ISTANBUL TECHNICAL UNIVERSITY • FACULTY OF ARCHITECTURE
URBAN DESIGN GRADUATE PROGRAM • SPRING SEMESTER • 2020

Urban Design Project II

All projects in the publication consist of Urban Design Project II Studio works of the 2019-2020 Spring Semester of the Urban Design Graduate Program.

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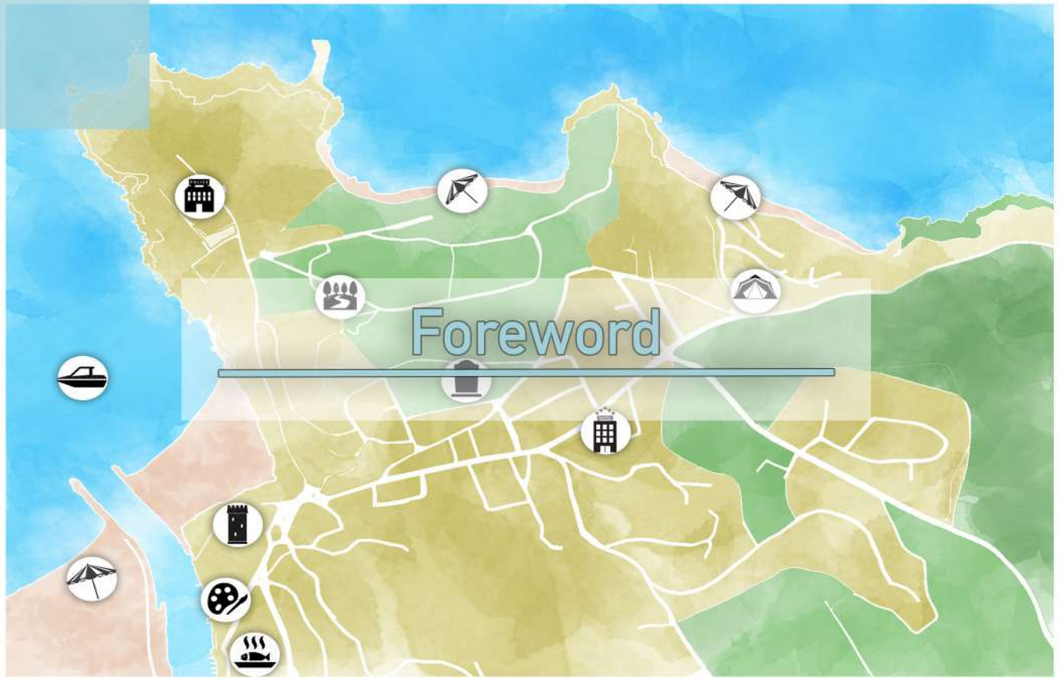

Dear readers,

This publication presents the final projects of the urban design graduate students of the Urban Design Project II studio in 2020 spring semester.

The projects took place in Riva, Beykoz with the concept of ecological neighborhood. It focused on the conservation of environmentally significant zones as well as the existing fauna and flora, while developing sustainable and nature-friendly urban designs.

The students were divided into five separate project groups according to their professions and ideas. All five projects have been matured with different design approaches and themes in different parts of the development areas in Riva, provided that they adhered to ecological and sustainable principles. Then the students have developed their detailed 1:500 scaled designs and models individually.

Enjoy your reading !

Sincerely yours,
Urban Design Project II Team

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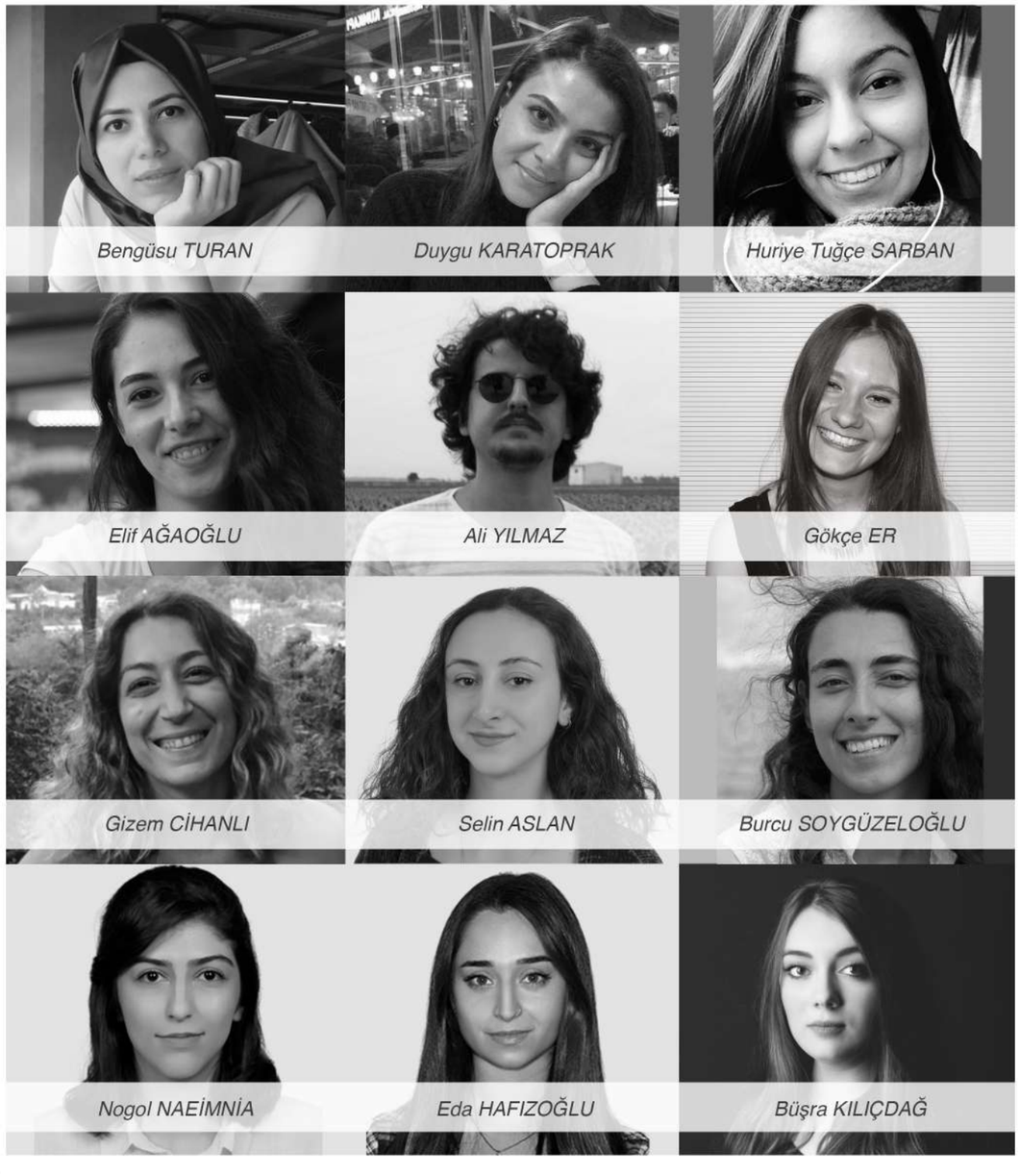
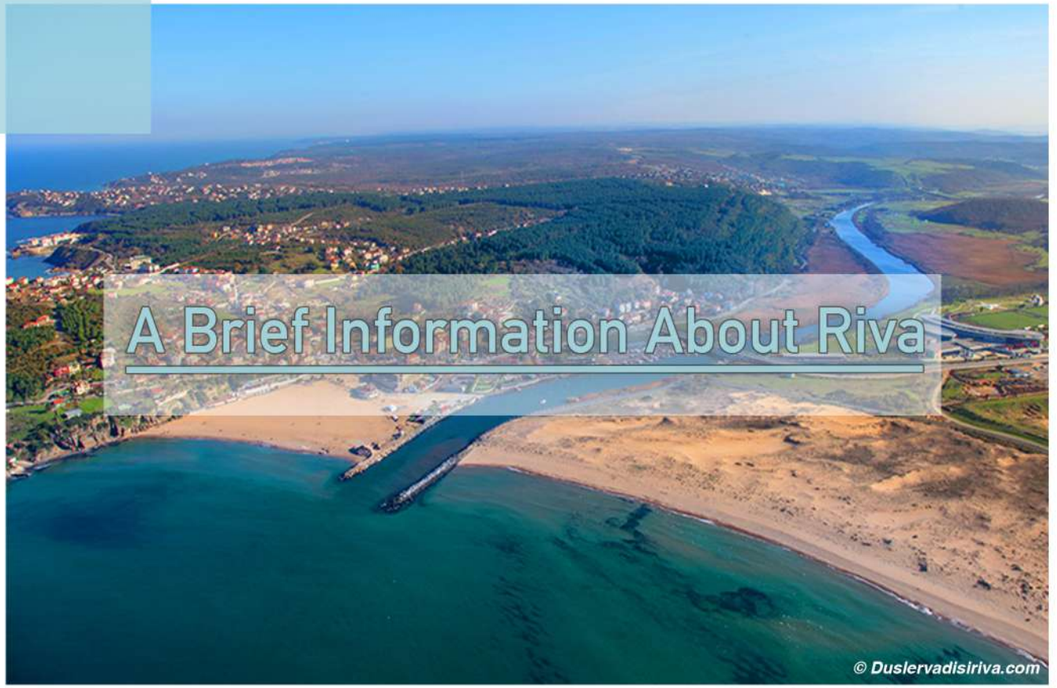
Urban Planner

Project Team





From a coastal fishing village to a luxurious getaway...

Riva, officially called Çayağzı, is a coastal village that belongs to Beykoz District in İstanbul. The name Riva derives from the Greek word Rhebas meaning swamp/wetlands given by the Greek natives of the area due to its natural characteristics.[1] It is located in the north part of İstanbul in the Asian side, between Şile and Anadolu Feneri, near the Black Sea. The first settlements in Riva were built among the Riva Creek that goes through the western part of the region and the main economical activities were fishing and husbandry.

According to the 2018 data, the population of Riva is 2308 people.[2] Today Riva still keeps its rural features with its urban pattern and the Riva Castle sitting on a hill near the sea; however it also has been facing a pressure of tourism development and luxurious residential projects due to having beaches and being closer to the city center of İstanbul as a result of the improvements in transportation. Riva is 10 minutes drive to Yavuz Sultan Selim Bridge, 35 minutes drive to Sabiha Gökçen Airport and 1 hour drive to İstanbul Airport.

Riva has natural conservation sites, forests, sand dunes and beaches. Therefore, a sustainable, ecological, protective and responsive design proposal is a necessity.

[1] https://en.wikipedia.org/wiki/Riva,_Istanbul

[2] http://www.nufusune.com/191707-istanbul-beykoz-riva-mahallesi-nufusu

URBAN DESIGN STUDIO PROJECTS

OFF-GRID

Ali Yılmaz (Urban Planner) - Bengüsu Turan (Architect & Landscape Architect) - Duygu Karatoprak (Architect) - Elif Ağaoğlu (Architect) - Tuğçe Sarban (Architect)

Innovative Sustainable Rural Living in a High-tech Manner, Standing out of the System.

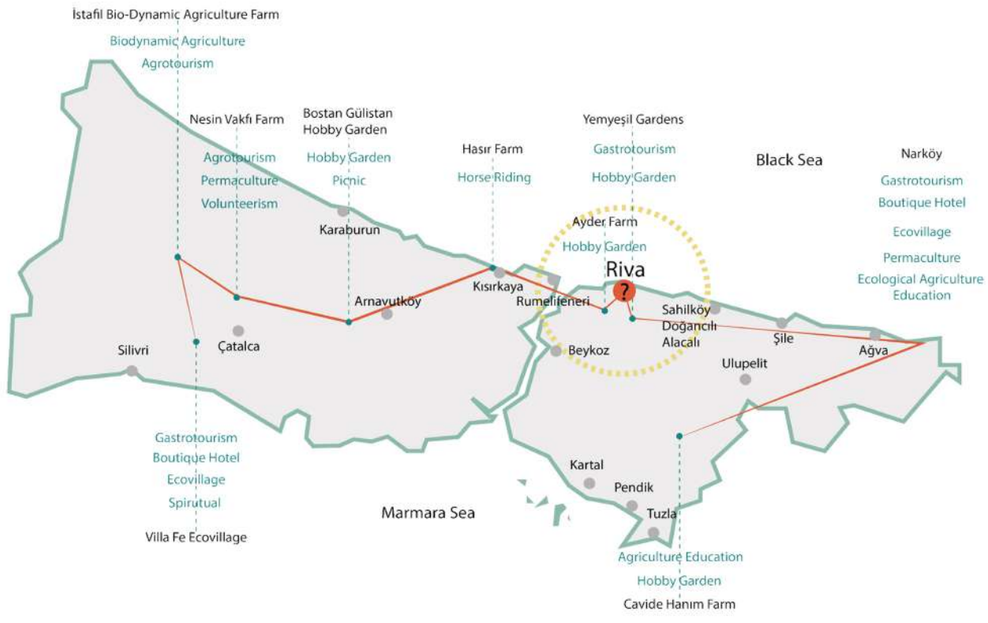
CONCEPT

Rhebas is the name of a few kilometers long river pouring into the Black Sea. Although it is not known when Riva Castle was built, it is believed that the Ottomans fell into the hands on the same date as Yoros Castle.

Since Riva Creek is extremely deep and enables ships coming from the Black Sea to enter, Riva Castle should have been built in the same period as Yoros Castle in order to protect it from the invasion of enemy forces not using the Bosphorus entrance.

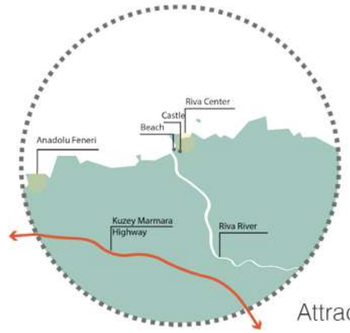
Centuries later, Bijishkyan reported that the ships coming from the east saw the Riva between the Anatolian Lighthouse and Şile as the mouth of the Bosphorus and accidentally fell into Şile.

Although the Greeks were living in the villages of Riva and its surroundings during the Ottoman period, Muslim immigrants from the Eastern Black Sea were placed in the villages that were evacuated in the WW1 although many goods were transported from Istanbul to Istanbul.

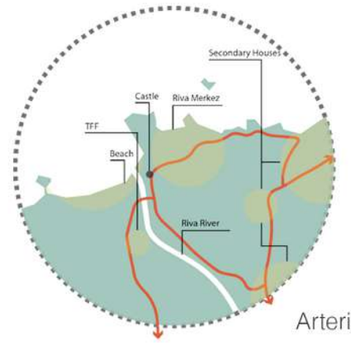


CONTEXTUAL ANALYSIS

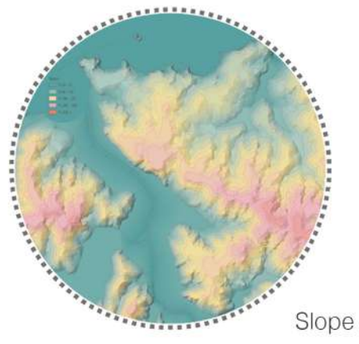
Transportation Analysis



Attraction Points



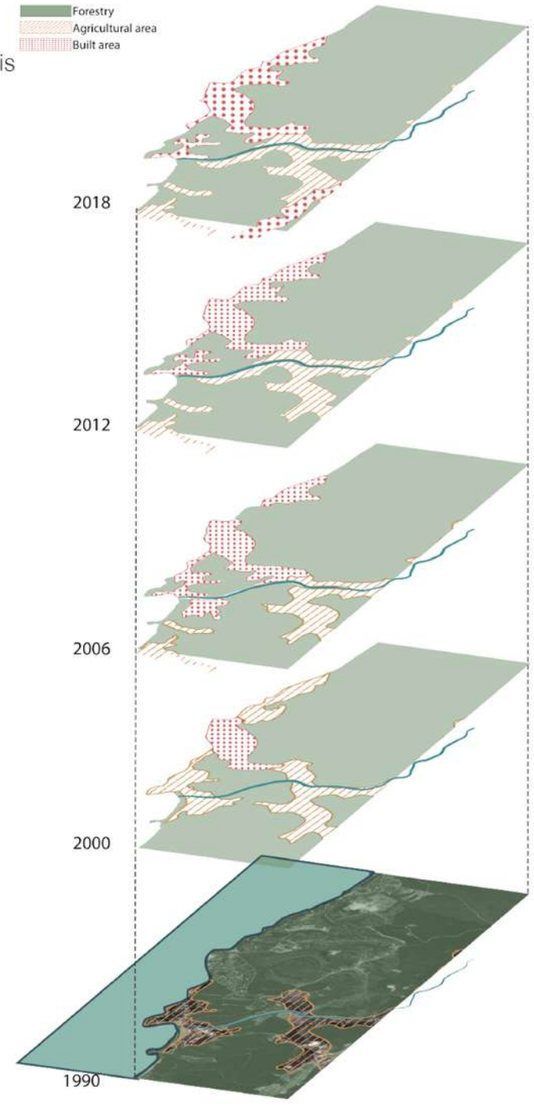
Arterial Roads



Slope Analysis

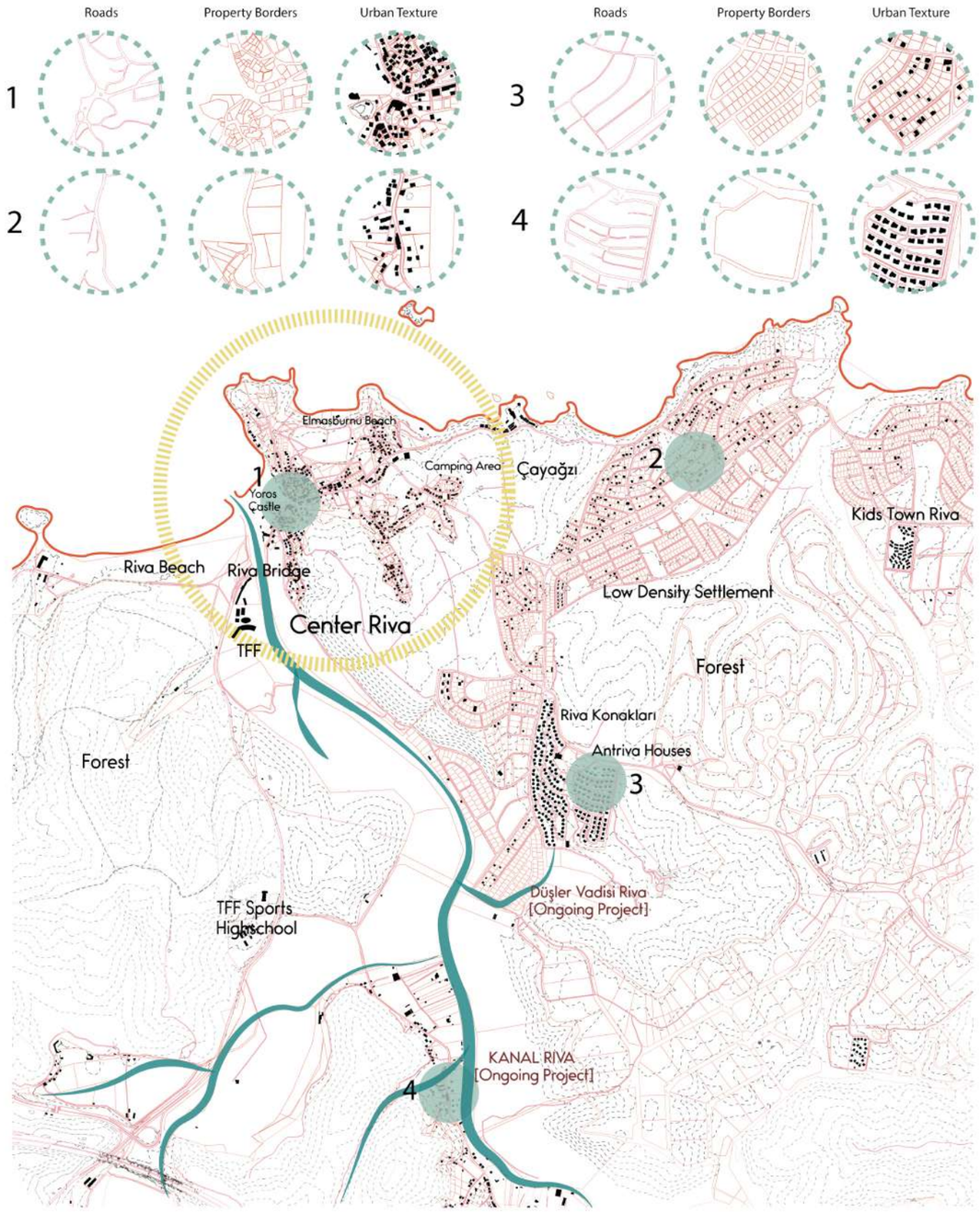
DEVELOPMENT OF RIVA

In 1980, 1/5000 scale Riva Conservation Development plan has declared and after 15 years later, the area has announced as natural site area. In the 2009 Istanbul Metropolitan Area Environmental Plan it is determined as “Area to keep its development and density under control”. In 2015 Yavuz Sultan Selim Bridge has opened, thus, risk of demolition of natural hazards appeared.



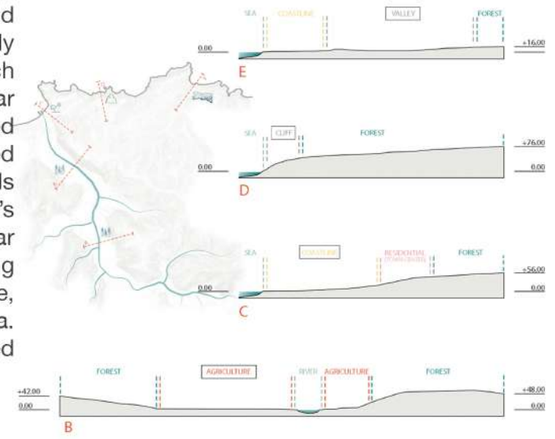
OFF-GRID GROUP PROJECTS

URBAN TEXTURE AND COASTAL CHARACTER

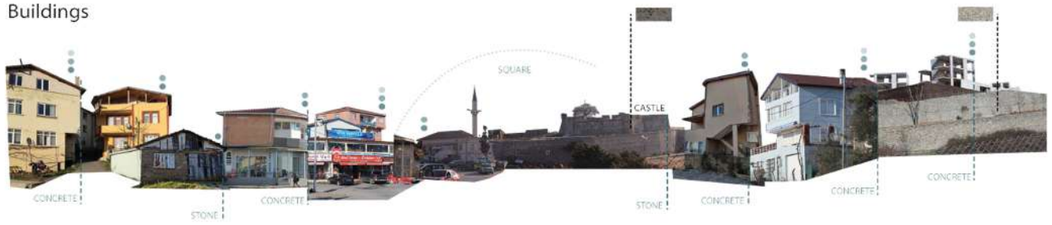


OFF-GRID GROUP PROJECTS

Evaluating urban texture in the area, there are four main morphological type in various places. The first one belongs to the center; can be said that shaped in very organic structure. Mostly contains local villagers. The second type, which located nearby the Riva River, has a linear backnone with organically distributed settlement units around it. Generally occupied by local agriculturists due to fertile wetlands available for agricultural work. The third one's form is coming rom its small and regular property pattern with small amount of building coverage. Last one is very similar to third one, but with large singular (or close) property area. Both last two ones are relatively new and settled as secondary houses and summer houses.



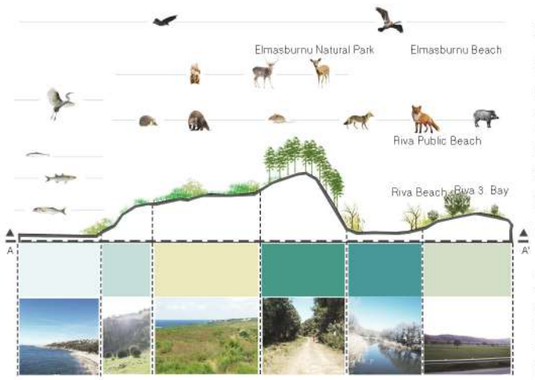
Buildings



Streets

Green Areas

FLORA AND FAUNA



When the fauna of Elmasburnu and its immediate surroundings are examined, the living environments of them are determined in accordance with the groups they belong to the mammals; deer, roe, jackals, fox, rock marten, squirrel, hedgehog, wild boar, mouse and bat species. In addtion, Riva Village and its environs are at the Bosphorus migration route.

In order to create a sustainable lifesytle, production of natural goods including agriculture and livestock was examined. Riva is known for fishery, beekeeping and live stock.

When the agricultural products are examined, it is seen that the most produced agricultural products are hazelnut, apple, pear and cherry followed by figs, mulberry, walnut, chesnut and sour cherry.

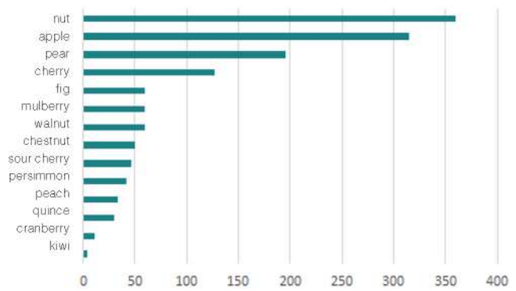
(Source: Istanbul Doğa Turizmi Master Planı 2013-2023)

FLORA OF RİVA

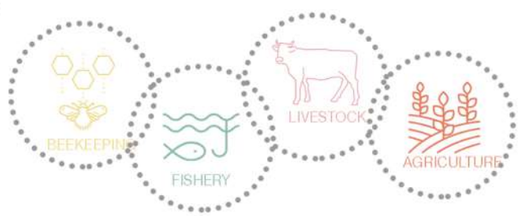
The vegetation cover of Riva is generally related-to maquis vegetation species. Among these species;

(Source: Istanbul Doğa Turizmi Master Planı 2013-2023)

AGRICULTURE AND LIVESTOCK FRUIT PRODUCTION (TON)

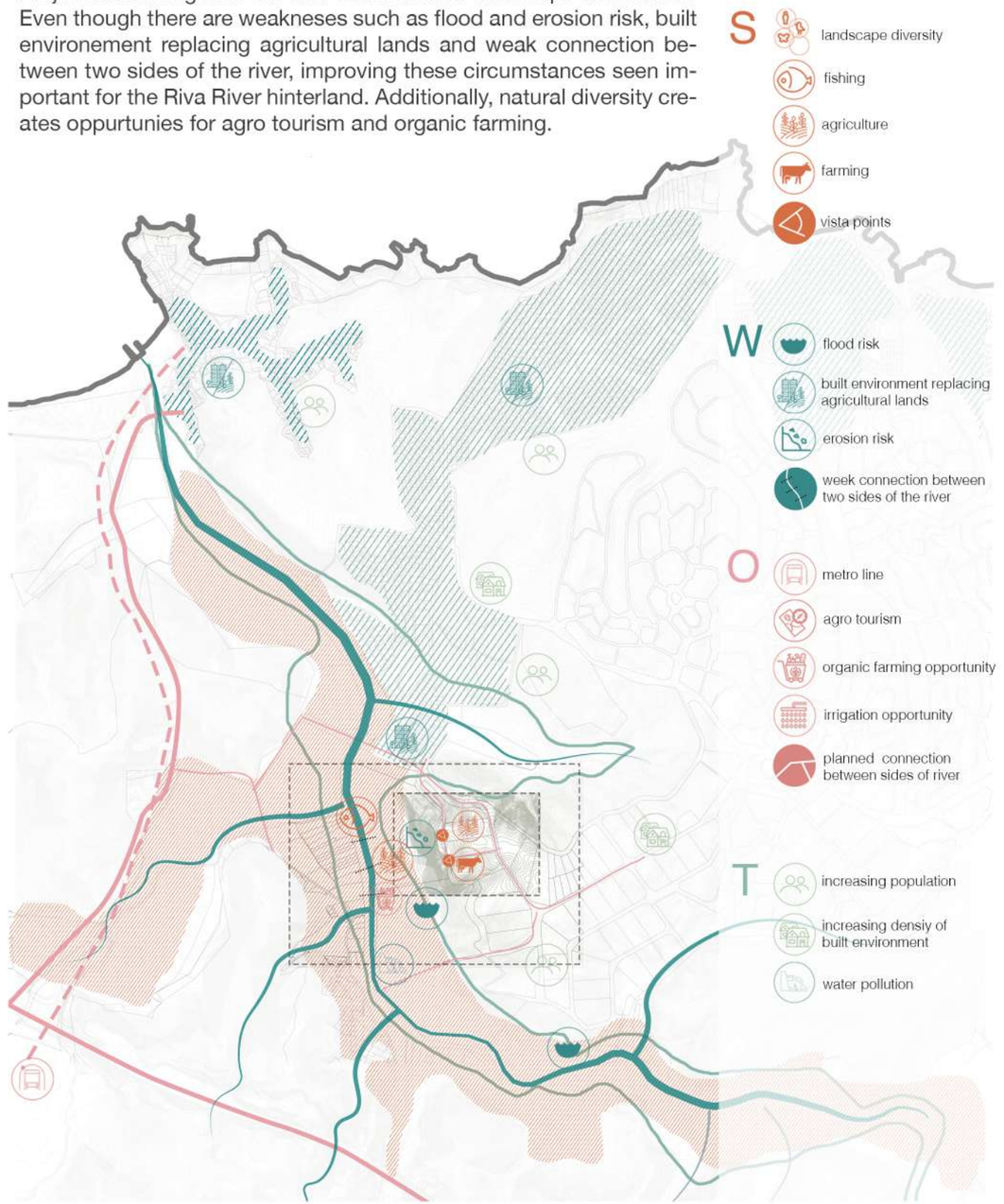


(Source: Reproduced from S.Tarakçı, (2006) Beykoz Civarında Tıbbi Özellik Taşıyan Bitkiler Üzerine Araştırmalar)



SWOT ANALYSIS

Project area being near the river has a diverse landscape and habitat. Even though there are weakneses such as flood and erosion risk, built environement replacing agricultural lands and weak connection between two sides of the river, improving these circumstances seen important for the Riva River hinterland. Additionally, natural diversity creates oppurtunies for agro tourism and organic farming.



OFF-GRID GROUP PROJECTS

THRESHOLD ANALYSIS

When the settlement types and open area properties in the area are examined, it is seen that on the north there are protected areas, low density settlements and central settlement of Riva. Since there are agricultural lands along the river and no settlement to the south, project area is selected there.

Having various slopes on the selected area, provides needs for different program needs in addition to vista points. Because along the river is under flood risk, settlement area is proposed to be upper side of the area. However high slope between selected settlement area and river is problem for transportation to agricultural lands.

Central Settlement

Low Density Settlement

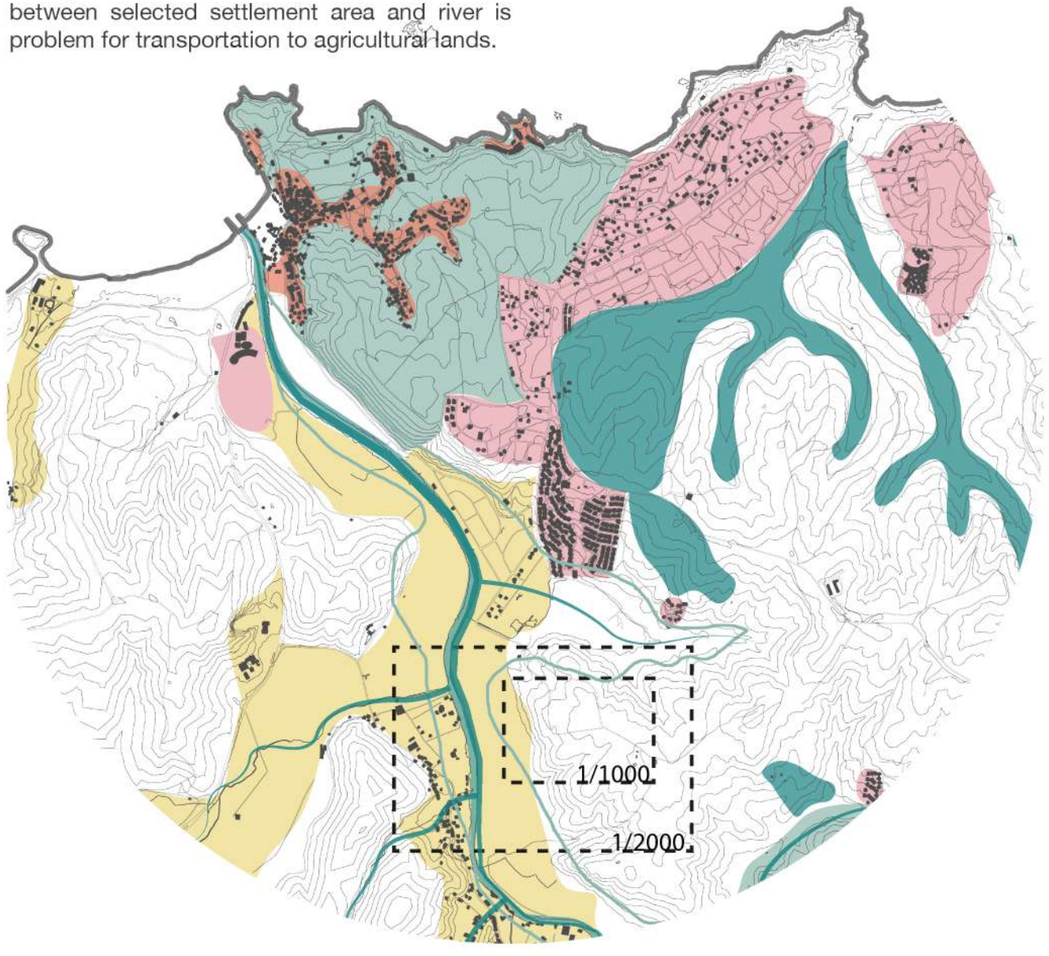
Government Forest / 1st Degree Protected Area

Private Forest / 2nd Degree Protected Area

Agricultural Lands

Alluvial Soil and Sand Dunes

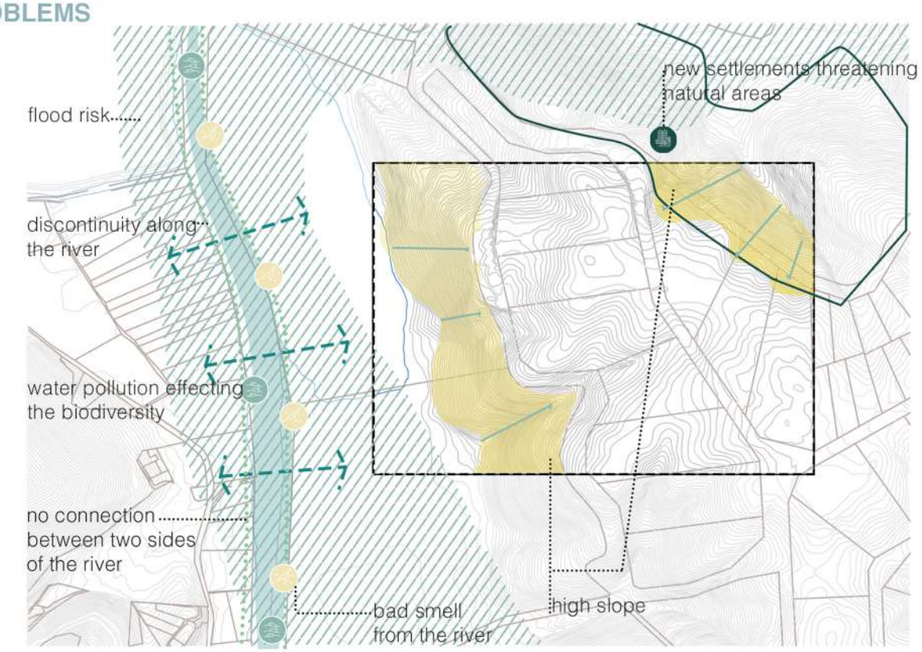
Military area



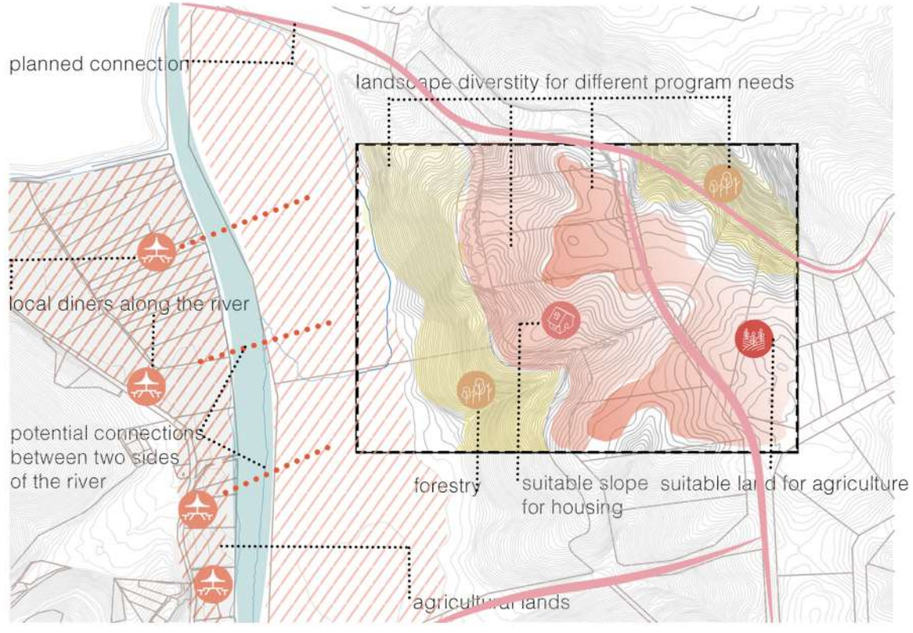
OFF-GRID GROUP PROJECTS

PROBLEMS + POTENTIALS

PROBLEMS



POTENTIALS



CONCEPTUAL APPROACH

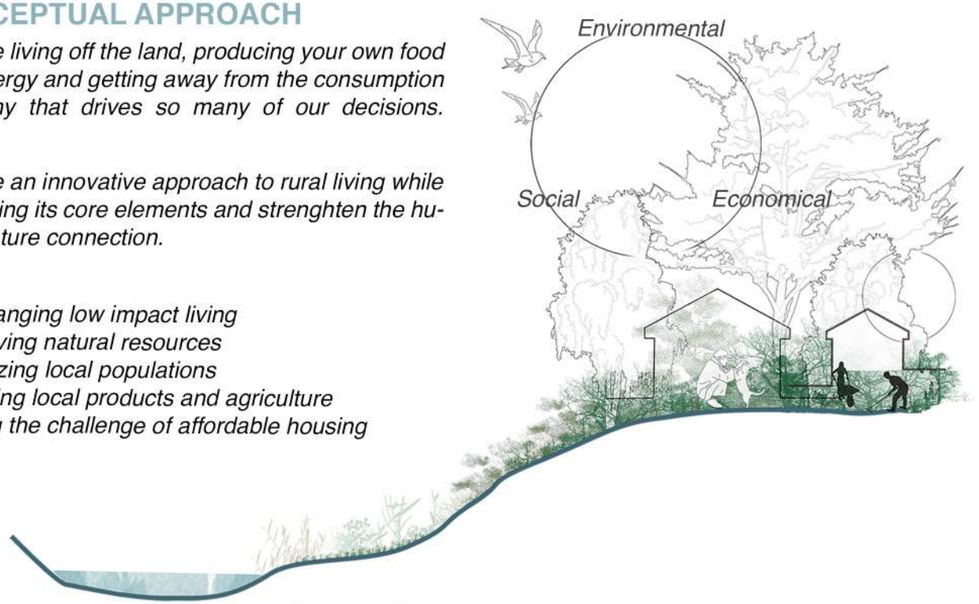
Imagine living off the land, producing your own food and energy and getting away from the consumption economy that drives so many of our decisions.

Aim

to make an innovative approach to rural living while respecting its core elements and strenghten the human-nature connection.

