them into a new forest linking landscape, with open public spaces. The project doesn't reach its maximum potential when all the paths are built, but when the lifestyle of suburban dwellers becomes harmonious with their surroundings.

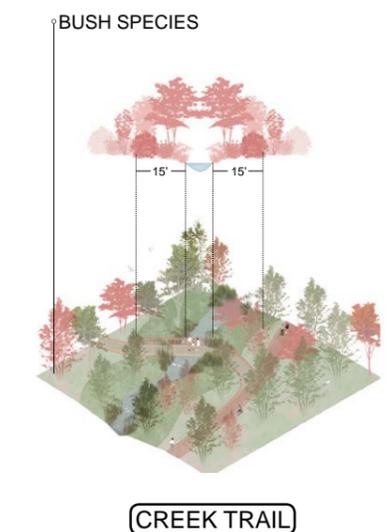
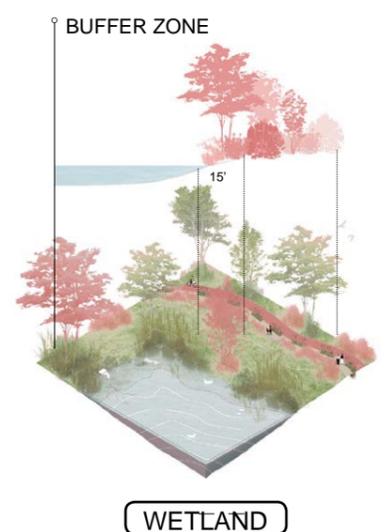
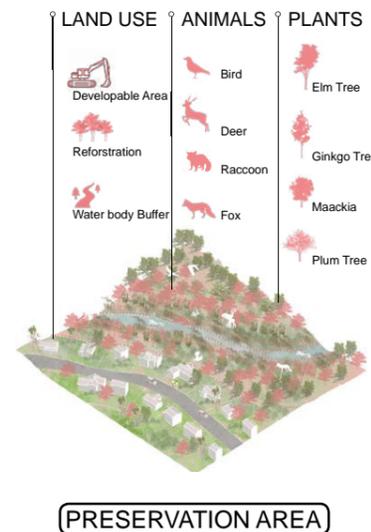
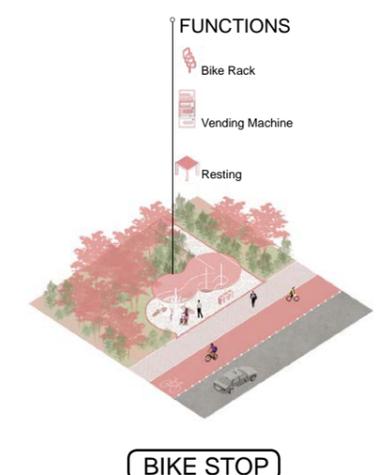
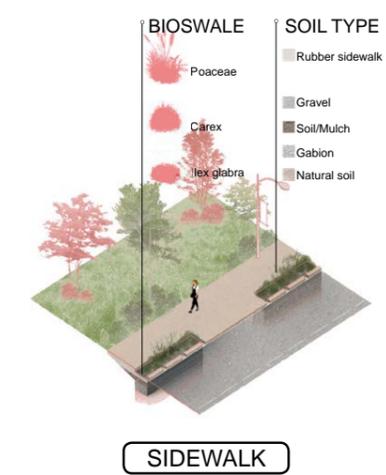
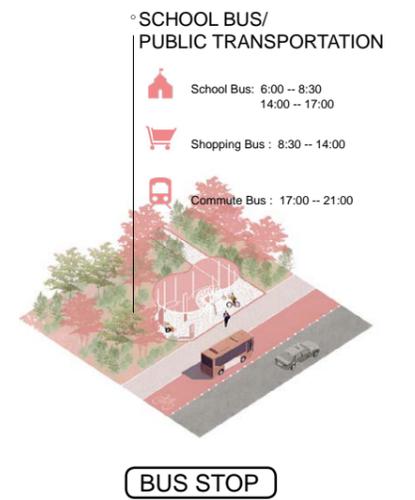
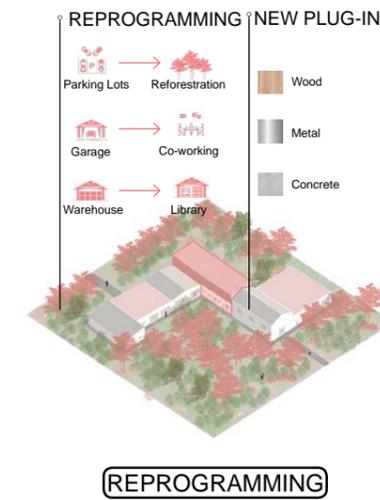
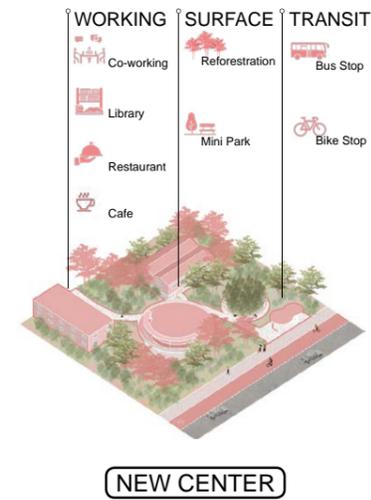
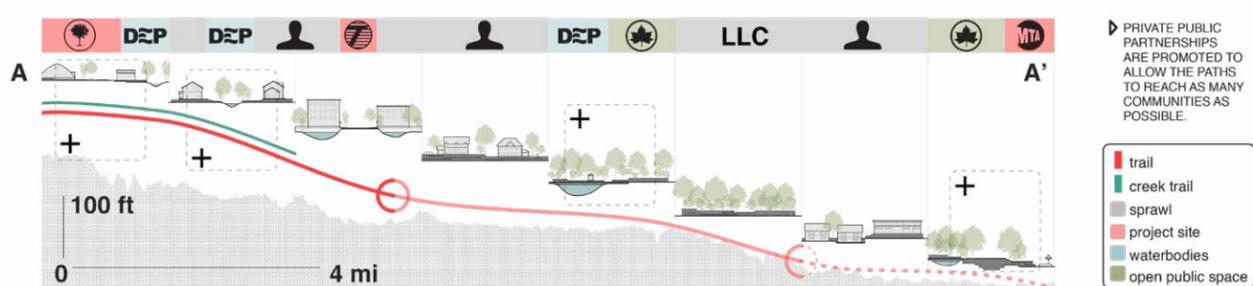
PROPOSED NETWORK