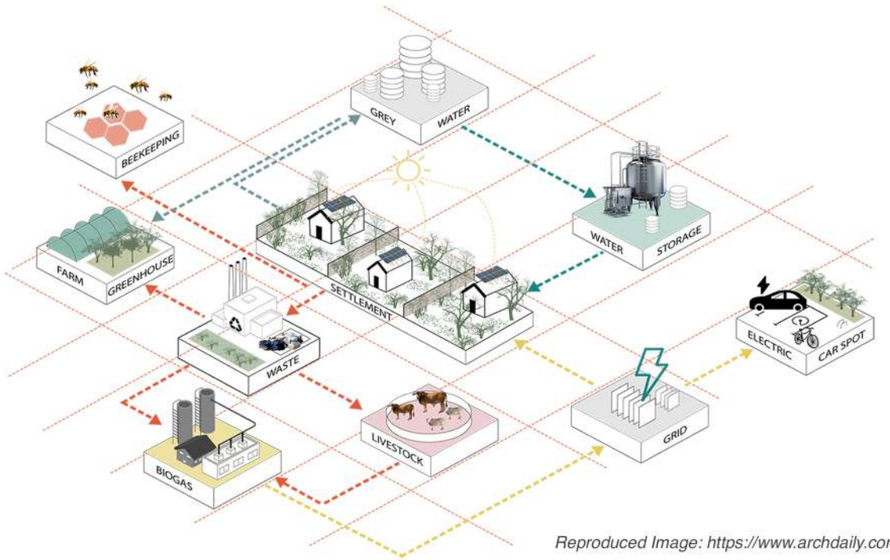
Goals

Encouranging low impact living
Conserving natural resources
Revitalizing local populations
Promoting local products and agriculture
Meeting the challenge of affordable housing



STRATEGIES / RETHINKING THE GRID

Living **off-grid** is not being connected to the electrical grid, but can also include other utilities like water, gas, and sewer systems. Generally, an off-grid building must be able to supply energy and potable water for itself, as well as manage food, waste and wastewater.



Reproduced Image: https://www.archdaily.com/7941

For people who want to get away from today's consumerist society, living off-grid can be an attractive option.

A DAY OF A VOLUNTEER IN OFF-GRID SETTLEMENT

an ordinary day in off-grid village stars at 06.00 am,

07.00 am
feeding chickens

06.00 am
milking

08.00 am
house chores

11.00 am
collecting wood

each voluteer spends minimum 8 hour a day working on a farm with agriculture and / or animal husbandry.

volunteers wishing to work on the farm voluntarily are accepted for a long term of minimum 3 weeks.

01.00 pm
plowing the field

03.00 pm
farm irrigation

working programs of the volunteers are hosted by the farm owners with a flexible program. In this way, volunteers and farmers have the chance to engage in mutual knowledge and experience.

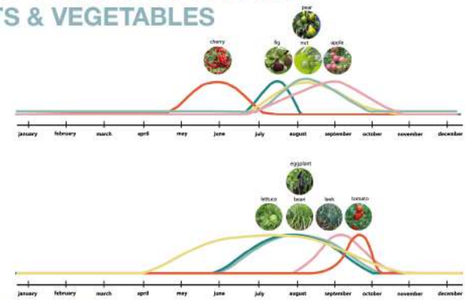
04.00 pm
picking fruits

06.00 pm
beekeeping

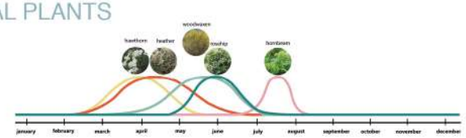
OFF-GRID GROUP PROJECTS

WHEN & WHAT WE PLANT?

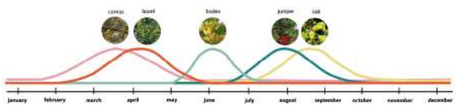
FRUITS & VEGETABLES



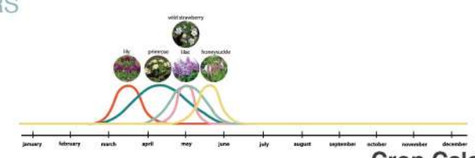
MEDICAL PLANTS



TREES



FLOWERS



Agricultural Land

Agroforestry Land

Greenhouses

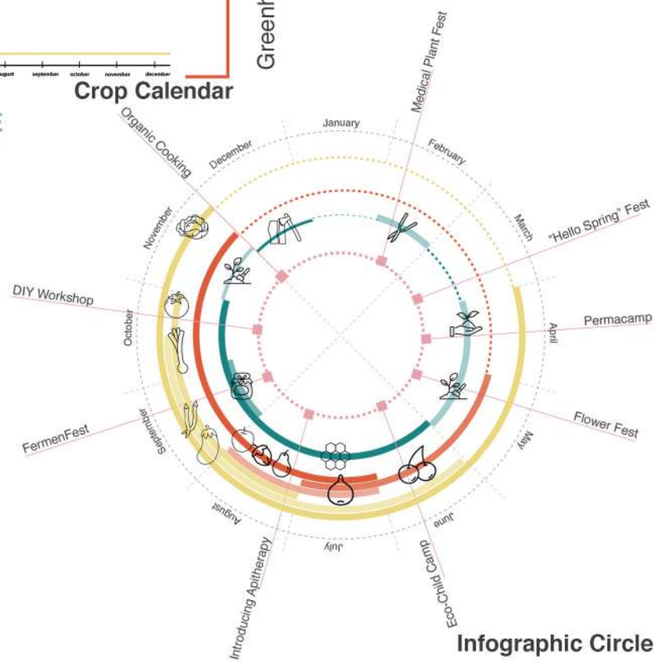
Crop Calendar

The **crop calendar** is created for the farmers to provide timely information about seeds to promote local products and agriculture in the project area. Besides, the **infographic circle** contains information on planting, sowing and harvesting periodts of locally adapted crops in specific agro-ecological zones.

A YEAR IN A OFF-GRID VILLAGE

- HARVESTING [FRUITS]
- HARVESTING [VEGETABLES]
- GARDENING, WOOD COLLECTING, PLANTING
- ACTIVITIES

For the visitors and volunteers, the annual plan contains numerous activities to raise awareness on sustainable living while contributing to the local economy.



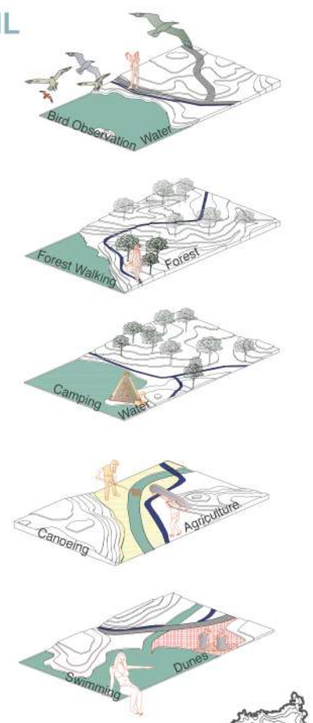
Infographic Circle

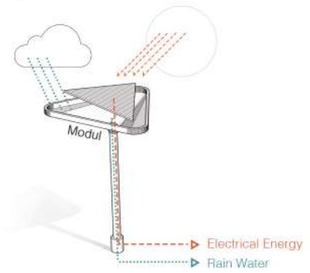
OFF-GRID GROUP PROJECTS

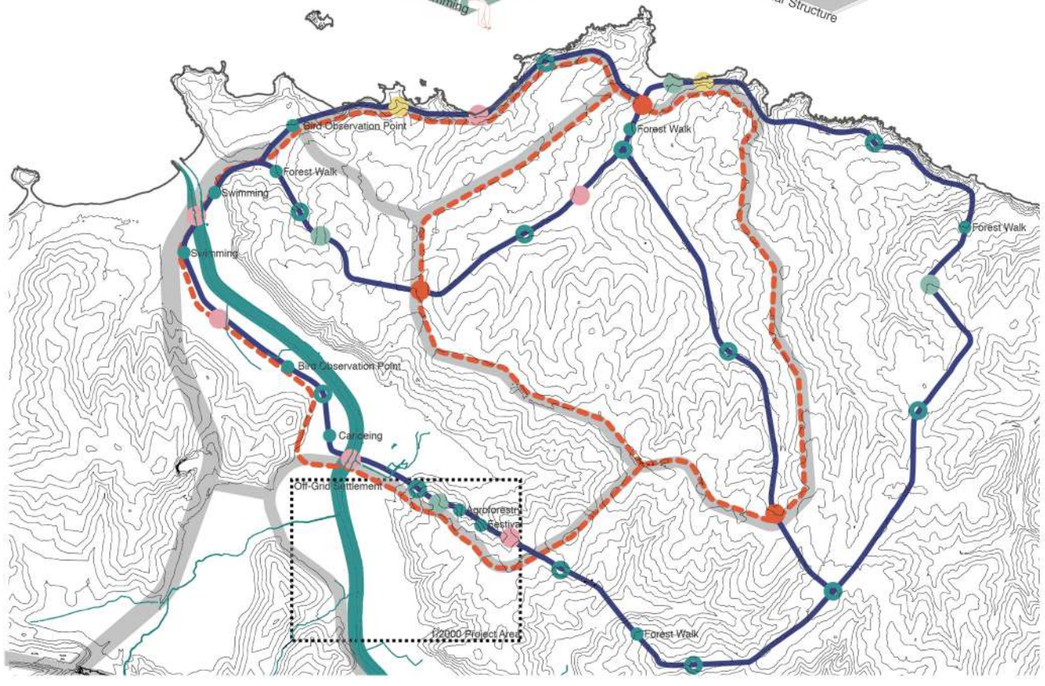
A STROLL ON THE TRAIL

- MODULES
- ACTIVITY NODES
- BICYCLE REPAIR POINT
- LANDSCAPE EXPERIENCE POINT
- OBSERVATION POINT
- CAMPING POINTS
- TRAIL ROUTE
- CYCLING ROUTE

Both walking and cycling trails were designed in order to provide a unique experience of the landscape. The **modules** are placed on the trail for meeting the essential needs of the visitors.

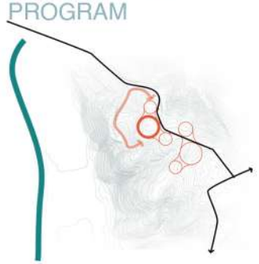




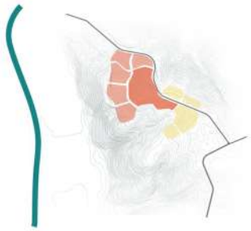


PROPOSAL

PROGRAM

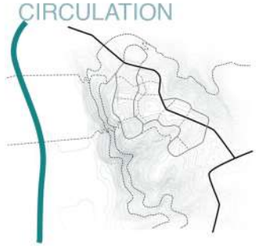


DISTRICTS



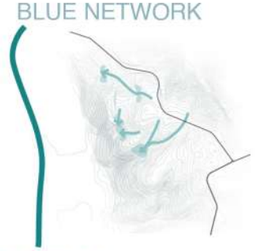
SERVICE

CIRCULATION



GREEN NETWORK

BLUE NETWORK

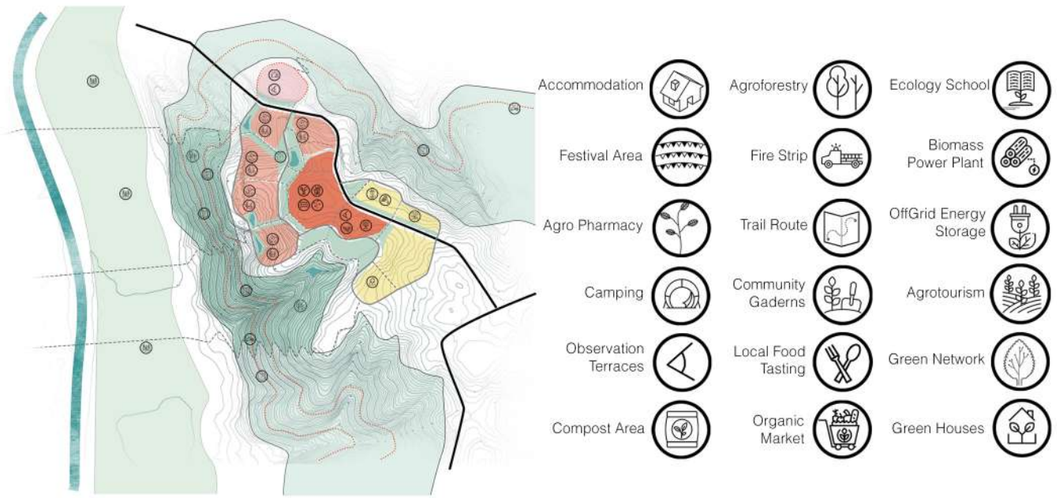


Keeping the proposed road in the master plan is the starting decision for the project. Program elements are placed alond the main road according to their requirements. A core containing activities such as organic market, agroforestry pharmacy, information center and ecology school is located on top of the slope. Accomodation areas are designed to have direct access to core. Activities causing unpleasent smell or scene such as animal husbandry, compost area and Off-grid energy are storage located far from accomodations. Green houses are placed near the animal husbandry for functional needs.

Agro forestry areas are proposed in addition to agricultural areas. Along the forestry, a trail route which also serves as a fire strip is designed. Service road supporting inner circulation for the settlement desgned mainly for pedestrians. Furthermore, bridges connecting both sides of the river and project area are suggested.

Green network includes agricultural lands, forestry and other passive green areas along the settlement. A blue network is designed to collect and use rain water.

SUPERPOSED PROPOSAL



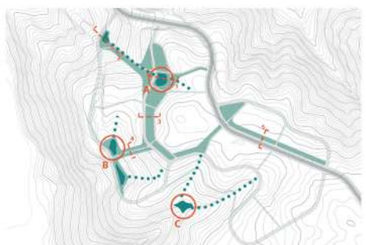
PROPOSED PROGRAM

In order to support off-grid concept agricultural and agroforest areas as well as animal husbandry, beekeping green houses are proposed for production. Educational functions such as ecology school and agriculture ateliers are proposed to assist production. Off-Grid energy supply contains composting area, biomass energy storage and electric car spots.

Activities such as, organic food ateliers, organic market, agroforestry phramacy, festival areas, local food tasting are proposed in the core area. In addition cycling and trail routes and camping areas are proposed along the forestry areas.

Off-Grid Group Master Plan

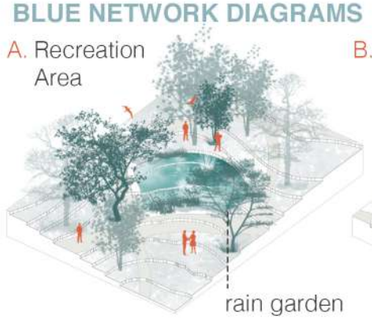
BLUE AND GREEN NETWORK KEY MAP



The master plan developed around a green main axis. The design of this axis, called the green system, has been varied according to the functions. A blue system is designed at the points where the water should be drained at the edges of the valley. It forms rain gardens suitable for growing different types of plants on the water accumulated in the pond formed in these areas. It is a natural system that varies according to seasonal conditions. The intersections of the blue and green system form the recreation areas in the off-grid settlement.

BLUE NETWORK DIAGRAMS

A. Recreation Area



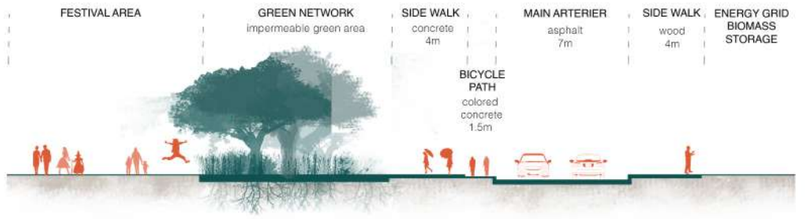
B. Accomodation Units

C. Agroforestry Area

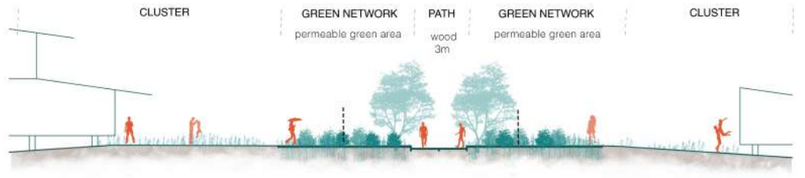
GREEN NETWORK SECTIONS

The permeability of green areas in the green system varies according to the region. For example, an impermeable system is designed as a buffer zone that separates its relationship with its environment in animal farms and areas where energy production facilities are located.

In the transition areas between the clusters and the core of the off-grid settlement, a recreation axis is designed and there is a permeable green area.

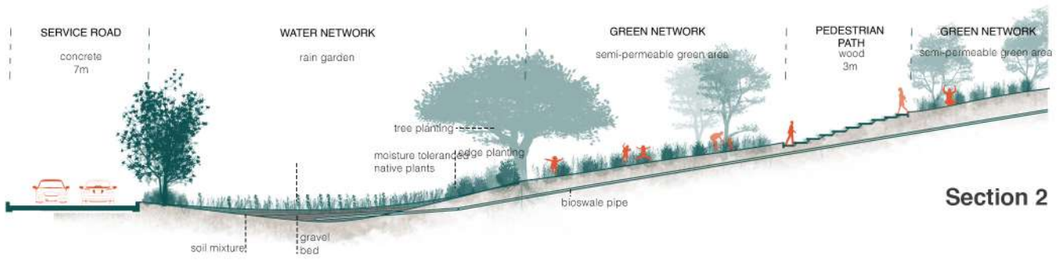


Section 5

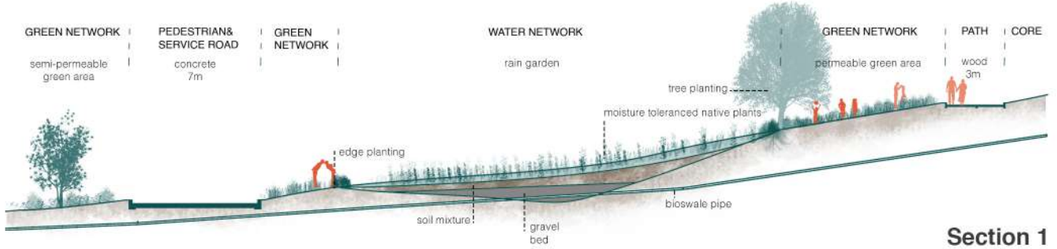


Section 4

Section 3



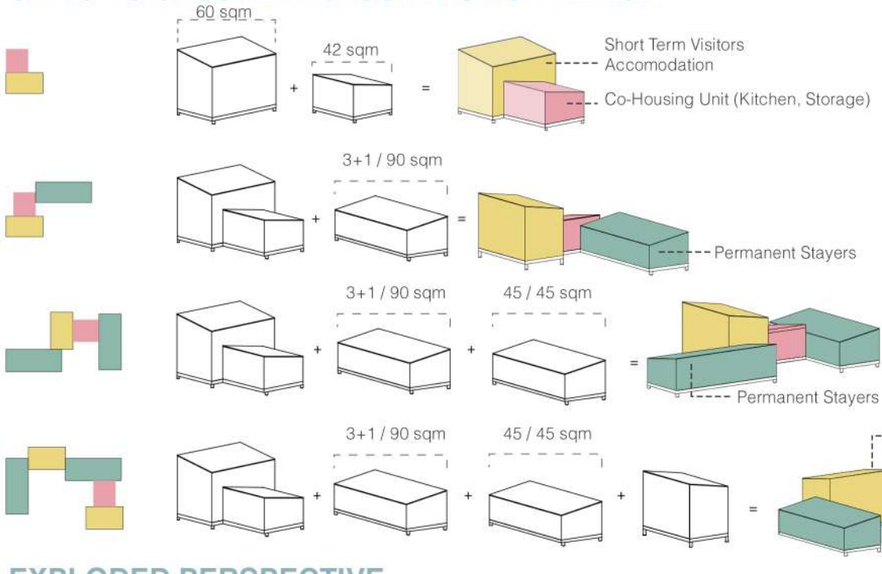
Section 2



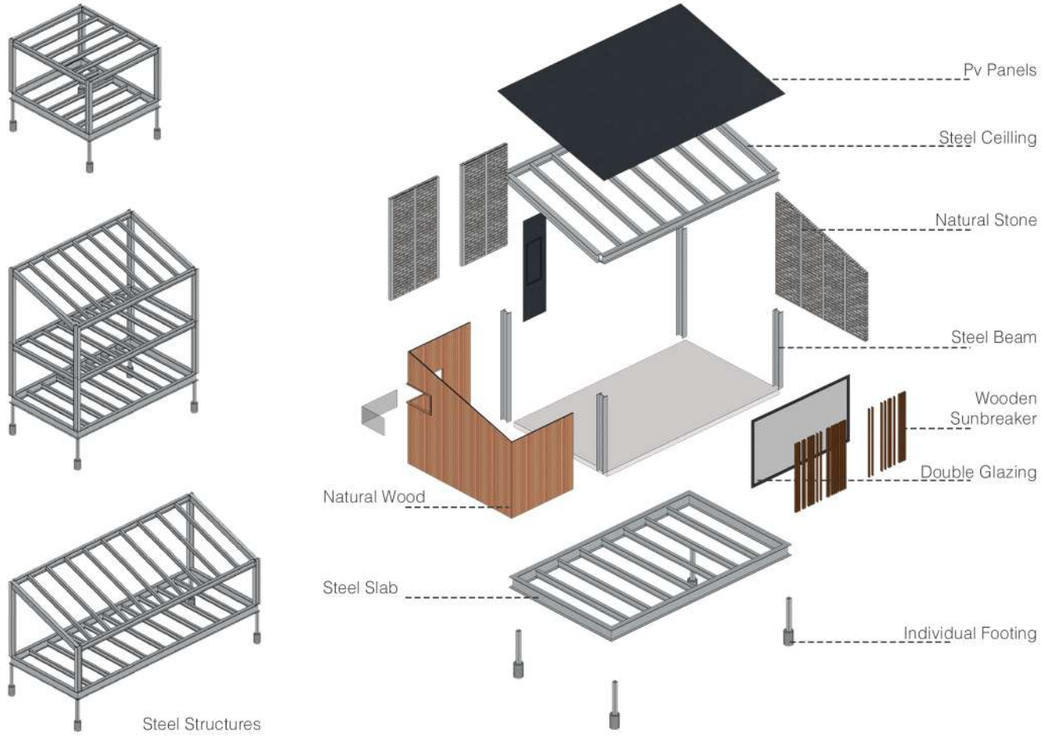
Section 1

OFF-GRID GROUP PROJECTS

UNITS TO CLUSTER / CLUSTERS TO VILLAGE

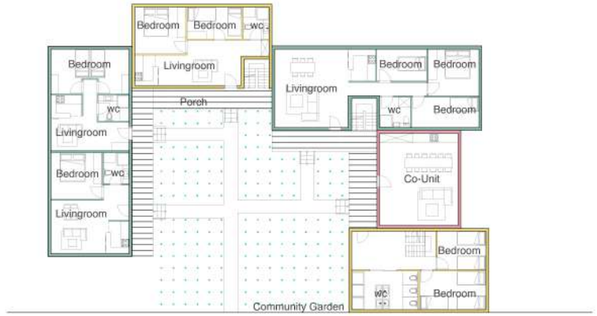


EXPLODED PERSPECTIVE

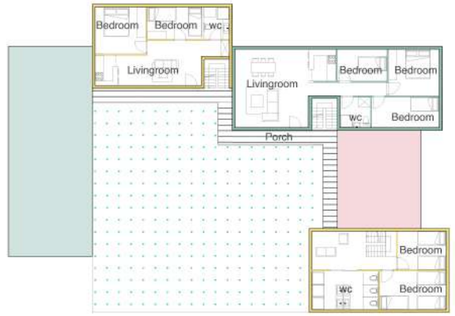


OFF-GRID GROUP PROJECTS

FLOOR PLANS



Ground Floor Plan



First Floor Plan

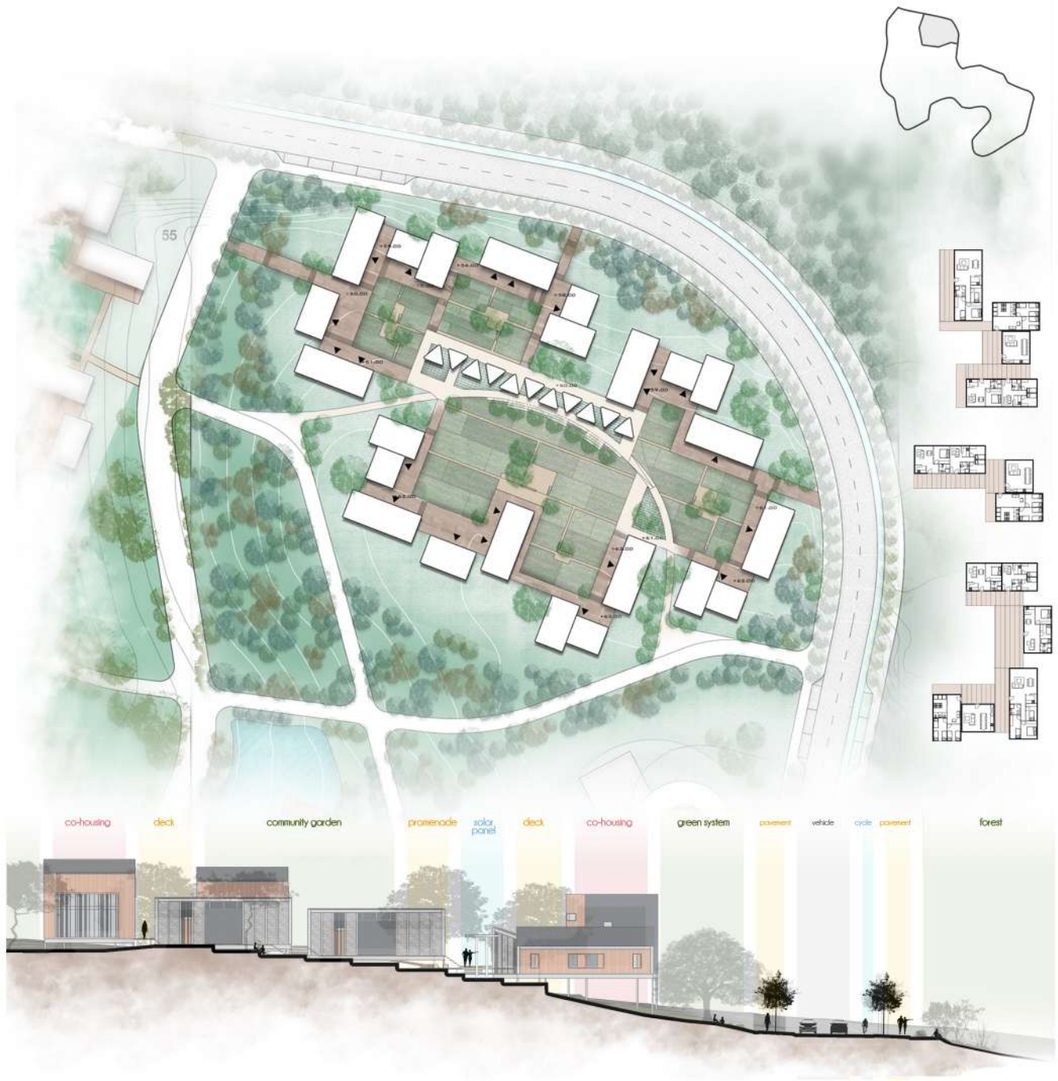
ELEVATION AND PERSPECTIVE VIEW

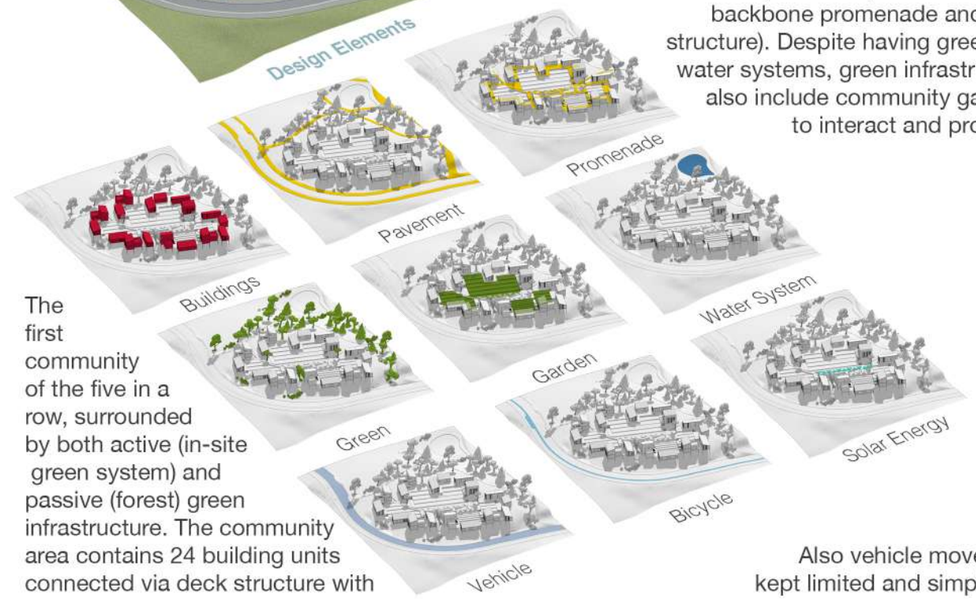
URBAN DESIGN STUDIO PROJECTS

OFF-GRID

INDIVIDUAL PROJECTS

Ali Yılmaz
(Urban Planner)



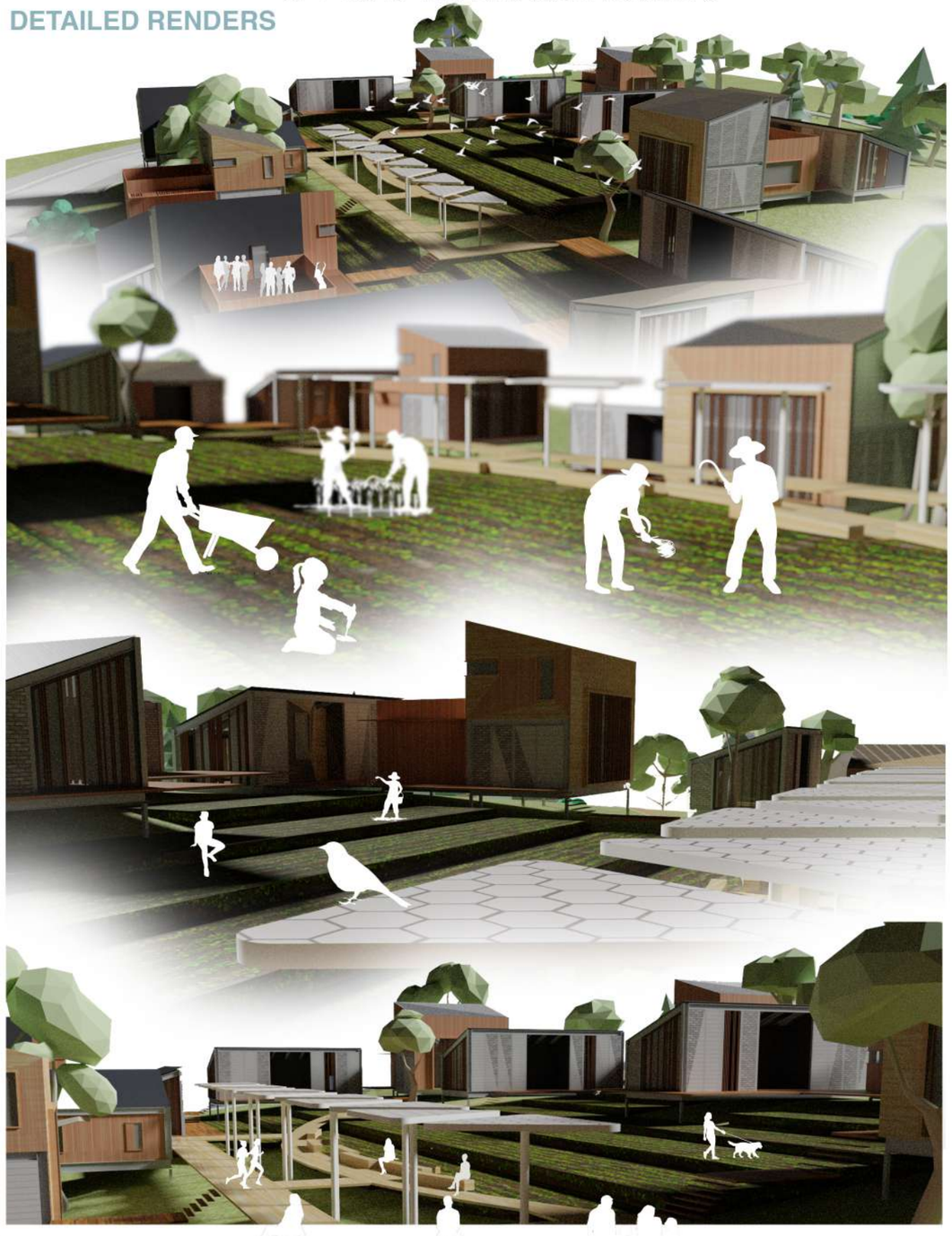


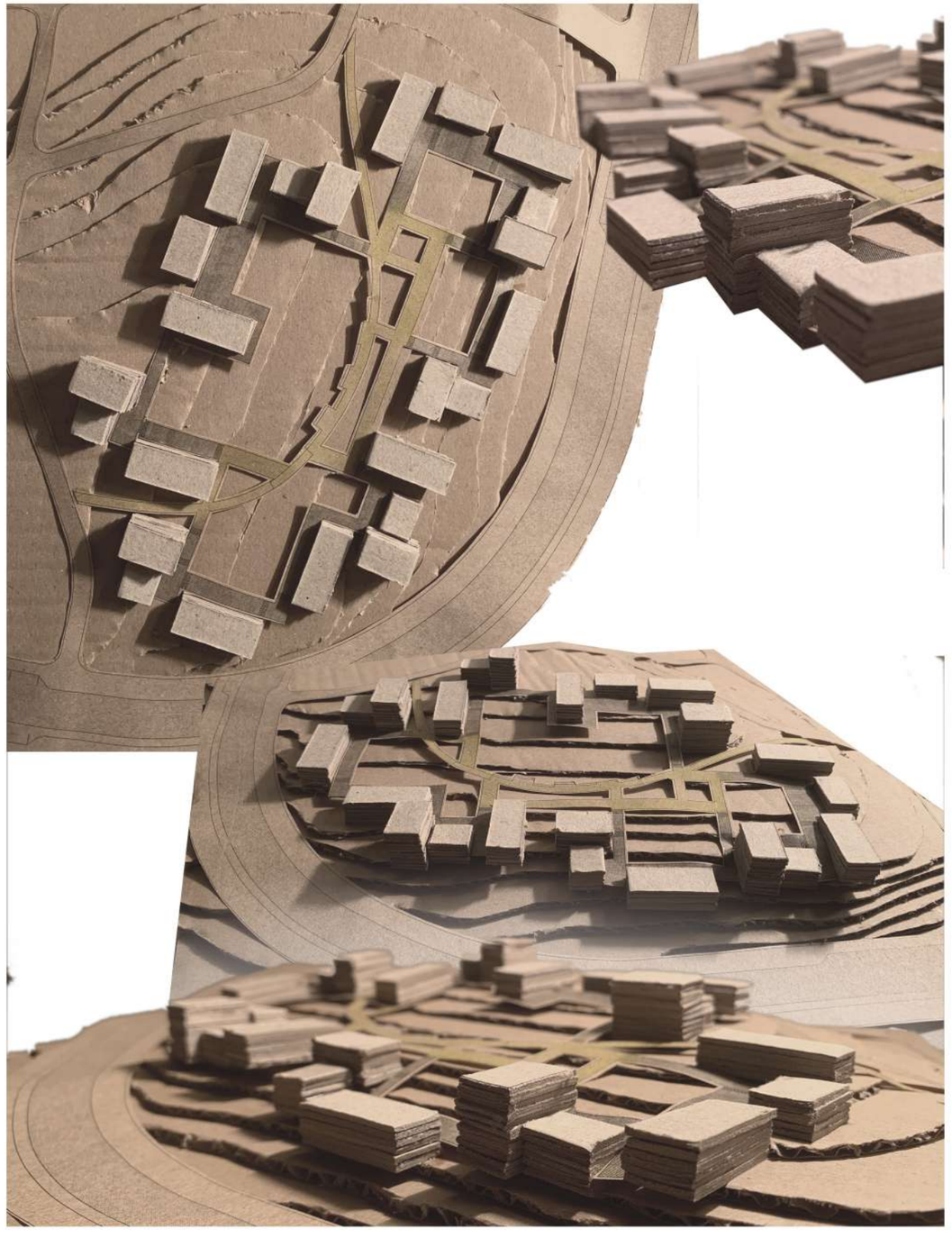
Design elements of the community conspromised of basic components such as buildings, pedestrian movement, natural infrastructure, circulation and energy systems. Buildings include 6 building groups with 26 buildings. Pedestrian movement considered as outer (pavement) and inner (main backbone promenade and deck structure). Despite having green and water systems, green infrastructure also include community gardens to interact and produce.

The first community of the five in a row, surrounded by both active (in-site green system) and passive (forest) green infrastructure. The community area contains 24 building units connected via deck structure with main promenade line that connects whole five communities. Located in the North-East side of the site area, the elevation in the Community 1 varies from 52m to 64m to make sloping terrain that enables terracing in the land.

Also vehicle movement kept limited and simple due to ecological considerations, with encouragement of cycling. Moreover, as well as the whole Off-Grid site can generate its own energy, Community 1 is capable to taking advantage of solar and water energy by itself.

DETAILED RENDERS





URBAN DESIGN STUDIO PROJECTS

OFF- GRID

INDIVIDUAL PROJECTS

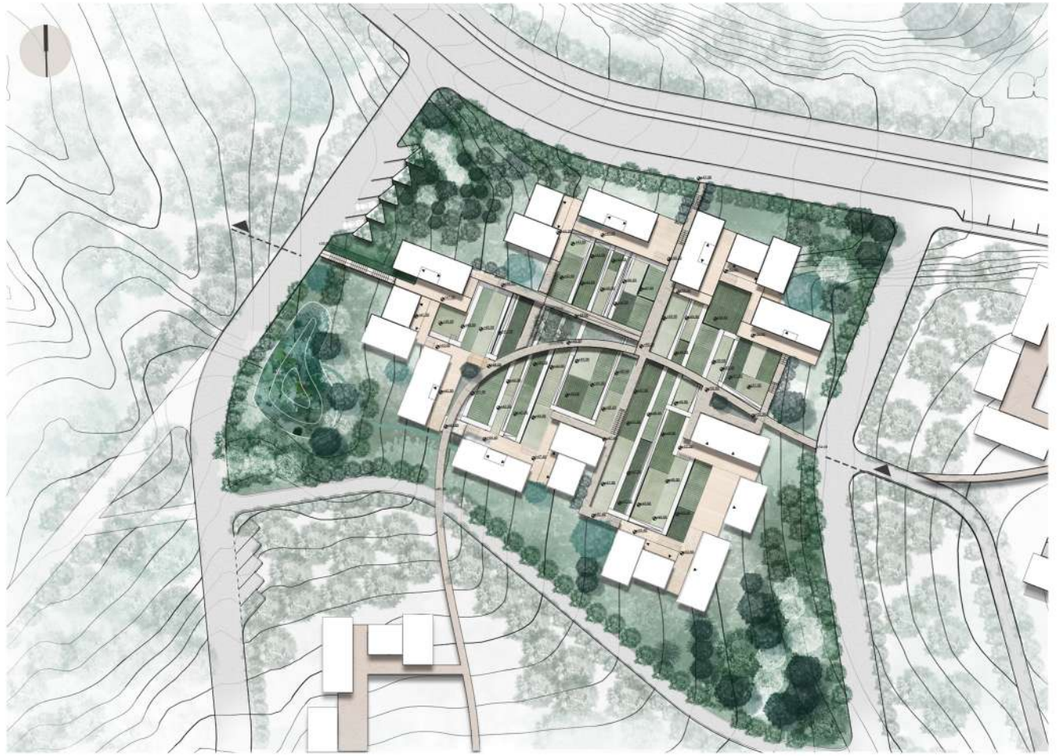
H. Tuğçe Sarban
(Architect)

Cluster 2

1/500 DESIGN

Render

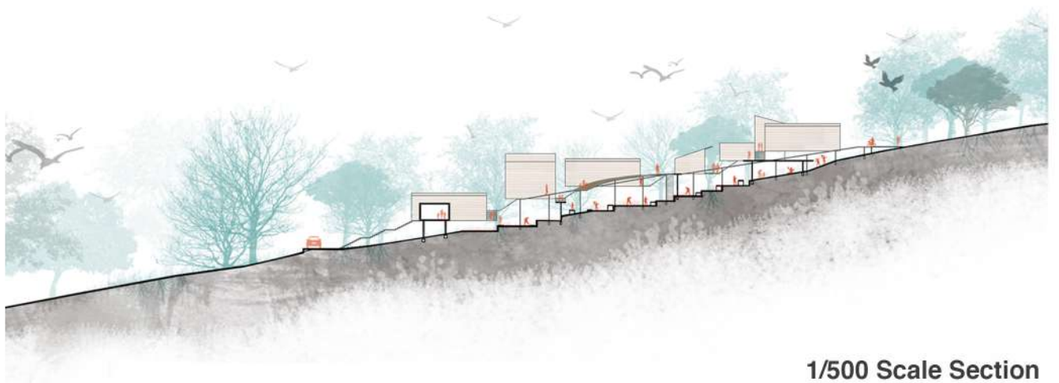
The main strategy for the project area, which is located in a very inclined area, is to develop a design decision together with the land. In order achieve this goal, all structers are located above the ground. The slope was also imitated in the design of the circulation elements.



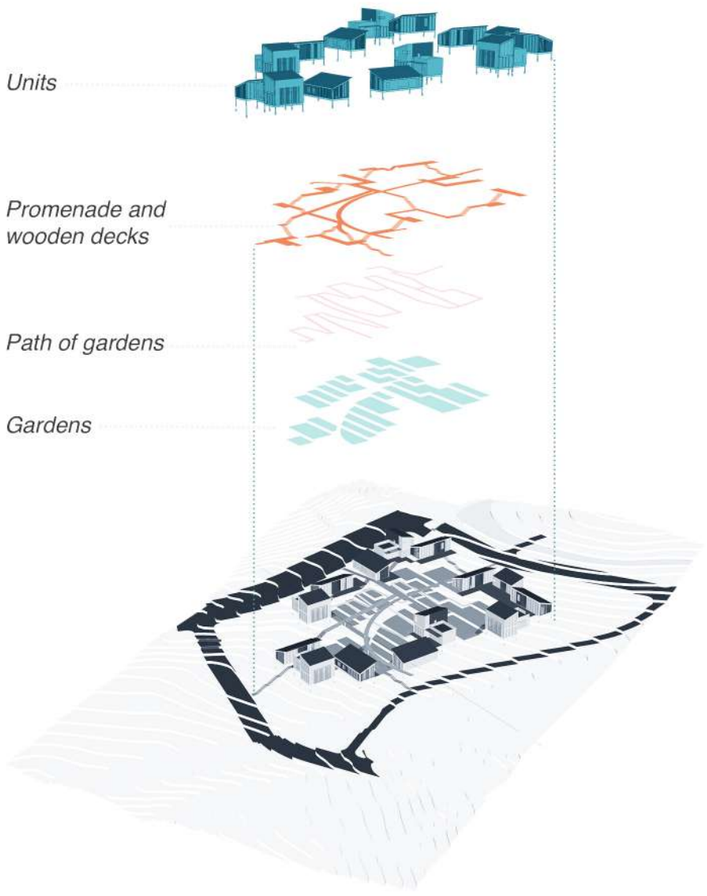
1/500 Scale Plan

Project area is surrounded by a green and blue networks that contains a raingarden at Southwest of the area. In the area called the green system, the trees were designed in clusters and sequentially on the roadside.

Units are positioned in a semi closed way, creating community gardens. Each unit groups have wooden decks for private outdoor space need and access to promanade and gardens by stairs and ramps in different levels.



1/500 Scale Section



Exploded 3D Diagram: Design Strategy

Main design elements are determined as, units, wooden decks that creates circulation and terraces, promenade that connetcs all clusters, community gardens and their paths.

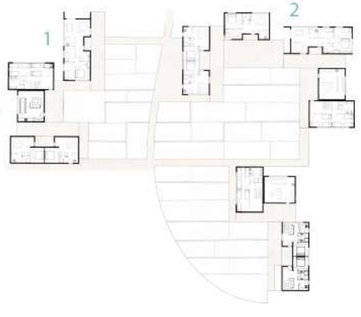
All units were positioned in accordance with the current slope. Structures were raised from the ground for minimum impact on topography.

Community gardens are divided in accordance with the slope, in between different levels 1 meter stone walls are proposed.

The circulation of communtiy gardens provided by ramps.

The promenade experienced the area is connected with the units by wooden decks and stairs.

3D Views: Units



Unit Plans

Everyday life takes place in different layers here. All layers of design are connected to eachother both physically and visually. All types of users - daily trippers, long time stayers, youngs, adults and children etc.- are able to communicate. Program is not too predetermined to allow various activities in the nature.

Southwest

Northwest

URBAN DESIGN STUDIO PROJECTS

OFF - GRID

INDIVIDUAL PROJECTS

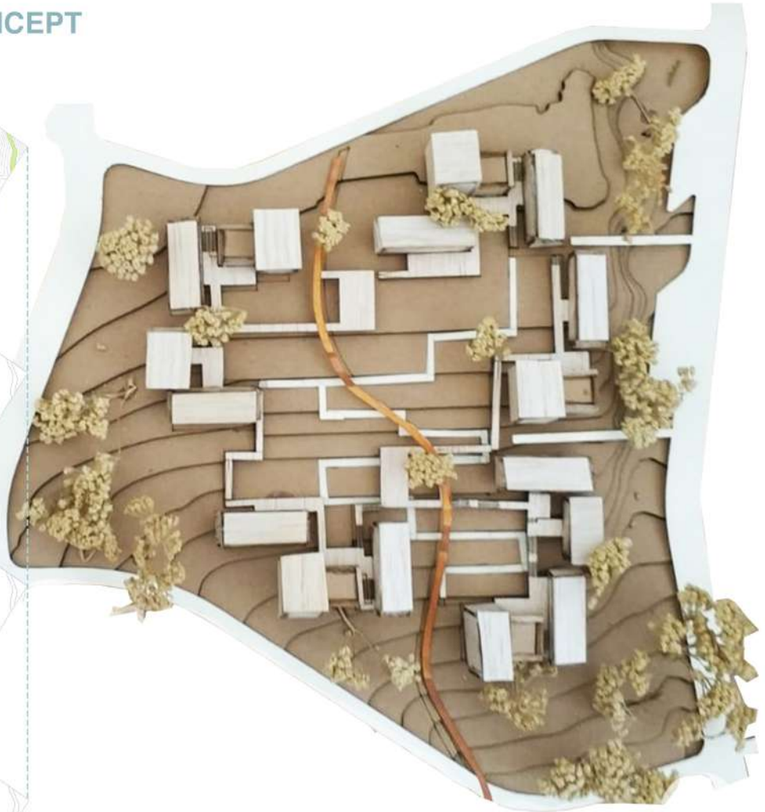
Elif Ağaoğlu
(Architect)

Within the framework of the decision taken in the master plan, a promenade that connects all residential units is designed. In the individual study area, this promenade connects the wooden platforms in front of the residence and the community gardens at the center of the design. The promenade expands, allowing public activities at the upper level.

The wooden deck connecting the residential units forms semi-open public spaces.In this project, residential units are higher than the ground, with minimal intervention to the topography. Set was built in community gardens due to sloping land. The ramp system creates an axis on the ground between the top and the bottom level that connects level differences.

Site Plan

DIAGRAMS OF CONCEPT

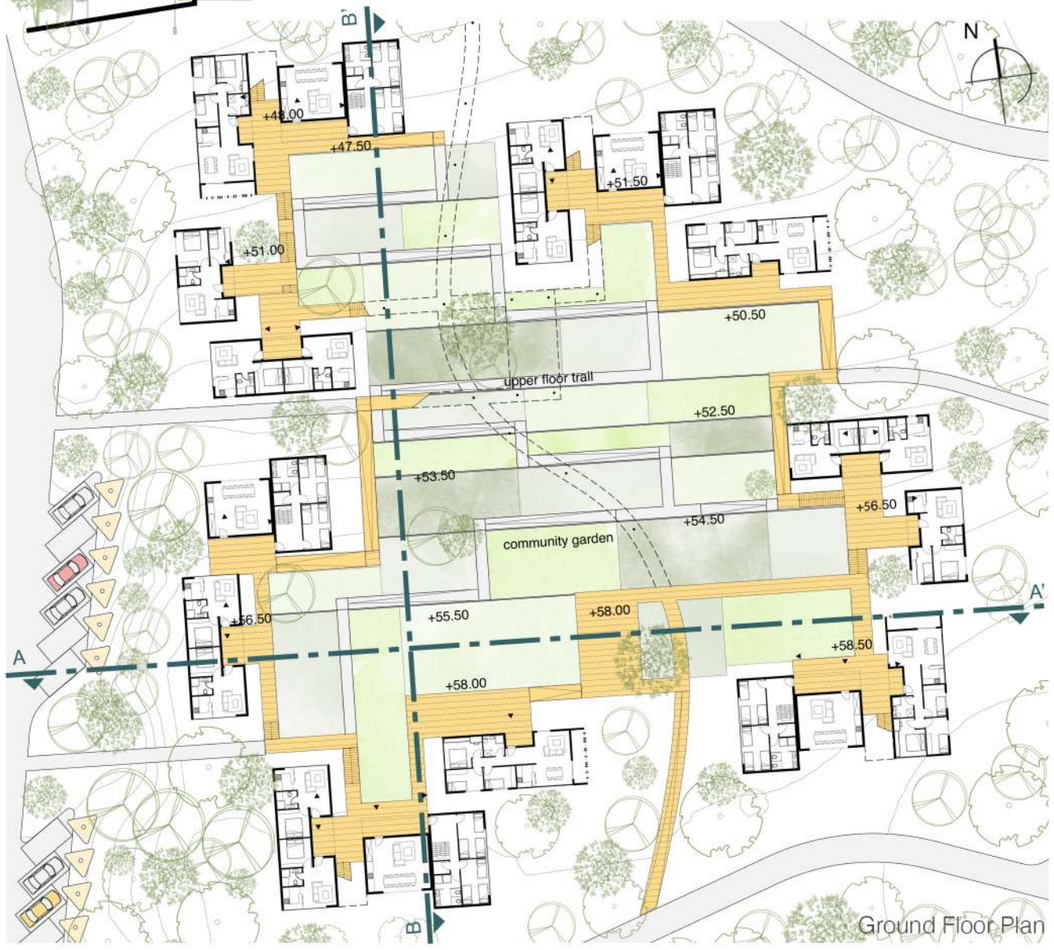


OFF-GRID INDIVIDUAL PROJECTS

SECTIONS AND GROUND FLOOR PLAN

A-A' Section

B-B' Section



Ground Floor Plan

OFF-GRID INDIVIDUAL PROJECTS

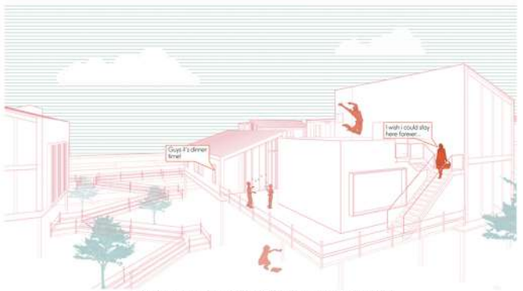
MODEL PHOTOS AND 3D VISUALIZATION

URBAN DESIGN STUDIO PROJECTS

OFF-GRID

INDIVIDUAL PROJECTS

Duygu Karatoprak
(Architect)



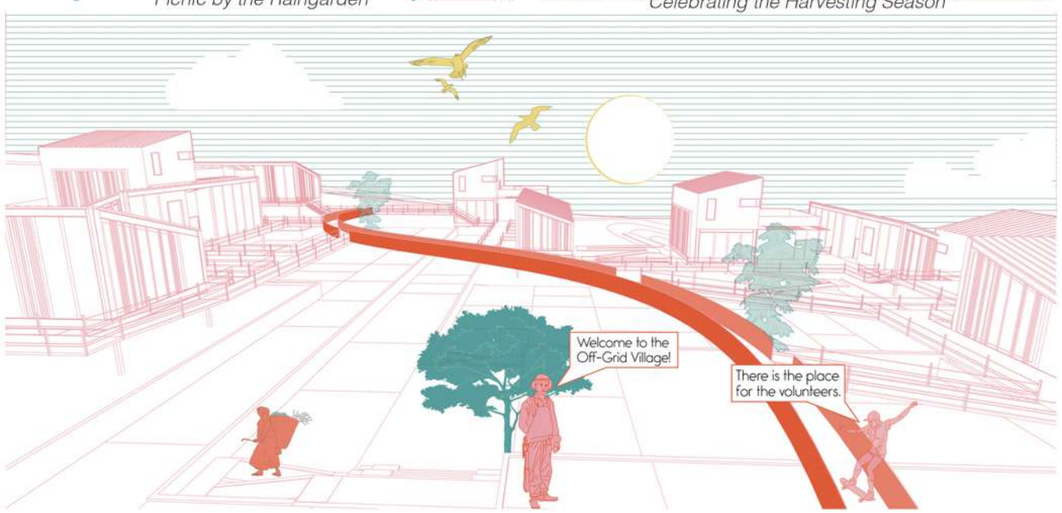
Meeting at the Common House

Picnic by the Raingarden

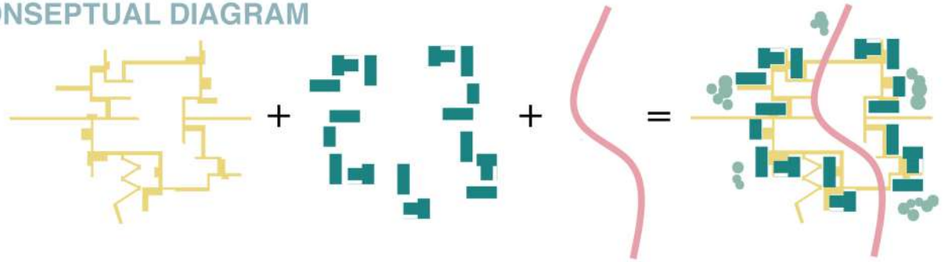
Celebrating the Harvesting Season

Imagine living off the land...

... producing your own food and energy and getting away from the consumption economy that drives so many of our decisions. For more and more people, off-grid living has become the way to go...

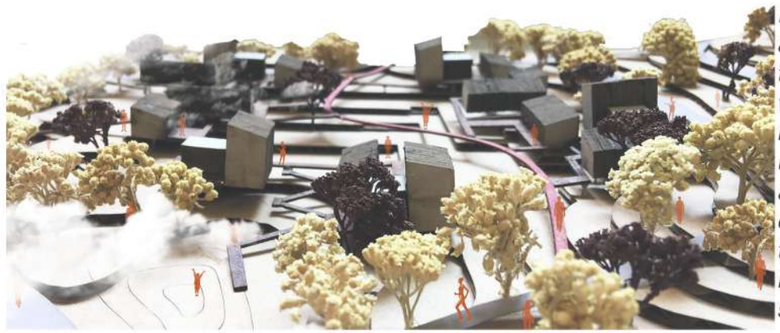


CONSEPTUAL DIAGRAM



Wooden Deck *Housing Units* *Promenade* *Cluster*

VOLUMETRIC DIAGRAM



In the Off-Grid Settlement, a cluster composed of three following elements; a wooden deck that connects the units, housing units where local people and volunteers accommodate, and a promenade that provides an experimental tour of the whole site.

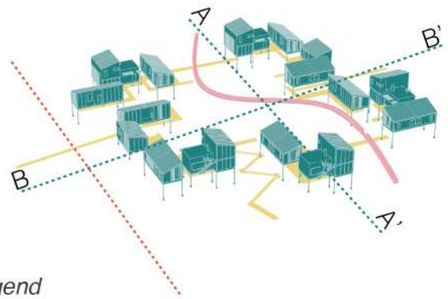
1/500 Scale Physical Model

SITE PLAN PROPOSAL

N

OFF-GRID INDIVIDUAL PROJECTS

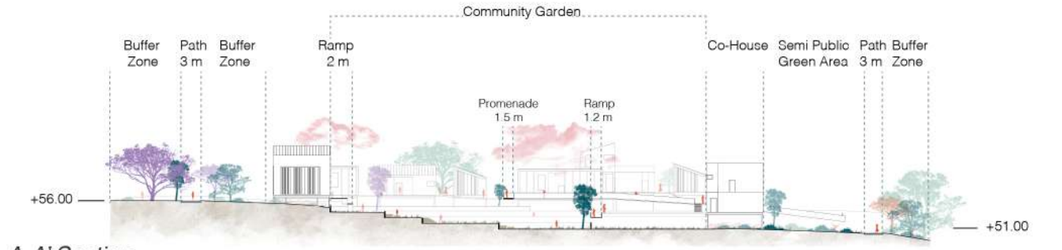
SITE SECTIONS + ELEVATIONS



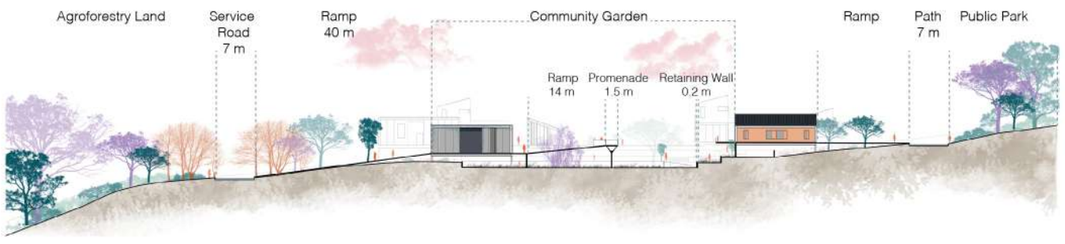
The terraced topography of the cluster shapes the landscape characteristics of the common spaces. These flat areas between the accommodation units serve as common gardens and stand for public activities. Providing a promenade to stroll through the clusters, the circulation route which is partially elevated at some points plays a great role in perceiving the site.

Legend

West Side Elevation



A-A' Section



B-B' Section

OFF-GRID INDIVIDUAL PROJECTS

MATERIAL FINISHES

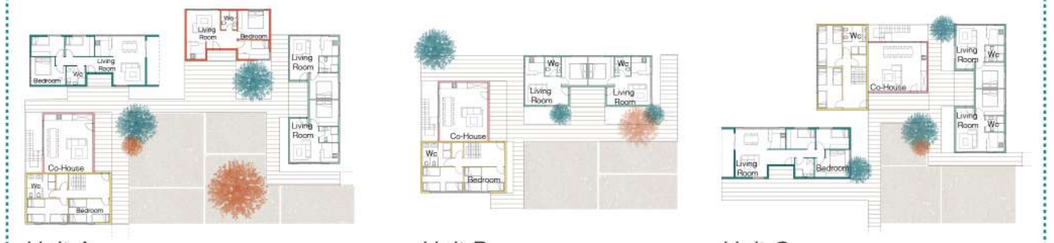
Flooring & Wall Finishes

- Natural Timber Deck [50cmx250cm]
- Corten Steel Plate Promenade [10cmx2000cm]
- Stone Filled Gabion Basket Retaining Wall [20cmx1000cm]
- Salt Finish Concrete Pedestrian Paths [300cmx10cm]

Cladding Finishes

- Natural Timber Cladding [100cmx350cm]
- Titanium Zinc Sheet Roof and Facade Cladding [400cmx8 cm]

GROUND FLOOR PLANS



Unit A *Unit B* *Unit C*

Back to the basics, in a high-tech manner!

Off-Grid Settlement is engineering and facilitating the development of off-grid, integrated, and resilient communities that power and feed self-reliant families .

URBAN DESIGN STUDIO PROJECTS

OFF-GRID

INDIVIDUAL PROJECTS

Bengüsu Turan
(Architect & Landscape Architect)

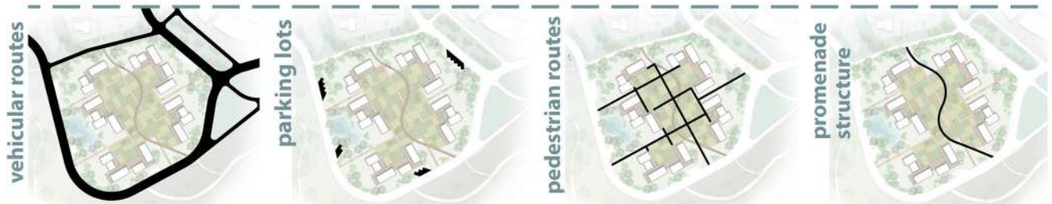
1/500 scale study area is a housing unit located to the south of 1/1000 scale study area. While there are other residential and commercial units in the north of the area, there are green areas in the east, south and west. It is one of the 5 residential sub-units within the working area of 1/1000 scale.
The study area rises from west to east and forms a view point towards the agroforestry area. In addition, the study area is located between the other sub-regions and the livestock area. It connects the livestock area, orchards and other residential areas.

The 1/500 scale design work was designed in accordance with the group concept with Off-Grid design principles. These principles are as follows:
- Agrotourism
- Agroforestry
- Low carbon homes
- Organic food production
- Water and waste recycling
- Mixed renewable energy and storage
- Empoverment of local communities.

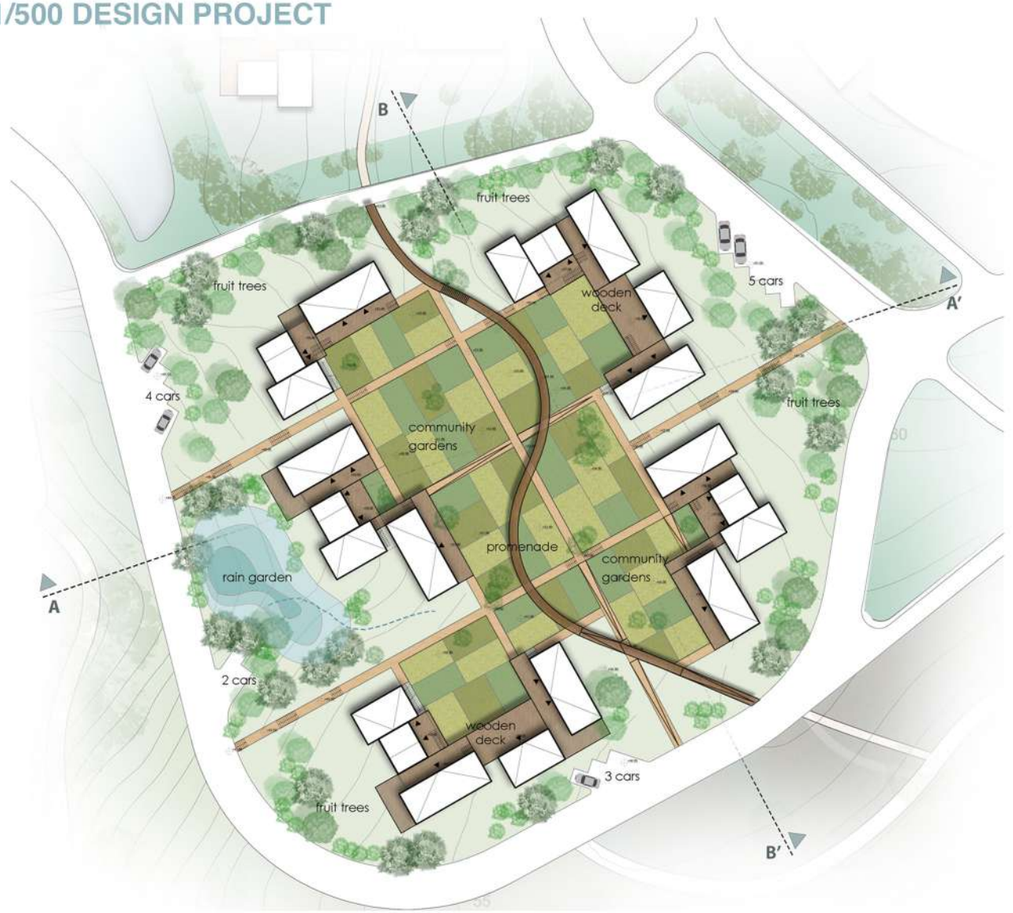
The study area has a direct connection with the agroforestry area in particular. In addition, natural building elements are the most important criteria used in design.

For the 1/500 scale design work, the design has been developed across the area on the following criteria.
- vehicular routes
- parking lots
- pedestrian routes
- promenade structure
- buildings
- wooden deck structures that connect the buildings and pedestrian routes
- gardens and green spaces.

These criterias are the main elements of the design. Each criteria is an element that cannot be considered independently, but will work in relation to each other.

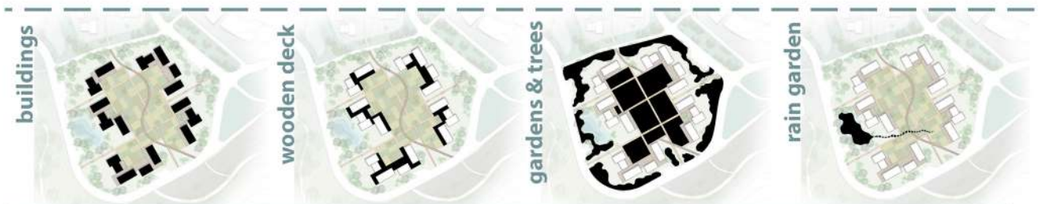


1/500 DESIGN PROJECT



The study area consists of 5 residential units. These units are positioned in accordance with the cluster structure described in the previous section, taking into account the topographic and other environmental data from the upper scale. The area was placed as shown in the figure due to the rise from the west to the east and the inclined area increases in places.

In the project, there are gardens in the inner gardens between the structures and pedestrian paths, and fruit trees on the outside. Vegetables and fruits can be grown in the inner gardens. There is also a water collection area within the area. Rain garden has been designed for accumulation of rain water and green area in the water collection area.



UNITS AND CLUSTERS

Clusters consist of 3, 4 and 5 units. These units are units that appeal to different types of users and different needs. The structures connected by Decks are designed to raise the least damage to the topography by raising them from the ground.

Level differences between the structures were eliminated by means of the stairs located on the decks. The floor heights of the buildings were determined as 1 and 2. There is a direct entrance to the roof of the other unit, which is a common use area, of 2-storey buildings.

This aims to increase living as a community both horizontally and vertically. The entrances of the buildings are also provided with awnings, etc. in order to protect from bad climatic conditions and to provide privacy. supported by structures.

LANDSCAPE ELEMENTS AND USE OF MATERIALS

Within the scope of the study, the pedestrian paths and main pedestrian axis, namely the promenade wooden, are designed in accordance with nature and concept. Level differences between the gardens are also reduced by the ramp and stairs between the pedestrian paths.

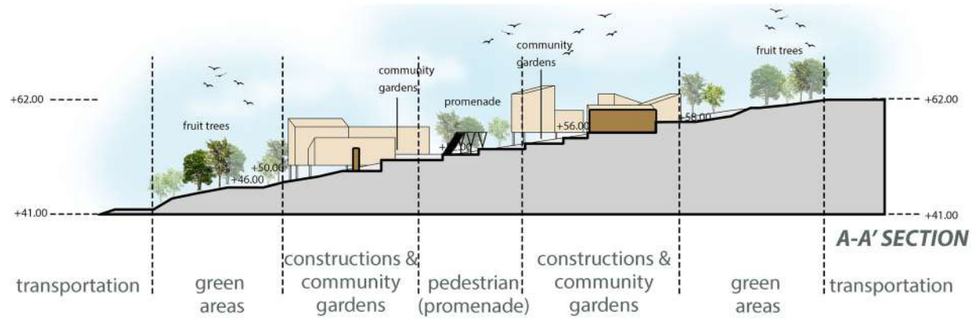
The vegetable and fruit gardens between the pedestrian paths are separated from each other by the walls parallel to the slope. The natural stones used in the walls are designed in a structure that holds the soil and passes water.

community gardens and decks

rain garden and fruit trees

gardens and walking paths

SECTIONS



As can be seen from the two cross sections seen above, the topography of the area is very inclined. Therefore, a form of construction parallel to the slope has been designed in accordance with the climate and environmental data. Structures used in the area are units raised from the ground, consisting of structures that contain the least intervention in the topography. In addition, water collection areas are an important criterion in order to encounter the least damage in the harsh weather conditions of the area in the Black Sea region such as rain and snow.

promenade

Rainy Days

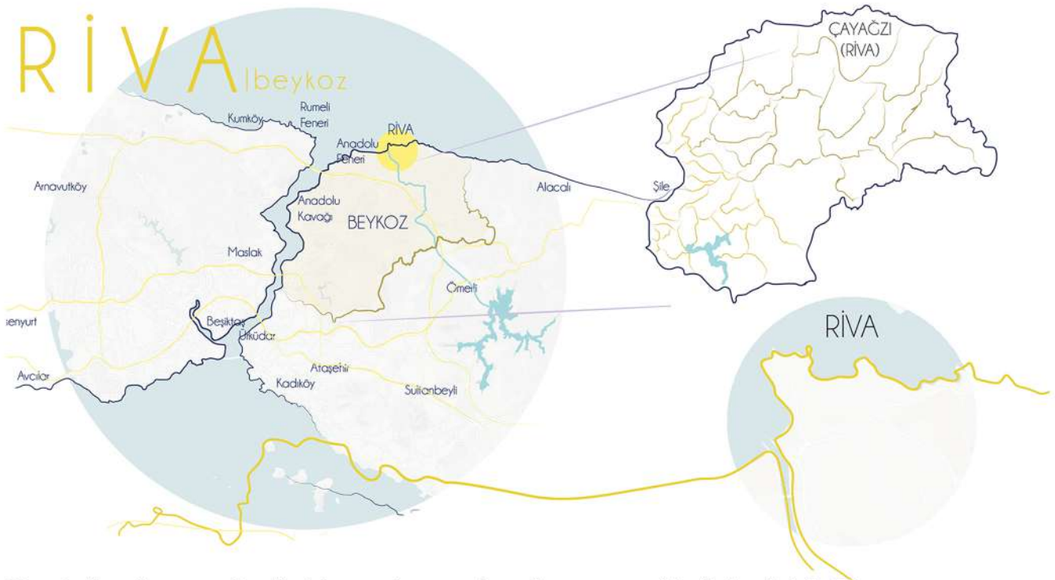
Snowy Days

URBAN DESIGN STUDIO PROJECTS

BIO-MIMESIS

Burcu Soygüzeloğlu (Urban Planner) - Gökçe Er (Architect) - Gizem Cihanlı (Architect) - Nogol Naeimnia (Urban Planner) - Selin Aslan (Urban Planner)

Self-sufficient Ecological Neigbourhood: RIVA



Biomimicry is a practice that learns from and mimics the strategies found in nature to solve human design challenges and find hope along the way. The concept of the project comes from the idea of biomimicry. **The purpose of the project** is to create an ecological neighborhood by using nature's working principles so that it works in the harmony with its surroundings.

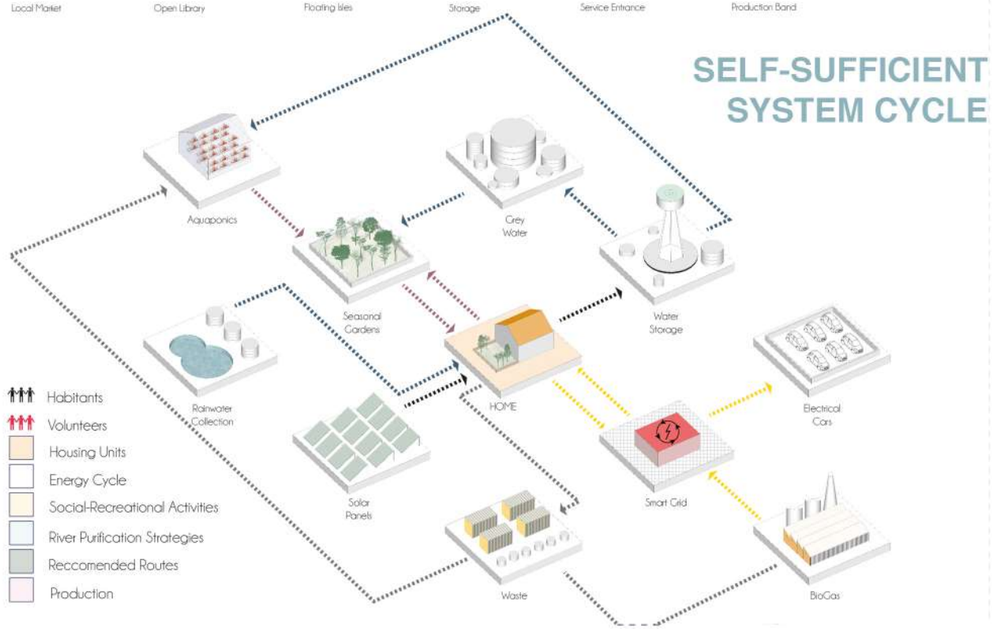
To create a neighborhood like that, first step is to search for ***Nature's Life Principles*** which are listed below:

1- Evolve to Survive
2- Be Source Efficient
3- Adapt to Changing Conditions
4- Integrate Development with Growth
5- Be Locally Attuned and Responsive
6- Use Life-Friendly Chemistry

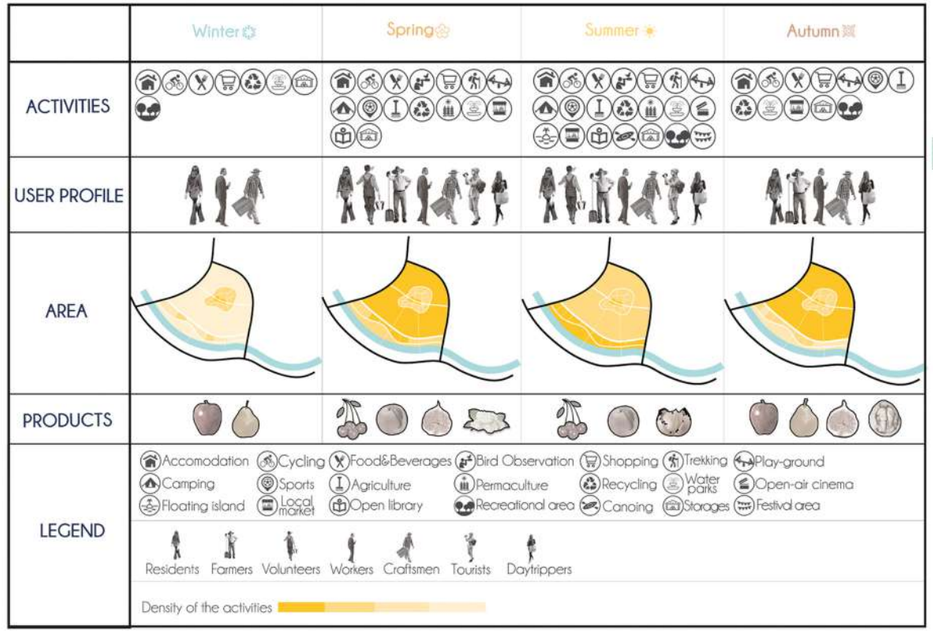
As a respond to Nature's Life Principles, ***Biomimicry Neighborhood Principles*** created:

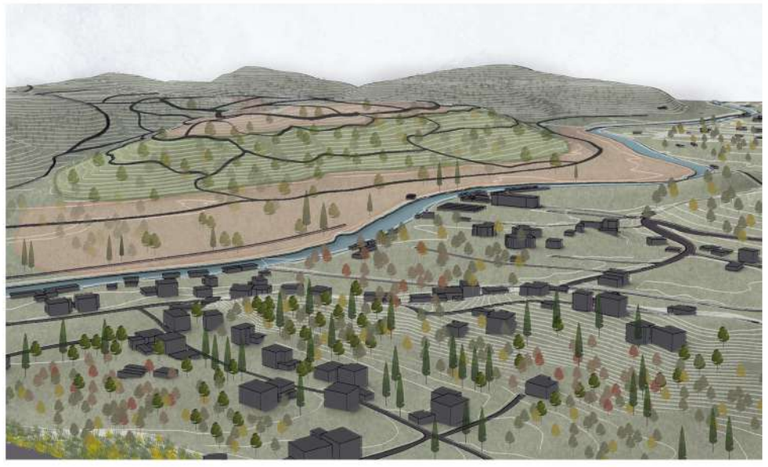
1- Functions lead the forms from simple to complex and all wastes are used in another unit such as nature's cycle
2- Outputs of one unit as input of multiple units and solar energy is used in housing units
3- Considering biological vulnerability while designing neighborhood.
4- Manage connectivity by bicycle and walking roads and providing public transport
5- Solar energy and cultivated farmland used for agricultural production
6- Water is used for an energy source. Building envelope minimise energy consumption. Using suitable materials for ecological conditions.

TOOLKIT

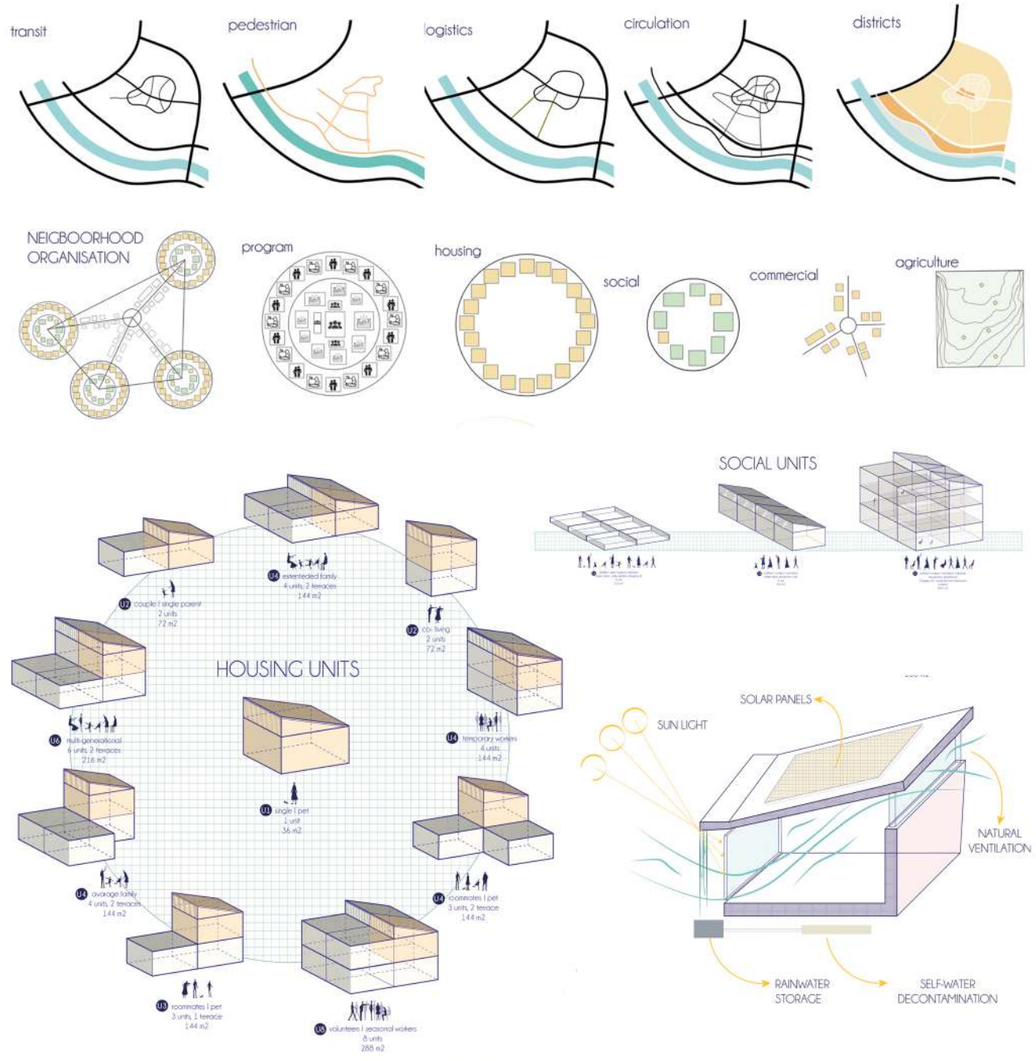


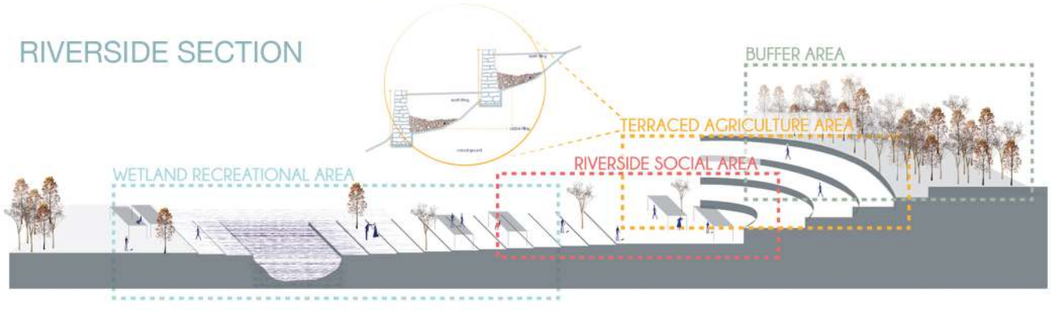
BIO-MIMESIS GROUP PROJECTS





BIO-MIMESIS GROUP PROJECTS





BIO-MIMESIS GROUP PROJECTS

1/1000 SITE PLAN

Firstly, the area divided into three parts while considering its potentials:
1- Recreational areas close to river created considering the activities across the river
2- A large agricultural area as a buffer zone between the recreational areas and housing areas
3- Housing areas at the top of the project area which is more private than other areas because of the topography and location of this place in the area.