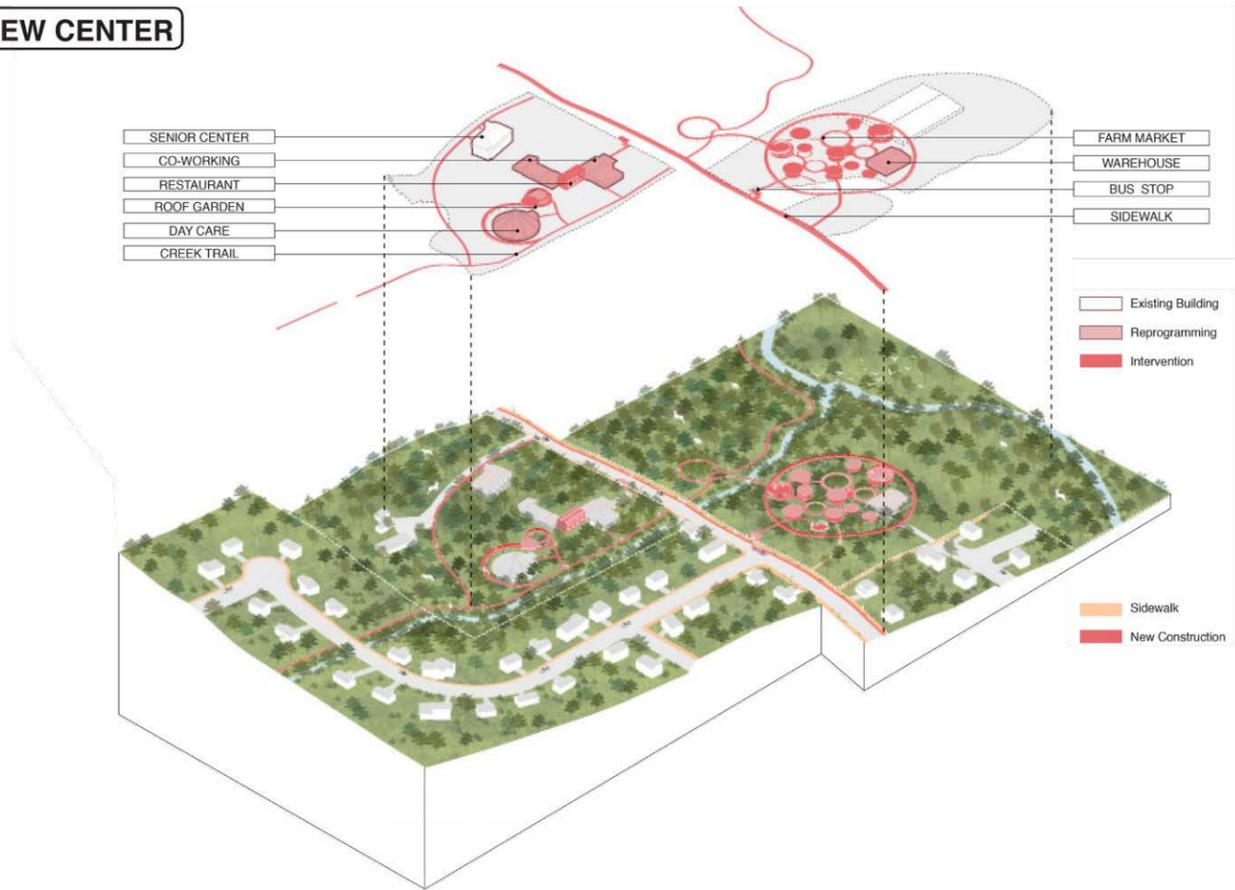
PATHWAY DIAGRAM



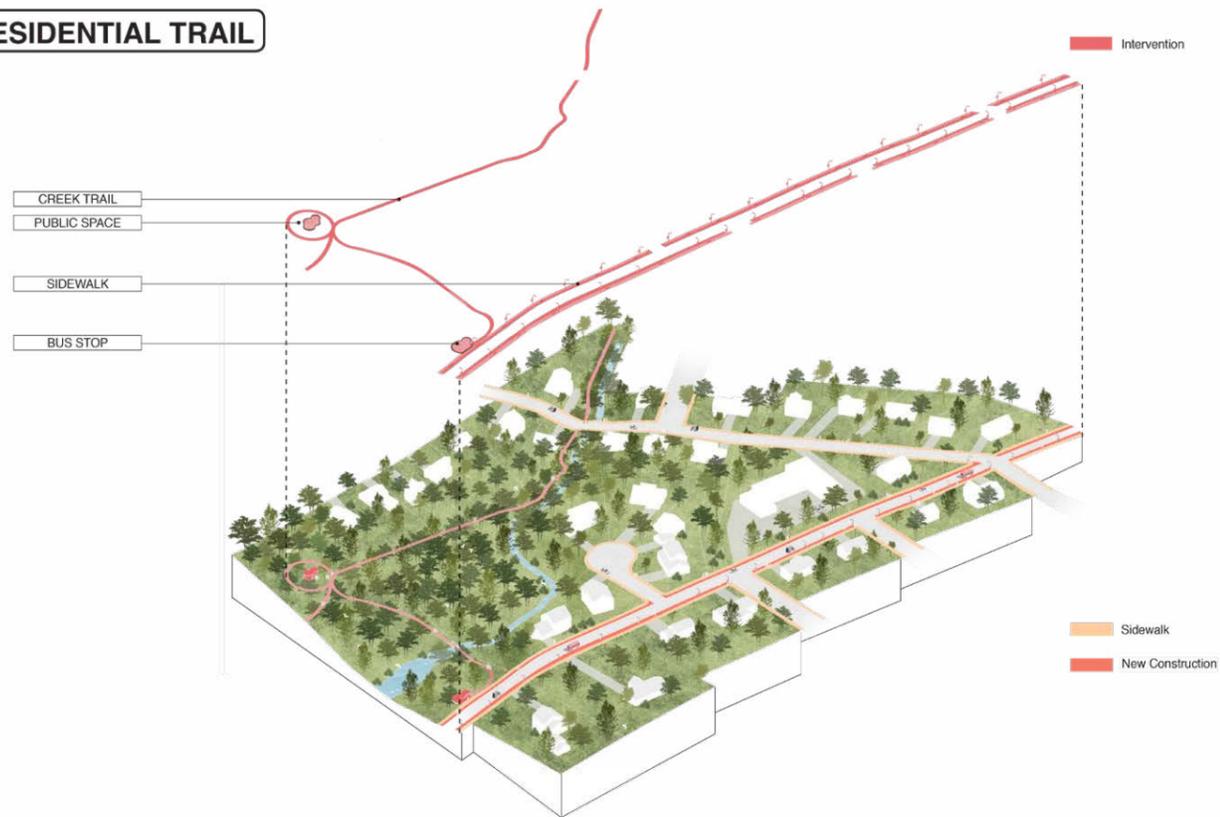
STAKEHOLDER SECTION



NEW CENTER



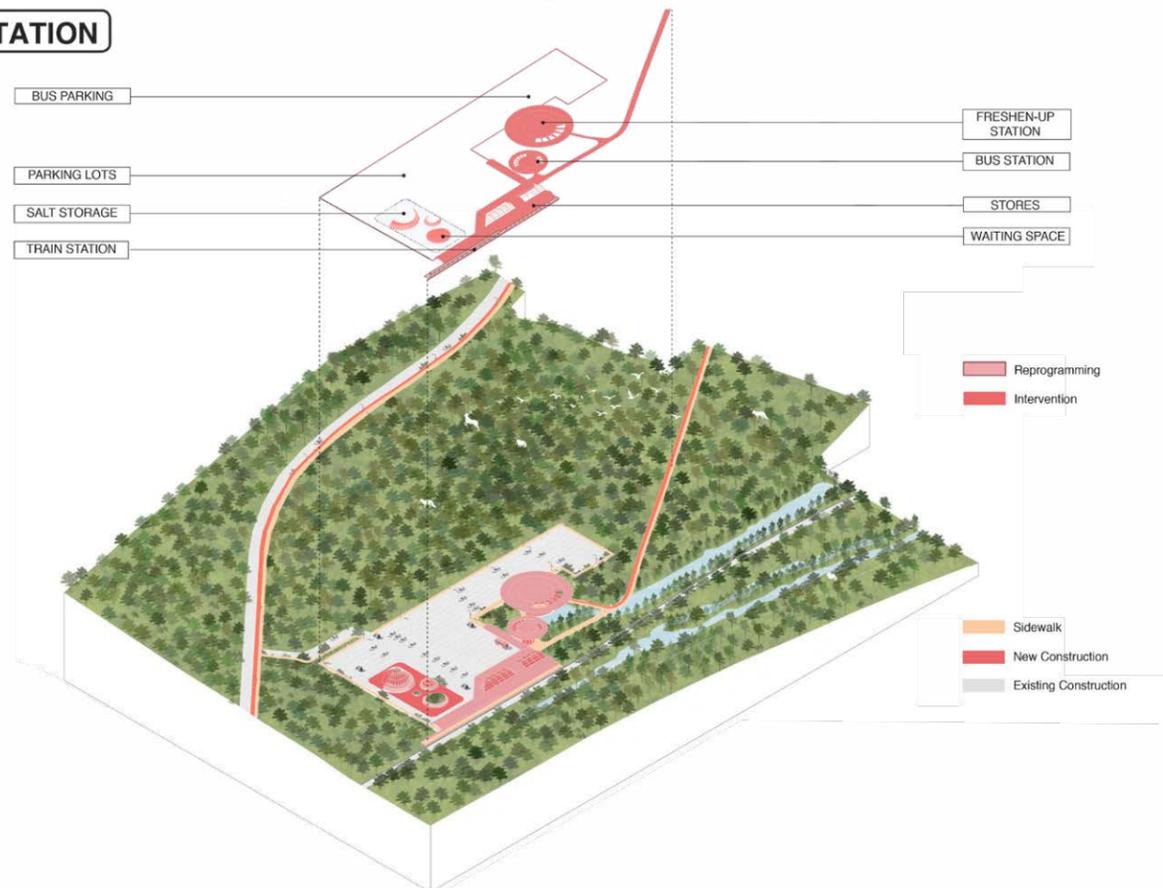
RESIDENTIAL TRAIL



HERITAGE TRAIL



TRAIN STATION



SUMMER SEMESTER

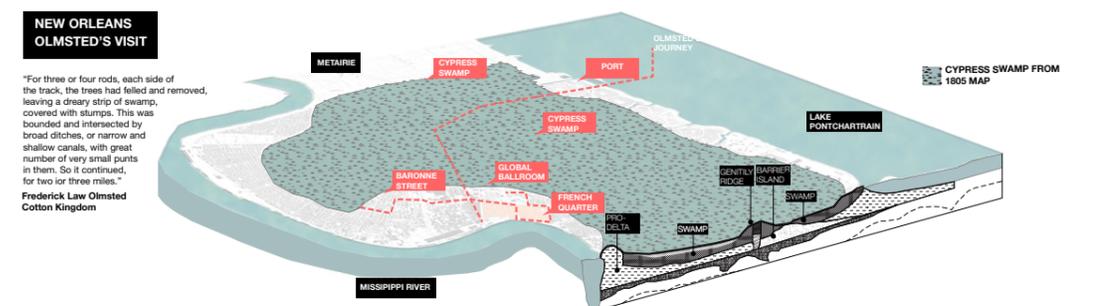
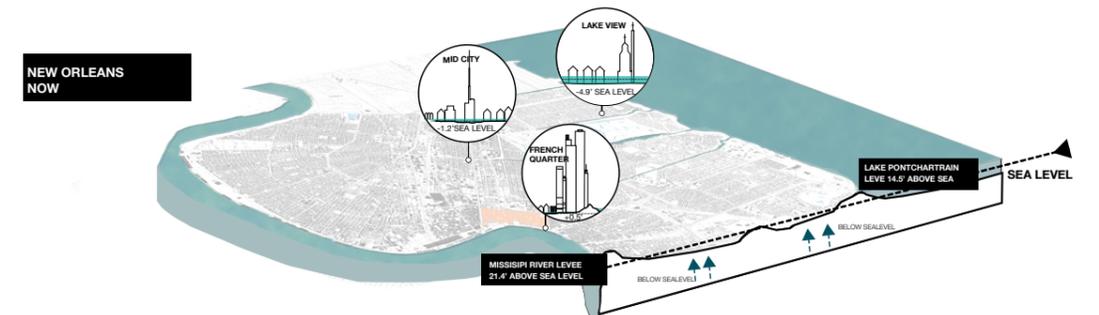
FALL SEMESTER

SPRING SEMESTER

COTTON KINGDOM NOW

NEW ORLEANS

Collaboration w/Palvaha Sophia Khan



LITERARY ANALYSIS

New Orleans A Gateway



"Did you say that you went back after the nigger? I thought he died?"
"Well, you see I had brought him along as far as Mobile, and he got away from me there, and slipped a steam-boat going back, and hid himself... as niggers is goin' here now, I expect 'twas a dead loss of eight hundred dollars, right out of pocket."

Altering the Landscape



"...through the little Tillage of white houses - whatever it was - and away into a dense, gray cypress forest. For three or four rods, each side of the track, the trees had all been felled and removed, leaving a dreary strip of swamp, covered with stumps."

Cultural Influence



"...we rattled through narrow dirty streets, among grimy old stuccoed walls; high arched windows and doors, balconies and eaves, and French noises and French smells, French signs, ten to one of English..."

Coexistence



"In the crowded market-place, there were not only the pure old Indian Americans, and the Spanish, French, English, Celtic, and African, but nearly all possible mixed varieties of these, and no doubt of some other breeds of mankind..."

A Destination