Secondly, housing areas separated to five units and a social area created in the middle of them with the same distance from every unit.

Thirdly, every unit has its own semi public, public and private areas and a social area that belongs to that specific unit. In these social areas, the products come from the agricultural areas are being processed.

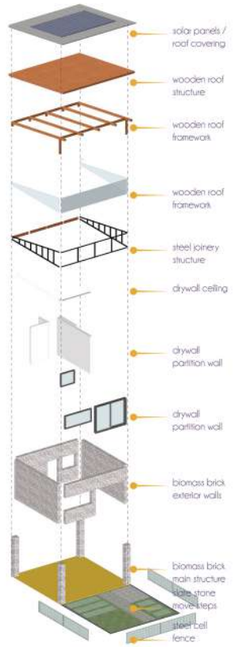
In a closer scale, every housing units has its own solar energy panels and private gardens.
Every roof that has solar energy panel has led to south.There are seven types of houses according to their functions. Because of the topographical conditions, some houses created as two floors.

Social units in housing areas are:
- Ateliers
- Semi-open areas
- Common kitchen and its own atelier
- Kindergarten
- Aquaponic

Private gardens designed as mini-agricultural areas and private activity areas for the owners of houses.

BIO-MIMESIS GROUP PROJECTS

EXPLODED DIAGRAM



HOUSING UNITS

UNIT PLANS

SOCIAL UNITS

URBAN DESIGN STUDIO PROJECTS

BIO-MIMESIS

INDIVIDUAL PROJECTS

Burcu Soygüzeloğlu
(Urban Planner)

The project area has public, semi-public and private areas.

Semi-public area has a **transition role** between the residential units in the private area and the social units in the public area and connects them to each other. The pathways in the semi-public are designed to provide continuous circulation.

There are **15 single-storey residential units** in the project area.

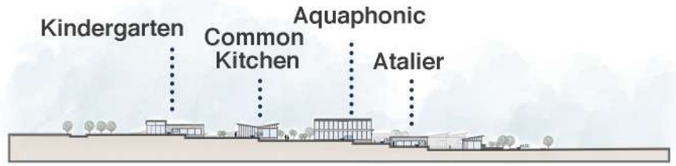
They differentiate in terms of their sizes according to the different user profiles:

Type 1: Unit 1 - 36 sqm.
Type 2: Unit 2 - 72 sqm.
Type 3: Unit 3 - 108 sqm.

All units have their own solar panels positioned towards the south in roofs and private gardens designed as mini-agricultural areas and private activity areas for the owners of houses.

Sections

Section A-A'



Section B-B'

3D Model of The Area

Social area is located in the middle of the project area as being in the same distance from every residential unit.

There are **different facilities** (social units) in the social area. These are:
- *Ateliers*
- *Semi-open areas*
- *Common kitchen and its own atelier*
- *Kindergarten*
- *Markets*
- *Aquaphonic*

In the aquaphonic and the ateliers, the products come from agricultural areas which are processed.

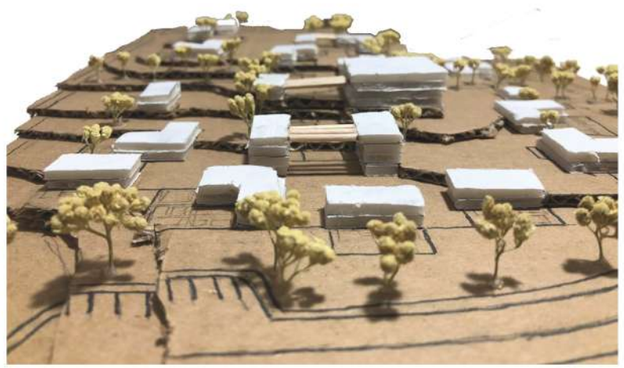
Among these socai units, there are **two main squares on the main axis** in the social area and some open areas are connecting to this axis.

Because of the topographical conditions, there are **four stairs** providing the transition between the squares and the open areas. Next to the stairs, there are **ramps for the accessibility of handicapped people and steps for sitting and resting.**

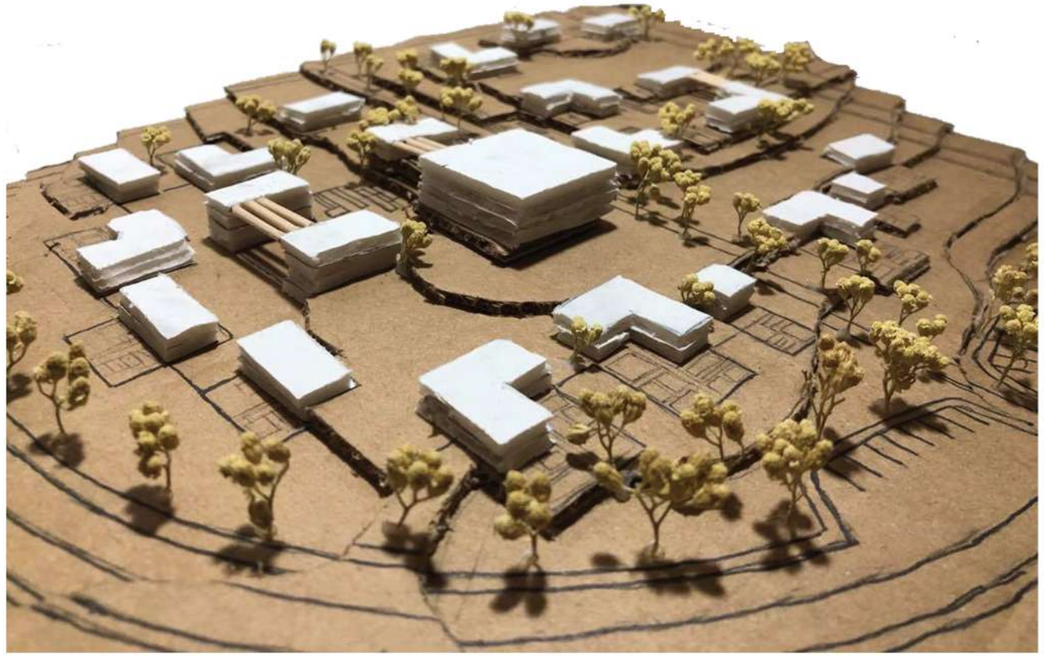
In the social area, there are some **water elements** giving coolness and green areas filled with grass on the ground. They link the semi-public area to the social area and provide **intervowen areas** with water, green and sitting areas.

Open areas connecting the main axis vary with **different pavements** acording to their usage. Thus, users can perceive the area better and be guided easily.

Scenes Focusing on The Social Area



General Scene of The Area



URBAN DESIGN STUDIO PROJECTS

BIO-MIMESIS

INDIVIDUAL PROJECTS

Nogol Naeimnia
(Urban Planner)

The design of this area follows the overall goal of the project, which is to create a self-sufficient ecological neighborhood and it consists of 3 main parts:

Central area
In order to produce medicinal plants and teach how to produce and how to cultivate them. Consists of workshops, greenhouses, aquaponics, and small local markets, and there are also places to rest and for social communication.

Middle area
This area is a residential area and consists of 15 houses. These units have a garden to plant some of the needs of the residents and these houses benefit from solar panels.

Outer area
A protected area in which less intervention has taken place.

Accessibility
Access to this area is designed to encourage pedestrians. For this purpose residents can park their cars in the parking lots and access the house on foot by walking a short distance as well as service routes are considered so that residents can use it if necessary.

Housing Area
All the houses in this area are made up of one-story houses. As we know, each house consists of several 36-meter units. In areas where there is less slope, in fact, in the lower part of the map to the middle part, 2-unit and 3-unit houses have been used. In the northern part of the map, especially in the northeast, single-unit houses have been used due to the steep slope.

URBAN DESIGN STUDIO PROJECTS

BIOMIMESIS

INDIVIDUAL PROJECTS

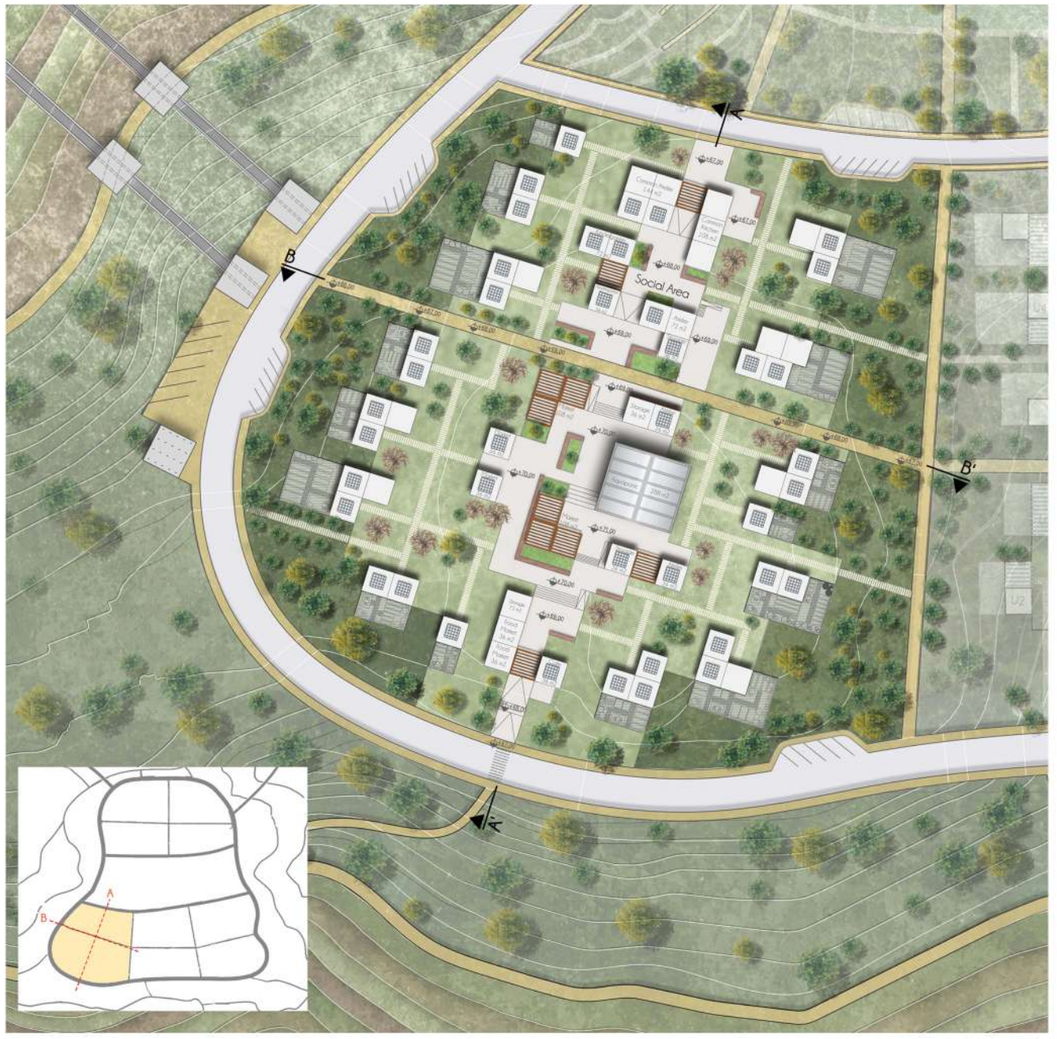
Gizem Cihanlı
(Architect)

The purpose of the Biomimesis project is to create an ecological neighborhood by using nature's working principles so that it works in the harmony with its surroundings. **In this housing unit**, the purpose was to create a system between housing units and social areas belongs to these units by using the same principles.
The housing unit separated in 3 parts:
1- Public area as a buffer zone from the main road
2- Semi-public area as a transition area between houses and social area.
3- Social area for agricultural purposes and other activities.

Public area is designed as grove so that housing areas could be more private areas. As a result of the same purpose, private gardens of houses are located in the side of these public areas.

Semi-public area has step stones that connects houses to social area. And the density of trees is not much as in public area.

Social area is located in the middle of this unit and it connects both ends of the area. Urban furnitures and the way using green areas helps this area to have a transitive identity with semi public area.



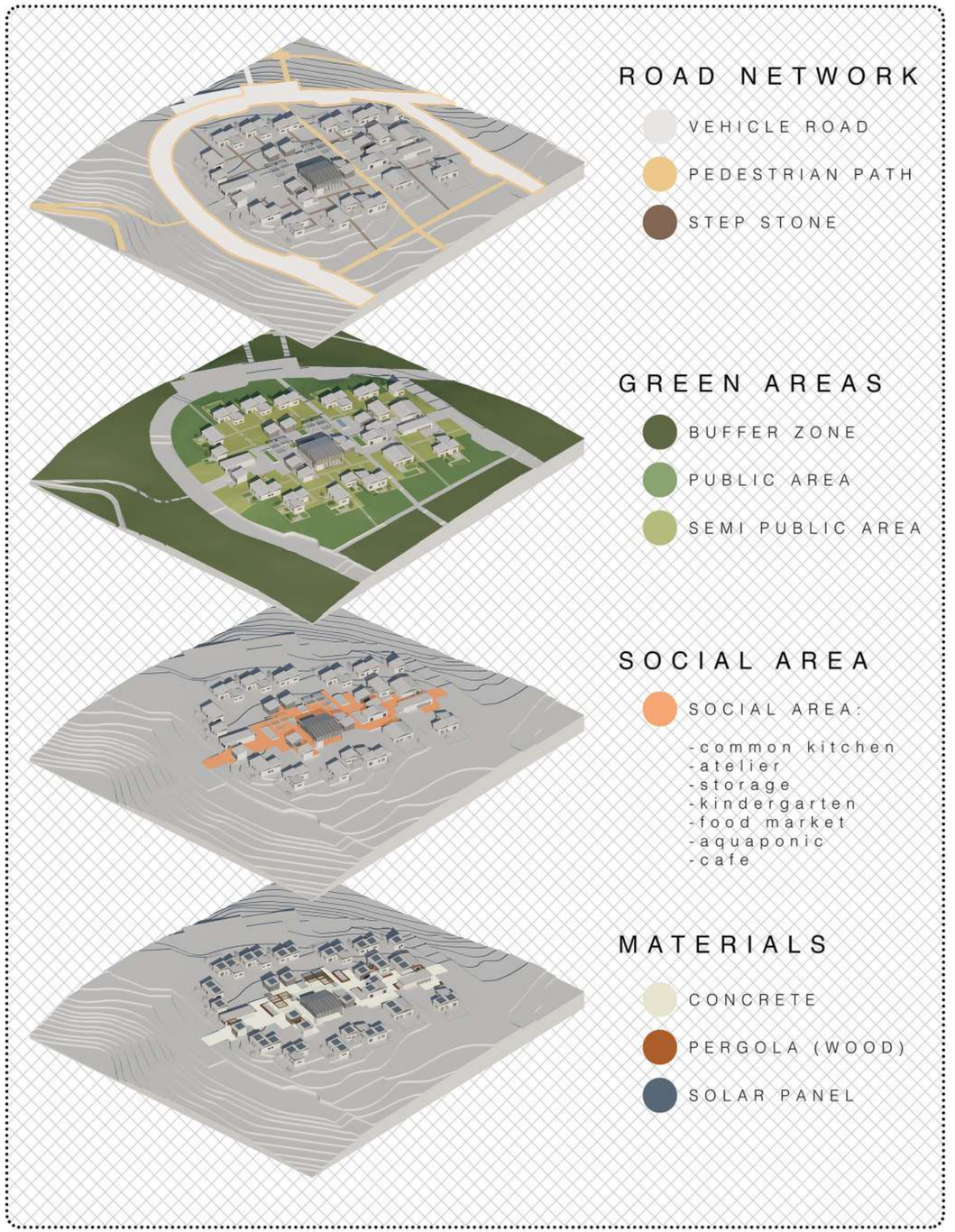
1/500 SITE PLAN

SECTION AA'

SECTION BB'

Wooden semi-open spaces are designed for 2 different purposes:
1- As a place for people to rest and have spend time
2- As a place for selling products that created in agricultural areas

4 types of houses are used in this area:
1- A house for one person (U1)
2- A house for a small family (U2)
3- A house for an average family or roommates (U3)
4- A house for extended family or volunteers (U4)



URBAN DESIGN STUDIO PROJECTS

BIO-MIMESIS

INDIVIDUAL PROJECTS

Selin Aslan
(Urban Planner)

Project area is selected as one of the 5 neighborhoods, that located in the southern part of 1/1000 plan area,

In the project area, it is aimed to design a social area that is surrounded by residential units, connects agricultural lands in the south and commercial-cultural areas in the north.
All residential units have equal distance to social area.

Social Area consist of two main squares surrounded by public buildings such as;
Common Kitchen, Kindergarden, Market Buildings.

To create a relation between agriculture and agricultural production, *Ataliers and Aquaponic* are also located in the social area.

Besides, all residential units have their own private gardens for agricultural production.

1/500 PLAN

BIO-MIMESIS INDIVIDUAL PROJECTS

The first square located in the entrance of the neighborhood, is surrounded by an atalier, 2 commercial Buildings and a common kitchen. L-shaped commercial building has its own semi-public area with different texture and seating units.

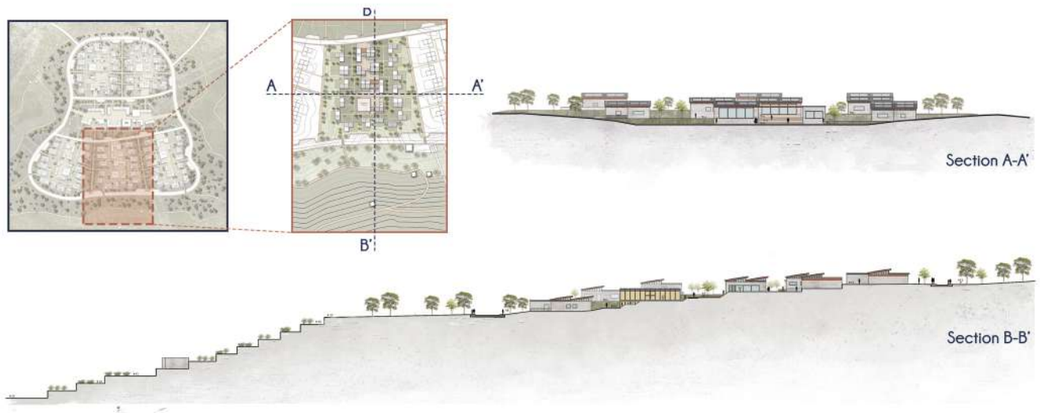
The second square is seperated by a pedestrian road that connects all the neighborhoods. It is surrounded by atalier, kindergarden, market building and aquaponic.

It also has an L-shaped market unit creates semi-public area and seating units designed on an ornomental pool.

BIO-MIMESIS INDIVIDUAL PROJECTS

Public Spaces/Squares on Human Scale

Sections from Project Area



URBAN DESIGN STUDIO PROJECTS

Bio-Mimesis

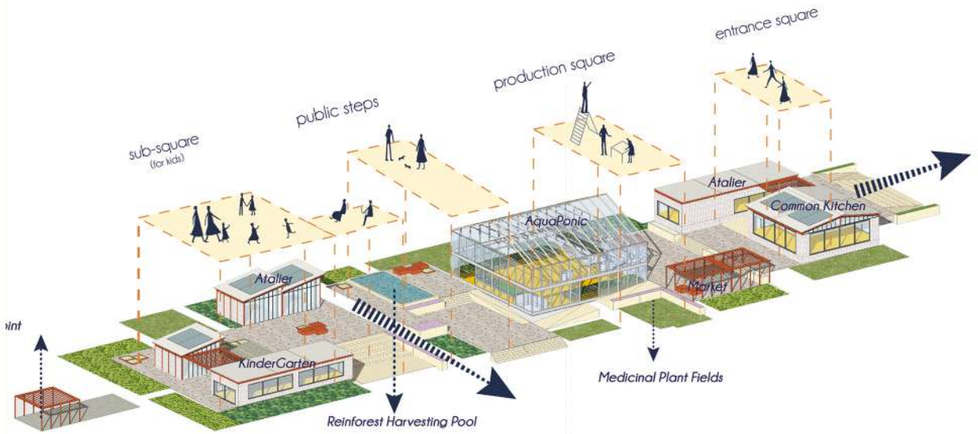
INDIVIDUAL PROJECTS

Gökçe Er
(Architect)

In the context of the theme of 'ecological neighborhood', the project, which has been progressing in line with the decisions made jointly as a group, has established the connection between the common social area in the north and the agricultural lands in the south. The basic principle of the project is that the village is open to sustainable production of its private and public needs. For this reason, the houses that surround the social area represent an accessible and communal life without hierarchy.

The counts continuing at the level of the peripheral road on the outer wall of the village settled on the land with a maximum of two floors. The social area in the center of the residences contains functions to serve everyone and meet the needs. Aquaponic is located in the center of the village as a representative architectural tool that provides financial needs while also promoting collaboration.

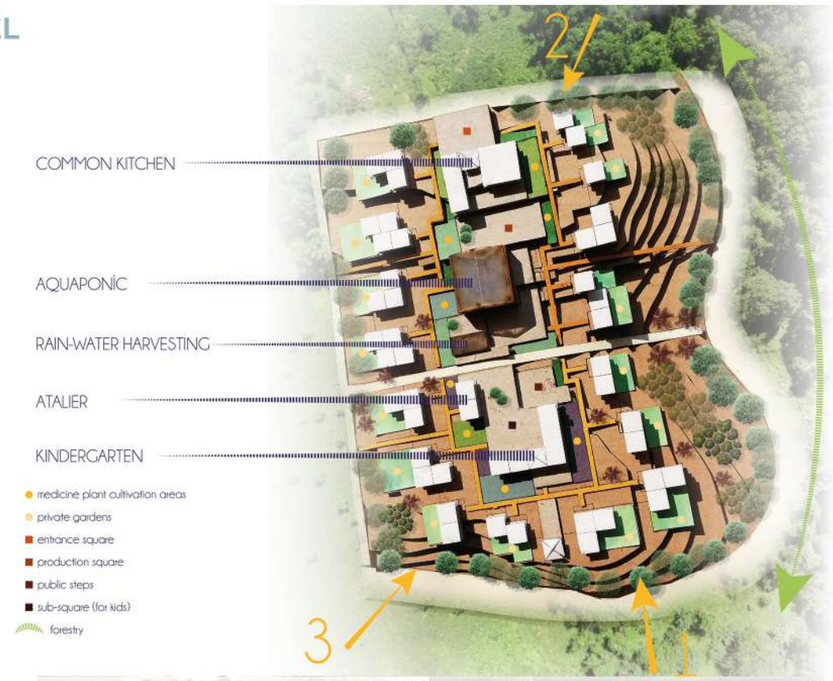
OVERALL VIEW



ELEVATIONS

LAND VIEWS

MODEL



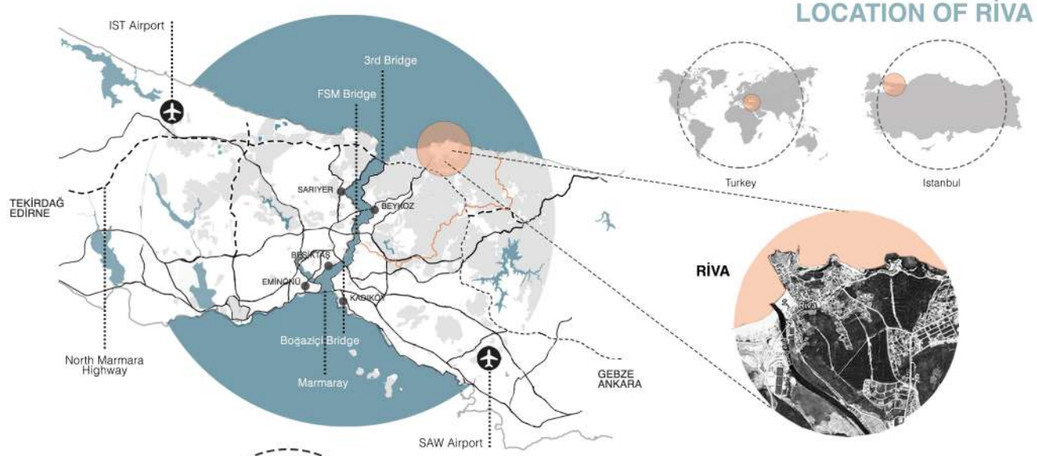
URBAN DESIGN STUDIO PROJECTS

ECOTOPIA

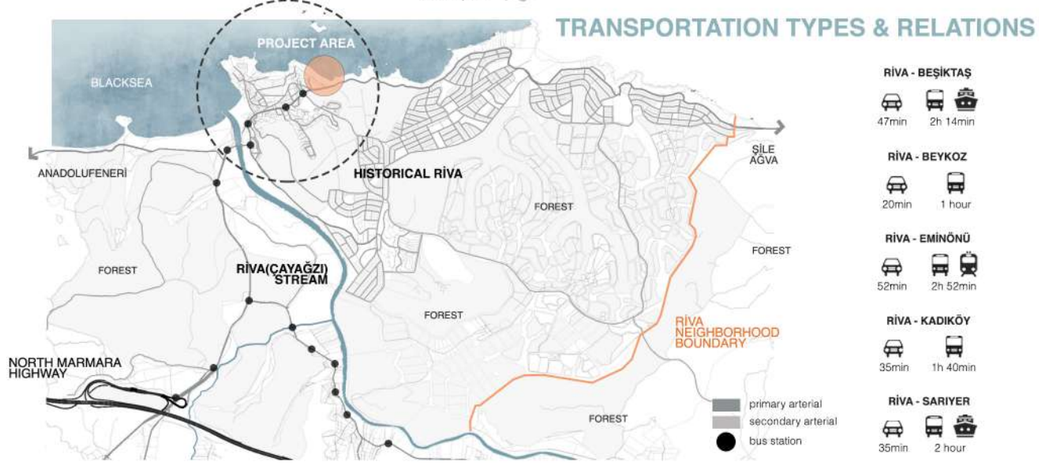
Eda Hafızoğlu (Landscape Architect) - Merve Şimşek (Architect) - Büşra Kılıçdağ (Architect) - Ayşenur Çetinkaya (Architect)

From Dystopia to Utopia...

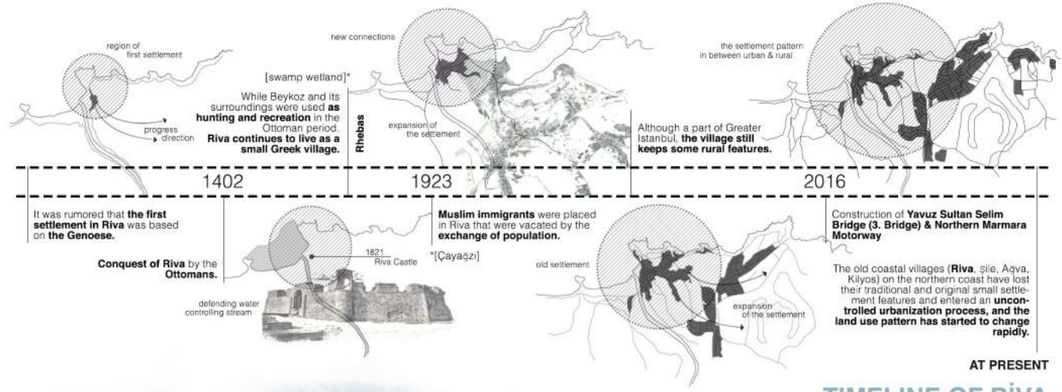
LOCATION OF RİVA



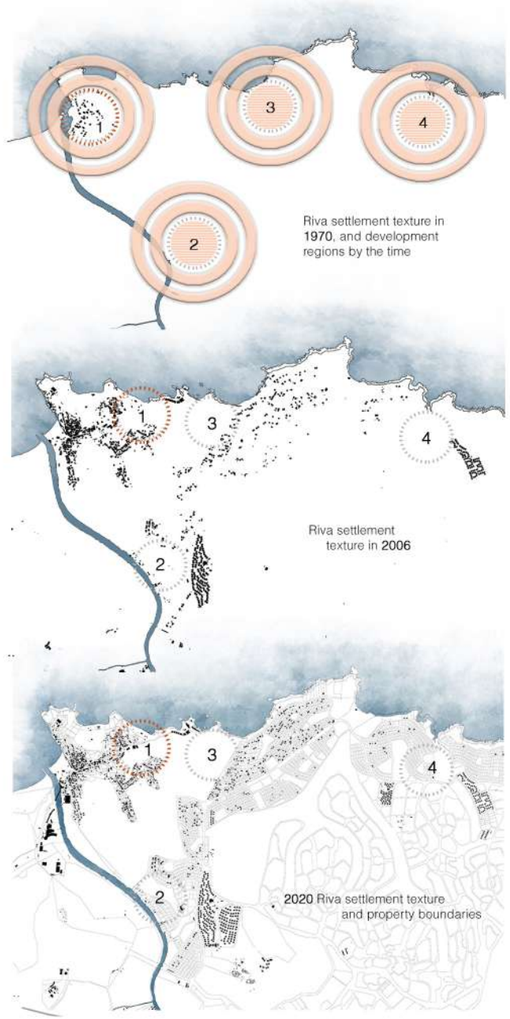
TRANSPORTATION TYPES & RELATIONS



Riva as a project area is a village on the shore of Black Sea which locates in the district of Beykoz in the Anatolian Side of Istanbul Province. Not only the historical background of Riva from Genoese to present but also the opportunities of its location -proximity to Istanbul- such as 15km to Beykoz, 23km to Boğğaziçi Bridge, 18km to FSM Bridge, 40km to IST Airport, 8km to North Marmara Highway and 35km to SAW Airport have affected on the conditions of it in between urban and rural.



TIMELINE OF RİVA



The construction of Riva bridge **in between 1970 - 1980** connecting both sides of creek mouth caused the small amount of settlement areas close to the mouth of river are as follows: 1st is towards near the outside of the center; 2nd is on a route parallel to the Riva river; 3rd - 4th are with the facilitation of transportation, a more inland and scattered settlement has developed along the coast.

In 2006, it is seen that the settlements in Riva spread rapidly. These residential areas have an organic texture as in the first settlement texture. In development area of number 2, the settlement areas are not towards the edge of creek but to the inner parts, due to the flooding risk of Riva creek. Having a rocky coastal texture as 3rd and 4th areas is another factor that triggers the settlement towards the inner regions.

In 2020, it is observed that the settlements in Riva with a regular settlement plan increased. Although Riva generally has an organic settlement plan texture, it can be seen that it has evolved into a more grid texture in newly planned property areas.

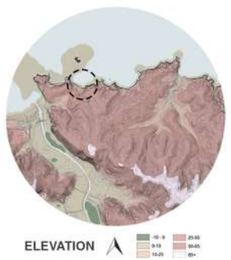
PATTERN CHANGE

TOPOGRAPHY

WIND

northeaster (poyraz)
southwester (lodos)

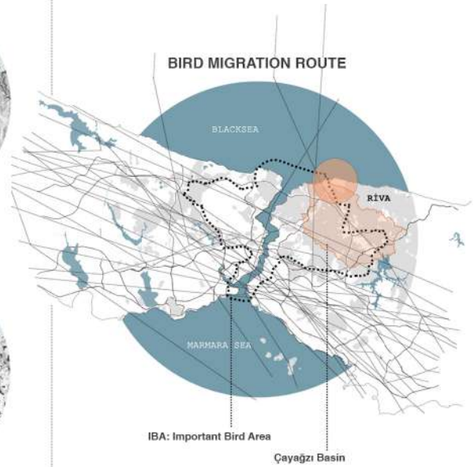
ASPECT



ELEVATION

SLOPE

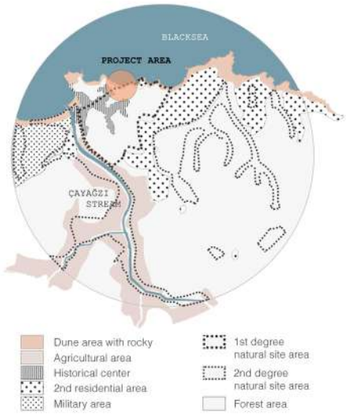
BIRD MIGRATION ROUTE



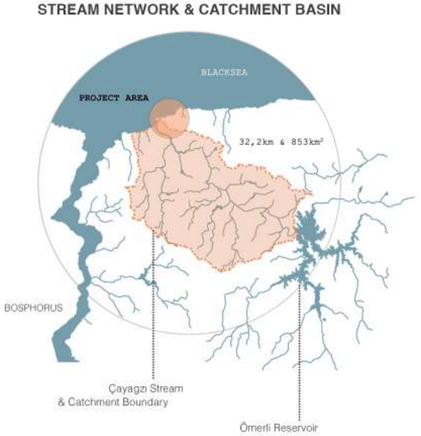
IBA: Important Bird Area

Çayağzı Basin

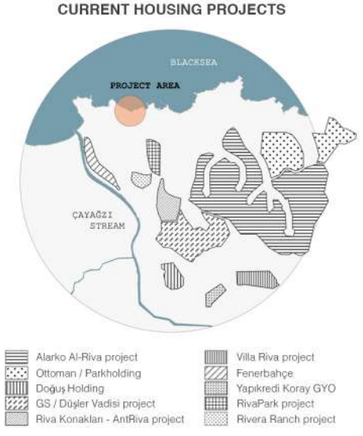
LAND-USE & PROTECTED SITES



STREAM NETWORK & CATCHMENT BASIN



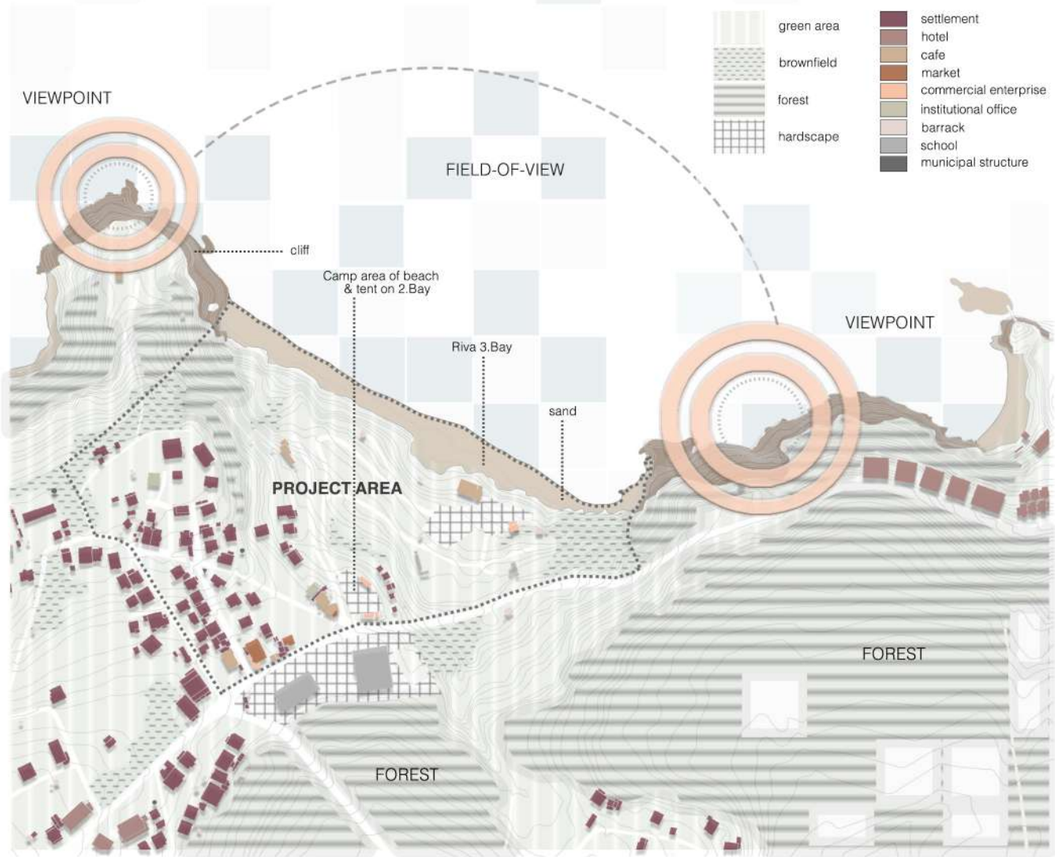
CURRENT HOUSING PROJECTS



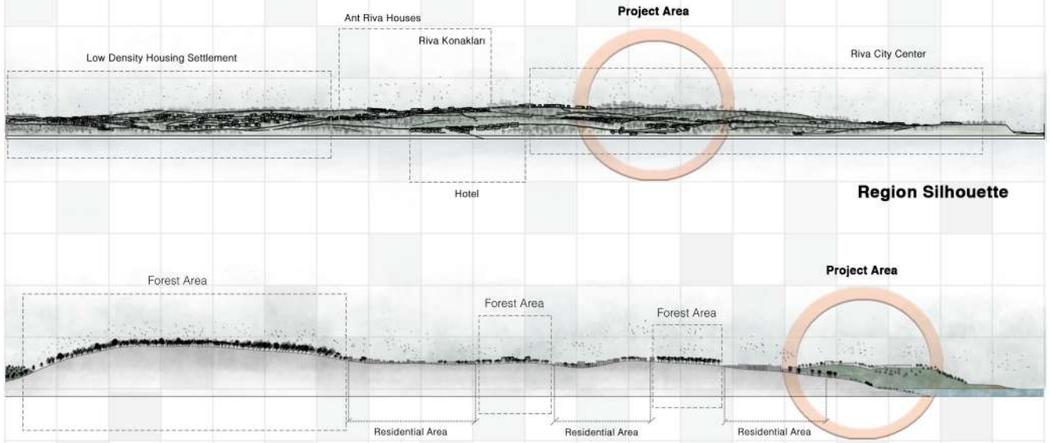
Riva as the coastal village with its dynamic topography is under the influence of **Black Sea climate** that is rainy in all seasons as 1000 - 1500 mm amount of annual precipitation and 13°C mean temperature. Thanks to its climatic conditions and topographical characteristics, Riva has been the center of interest for both people living in urban and species especially birds; additionally, it contains **the bird migration route** including shelter, breeding and accommodation for birds with the Çayağzı Stream and its basin which originates in the Ömerli Reservoir. Also, Riva with the natural textures such as dunes, rocky areas, agricultural areas, forests is **a natural site region**. Because of the features of Riva, it has been preferred as an area for several kinds of settlement projects except its historical center.

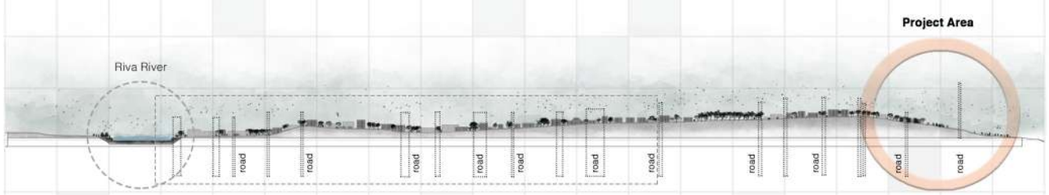
In the Environmental Relations of an area of **Ecotopia concept** in 2000 scaled plan, the area locates on coastal line of Riva and is bounded by not only the natural textures such as 1st and 2nd degrees natural site forests, the cliffs providing the viewpoints with their elevations for design, and sand area as Riva 3.Bay but also structural textures such as local settlements, schools, hotels, cafes, markets, commercial enterprises, institutional offices, barracks, municipal structures as fountains etc. The factors in the choosing this area for project in Riva which is based on the sustainable neighborhood / village with housing estate are its location, environmental dynamics and opportunities such as the proximity to historical center, the diversity of transportation and field-of-views according to the concept of Ecotopia that grounds on two dystopic situations of Riva as **the climate change and urbanization on the sustainability basis in the process.**

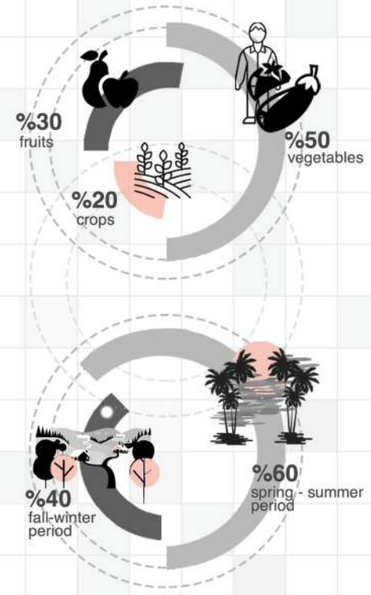
1:2000 PLAN
ENVIRONMENTAL RELATIONS

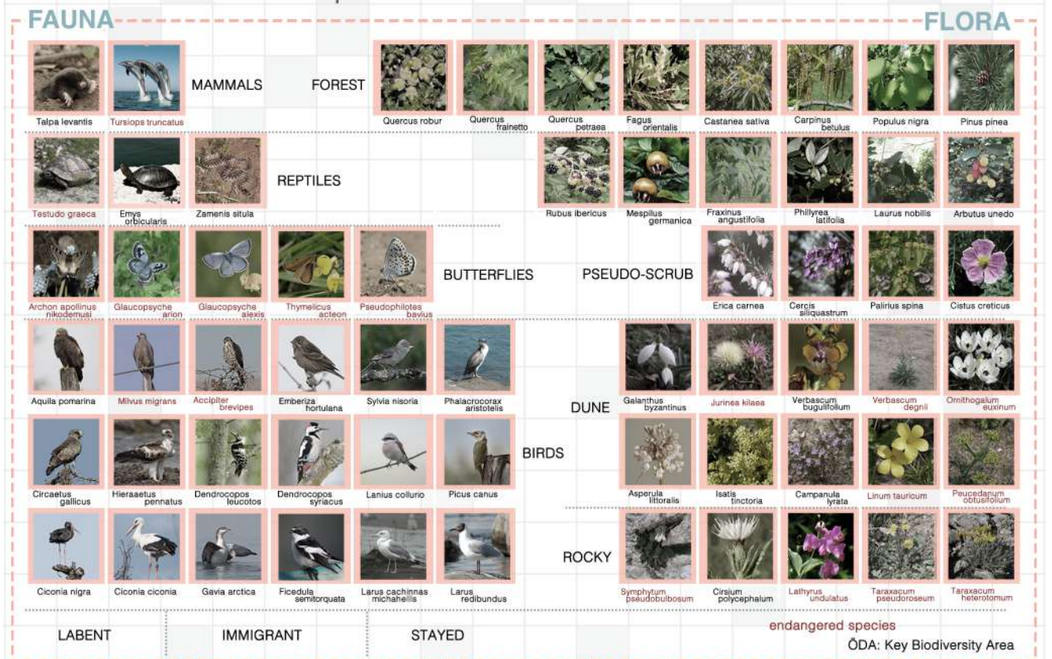


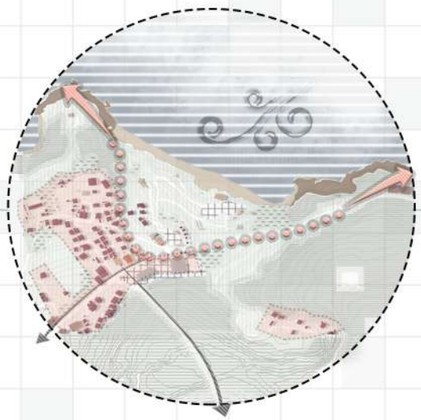
According to the silhouette and sections of Ecotopia's project area with surroundings in Riva, it is seen that there are mostly scattered settlements as historical city center and today's housing estates on Riva's dynamic topography; additionally, they are bounded by coastal line, river and forests.

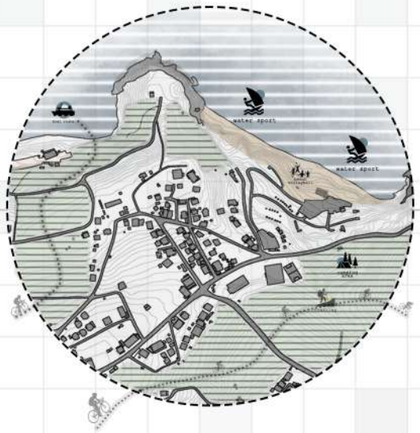












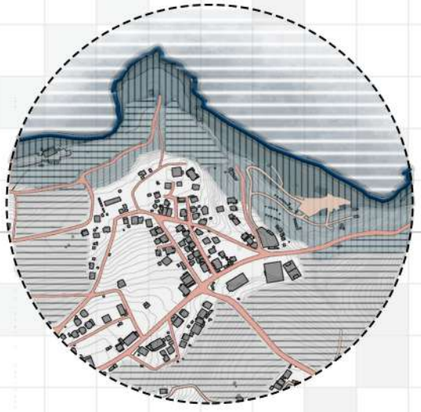
S

- Wind energy potential / wind corridor
- Arc shape of the area as sheltered structure
- Sandbank and marine ecosystem potential
- Proximity to the city center
- Proximity to transportation
- Functional diversity (internal - external potential)
- Large potential of residential area
- Panoramic view opportunity
- Sheltered structure thanks to being bay
- Variety of landscape typology / Easy access to this
- Having a slope topographic structure
- Having a variety of seasonal activities
- Proximity to water

O

- Proximity to natural protection areas
- Sea transportation potential
- Easy access to the city center
- Potential to be a point of attraction
- Inclined topography for dynamic design
- Ecotourism potential (water, green space ...)
- Potential activity routes linked to green areas
- Potential of infrastructure for social - physical interaction thanks to its location

SWOT ANALYSIS OF PROJECT AREA



W

- A messy, crooked settlement texture
- Open to threats from the sea
- No sea transportation
- Receives the sun from the opposite angle
- Weak interaction with water instead of the closeness to it

T

- Risk of urbanization due to proximity to center
- Trade function from the right axle (hotels)
- Environmental pollution risk from urbanization
- Risk of fall in biodiversity due to urbanization
- Loss risk of the sand area due to urbanization
- Semi-solid floor structure
- Flood risk due to the sea level rise

S

- Preserved natural structure of Riva largely
- Suitable topographic structure for the settlement
- Potential of sustainable energy sources (sun, wind, etc.)
- Due to the topography, the presence of landscape points
- Diversity of landscape typology
- Diversity of ecosystem and services
- Potential of agricultural activities
- Presence of planned residential areas
- Potential of tourism with beaches and camping areas
- Easy - fast access to Istanbul with III. Bridge & Northern Marmara Motorway

W

- Flood risk of Riva stream
- Weak connection between the coasts and Riva stream
- Areas with flood risk openning residential settlement.
- Scattered - crooked settlement in city center
- No sea transportation
- Risk of turning agricultural lands into settlements by urbanization

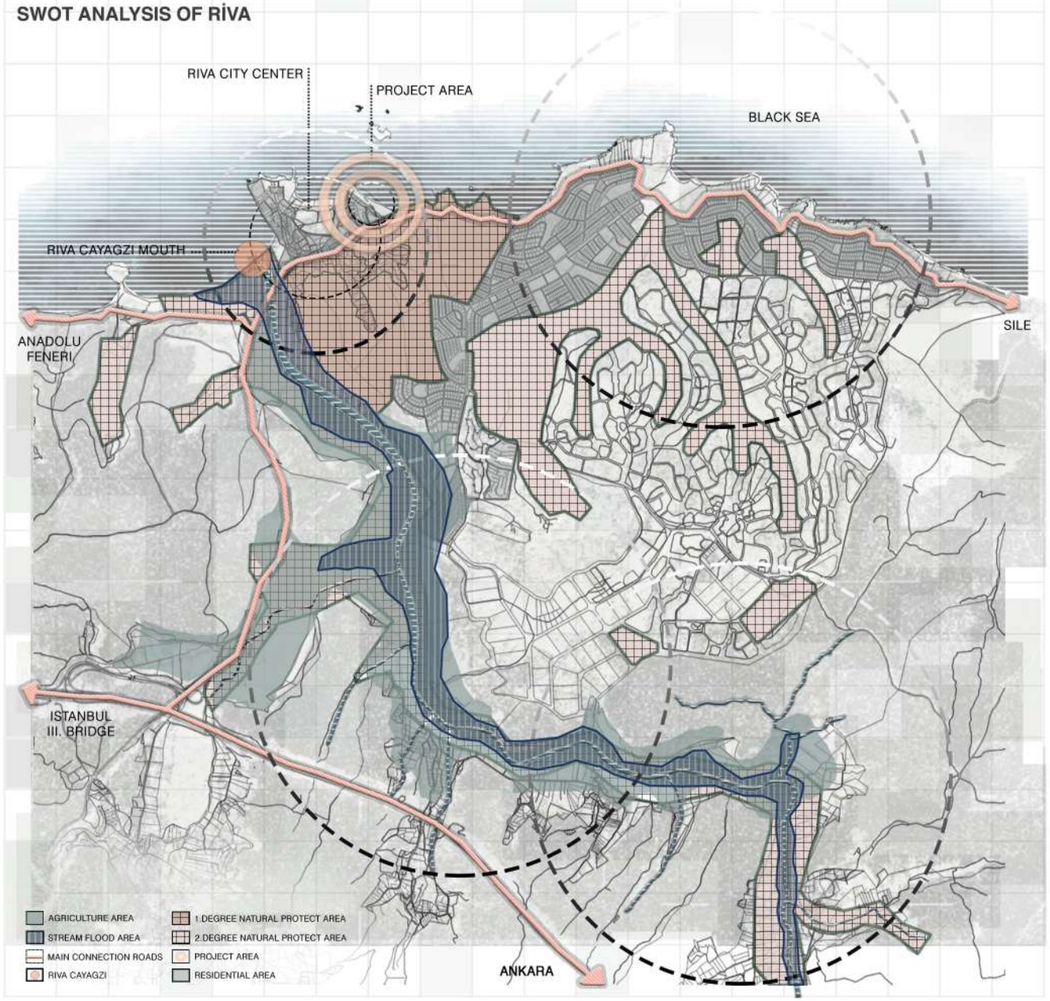
O

- Planning of the near vicinity of Riva creek as a recreation area
- Tourism potential of the region with Riva Canal Project
- Potential of eco-tourism activity with by beaches and forests
- Value of Riva situation in between urban and rural
- Easy - fast access to Istanbul for connection of activities

T

- Damaged ecosystem around the stream with Riva Channel Project
- Pressure of urbanization on the natural environment
- Risk of environmental pollution coming with urbanization
- Change of local profile because of new housing projects to Riva
- Enhanced the formation of social class
- Flood risk in Riva stream

SWOT ANALYSIS OF RİVA



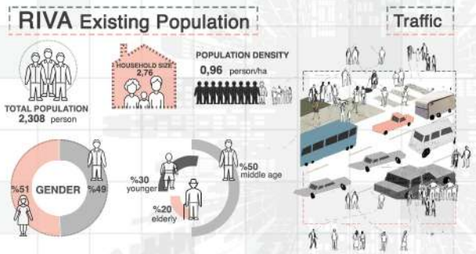
When the evaluating SWOT and analyzes, there are two main dystopic scenarios for both project area and Riva as in many parts of Istanbul according to the concept of sustainable neighborhood / village with housing estate: **Urbanization and Climate Change.** To minimize and cure these scenarios and their effects forming from past to future and to create an eco-neighborhood, the concept of **ECOTOPIA** was developed with the slogan of 'From Dystopia to Utopia' that bases on the context of **'sustainability'** including ecological - social - economic dimensions by designing the process.

1 URBANISATION

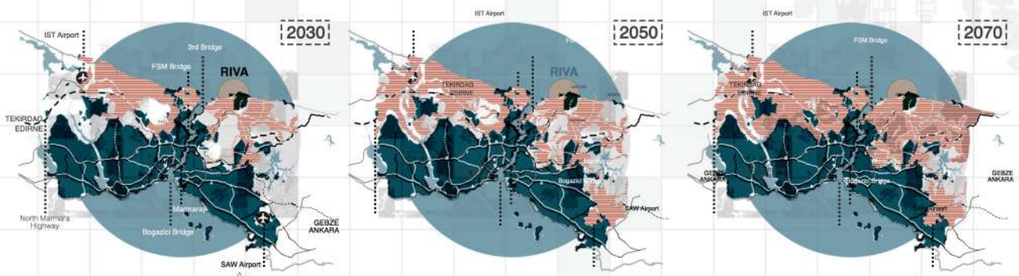
Rapid growth in population of Istanbul due to urbanization was experience during the second half of 20th century.

Between 2020 and 2070, population of the city will be increased a lot.

Currently, population growth rate in estimated to be at 3.45%.



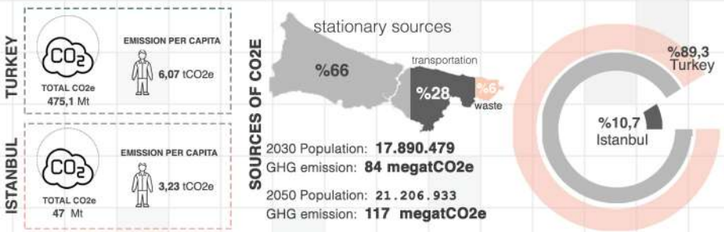
POPULATION GROWTH SCENARIO



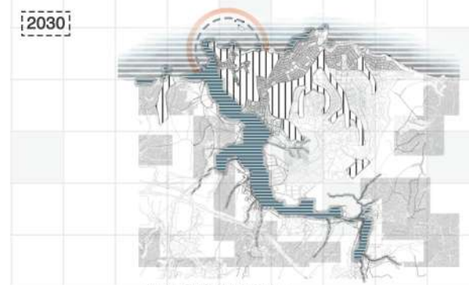
Istanbul, the city has grown rapidly over the years due to internal migration. In order to absorb the increasing population, new settlements have been built, mostly illegally on the outskirts of the city.

2 CLIMATE CHANGE

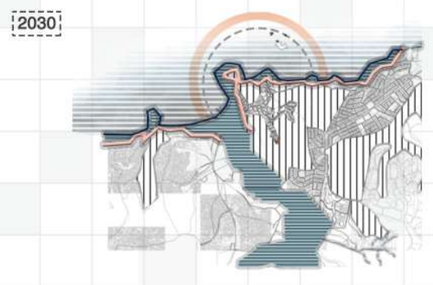
The emerging issues for Istanbul and surroundings are found to be the change in temperature and precipitation patterns, drought, increased sea levels, and cross-cutting themes related to urban heat island and air quality.



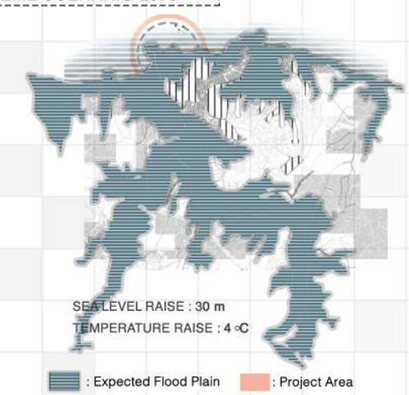
FLOOD PLAIN SCENARIO



COASTLINE CHANGE SCENARIO

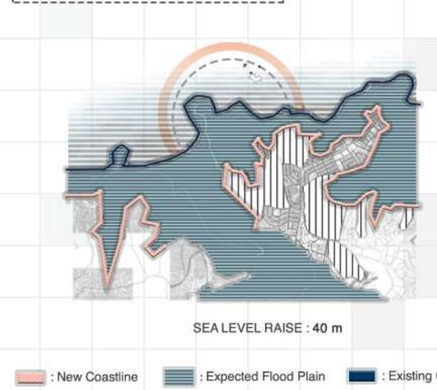


EXTREME SCENARIO 2070 - ∞

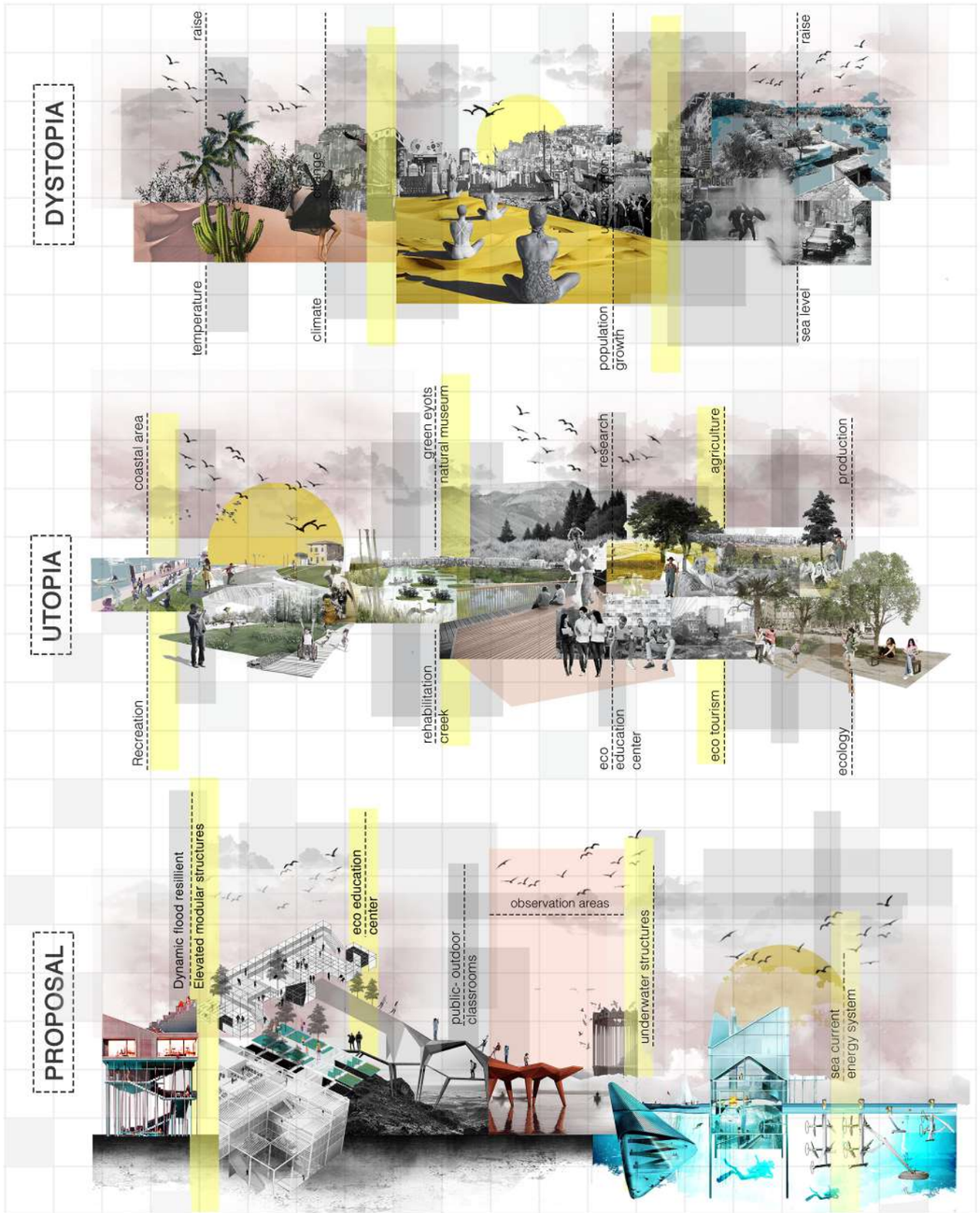


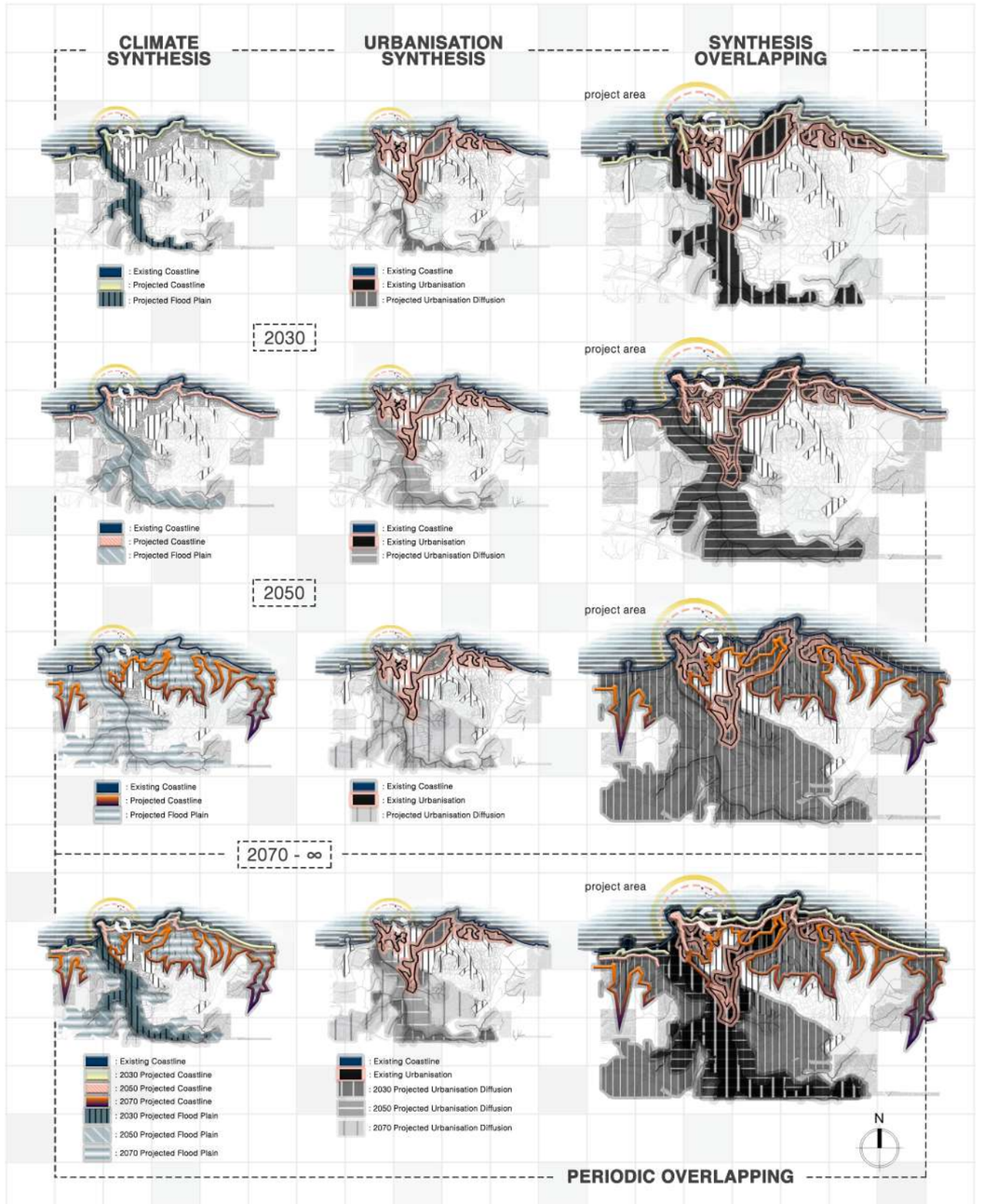
Istanbul historically has been vulnerable to natural disasters that urbanization led people to occupy flood plains to open up new spaces for development.

EXTREME SCENARIO 2070 - ∞

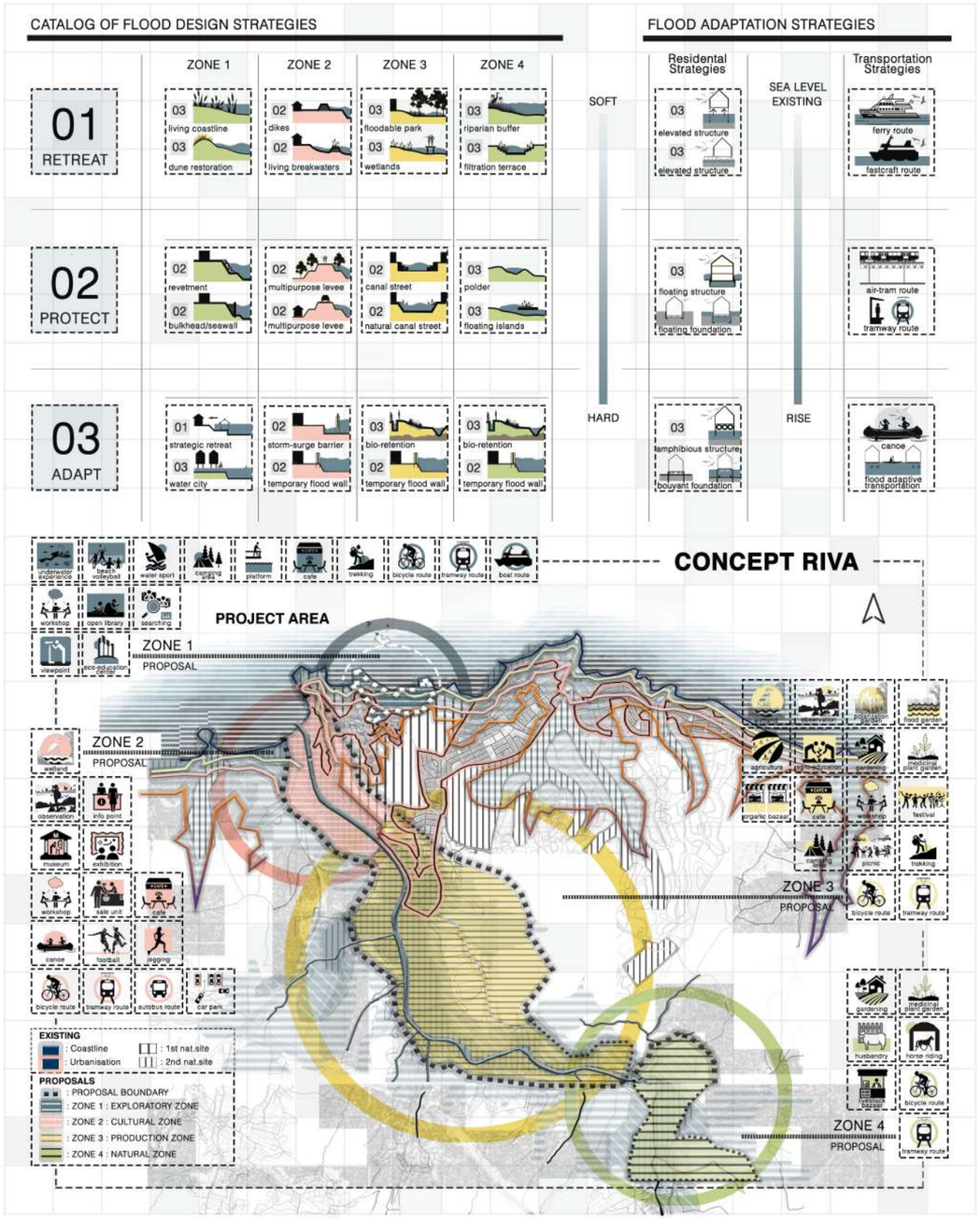


Due to future projection Coastline change will be being occured based on raise in sea level.


DYSTOPIA
raise
temperature
climate
population growth
raise
sea level
UTOPIA
coastal area
green eyots
natural museum
research
agriculture
production
Recreation
rehabilitation creek
eco education center
eco tourism
ecology
PROPOSAL
Dynamic flood resilient
Elevated modular structures
eco education center
public- outdoor classrooms
observation areas
underwater structures
sea current energy system

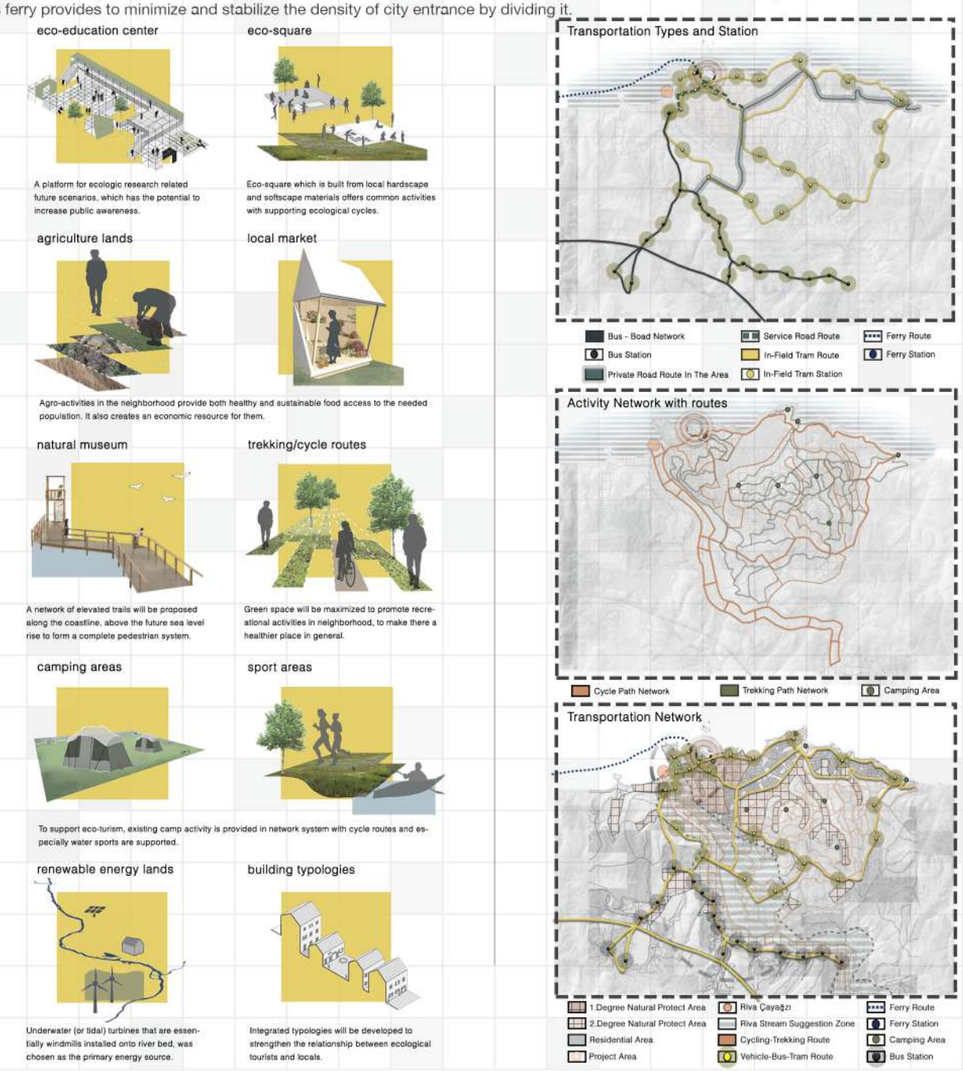

CLIMATE SYNTHESIS
URBANISATION SYNTHESIS
SYNTHESIS OVERLAPPING
project area
: Existing Coastline
: Projected Coastline
: Projected Flood Plain
: Existing Coastline
: Existing Urbanisation
: Projected Urbanisation Diffusion
2030
2050
2070 - ∞
: 2030 Projected Coastline
: 2050 Projected Coastline
: 2070 Projected Coastline
: 2030 Projected Flood Plain
: 2050 Projected Flood Plain
: 2070 Projected Flood Plain
: 2030 Projected Urbanisation Diffusion
: 2050 Projected Urbanisation Diffusion
: 2070 Projected Urbanisation Diffusion
N
PERIODIC OVERLAPPING

ECOTOPIA GROUP PROJECTS

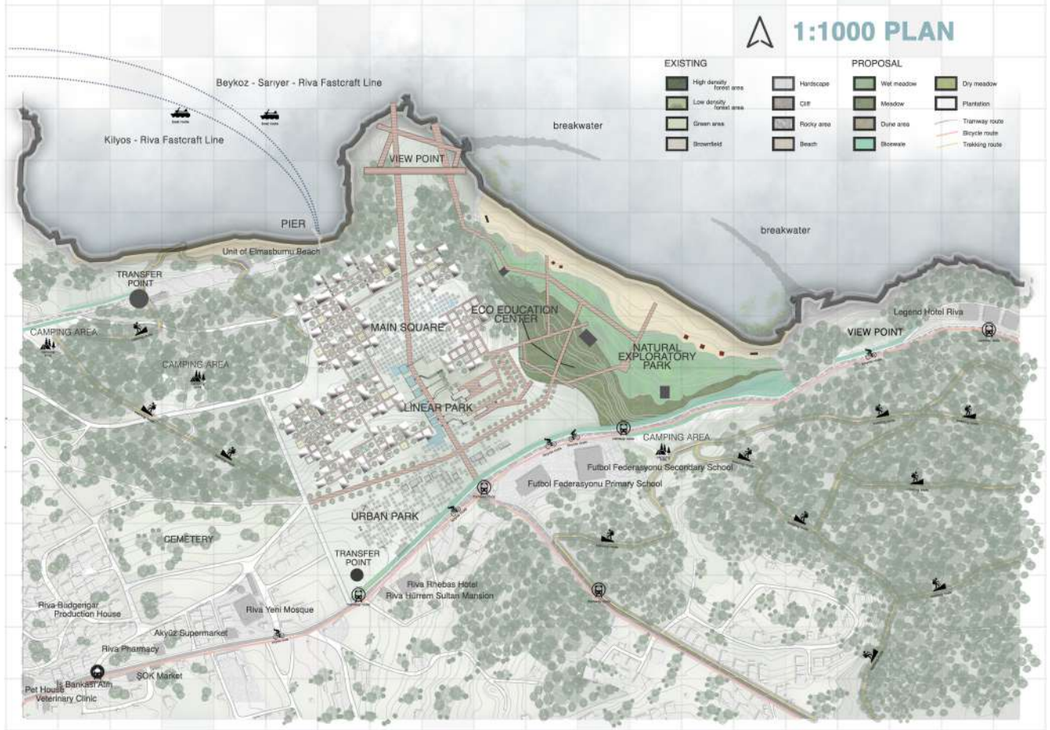


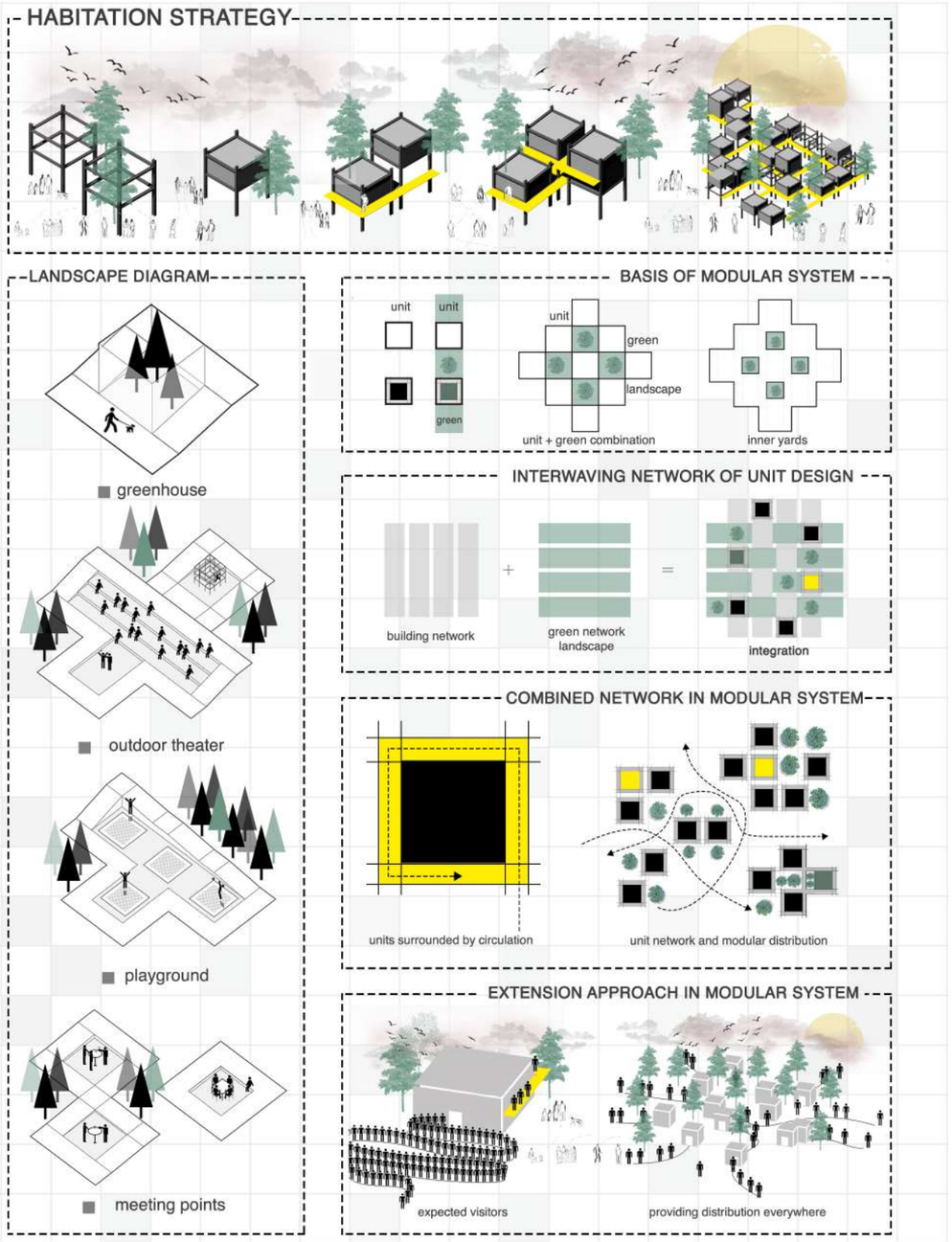
ECOTOPIA GROUP PROJECTS

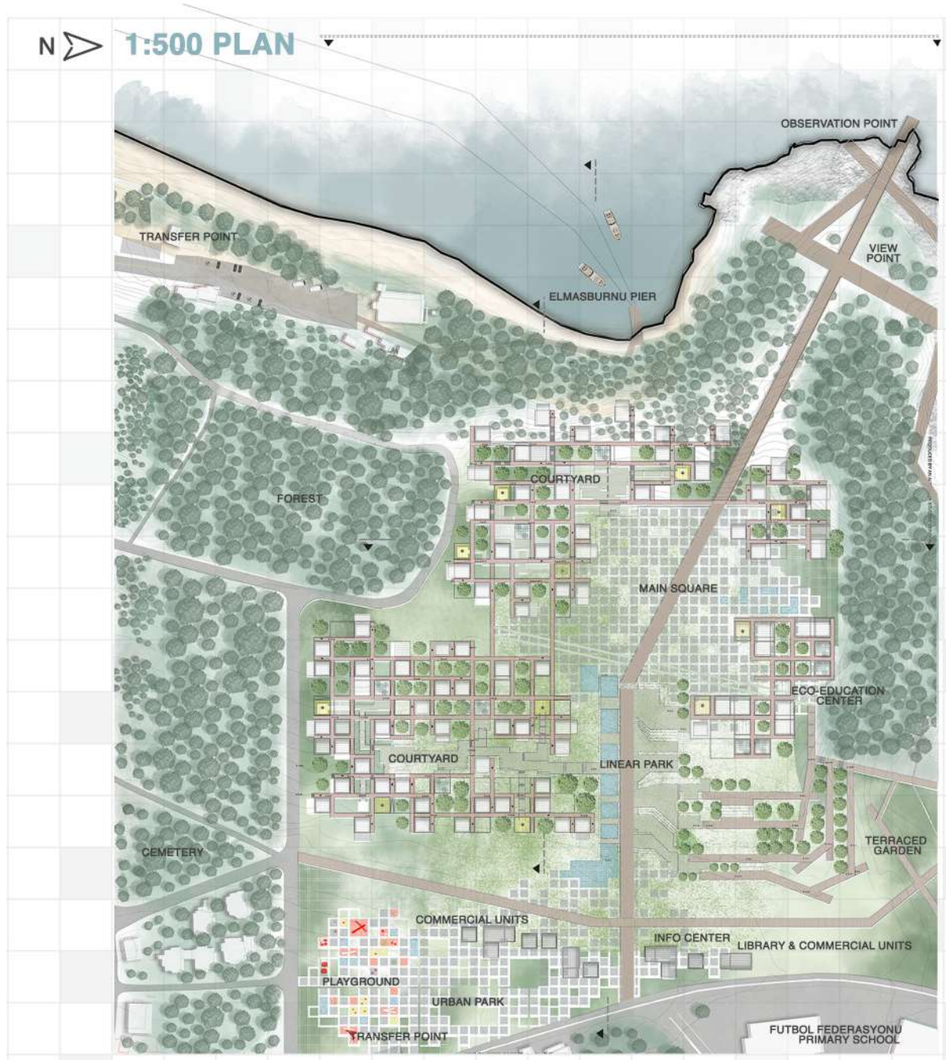
In Ecotopia concept, Riva was divided into 4 areas according to its characteristics and potentials: **the Exploratory zone** as main zone of concept with coastal dimension; **the Cultural zone** consisting of historical city center, castle, delta of Riva Stream with natural beauties and species; **the Production Zone** including the existing agricultural activities on both sides of stream; and **the Natural zone** having wide forest areas and natural activities such as horsing. So, the functions were proposed to support the identities of them: Zone 1 is a center integrating with other zones by **the Education Center** to offer identical activities for each zone, to educate - adopt them to people with creating awareness and to experience **'sustainability'** with the concept term as 'water'. Zone 2 that is a main gateway of Riva containing both cultural and natural (the end of bird migration route in Riva with stream) features were supported with exhibition areas, observation platforms to wetlands, sport activities etc. Zone 3 is also a region of production - education - sale mainly with agricultural areas, plant gardens, orchards, permaculture areas and large festival area behind settlement areas; additionally, Zone 4 has activities of gardening, husbandry, horse riding and bazaar. The riparian zones of both Zones 3-4 were preferred as more natural areas such as wetlands, flood gardens, polarization gardens with passive human activities to both support the wildlife and to minimize the flood effects of stream. All zones are supported with soft and hard flood strategies to form the sustainable city according to the particular process of project concept. On the other hand, all zones are linked with each other by the transportation network such as tramway (adaptable to flood and sea level rise), bicycle and activities routes instead of private vehicle or bus creating the crowd especially in historical center; therefore, the controlled in and out of city was enabled to prevent the crowd in area and the entrance of city was taken to the back as area of housing estates that are closed to highway and include private vehicles more to reduce the density of traffic in Riva. Besides, the proposal of new transportation types as ferry provides to minimize and stabilize the density of city entrance by dividing it.