"The reason," said he, "that people say it costs so much more to live here than in New York is, that what they think treats in New York, they consider necessities here. Everybody lives free, and spends their money more willingly here."

Labour



"The great mass of foreigners who come to our shores are labourers, and consequently come in competition with slave labour. It is to their interest to abolish Slavery;... Could Slavery be abolished, there would be a greater demand for labourers, and the prices of labour must be greatly enhanced."

The Coloured



"Where the darkies all come from, what they do there, or where they go to, constitute a problem somewhat beyond our algebra. It seems to be a sort of nigger exchange."

Illegitimate



"I refer to a class composed of illegitimate offspring of white men and coloured women (mulattos or quadroons), who, from habits of early life, the advantages of education, and the use of wealth, are too much superior to the negroes, in general, to associate with them, and are not allowed by law, or popular prejudice, to marry white people."

African Christianity



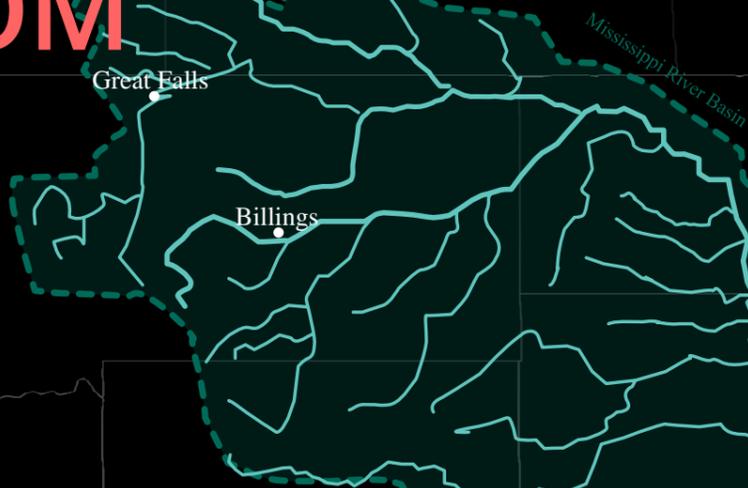
"Walking this morning through a rather mean neighbourhood I was attracted by a loud chorus singing to the open door of a chapel or small church. I found a large congregation of negroes assembled within, and the singing being just then concluded, and a negro preacher commencing a sermon, I chattered an empty pew near the entrance."

The Sugar



"The plantation contained about nine hundred acres of tillage land, and a large tract of "swamp," or woodland, was attached to it. The tillage land was inclosed all in one field by a strong cypress post and rail fence, and was drained by two canals, five feet deep, running about twenty five apart, and parallel."

RE-PRESENTING THE KINGDOM

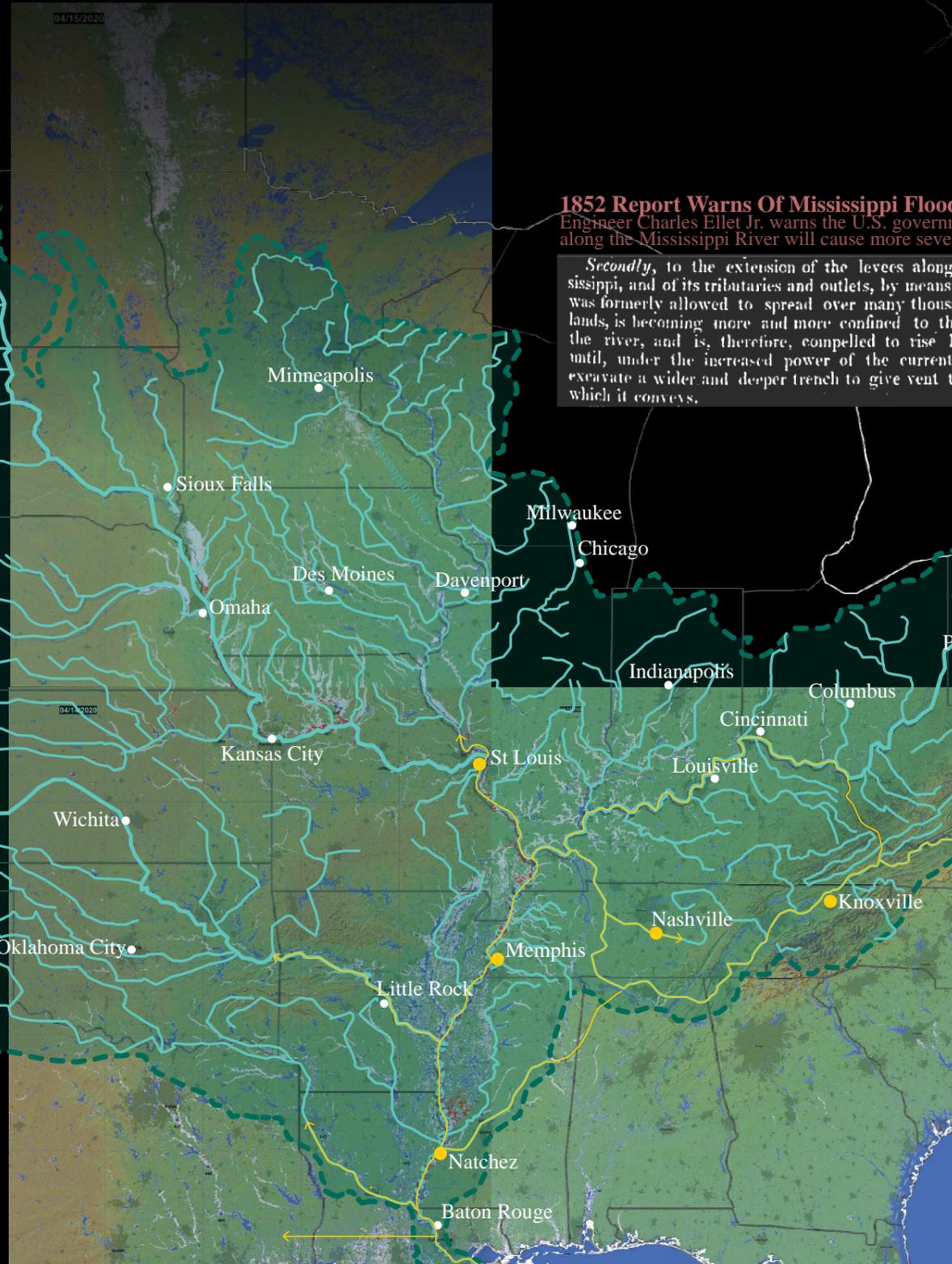


The swampy New Orleans was conceived as a gateway to explore the country through the Mississippi River.

Industrialization and economic growth led to the urbanization of cities along the river, defining and hardening its edges with levees, and altering the waterways with dams.

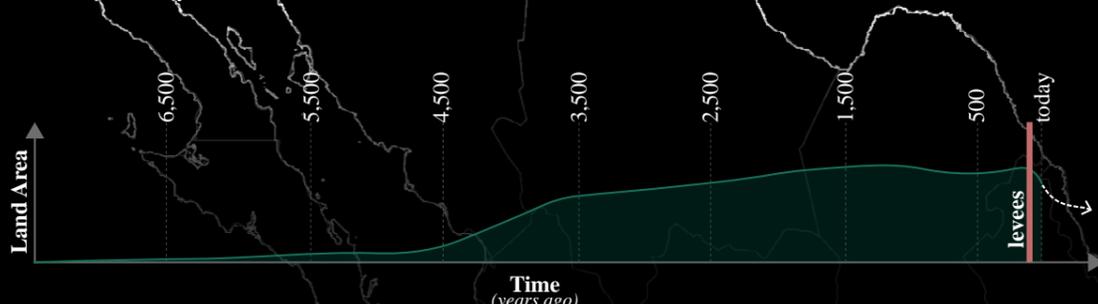
Today these built infrastructures are failing to adapt to the natural cycles, and endangering the cities that are aroused from the river.

Cities shaping landscape shaping cities.



1852 Report Warns Of Mississippi Flood Risk From Levees
 Engineer Charles Ellet Jr. warns the U.S. government that building levees along the Mississippi River will cause more severe flooding.

Secondly, to the extension of the levees along the borders of the Mississippi, and of its tributaries and outlets, by means of which the water that was formerly allowed to spread over many thousand square miles of low lands, is becoming more and more confined to the immediate channel of the river, and is, therefore, compelled to rise higher and flow faster, until, under the increased power of the current, it may have time to excavate a wider and deeper trench to give vent to the increased volume which it conveys.



Sediment Land Formation of the Mississippi River
 Louisiana Sea Grant 2018

The Dartmouth Flood Observatory
 CSDMS, INSTAAR
 University of Colorado

- Mean Annual Flood.
- Flooding in excess of mean annual flood.
- Maximum Observed Flooding, 1993-Present.

Routes of the U.S. Domestic Slave Trade
 1808 - 1865
 The Atlas of African-American
 History and Politics