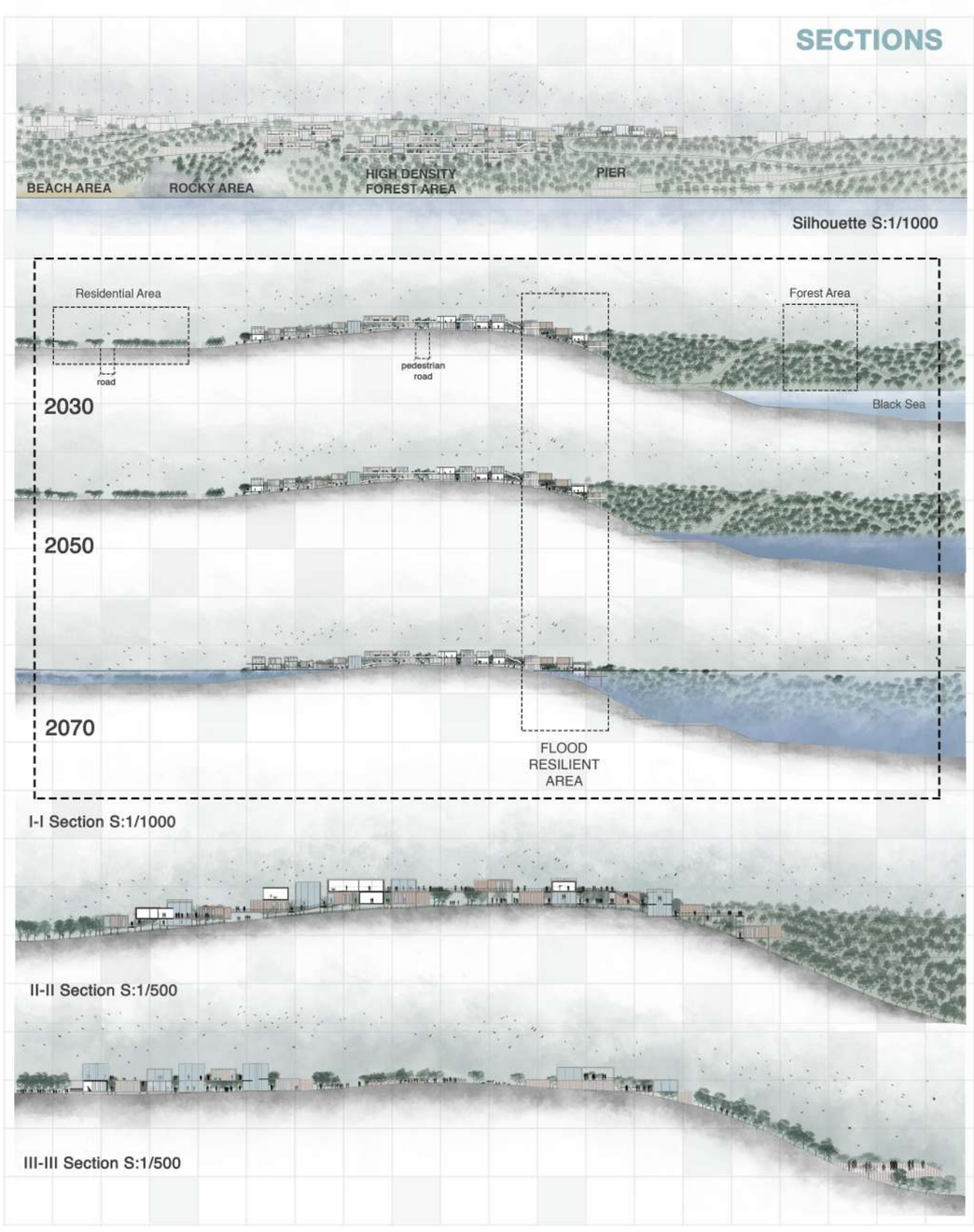
The project area in Riva that is close to the historical city center (Zone 2) with schools, religious and commercial buildings is surrounded by the grade 1 and 2 natural site areas on near the coastal line. The aim for project area (Zone 1) is to create as **an active center** that works together with city center and other identified regions in Riva on the basis of **ecological - social - economical sustainability** with the Ecotopia concept under two topics as **Climate Change and Urbanization.** Thus, the area was thought as the aggregation - experience - education space by local public acting instructive role and other people coming from other districts, Istanbul, Turkey or the world with Eco-Education Center and its activity zones to adopt the sustainability concept and to involve them in its process on the basis of social sustainability. For this, it is planned that people would visit the area periodically according to the diversity and timetable of activities and they would be supported with the proposal housing estate as a dormitory and local buildings on the basis of **economical sustainability.** The qualities and periodic works of them enable the limitation of urbanization unlike the luxurious residential areas. The locations of Eco-Education center and housing estate were also determined on the plateau to provide the protected area from sea level rise (min 4m - max 30m in process) and the designs of them were determined as a gridal texture with the dynamic modular system to escape from the rising of sea level on columns with minimum touch to the ground on the basis of **ecological sustainability.** In addition, they were designed by taking reference from the local house shapes as square - rectangle and integrating green structures with surrounding forest. This zone in project area is supported by not only other zones such as the **linear park, urban park and natural exploratory park with activities but also the transportation network and flood strategies as soft or hard from sea level rise.** In natural exploratory park, there are the beach with the prefabricated units as WC, changing rooms, buffets for supporting the beach - sea activities and amphi with dunes - greenery for sitting and terracing the sea level rise (4m) in 2030; the wet meadow area with topographical ponds to provide the experience of nature with plant species and passive activities with units, to collect the sea water (10m) in 2050 in themselves and to convert into museum of underwater; and the dry meadow to educate the plant species in specific zones with active activities. Moreover, there are breakwaters with marshlands and offshore bars as flood strategies to minimize the effects of seawaves and to create the bordered activity area. On the other hand, there are **sustainable mass transportation types** such as fastcraft, tramway, bicycle in general and shuttle in sometimes for the commercial buildings or proposal housing estate instead of private vehicle that is limited in the area. Because of the coastal location of it, two fastcraft routes with pier on protected location from seawaves and winds were suggested as Kilyos-Riva to create the network of coastal activities and Beykoz-Sarıyer-Riva to collect from both sides. This also relates to the tramway route with the transfer point having pocket park for resting and bicycle park for transit, and scatters over the entire Riva to experience all zones.







In the 500 Plan including individual projects, the gridal system of both Eco-Education Center and housing estate as a dormitory is seen with its greenery network and mini-squares as courtyard obviously to provide the integration in between natural and structural textures. This system is also supported with its eco-square as main square, linear park, urban park, terraced garden and their units, and is referenced in design of these squares. The urban park with info center, transfer point and its units that is an entrance of area offers the outdoor activities such as workshops, playgrounds, exhibitions relating to existing schools; however, the linear park provides a direction to housing clusters - education center, a breakpoint from sea level rise with its terraced structure, an interaction between people and water and a water demand of housing clusters. The terraced garden integrates with linear park to enable the relaxation, evagation and education opportunities with the plant exhibition zones by the wooden platforms. The main square services the main outdoor activities and ecological approaches on the basis of sustainability with the Education center.



HOUSING TYPOLOGIES

In buildings designed with a sustainable approach, it is aimed to harm the nature as little as possible by raising the buildings from the ground with **minimum contact with nature.**

RENDERS

Detail of Housing Cluster

Urban Park

Existing Conditions

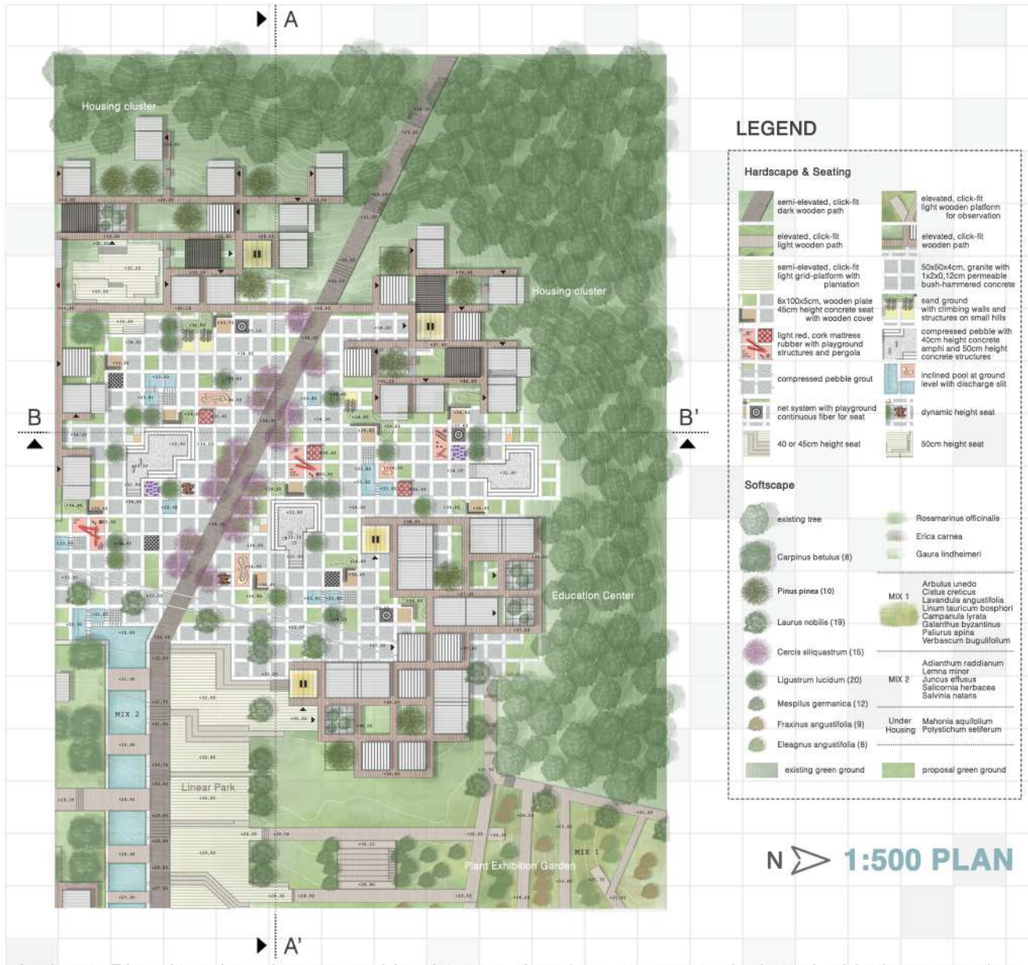
Under Extreme Conditions

URBAN DESIGN STUDIO PROJECTS

ECOTOPIA

INDIVIDUAL PROJECTS

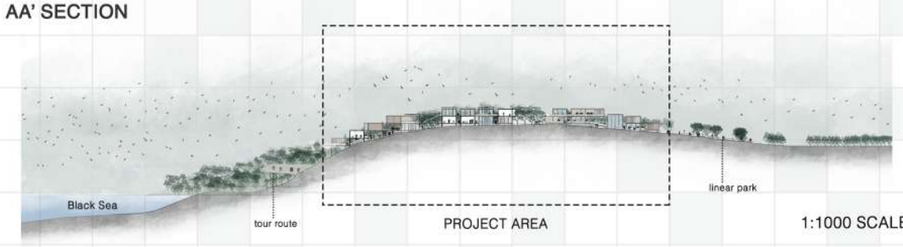
Eda Hafızoğlu
(Landscape Architect)



In 1:500 Plan, housing clusters and landscape of project area were designed with the strategies of Ecotopia concept for both current status and future scenarios according to 'sustainability'; thus, **the modular system** for clusters, **the water management** for both sea level rise - rainwater, and **the activity organizations** for awareness to the sustainability were integrated into the project design.

The housing clusters that locate on foothill in general were designed with the modular mobile system according to minimum touch with the ground against the sea level rise (30 m in 2070) and the damage of construction. Similar to housing clusters, **the Education Center** that locates on the plateau as breakpoint from the sea level rise in general was designed as partial-elevated because of more protected status of it as a main space for concept relating to the clusters, eco-square, linear park and other activity spaces. In addition, there are smaller squares as a courtyard in both clusters and Center for more private activities. **The eco-square** that locates on the plateau as breakpoint provides the connection in between clusters and Center with its dynamic activity zones and structures such as an ecological niches, water pools, varied playgrounds, seating areas etc. They are hibrid spaces enabling not only the variety of activities but also **the water management for rainwater;** because of the project area having Black Sea climate, it is necessary to control the rainwater. Therefore, there are **the ecological niches** that service as an impound pool during the rainy days; they also service as a main activity area for Education Center during days without rain. Moreover, there are stabile water pools and water jets on ground level and topographic hillocks for both to create the temporal activities and to collect - transmit the water with discharge slits to the main water pools or green areas. On the other hand, the linear pool in linear park that has water constantly in motion thanks to the topography collects the rainwater in itself; additionally, it is cleaned in biofiltration process by the aquatic plants and used for the housing clusters. Besides, thanks to the platforms on it, people can interact with the water. **The linear park** also services as not only transportation route in between urban park - eco-square - observation platforms in cliff with the main route but also observation - interaction - breakpoint with its terraced structure. In other respects, the local materials in pavement and plantation that are also adaptable water and saline soil from the sea level rise were preferred in the design to provide **'sustainability'**; furthermore, some parts of plantation as the local and specific species were used in **the Plant Exhibition Garden** with information signs to teach and adopt to people coming from here for awareness of sustainability.

AA' SECTION



1:1000 SCALE

AA' SECTION

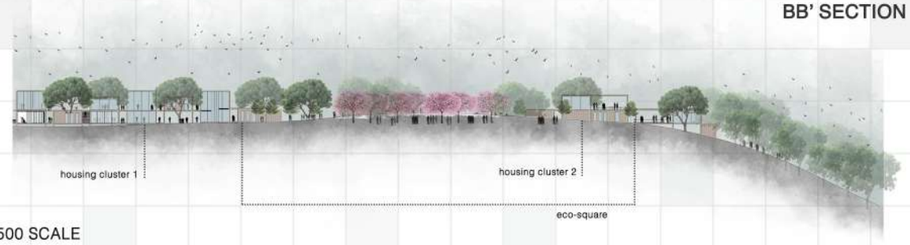
PROTECTED AREA FROM SEA LEVEL RISE

PRESENT

2070

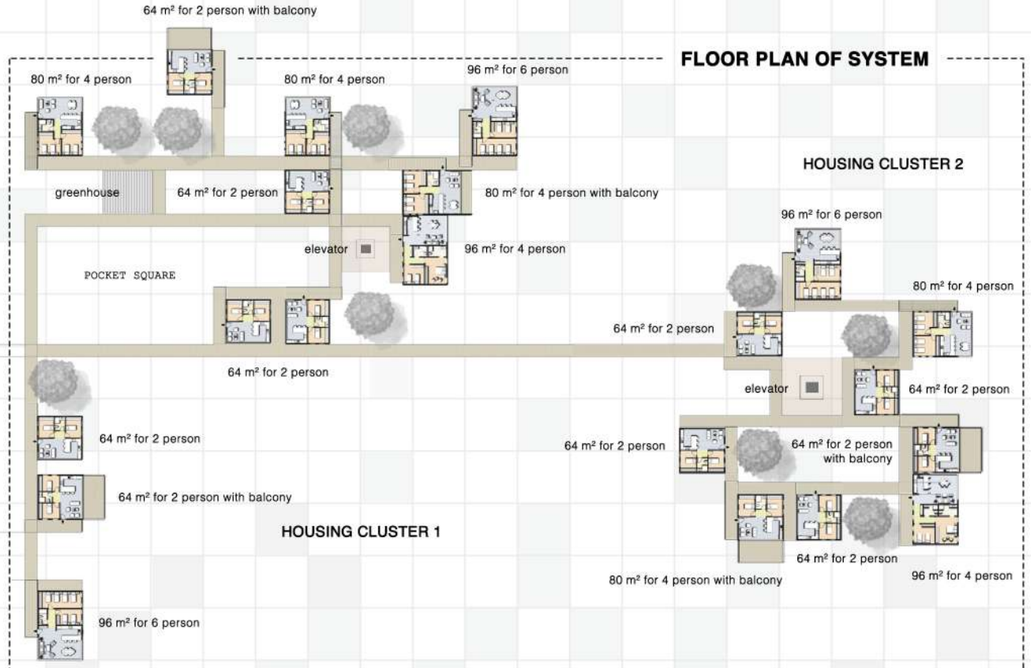
1:500 SCALE

BB' SECTION



1:500 SCALE

FLOOR PLAN OF SYSTEM

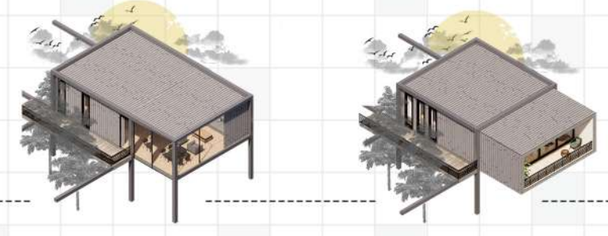


HOUSE TYPES AS MODULAR SYSTEM

64 m² for 2 person

64 m² for 2 person with balcony

80 m² for 4 person with balcony



96 m² for 4 person

96 m² for 6 person

RENDER

Eco - Resilient Neighborhood

House clusters
with Education Center and eco-square
before sea level rising until 2070

House clusters
with Education Center and eco-square
after sea level rising in 2070 (30m height)

Topographic Design

Siluette of house cluster
with observation route and platforms
in the forest on coastal side

Detail of house cluster
with elevator and greenhouse structures
in the dynamic design

Sustainable Rural Life

MODEL

House clusters
with observation route and platforms
in the forest on coastal side

House clusters
with Education Center and eco-square
on the plateau and its sides

Siluette of house clusters
on the plateau surrounding by forest
from above

Linear park
with plant exhibition garden
reaching the eco-square of housing clusters
and Education Center

URBAN DESIGN STUDIO PROJECTS

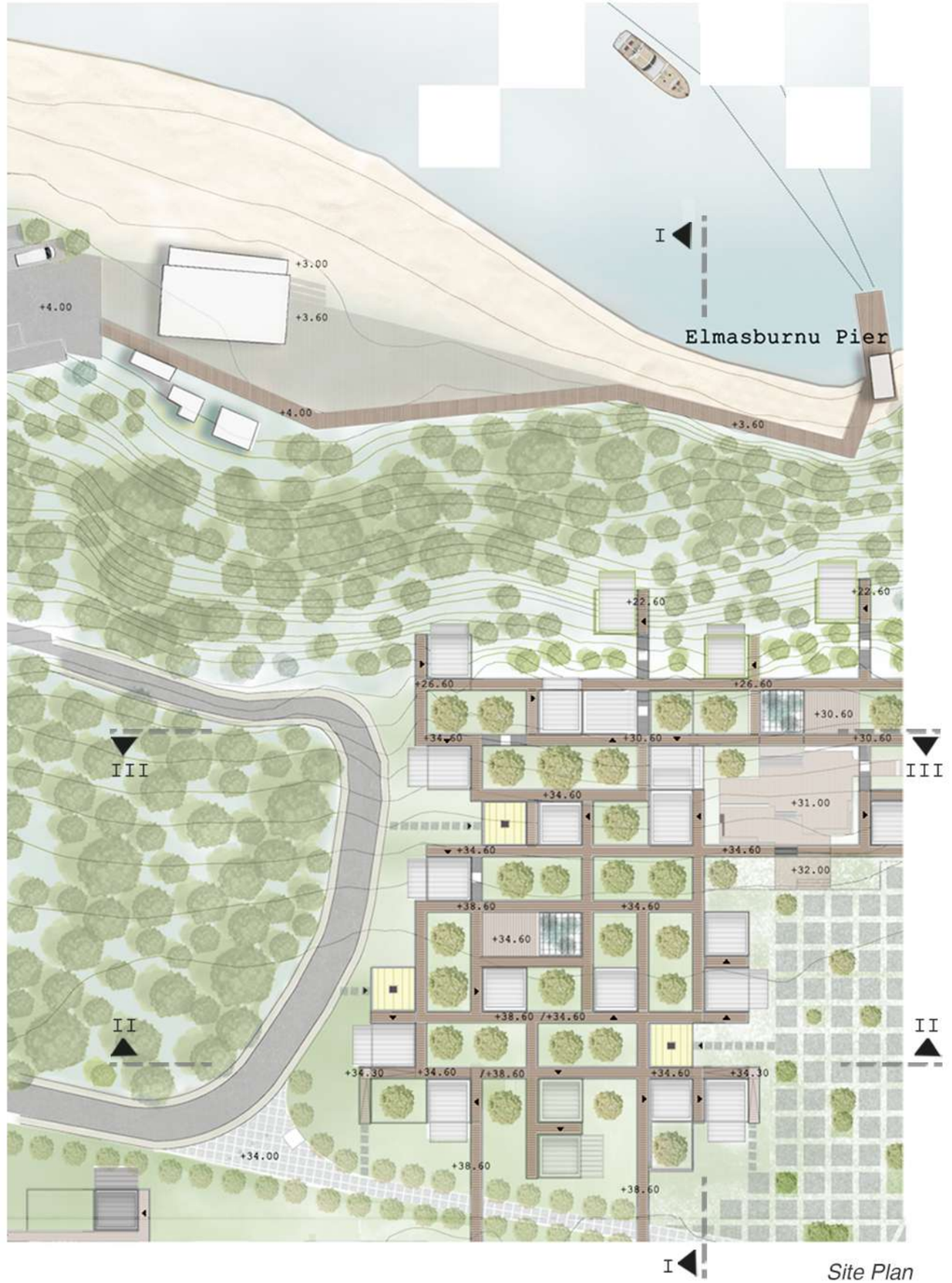
ECOTOPIA

INDIVIDUAL PROJECTS

Ayşenur Çetinkaya
(Architect)

"But what matters most is the aspiration to live in balance with nature,
***walk lightly on the land," treat the earth as a mother.**"*

Ernest Callenbach (author of ECOTOPIA)



Site Plan

I-I Section

II-II Section

III-III Section

In our settlement design, named after Ernest Callenbach's **Ecotopia** book, the danger of urbanization and climate change were our main concerns. The area that is in the north of our settlement, is predicted to be submerged in 2050 and 2070 in extreme scenario.

The structures settled on the slopes of the hill that is offering a wide sea view, have interesting design solutions for dealing with rising water levels called the amphibious architecture.This is “a unique technology that allows nonland-based buildings to rise from the ground under rising water conditions.” In this case, the decks turn into raised streets. Beyond connecting the structures to each other, they become places where they socialize or take in view for the inhabitants.

“design for building in, on and at the water – in a district where water dominates the landscape.”

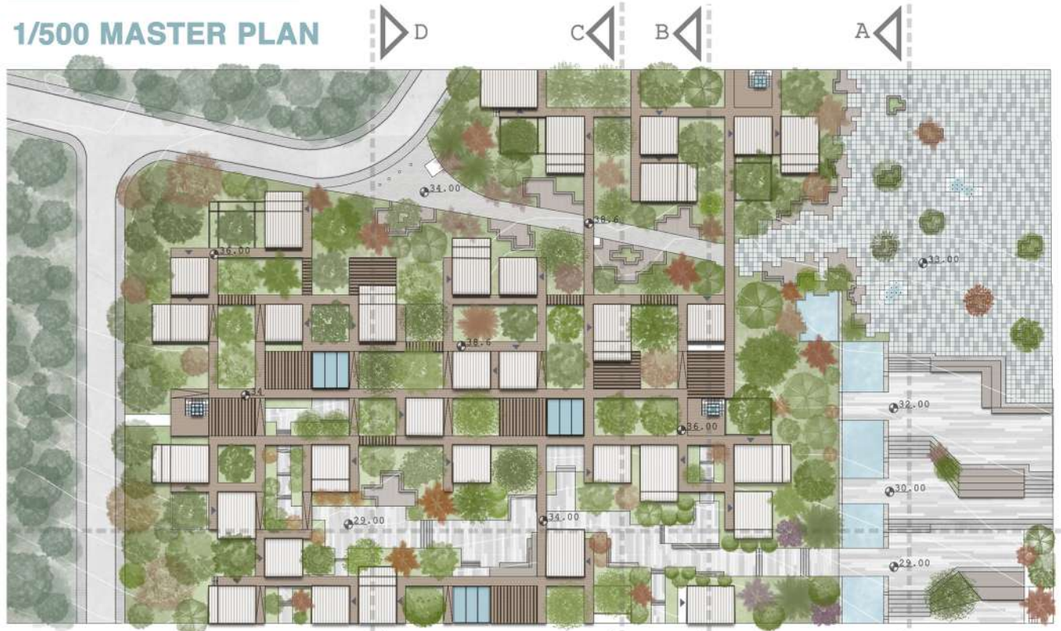
URBAN DESIGN STUDIO PROJECTS

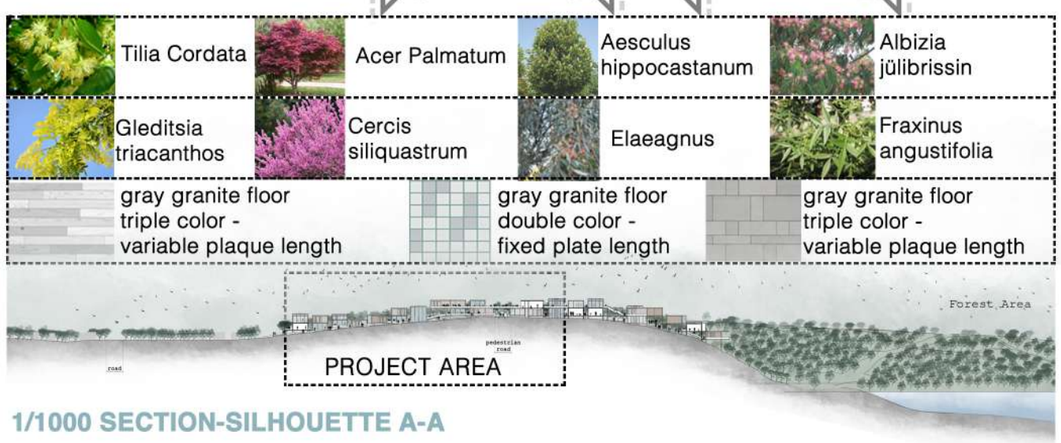
ECOTOPIA

INDIVIDUAL PROJECTS

Büşra KILIÇDAĞ
(Architect)

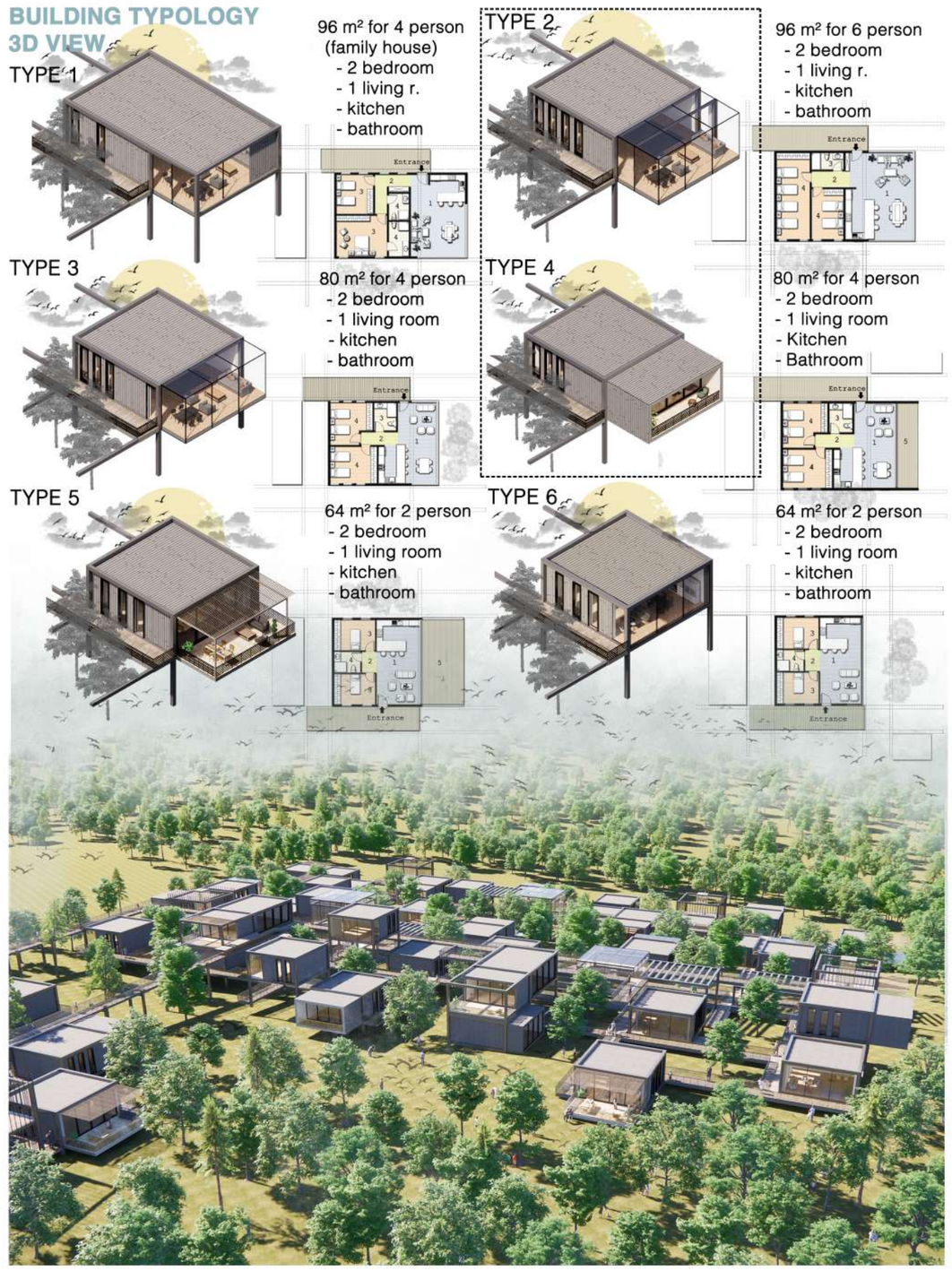
1/500 MASTER PLAN

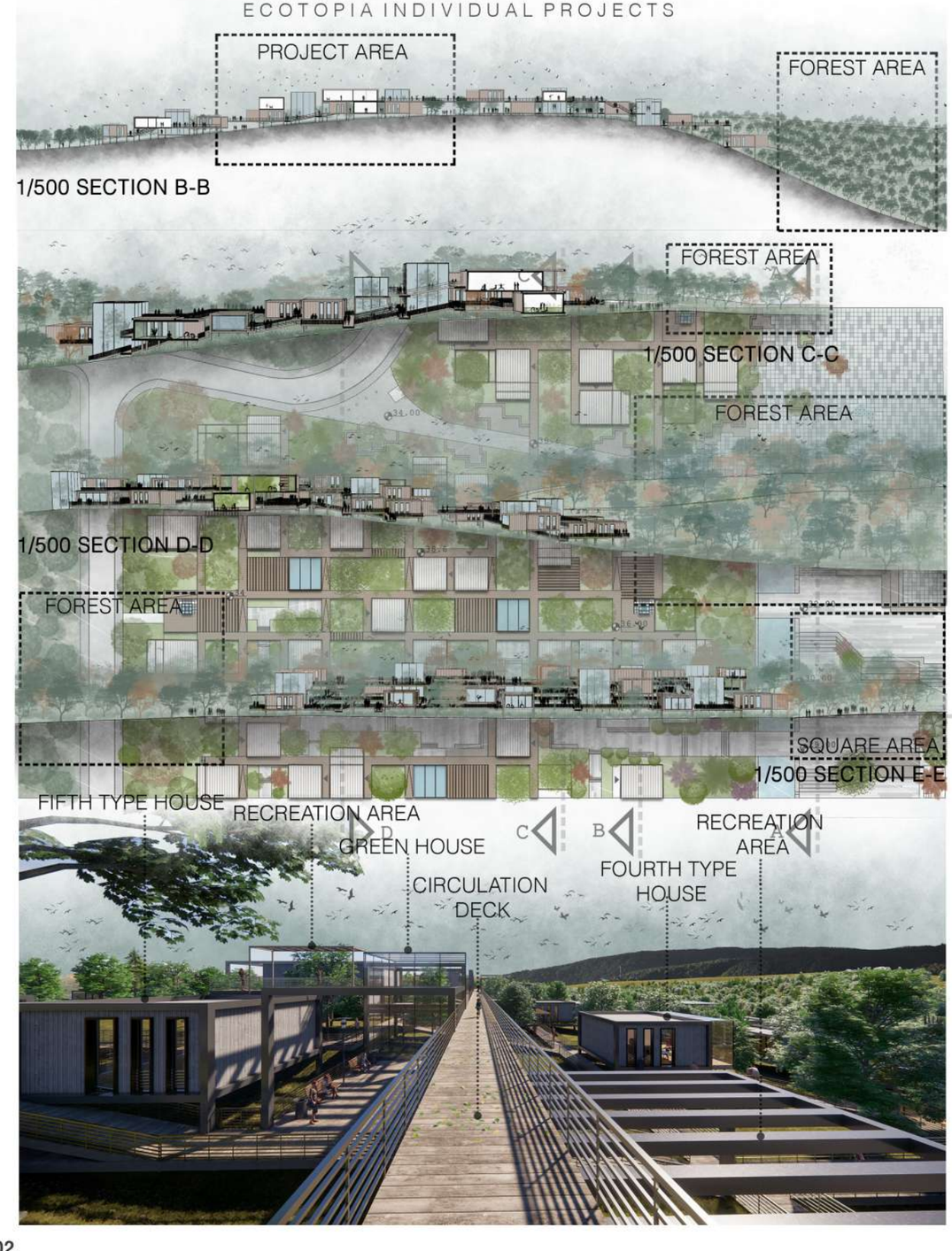




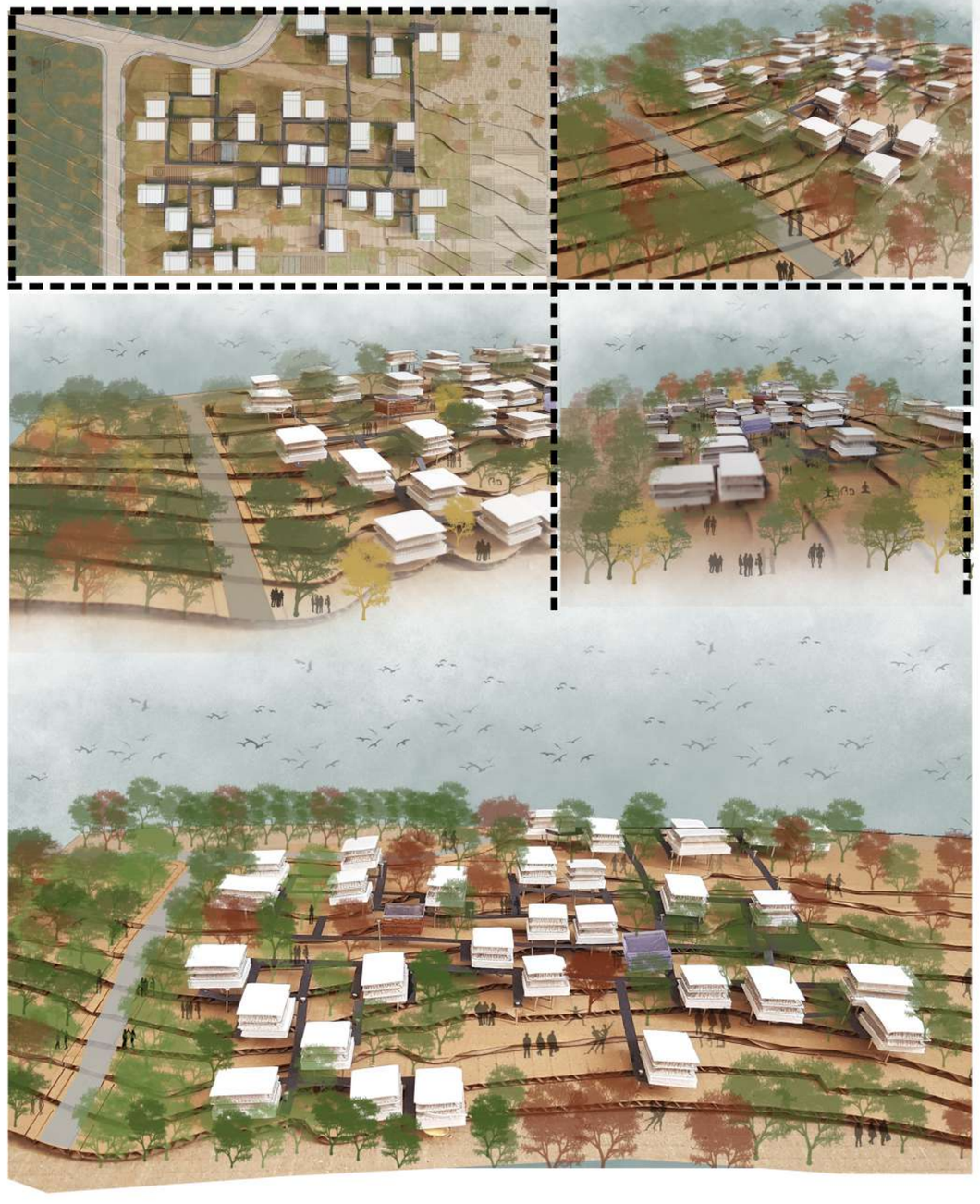
1/1000 SECTION-SILHOUETTE A-A

BUILDING TYPOLOGY 3D VIEW





MODEL PHOTOS AND COLLAGES



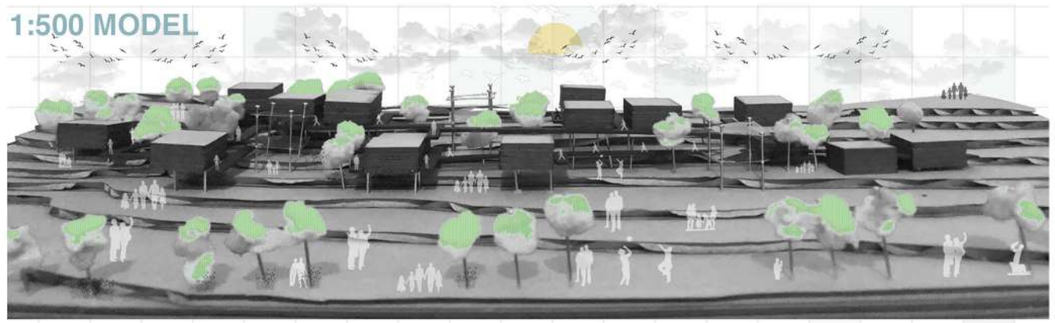
URBAN DESIGN STUDIO PROJECTS

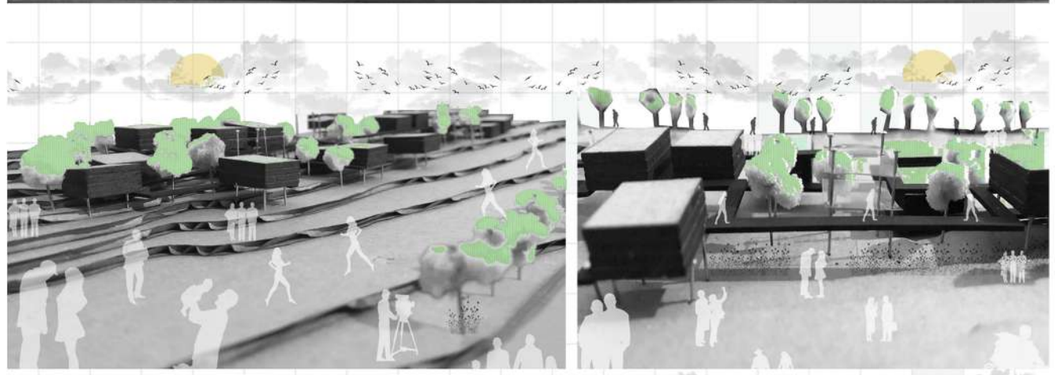
ECOTOPIA

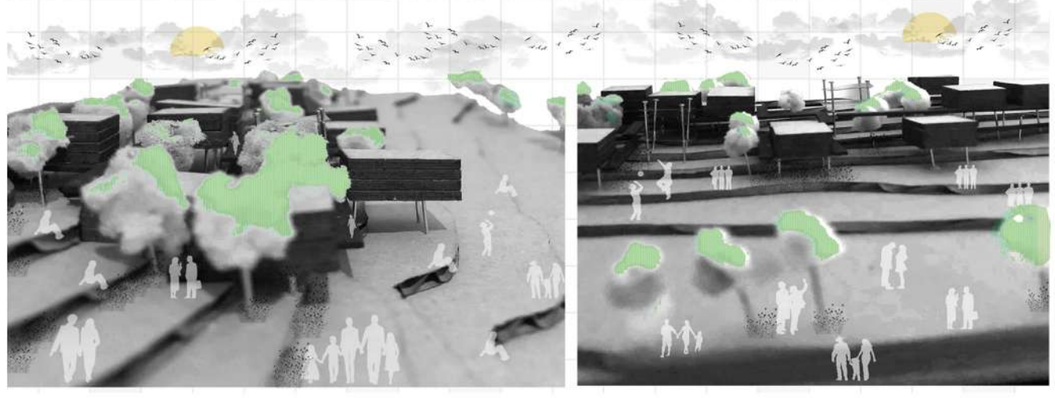
INDIVIDUAL PROJECTS

Merve Şimşek
(Architect)