- Slave Trading Hub
- Main Trade Routes

New Orleans

**URBAN TRANS-
FORMATION
ALONG A
GLOBAL
TRANSECT:
THE GREAT RIFT
VALLEY**

TEL AVIV-YAFO

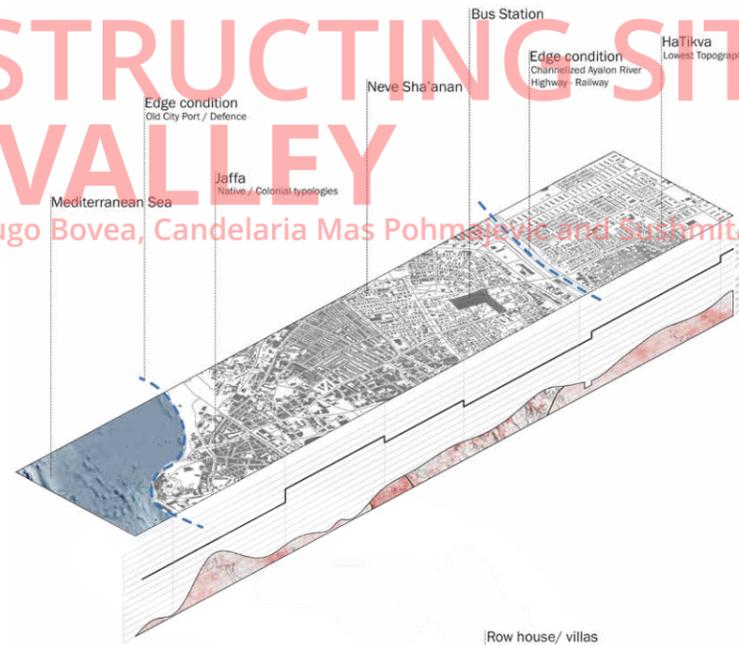
ADDIS ABABA

BEIRA

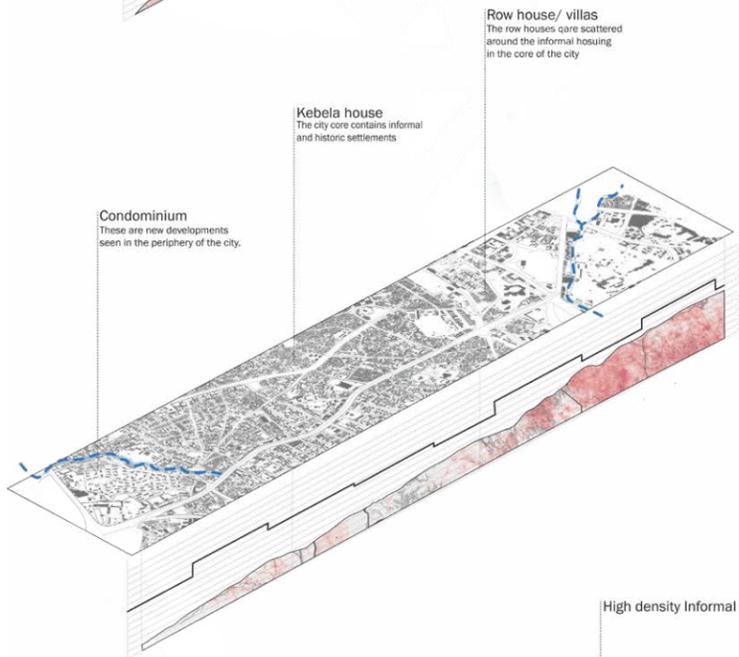
CONSTRUCTING SITE RIFT VALLEY

Collaboration w/Hugo Bovea, Candelaria Mas Pohmajevic and Sushmita Shekar

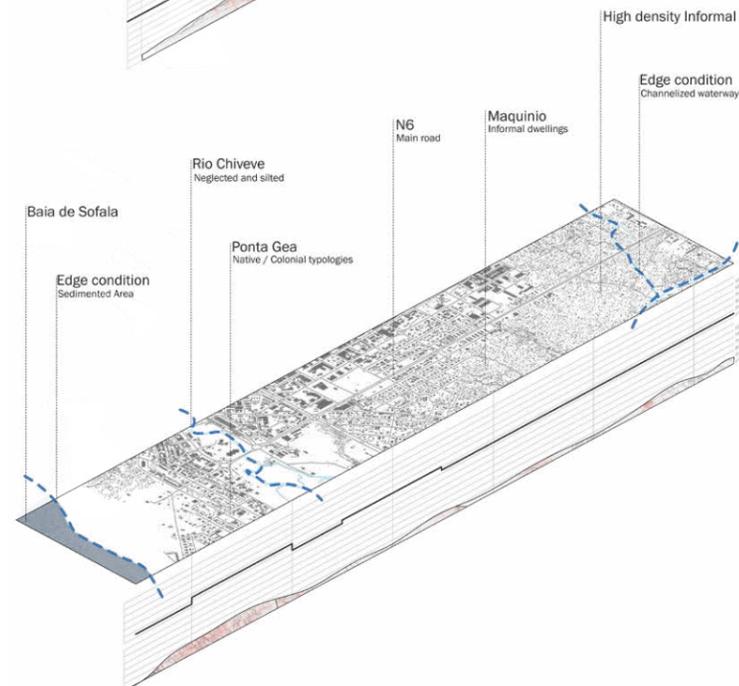
TEL AVIV-YAFO



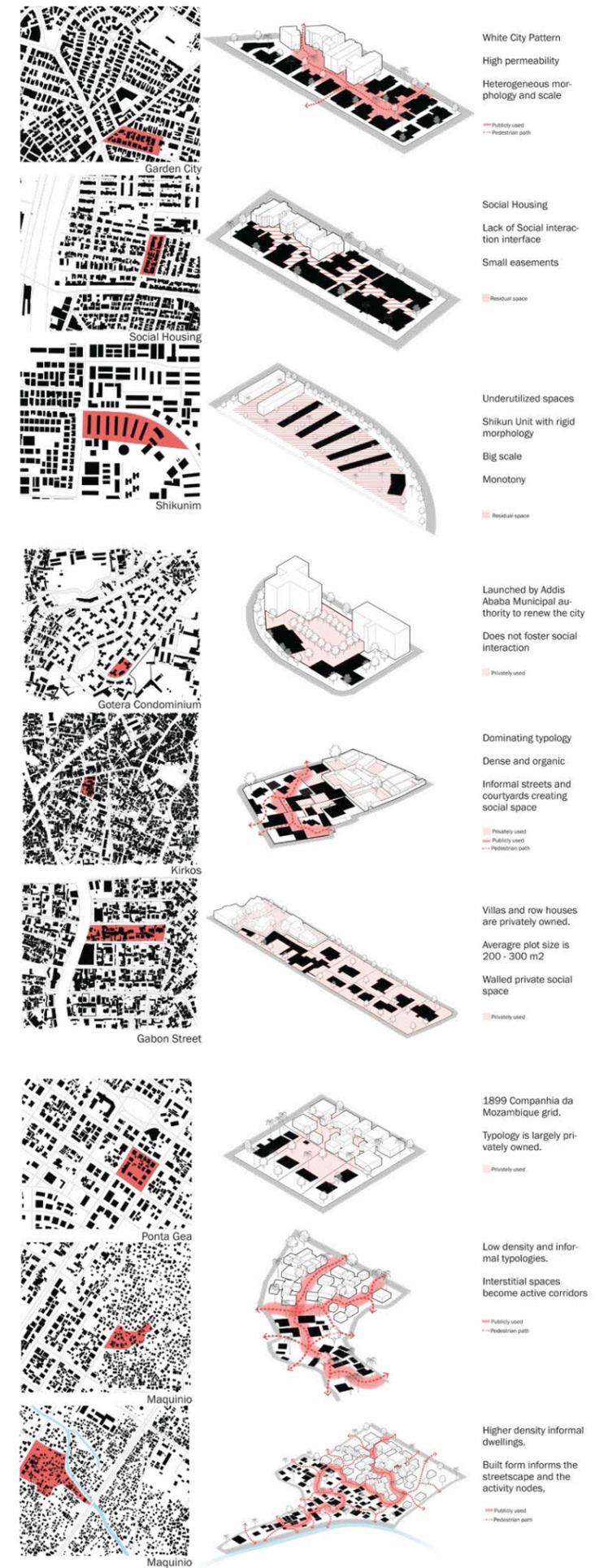
ADDIS ABABA



BEIRA



FABRICS AND TYPOLOGIES



OBJECT GEOGRAPHY

WOODEN CHAIR



wood

Stable and resistant to humidity.
Natural durability against weather and insects.
Bark is used for making rope.
Wood used for musical instruments, floors, doors,
frames, and interior and exterior furniture.



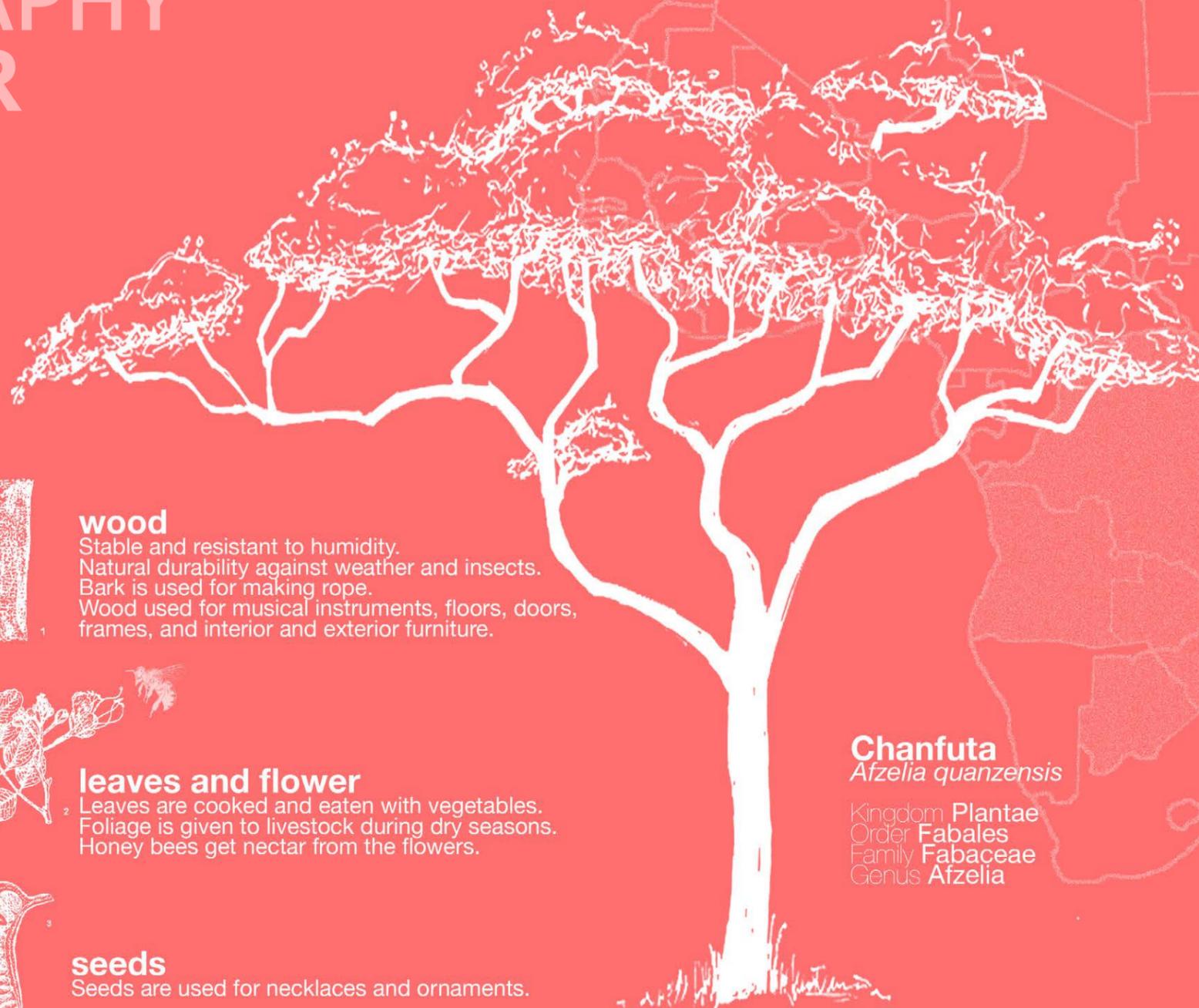
leaves and flower

Leaves are cooked and eaten with vegetables.
Foliage is given to livestock during dry seasons.
Honey bees get nectar from the flowers.



seeds

Seeds are used for necklaces and ornaments.



● Beira

Chanfuta

Azelia quanzensis

Kingdom Plantae
Order Fabales
Family Fabaceae
Genus *Azelia*

object on site



SEEDING THE MACHAMBA

Collaboration w/Ashwin Nambiar, Joy You-Chiao Wu, Ring Zhang and Xinyue Liu

The city of Beira has an extensive and integrated system of traditional agriculture that is under threat. Our project conceives of this system as more than just agriculture. It is a productive and preventative flood infrastructure. We envision that this agricultural system could coordinate communities, organize the city, and be the key to recovery and ongoing resilience.

GOALS

- Consolidate and organize cooperatives at a city scale.
- Protect social and ecological capital.
- Empower women in agriculture
- Diversify income and create job opportunities.
- Integrate adaptive, nature-based infrastructure.

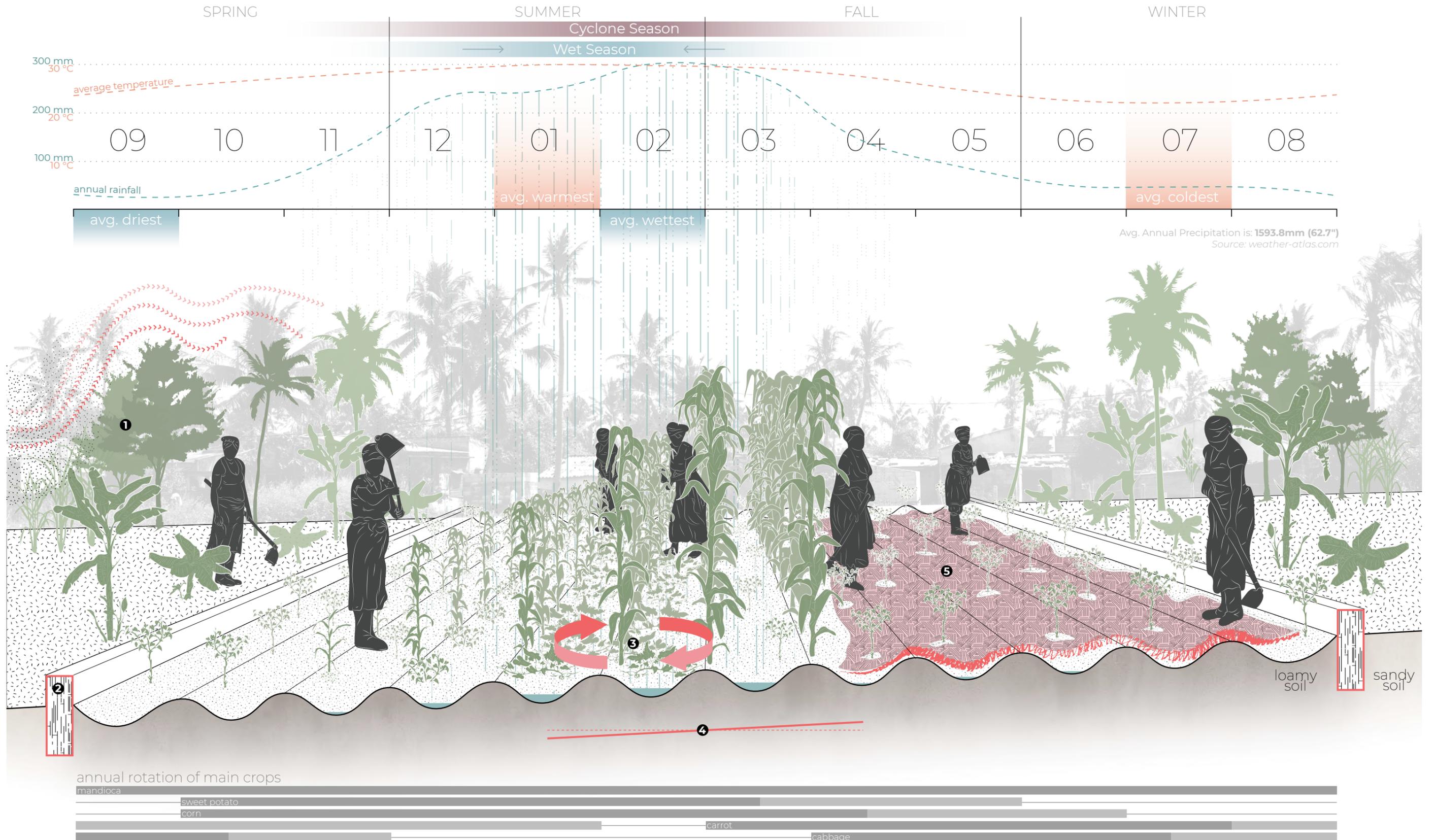


ma·cham·ba

(Swahili mashamba, plural of shamba, farm, plantation, cultivated land, field)

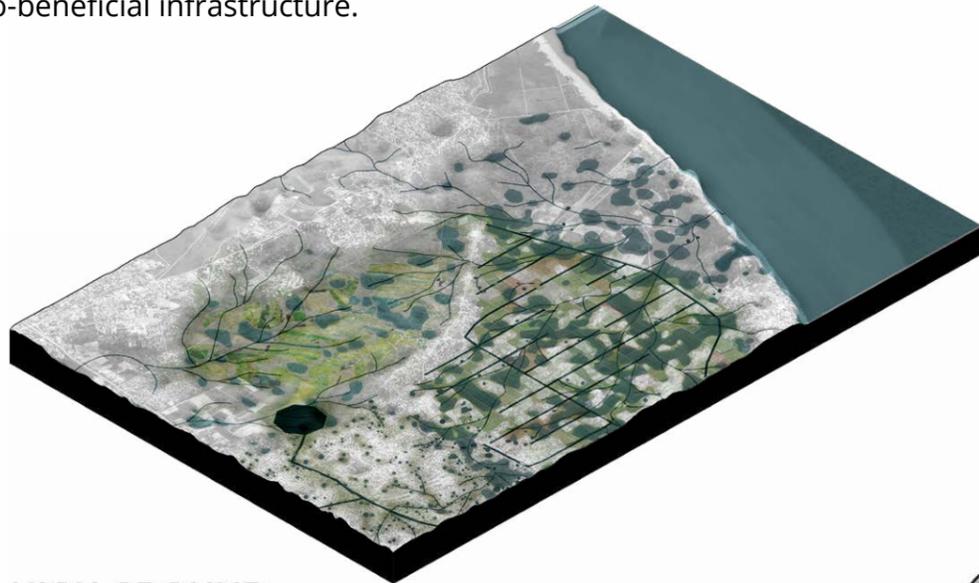
feminine noun [Mozambique]

Agricultural garden, where produce is cultivated by a family mainly for self-consumption.