1:500 MODEL

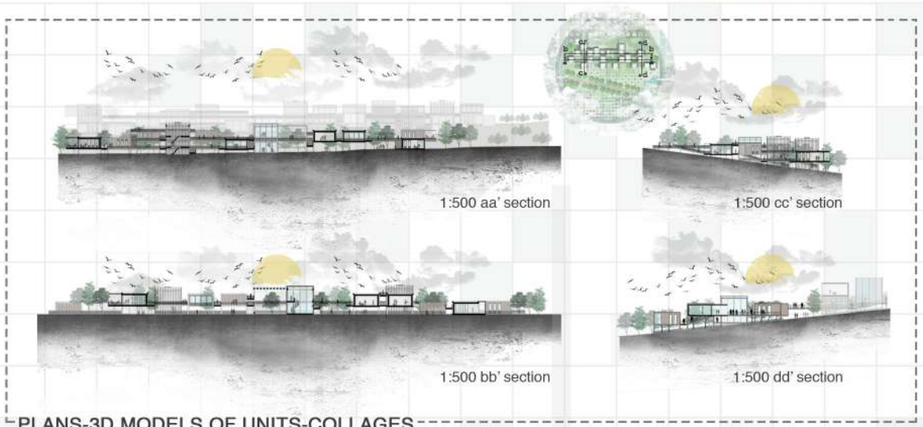






1:500 SITE PLAN

1:500 SECTIONS



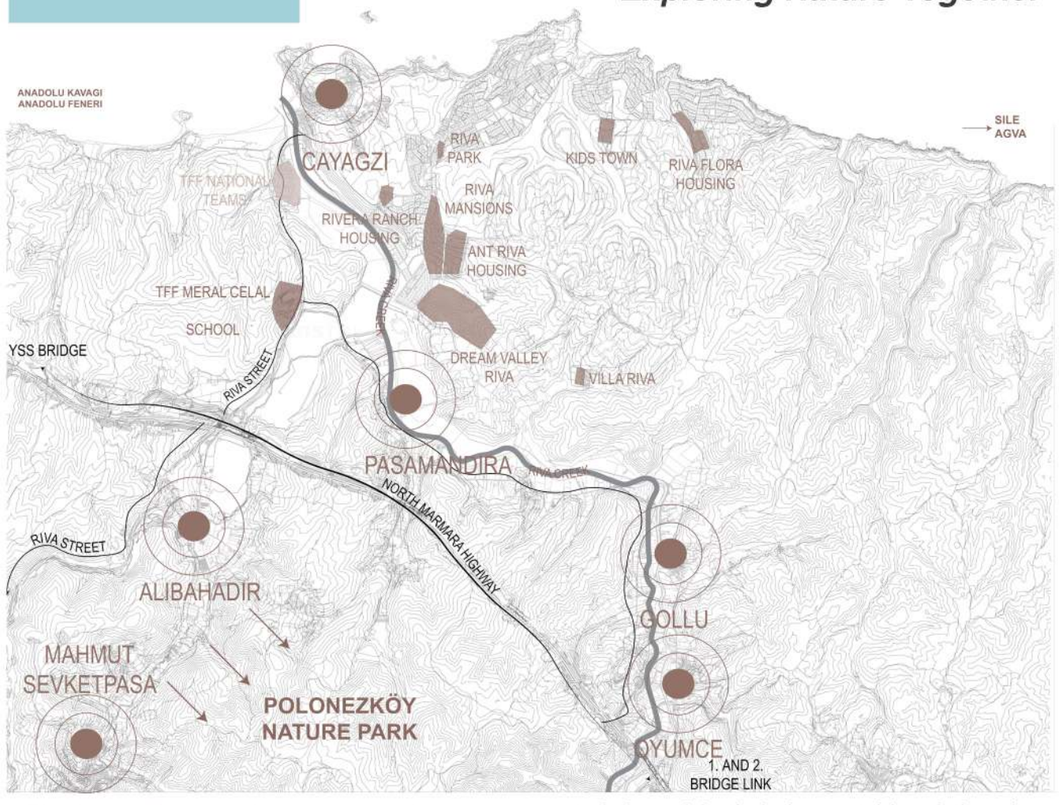
VISUALIZATION

URBAN DESIGN STUDIO PROJECTS

ECO - GAI

Deniz Yıldız (Urban Planner) - Gizem Kepenek (Architect)
Işık Sevinç Keskin (Architect) - Özge Kuru (Urban Planner) -
Türkan Akün (Architect)

A New Way of Life: Exploring Nature Together



Riva is a settlement where passes a river pouring into the Black Sea and its history goes back to the Genoese. It is in an area suitable for benefiting from the sun and air circulation by its location. Today, it is seen that Beykoz, which Istanbulites prefer especially for recreational purposes, is a region that should be emphasized with its historical structure and natural values.

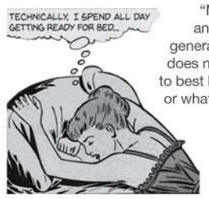
With the opportunity to reach the FSM Bridge in 15 minutes via Kavacık-Riva connection road, Riva combines its natural beauty and its characteristics of both being outside of the city density and its proximity.

Generally speaking; Along the Riva Creek, there are villas generally used as two-storey, secondary and newly built collective residences. Also along with the creek, there are industrial areas, garbage storage areas, quarries. There are many picnic areas, orchards, nurseries, greenhouses, horseback riding areas and restaurants.

CONCEPT

Human existence clinging to the huge flow of the city.

We work to earn our free time and it only has one meaning: take a break from work



"Many people, and even more, generally, humanity does not know how to best live their lives or what kind of life it is"
Lefebvre

Today, the specific cyclicality of nature and life has become something that technology organizes, designs and controls.

Organic society leaves place to mechanical society

we must seek the solution with everyday life and modern urban people

The traditional way of interaction of urban life lacks originality, creativity, discovery, and transformative power

since space is the way to live, what can be done to gain a new perspective of life?

ECOCITY

LIVABLE DESIGN
WATER CONSERVATION
MATERIAL CONSERVATION
ENERGY CONSERVATION
TRANSPORTATION PLANNING

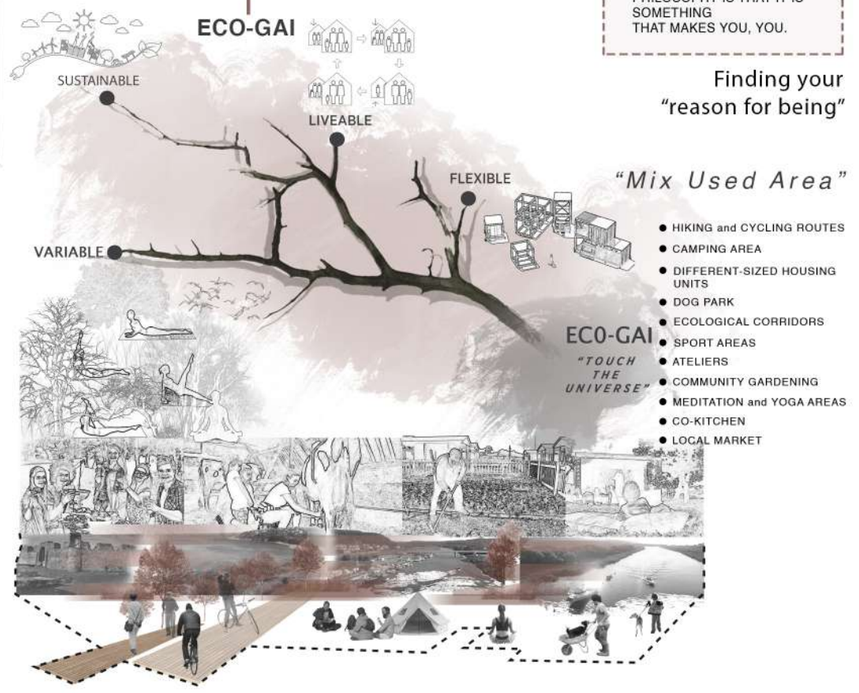
IKIGAI

PROMOTING SOCIAL RELATIONSHIPS
HEALTHY NUTRITION
POSITIVE THINKING
DOING EXERCISE
FINDING THE PURPOSE OF LIFE
BEING KEEP IN TOUCH WITH THE NATURE

"IKI" MEANS LIFE, AND "GAI" MEANS PURPOSE AND GOAL. AS CAN BE UNDERSTOOD FROM THE MEANING OF THE WORD, IKIGAI DEALS WITH LIVING FOR YOUR GOAL IN LIFE.
IT DOES NOT MATTER WHAT IT IS, MIGHT BE YOUR PROFESSION OR A HOBBY OR ANYTHING THAT YOU WANT TO ADD TO LIFE.
WHAT IMPORTANT IN THIS PHILOSOPHY IS THAT IT IS SOMETHING THAT MAKES YOU, YOU.

Finding your "reason for being"

ECO-GAI



"Mix Used Area"

- HIKING and CYCLING ROUTES
- CAMPING AREA
- DIFFERENT-SIZED HOUSING UNITS
- DOG PARK
- ECOLOGICAL CORRIDORS
- SPORT AREAS
- ATELIERS
- COMMUNITY GARDENING
- MEDITATION and YOGA AREAS
- CO-KITCHEN
- LOCAL MARKET

WITH REFERENCE TO IKIGAI PHILOSOPHY, IT IS AIMED TO;

CREATE AN ENVIRONMENT OF COMMUNAL LIVING OUT OF THE CITY WHERE RESIDENTS GET THE CHANCE OF FEELING THE SENSE OF UNITY AND NOT ONLY WITH PEOPLE BUT THE NATURE THAT WE ARE PART OF IT

CONSIDER POSITIONING VARIOUS FUNCTIONS WITHIN AN INCLUSIVE APPROACH FOR THE INTEGRATION OF RESIDENTS AND VISITORS, CONCEIVE PUBLIC SPACES AS MEETING POINTS

GATHERING RESIDENTS AND VISITORS DURING WORKSHOPS OR ACTIVITIES

CREATE DAILY ROUTINE THAT KEEPS PEOPLE ACTIVE AND SCENIC SPOTS THAT WILL ALLOW PEOPLE TO BREATHE

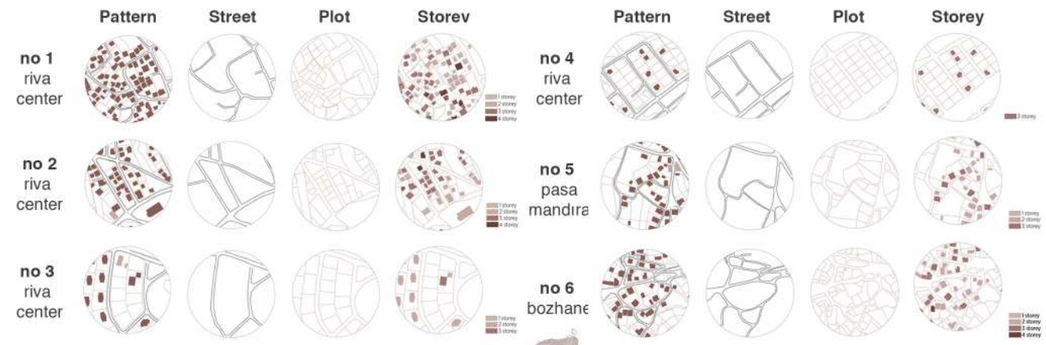
CREATE AREAS WHERE PEOPLE CAN STAY WITH BOTH THEMSELVES AND THE COMMUNITY

MACRO SCALE ANALYSIS

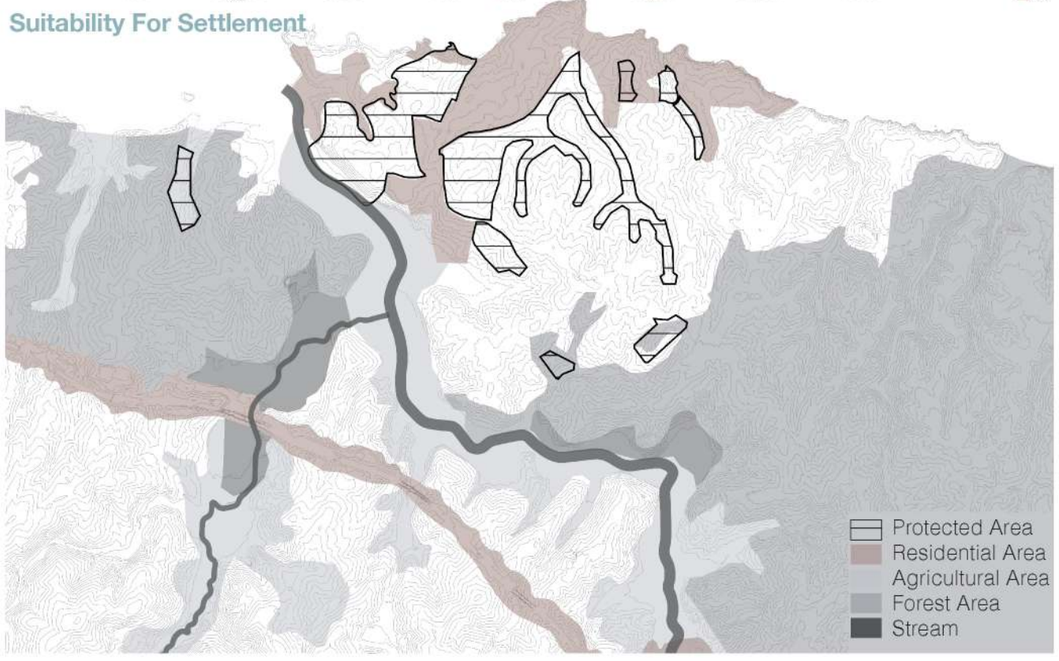
Pattern Analysis

	Average TAKS	Average KAKS
no 1	0.26	0.67
no 2	0.21	0.44
no 3	0.11	0.24
no 4	0.04	0.13
no 5	0.16	0.32
no 6	0.20	0.42

The pattern analysis was prepared to define urban dynamics for six different parts. 4 of them are in Riva center and others are in Pasamandıra and Bozhane districts. The patterns variety as organic and grid systems. Also, the pattern, plot, street and storey analysis for 6 selected parts were arranged. It was determined that the floor height is maximum 4 and organic pattern prevails according to analysis. Average FAR and BCR for selected parts were given in the table on the left.



Suitability For Settlement



SYNTHESIS

S

Natural beauties of the area
Having the strong transport connections
Being close to places with recreational and tourism potantial such as Polonezkoy, Anadolu Feneri and Sile
Having a natural protected area
Development potential of the area

O

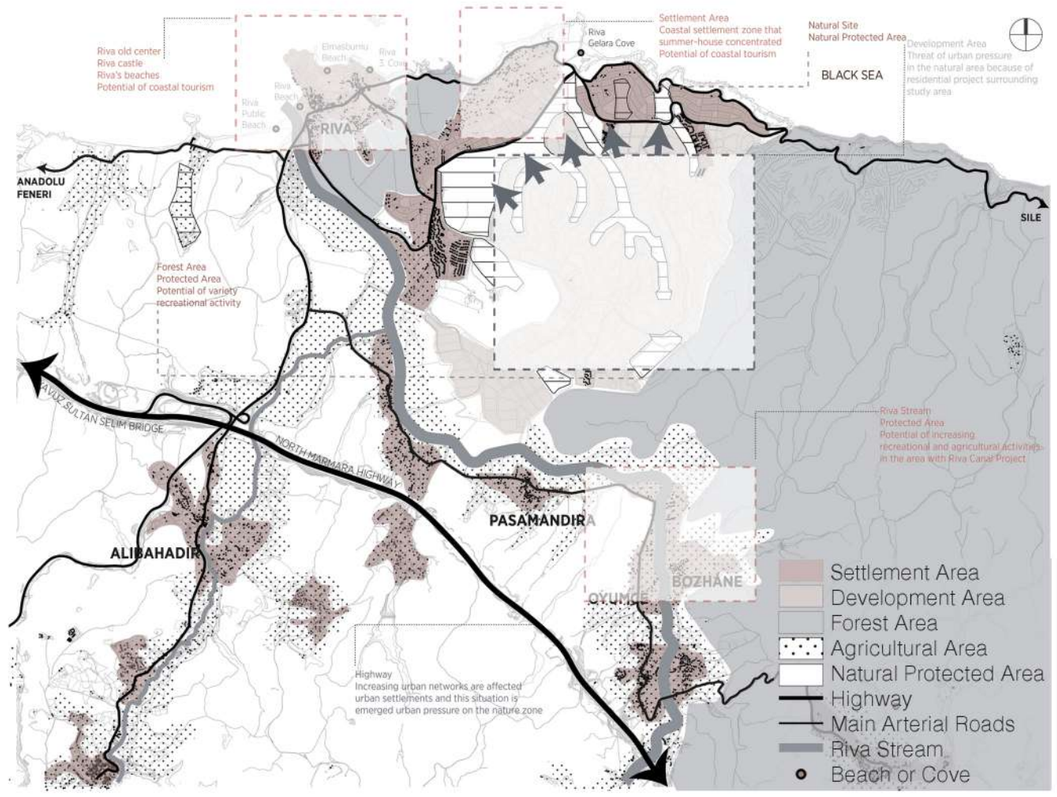
Recreation area and channel project for Riva Creek
New housing projects around the study area (with the relixation of planned projects, the region will gain more value)
Being close to the center of Istanbul in terms of benefiting from urban facilities. It is also far from the hustle and bustle of the city

W

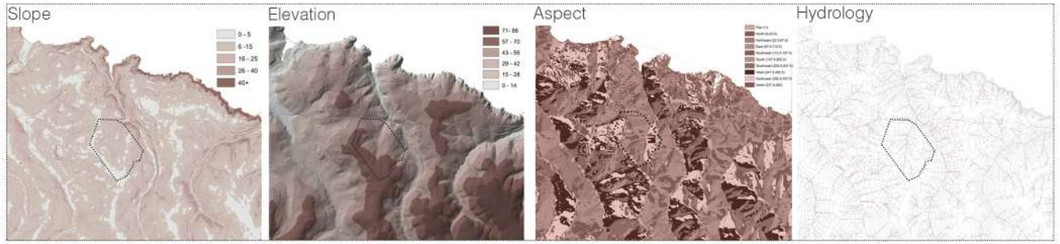
Having an undeveloped areas near study area
Dominating strong Black Sea wind in the region
Having infrastructure deficiency
Possibility of housing planned over the whole region to create excess supply
Unplanned and irregular residential

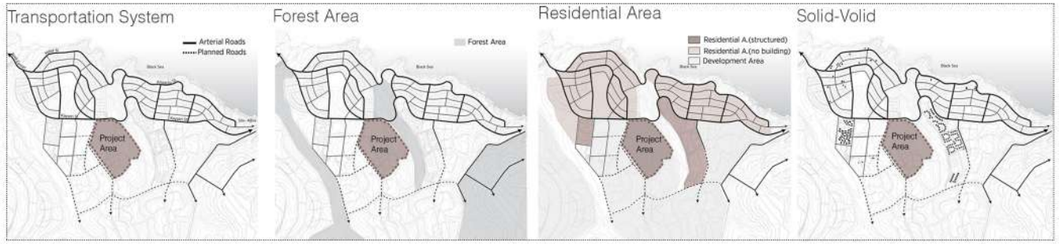
T

Pressure of residential areas on natural areas
Pollution and flood risk of Riva Creek
Second degree earthquake zone
The possibility of gradually decomposing the socio-economic profile of the region because of new projects

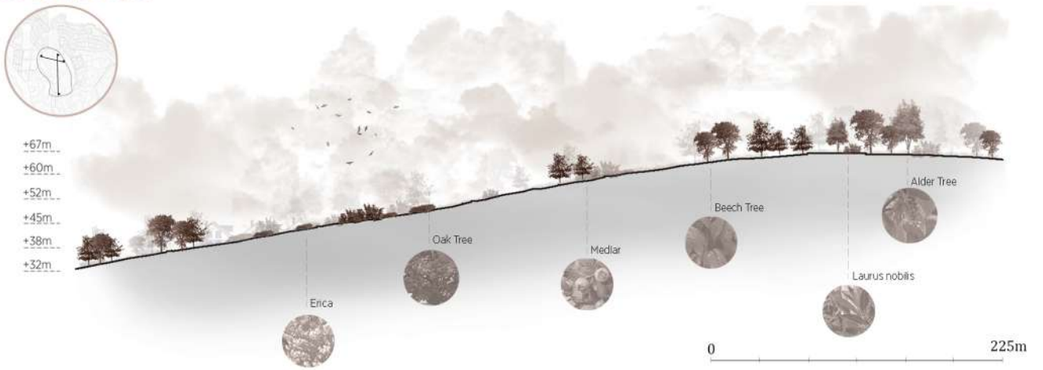


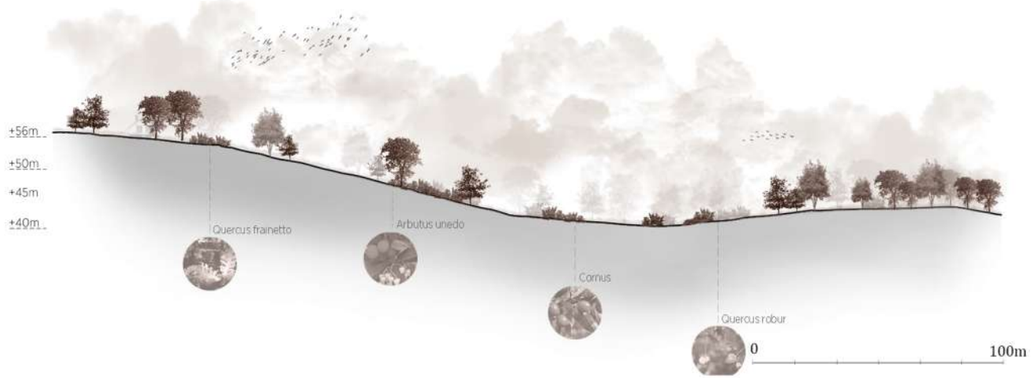
MICRO SCALE ANALYSIS





SECTIONS

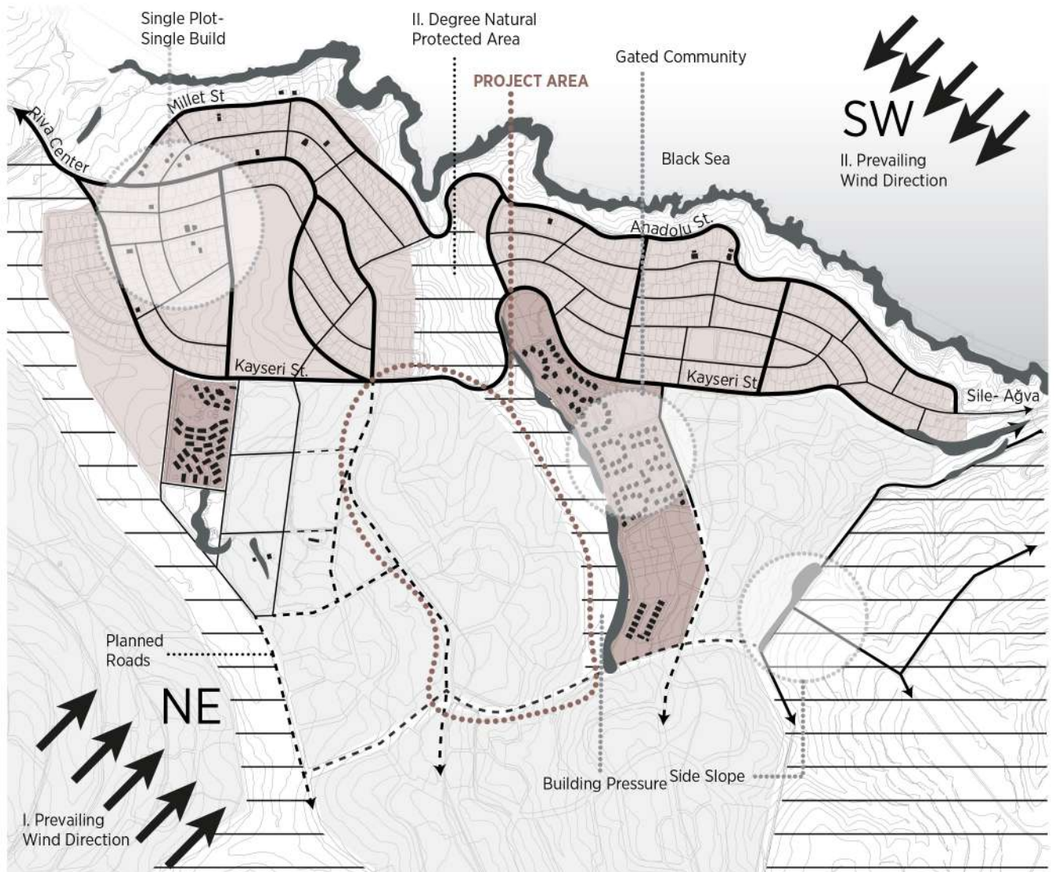




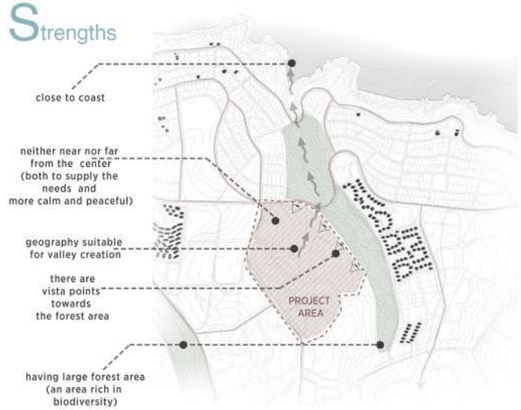
SYNTHESIS

In the project area where natural and structured environmental analyzes are made, a synthesis study was carried out in line with the data. Access to the project area, which is limited by residential areas and 2nd degree natural protected area in the north, is provided by Kayseri road. The natural protected area that forms a border in the east as well as in the north constitutes the important natural building elements of the region.

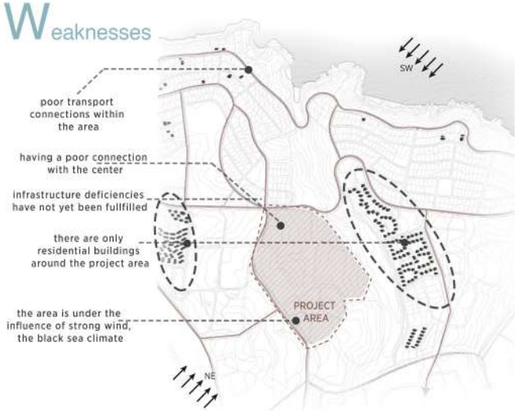
While the highest slope is 25% in the area, it is located between 28-71 elevations. There is a water collection area passing through the center of the area in the northeast-southeast direction.
Apart from the residential area around the project area, there are no reinforcement areas such as commercial and sociocultural facility.
Project area covers approximately 21 hectares.



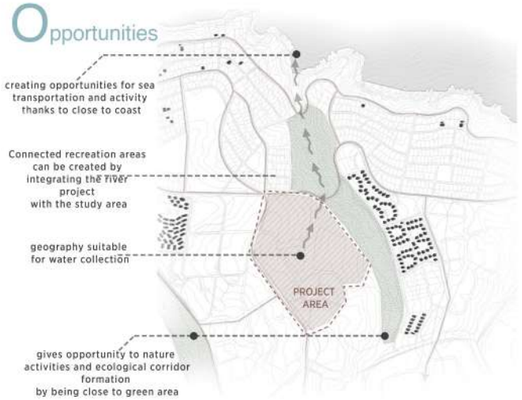
Strengths



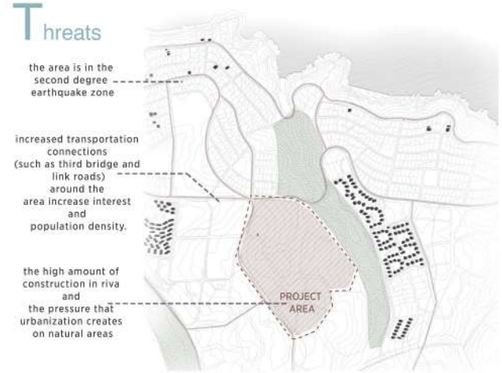
Weaknesses



Opportunities

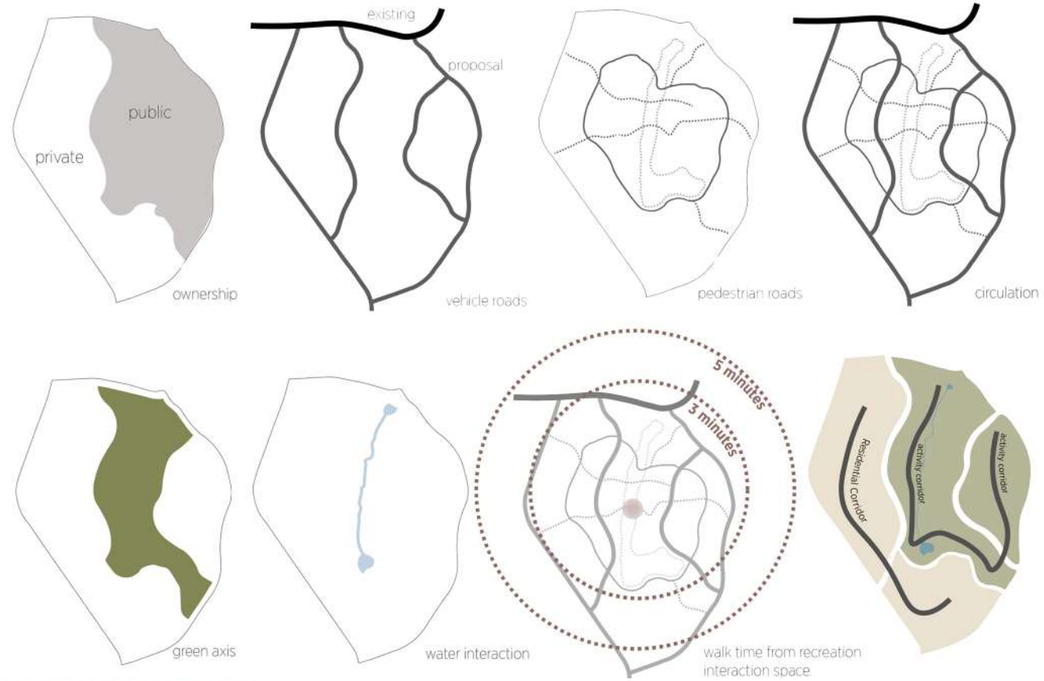


Threats



Functions

CONCEPT DIAGRAM

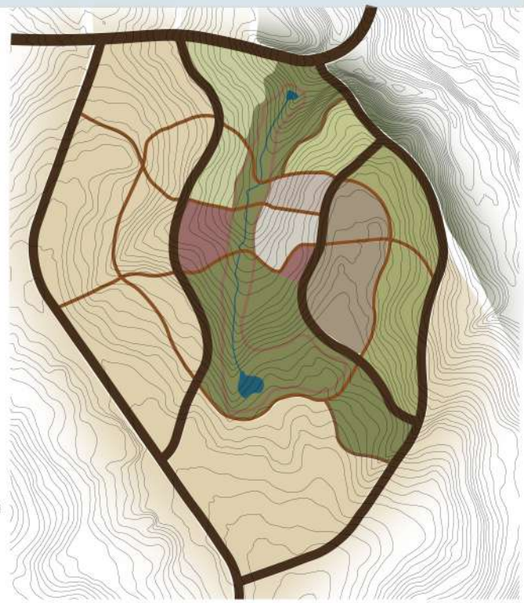


PROPOSAL PLAN

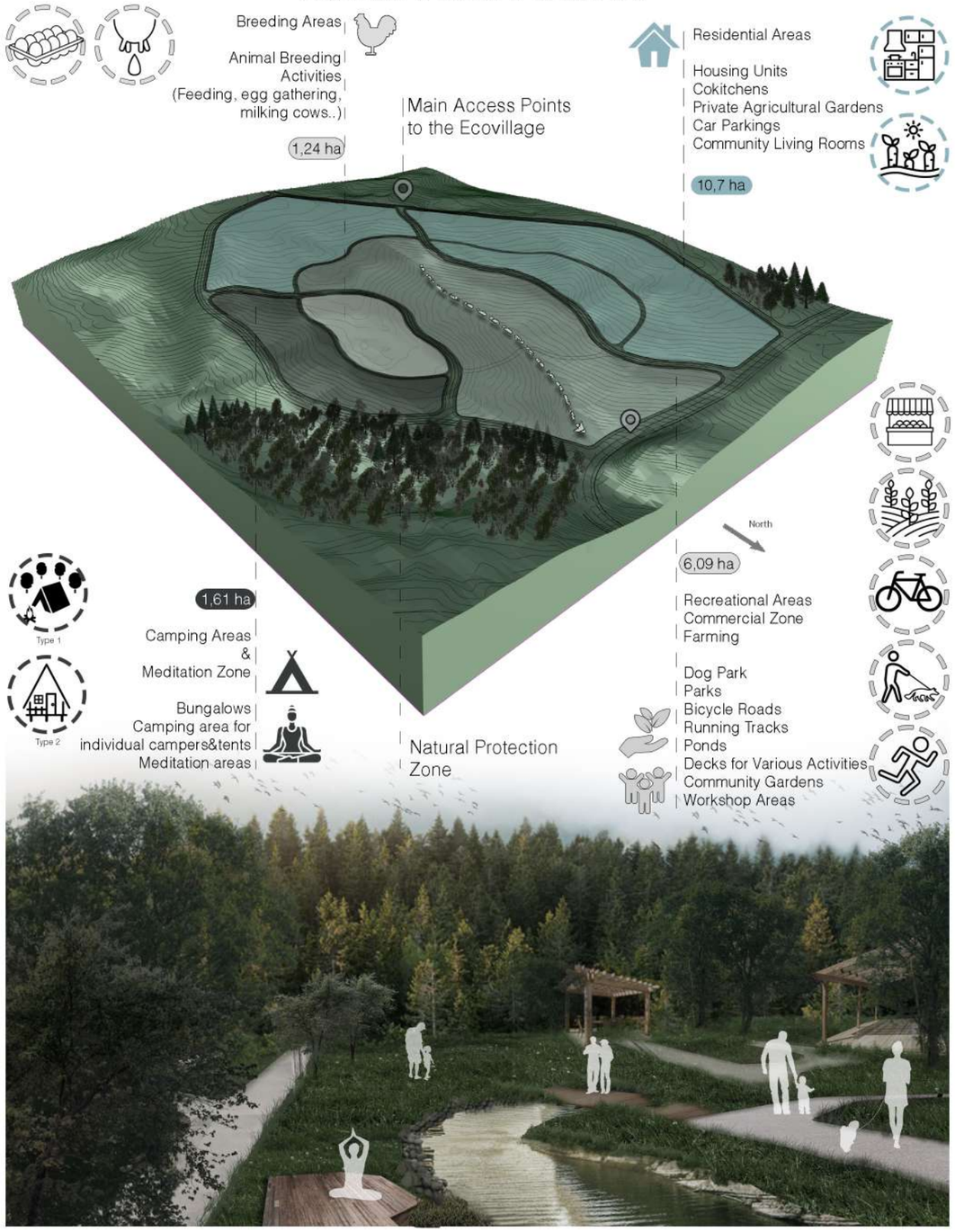
In the proposal plan, transportation circulation was planned first in line with the analyzes. The vehicle roads, which are dark brown, are designed as 15 and 12 m. In addition to a pedestrian axis forming a ring inside the area, connection pedestrian axes are designed to provide access to residential areas and reinforcement areas.The water collection area that forms the valley is designed as a recreational corridor.