MACHAMBA AS A WATER HOLDING SYSTEM

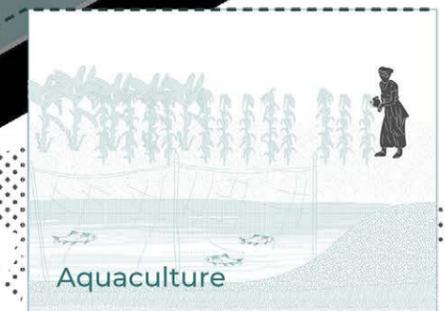
Multiple scales of machambas coordinated as a co-beneficial infrastructure.



HIGH GROUND



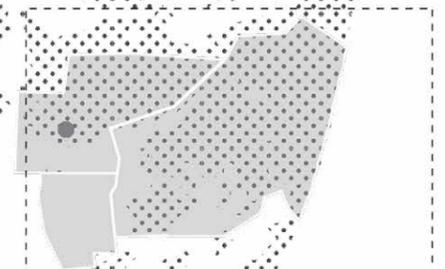
LOW GROUND



LEGEND

- High Ground
- Low Ground
- Natural Stream

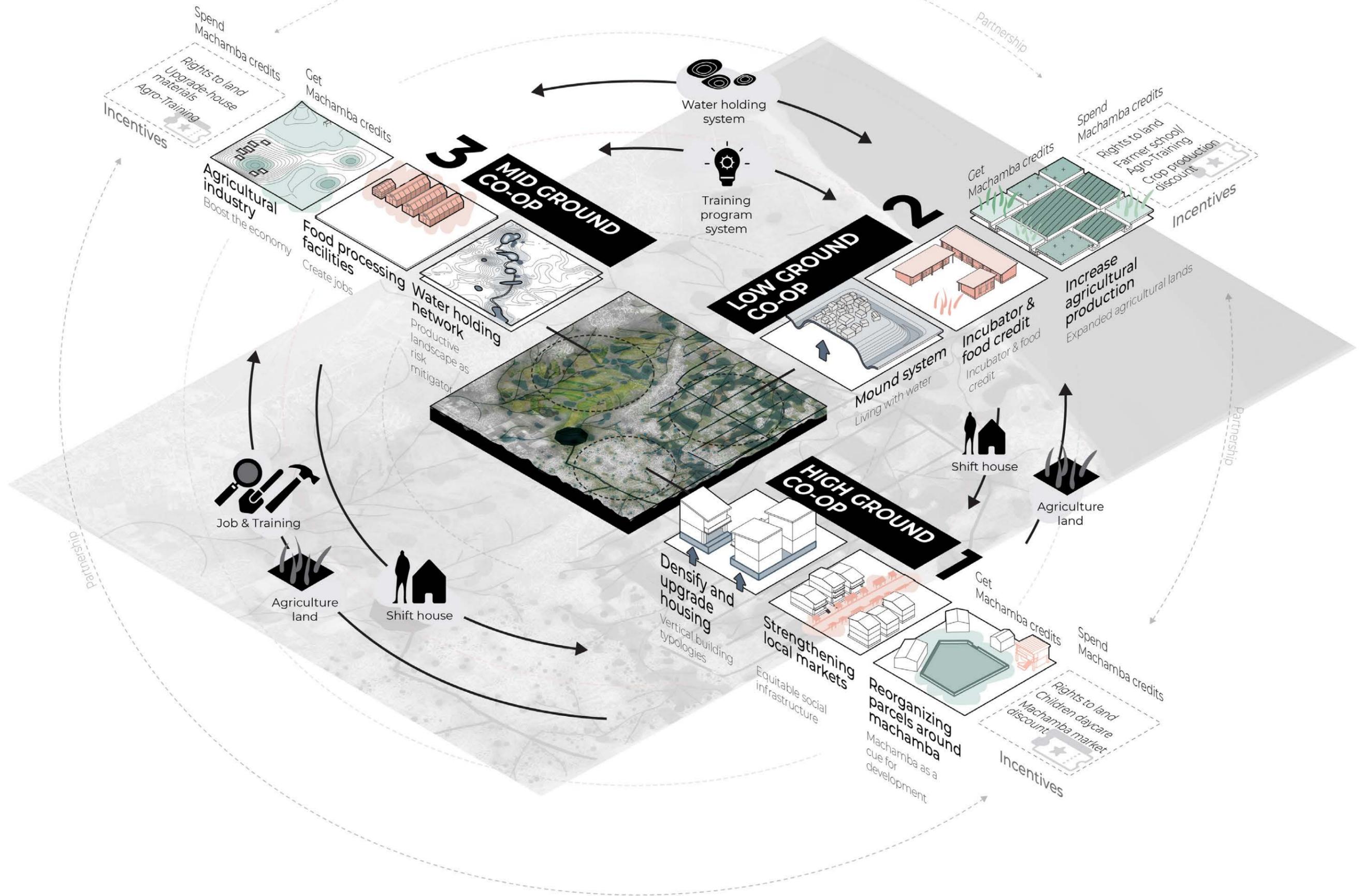
BEIRA
Maraza, Mananga, Chota



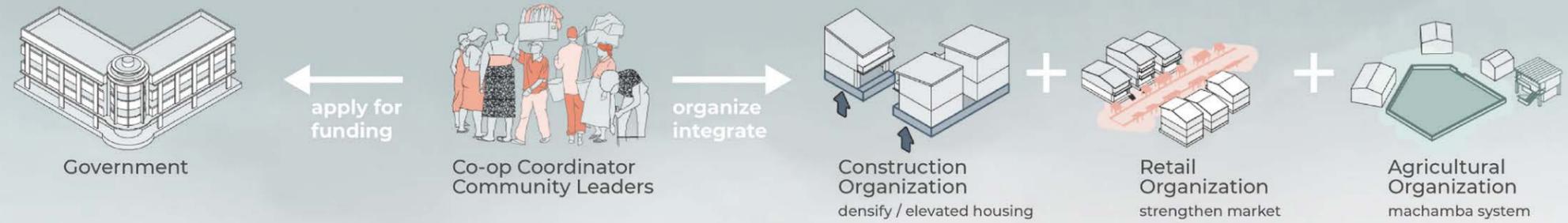
LOCATION IN BEIRA

MACHAMBA CO-OPS

CO-OPs could assist in coordinating the transition to safer grounds.



HIGH GROUND



extended market

SEEDING PROJECT community center

STAGES

- 1 Community center
- 2 Densify housing
- 3 Market street
- 4 Extend market



food storage
rainwater harvesting

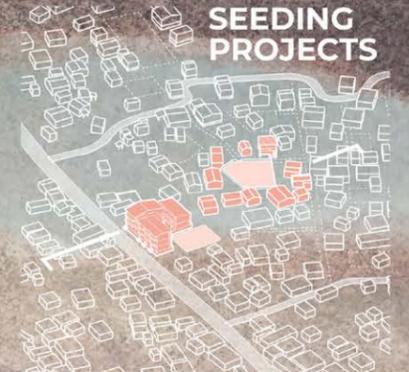


neighborhood front yard
low wall as benches

SEEDING PROJECT machamba neighborhood

STAGES

- 1 Neighborhood Kitchen
- 2 Machamba guide line
- 3 Ditch
- 4 Elevated housing



SEEDING PROJECTS

HIGH GROUND SCENARIOS



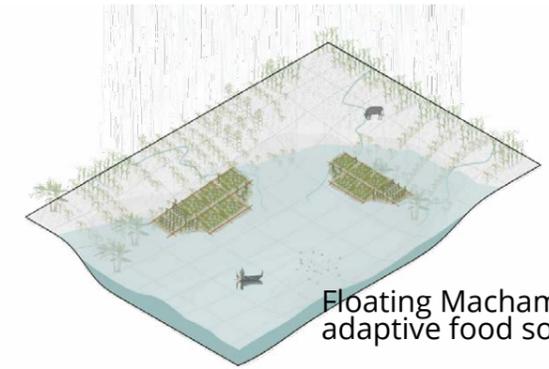
Machambas as social cohesiveness

Machambas as water holding ponds

Adaptive typologies that maintain activities

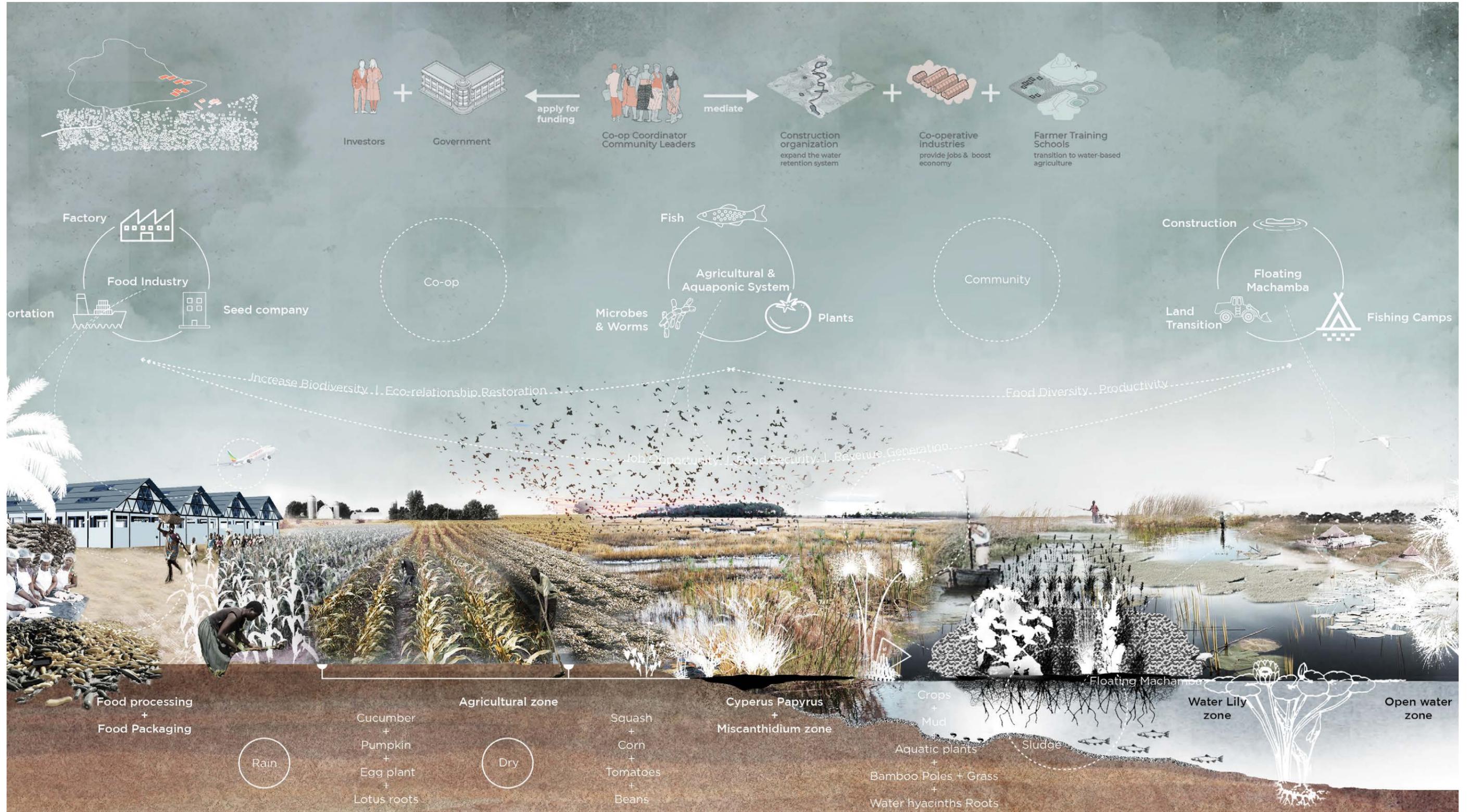


Facilities to promote land stewardship to prevent encroachment.

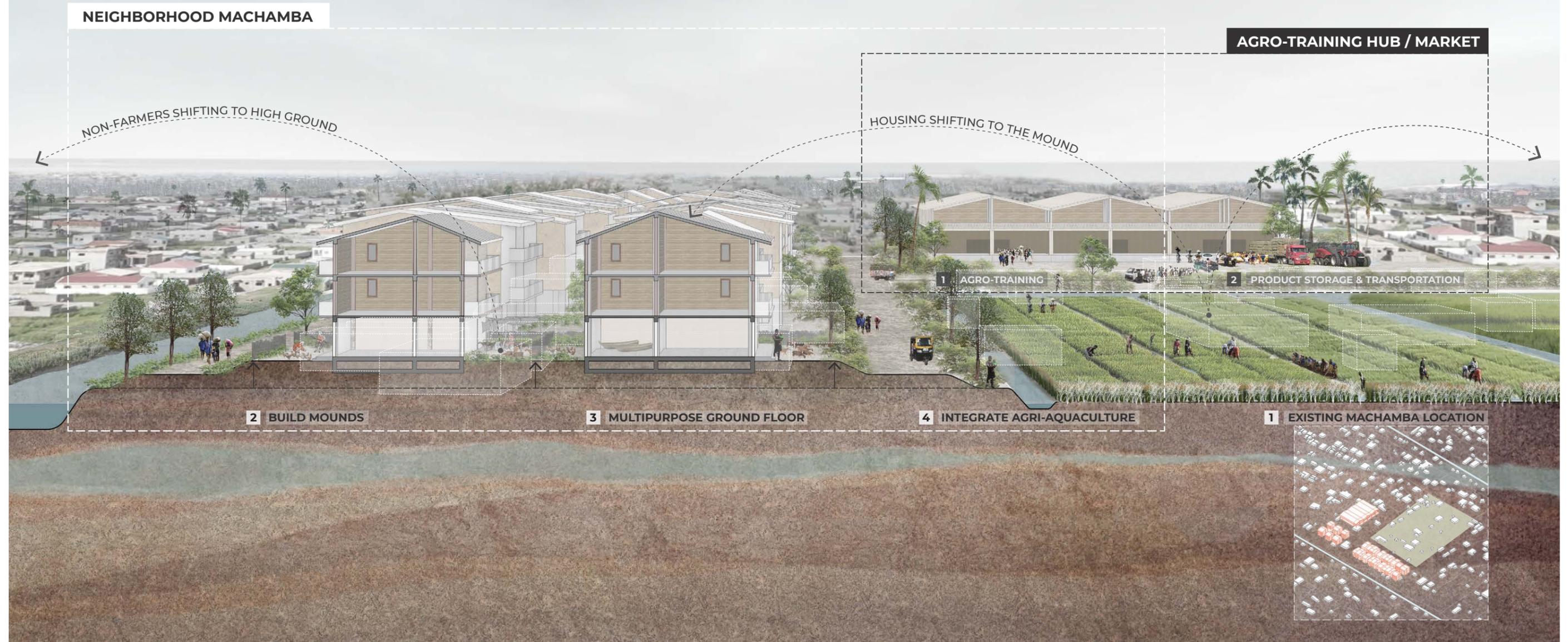


Floating Machamba as an adaptive food source.

MID GROUND



LOW GROUND



LOW GROUND SCENARIOS



THANK YOU!