The rainwater collection area created in the valley has been designed as a recreation area, commercial areas, sports area, organic market and agricultural area. In the eastern part of the village of Eco Gai, a camping area and an animal husbandry area are planned.

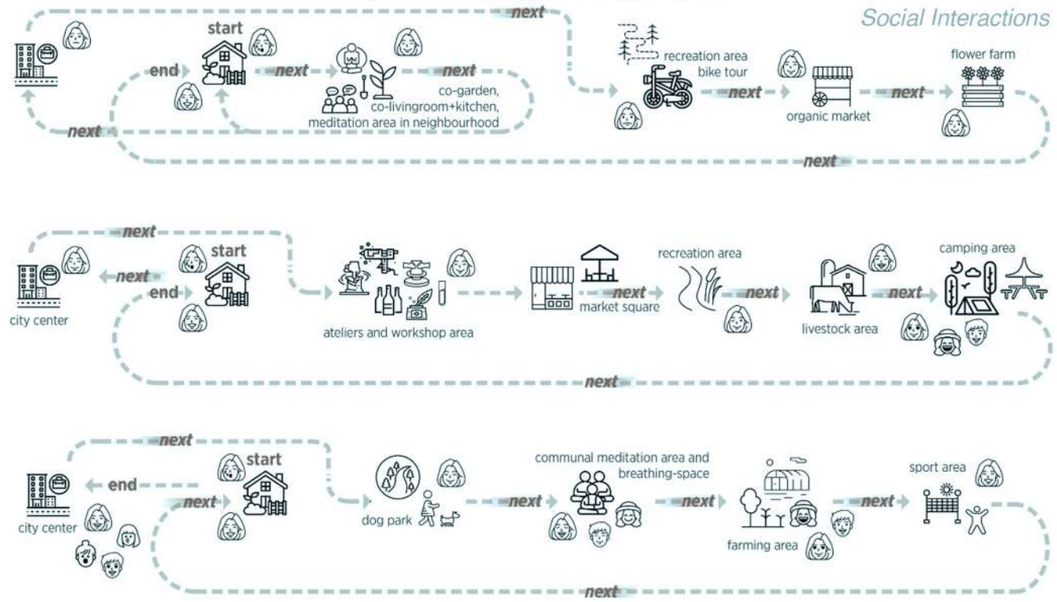
LEGEND
- Settlement Area
- Recreation Area
- Commercial Area
- Organic Bazaar
- Sport Area
- Farming
- Camping & Meditation
- Ateliers Area
- Agricultural Area



ECO GAI GROUP PROJECTS

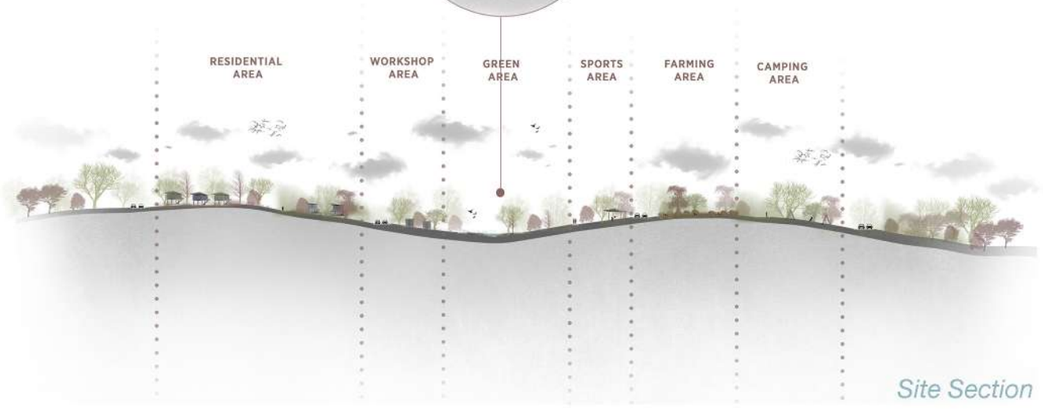


ECO GAI GROUP PROJECTS



In the chart above, daily cycles of habitants can be seen. There are various activity zones in Eco-Gai village, examples can be given as: meditation areas, co gardens, co kitchens + livingrooms, cycling lanes, organic markets, flower farms, workshop areas, markets, recreational areas, dog park, sport areas, etc.

Eco-Gai village covers approximately 224.100 square meters. It is nearly 620 meters long on north-south axis and 491 meters long on east-west axis respectively. Area of10,7 hectares in the whole village is dedicated to residential areas and the village contains 5 seperated zones as sub-neighborhoods.

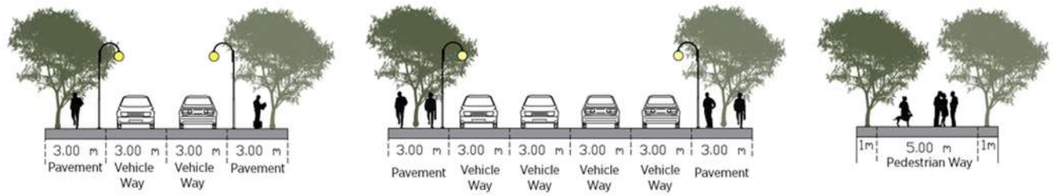


Site Section

ECO GAI GROUP PROJECT

ECO GAI GROUP PROJECTS

STREET SECTIONS



PLANNING APPROACH

There are 3 main factors for the formation of the Eco-gai settlement. First of all, it had a valley feature due to the natural structure of the land. The valley was designed to be a recreation area to clear decayed polluted air and ensure a picturesque place to spend time together. In addition, it has been designed with reforestation and various plant species by considering rainwater accumulation.

A pedestrian axis was considered to ensure equal access to recreation and other areas of activity and the residential area. Minimization of vehicle roads was considered in the settlement. Vehicle circulation was provided by the periphery and 2 vehicle road passing through the settlement.

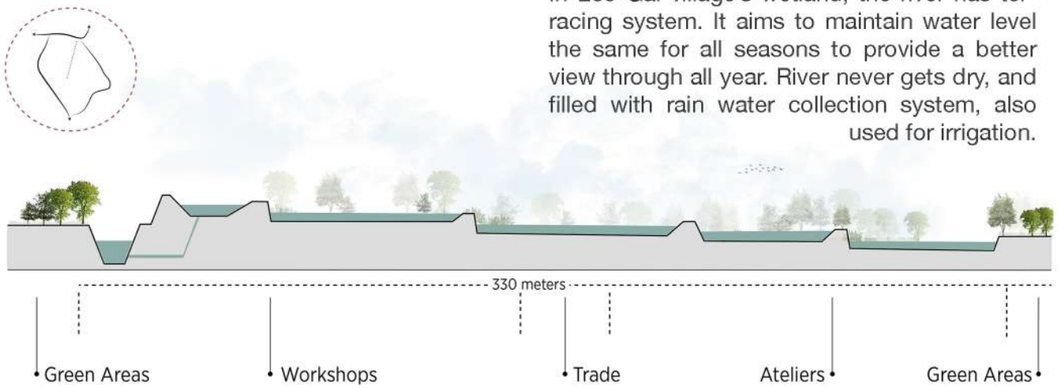
The second factor is our concept approach. It was aimed to plan a system in which experiences would be shared in order to adopt the ecological lifestyle and spread it among people. To illustrate, ateliers and the workshop area was designed to talk about environmental issues, product natural productions, and share experiences. Livestock and camping areas were placed side by side to share the experience between guests and residents.

While the camping area is located on the periphery to see the landscape of the natural protected area, activities such as animal husbandry; fruit, vegetable, and flower fields, and organic market have been centralized. Thus, it resulted positively in terms of walkability.

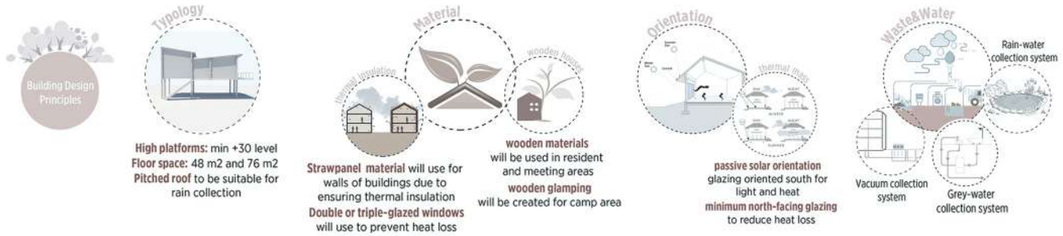
The third factor is the evaluation of climatic data. The activities in the settlement have been designed taking into account the sun orientation, wind direction, and slope.

WETLAND SECTION

In Eco-Gai village's wetland, the river has terracing system. It aims to maintain water level the same for all seasons to provide a better view through all year. River never gets dry, and filled with rain water collection system, also used for irrigation.



ECOLOGICAL APPLICATIONS



VEGETATION COVER

1. Laurus nobilis
2. Erica
3. Cornus
4. Mediar
5. Water lily
6. Quercus robur
7. Quercus frainetto
8. Arbutus unedo

Psödomaki, is the dominant vegetation of Riva region, and it consists given species in the visuals.

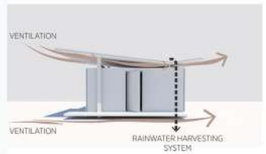
WETLAND VISUALIZATION

ECO GAI GROUP PROJECT

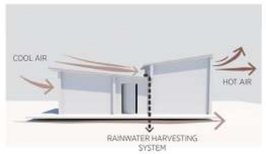
NEIGHBORHOOD CLUSTER HIERARCHY

Insolation, slope, socializing areas and privacy were considered in the orientation and hierarchy of houses

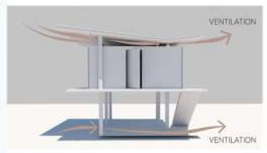
HOUSE TYPOLOGIES



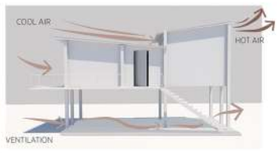
SINGLE STOREY - 48 m²



SINGLE STOREY - 76 m²



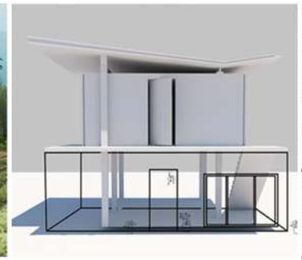
HIGH ELEVATED SINGLE STOREY - 48 m²



HIGH ELEVATED SINGLE STOREY - 76 m²

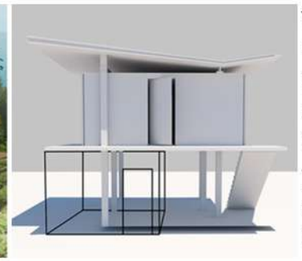
OPTIONAL USAGE

Single storey houses were uplifted to provide flexibility in usage



The ground floor can be used for various purposes such as storing up the stuff, having a barbecue, keeping the dog or adding to the house

According to solar orientation, living areas face south and the bathrooms face the north



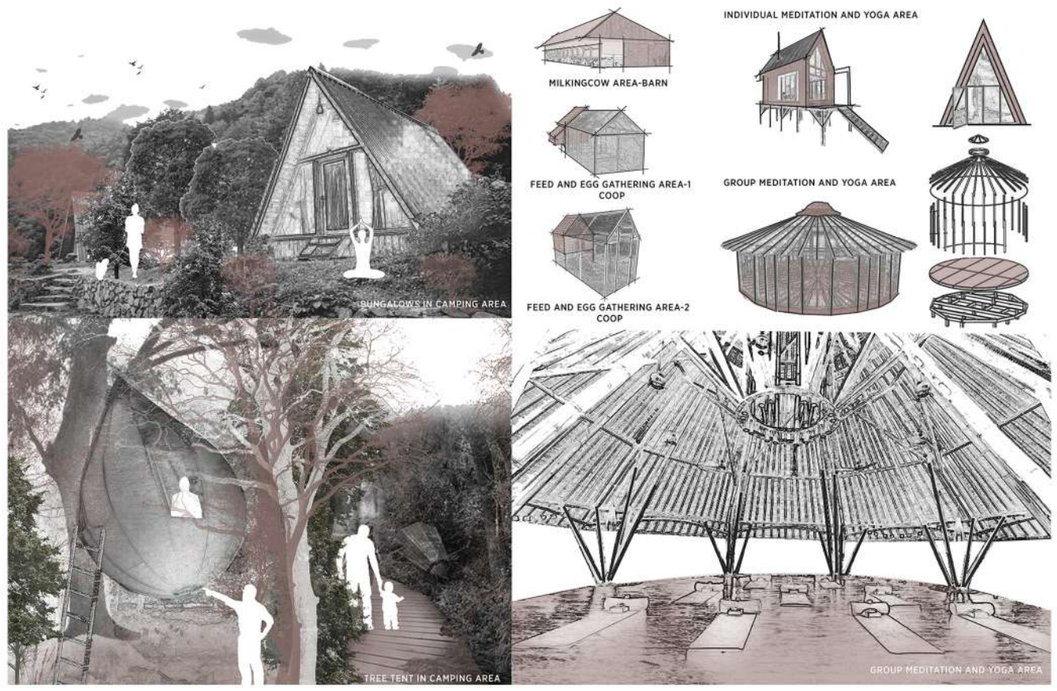
Co-garden was placed in the way that it is facing east to get the morning sun

Socializing areas were considered for the circulation road passing through the houses

The co-house was placed centrally to be seen from houses and co-garden

ECO GAI GROUP PROJECTS

FARMING, CAMPING AND MEDITATION AREA



URBAN DESIGN STUDIO PROJECTS

ECO GAI

INDIVIDUAL PROJECTS

Gizem KEPENEK
Architect

Site-A is the settlement located in the northernmost part of the Eco-gai area. It is a neighbor with workshops and atelier areas in the east and site-b in the south. The settlement is totally 1.73 ha consist of two neighborhood clusters.

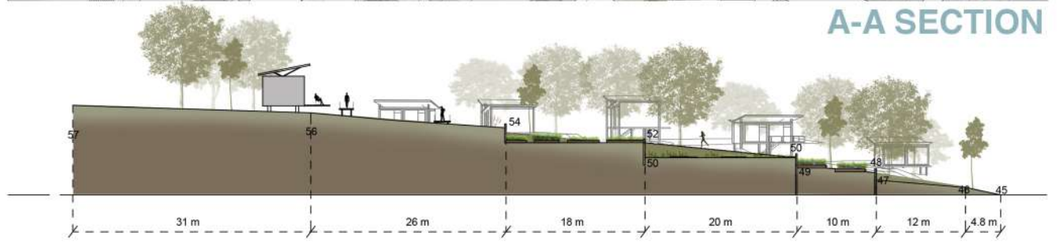
There is a welcome area at the entrance of both neighborhood units. After that Co-garden starts. Co-garden is located in the center to be seen from everywhere and to get good light.

Sloped terrain reclamation was made in sets and a ramp system was constructed around it.

At the same time, leisure time areas were created around the main ramp structure and the Co-house. On the sides of the ramps facing the co-garden, green elevations have been created to sit and spend time. Besides that, all leisure time areas were designed with the soil floor or by using gravel material.

Materials compatible with nature were chosen; ramps and buildings were raised from the ground, hence **there is no need for any action on the ground.**

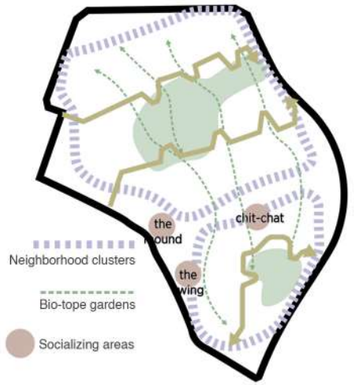
A-A SECTION



SOCIALIZING AREAS

According to the concept of the project, the Eco-gai settlement was planned to be a place where ecological life experiences are shared. Workshop area and ateliers have been created **to talk about the nature-centered lifestyle, to produce natural products, to share and spread experiences among people.** Likewise, for this purpose, the campground, livestock area and organic market area are located next to each other.

In order to continue the same concept in Site - A design, socialization areas on the periphery of clusters were designed. A mound was created on the node where neighborhood units intersect. There is also an area where the swings were placed on the same node. These were designed to offer a play or chat area for children or adults. For the same reason, a rock wall was placed next to the pedestrian axis, or a seating area was set up at the entrances of the units.



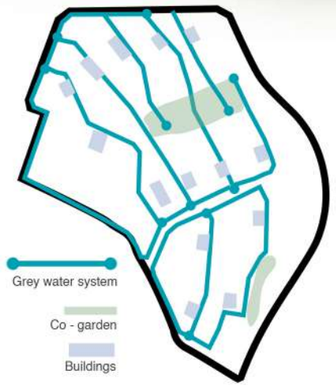
FLOOR PLANS

BUILDING TYPES

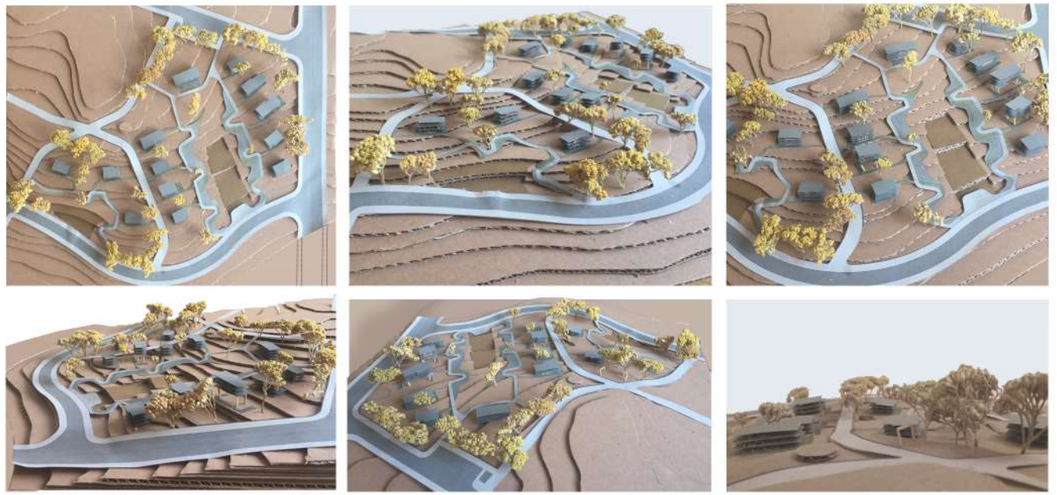
MATERIALS

The residences have two different size options of 55 square meters (1+1) and 72 square meters (2+1). There are wooden desks on the ground floor of all houses; Thus, the relationship with the ground was not cut.

In addition, the biotope gardens located between the houses also provide the absorption of rainwater. Pedestrian axles have been raised from the ground to reduce damage to nature. Perforated steel material was used for the main ramp and residential roads connected to this ramp.



Biotope gardens are mini habitats, which are formed for birds, butterflies, and various plant species. It is part of the natural structure. The gardens get water with the gray wastewater system in the settlement and land reclamation . It also acts as a linkage between clusters, offers a beautiful view from the ramp and the houses.



URBAN DESIGN STUDIO PROJECTS

ECO GAI

INDIVIDUAL PROJECTS

Deniz Yıldız
(Urban Planner)

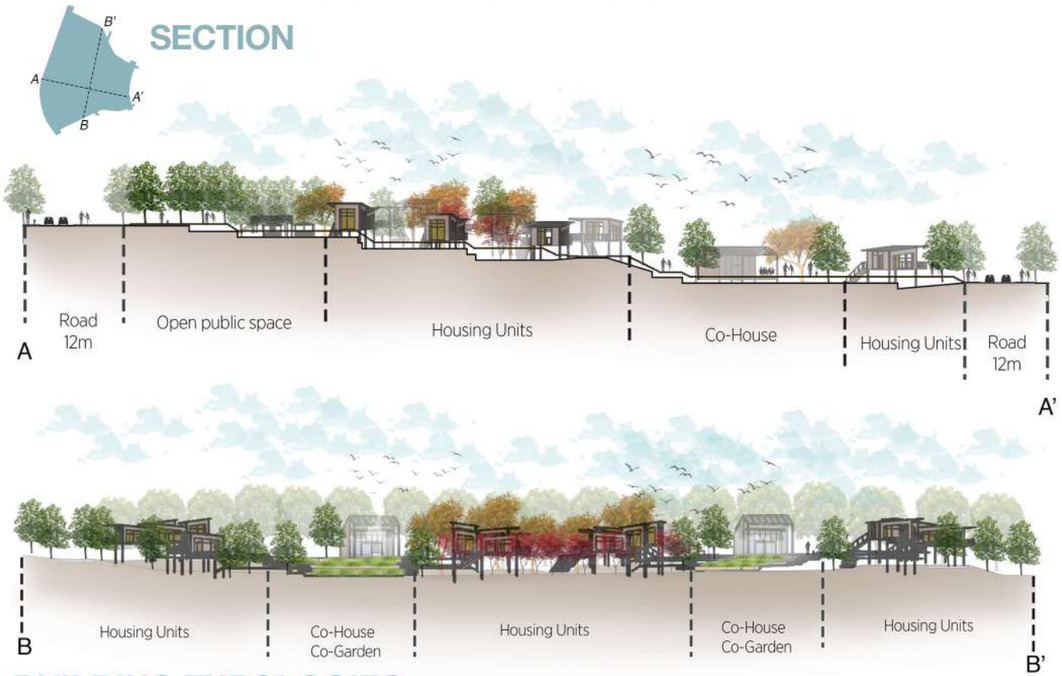
Site B View

SITE B

With the Eco-Gai concept designed as an ecological village, a living space intertwined with nature is targeted. In addition, Eco-Gai is aimed at social interaction and coexistence. Site B remains on the west part of Eco-Gai village in Riva, Istanbul. It covers an area of 3 ha within the Eco-Gai village. Site B contains 16 housing units. Six of the units are 78 square meters and remaining housing units are 60 square meters. There are also 3 co-houses in the site.

These areas are designed as common areas. In these units where they can spend time together and increase social interaction, people can relax and eat together. Co-gardens, which have a significant size within the area, constitute another important public common areas. Common open spaces are designed by creating a gathering area at the junctions of co garden and co-houses.

SECTION

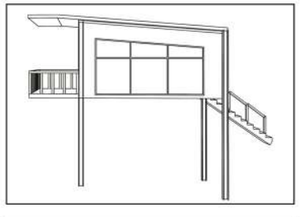


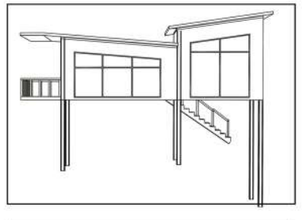
BUILDING TYPOLOGIES

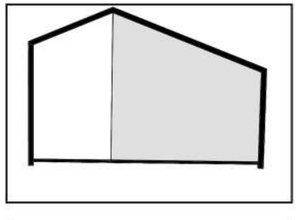
TYPE 1 / 60 m2 (GROSS)
for 2 person
1 hall
1 kitchen
1 bedroom
1 wc-bath

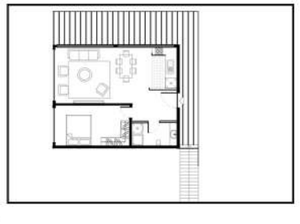
TYPE 2 / 78 m2 (GROSS)
for 3-4 person
1 hall
1 kitchen
2 bedroom
1 wc-bath

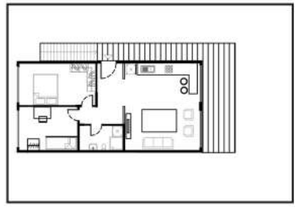
TYPE *Co-House* / 120 m2
Kitchen
Activity
Dining
Living
Wc











While designing wooden houses raised with steel columns, it is aimed to minimize the damage to the land. Since the slope is high, the housing units raised from the ground minimized the intervention to the land. The lower floor of the elevated houses is optional and can be designed as an area that can be spent on demand.

Apart from their own private gardens, common agricultural areas have been designed in the project. In these areas, people will be able to obtain organic products through the production of vegetables and fruits. There are also opportunities to sell their produce in organic markets in the village of Eco Gai.

View from the Co-House

View from the Co-Garden

URBAN DESIGN STUDIO PROJECTS

ECO GAI

INDIVIDUAL PROJECTS

Türkan Akün
(Architect)

SITE C

MODEL PHOTOS

Site C in the Eco-gai village consists of 11 living units and 2 co-houses.

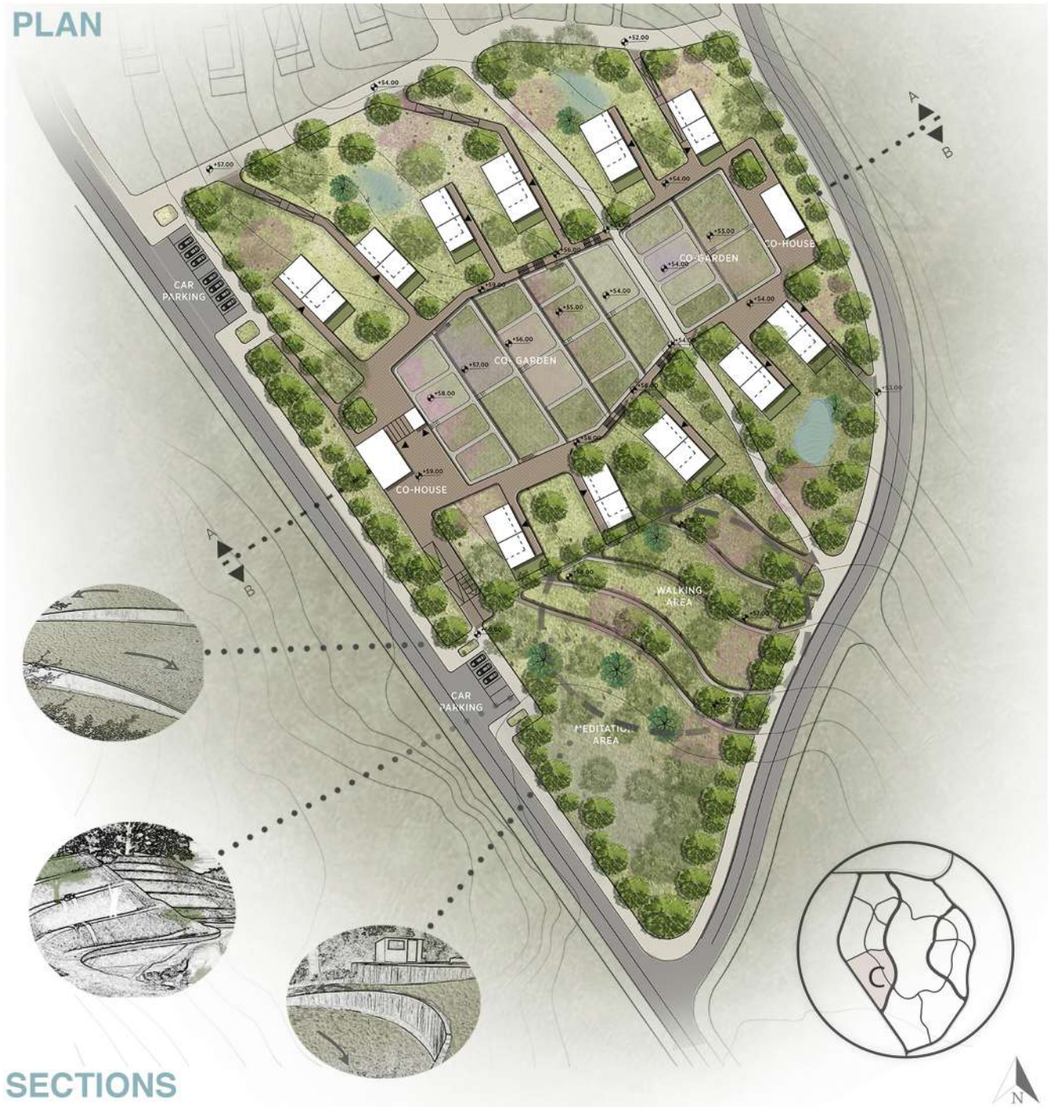
Also, the units of life include 2 plan types with dimensions of 5 x 11.5 and 6 x 11.5 meters. Each house type has its own terrace.

Since they are located on a sloping land, the living units are built on high legs and the wooden platforms provided circulation within the area.

There are co-gardens in the middle of an elevated wooden platform. Co-gardens in the area were created by terracing system.

The area includes recreational areas such as; walking area, raingardens and meditation area.

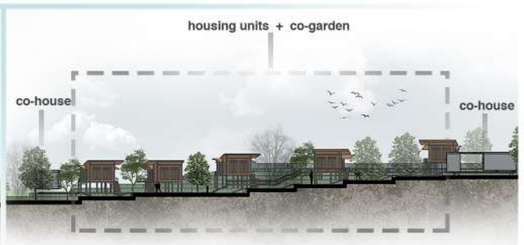
PLAN



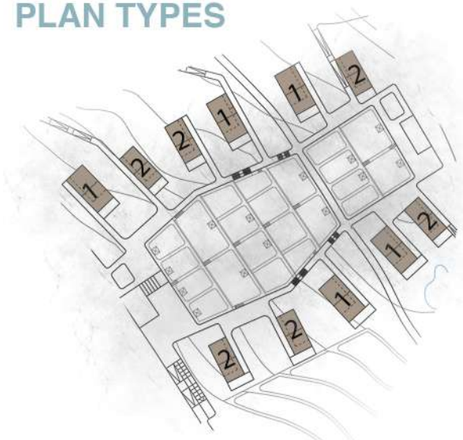
SECTIONS

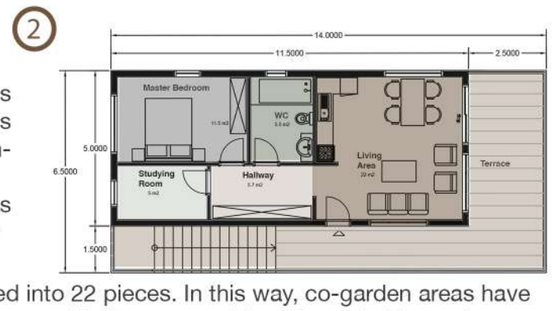
A

B



PLAN TYPES





In the diagram above, the positions of the plans in the site plan are shown. Both types of houses are designed elevated form. In this way, a compatible design was made on a sloping area. Unlike the other plan type, the first type plan has a bedroom and a storage and also second plan type has studying room.

The area where co-gardens are located is divided into 22 pieces. In this way, co-garden areas have been created with the option to grow different types of fruits or vegetables. Through this partly expanding platform, people can spend time in groups. In addition, they can gather in co-gardens and co-kitchens and spend time together according to their interests such as, farming, meditation, walking, cooking etc.

URBAN DESIGN STUDIO PROJECTS

ECO GAI

INDIVIDUAL PROJECTS

Özge Kuru
(Urban Planner)

SITE D

Site D is the fourth residential part of Eco gai study area. Its south and west surrounded by the vehicle road while the north and east of the area limited by the main pedestrian axis. The transportation system in the area is as follows: the parking system was firstly designed to have a car park for each housing unit and a guest car park for 2 housing units. Also, a main pathway has been created to integrate the pedestrian axis surrounding the area and to circulate the entire the area. The access to housing units was provided by a platform system higher than the ground. The height of the platform varies between max. 3.30 meter and min. 0.30 meter.

Terracing was used in the design of agricultural areas in the co-garden which is one of the significant details of eco gai concept. They are integrated with the bio-swale system and it is aimed to meet water need. The plant diversity has been achieved by using different species around the water axis. Also, the warehouses were designed in the co-gardens. In addition, the co-house was created as a common area for those living in the area to spend time together. There are co-kitchen and co-living area in the co-house.

1/500 SITE PLAN

Two activity areas were designed in the south of the area to be integrated with the pathway: the viewing platform and the open-air cinema area. The south of the area is the highest point of Site D and the whole area can be seen from this point. Therefore, wooden platforms were created here to design stepped view points. Also, there is a small open-air cinema area that people can come with their own chairs and spend time in the southeast of the area.

Housing Types

72 sqm

60 sqm

Floor Plans

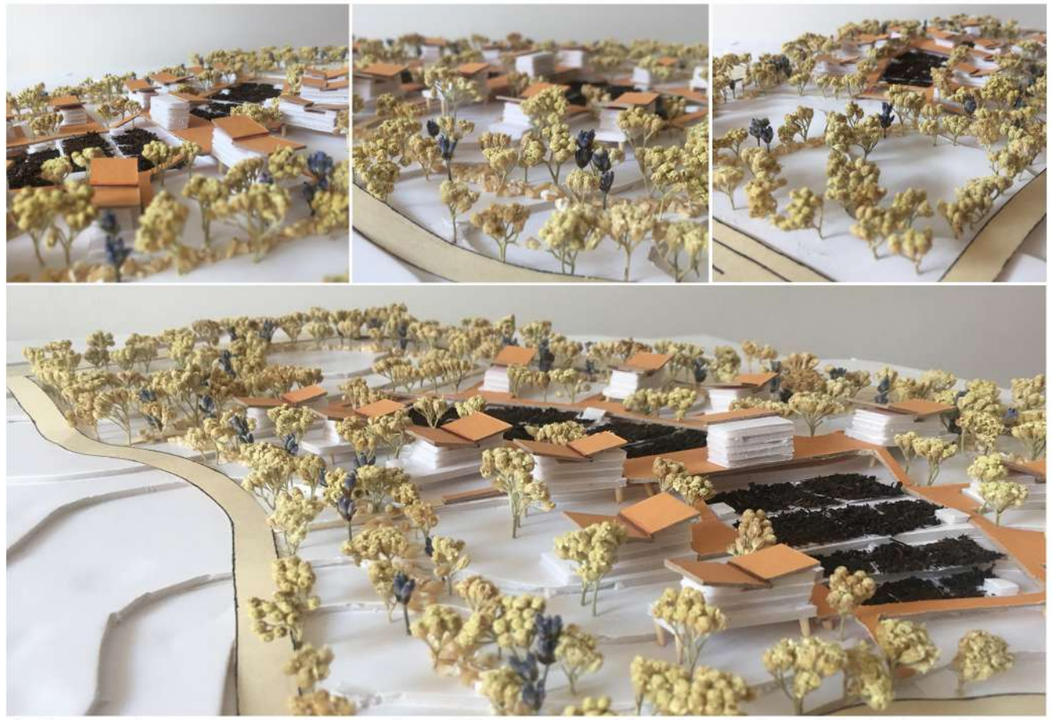
Material Design

Plant Design

Two housing types have used as 60 sqm and 72 sqm in Site D. There are totally 12 housing units and 8 of them are 60 sqm while rest of them are 72 sqm. In addition, 72 sqm houses have 2 bedroom, a livingroom, a bathroom and larder. Similarly, 60 sqm houses have a bedroom, a livingroom, a bathroom and a larder. Both two housing types have a wide balcony which has natural view.

5 material types have used in Site D design. Firstly, main platform was made of wood and slate was used for the floor in the co-garden. Also, the basalt was designed for water passing in the co-garden. In the main pathway, slate was used again, and mixed material of pebblestone and wood were used to direct from pathway to viewing point. In addition, 4 plant wereused for plant design.

1/500 MODEL



4 plant species in the natural vegetation of Riva were used for plant design of Site D. Laurel (laurus nobilis) and medlar (mespilus germanica) trees were used throughout the area. The crucial activity areas such as co-house, open-air cinema area and viewing point were designed with beech trees (carpinus betulus). Also, redbud tree (cercis siliquastrum) was positioned around pathway axis to make it more visible.

URBAN DESIGN STUDIO PROJECTS

ECO GAI

INDIVIDUAL PROJECTS

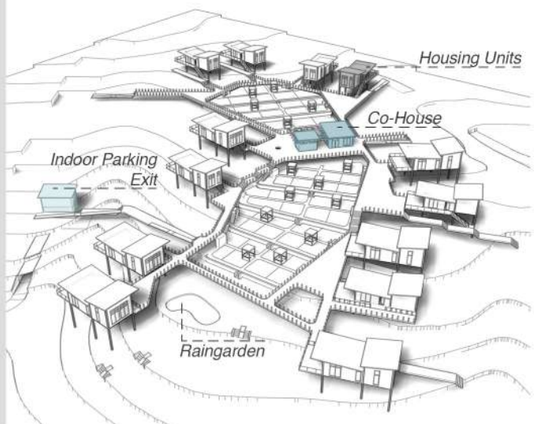
Işık Sevinç Keskin
(Architect)

View towards co-house

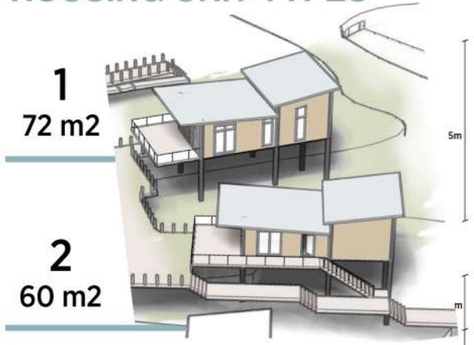
SITE E

Site E remains on the southernmost part of Eco-Gai village in Riva, Istanbul, Turkey, which aims to make its habitants and visitors to experience an ecological life style. It covers an area of approximately 1,92 ha within the Eco-Gai village. Site D on the west, recreational area & walking and cycling lanes on the north, and camping site neighbors Site E on the northeast part of it.

Site E contains 13 housing units. Three of the units are 72 square meters and remaining housing units are 60 square meters.



HOUSING UNIT TYPES



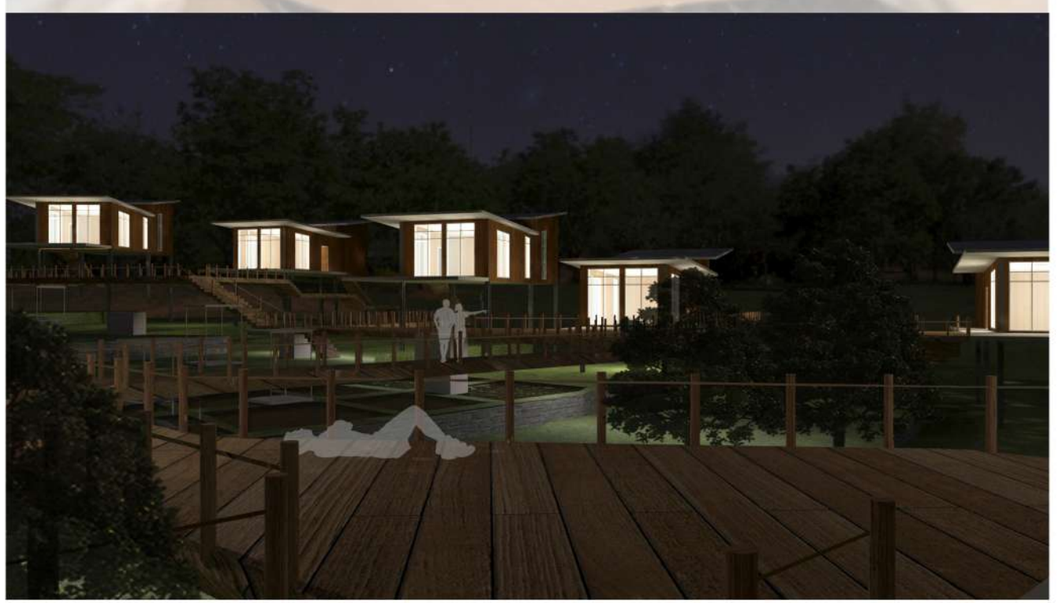
Both housing unit types have elevated/-leveled options. There are 9 elevated houses on the site and remaining 4 are leveled with the main platform. Houses that are 72 m2 have 2 bedrooms, on the 60 m2 type there is one bedroom plus a room that can be used as storage optionally.

In the middle of site E, there is a co-house for the habitants of village, to rest and socialize with others. They can also cook their ingredients gathered from co-gardens, and share recipes with each other. Co -houses have 66 sqm of closed area and open areas to use in spring and summer.

View from the park

1:500 Model Photos

Between platforms, there are co-gardens which have more than 60 plots for farming activities. Habitants of the village can carry out farming activities there, and have a break in gazebos located in co-garden area.



URBAN DESIGN STUDIO PROJECTS

GAIA

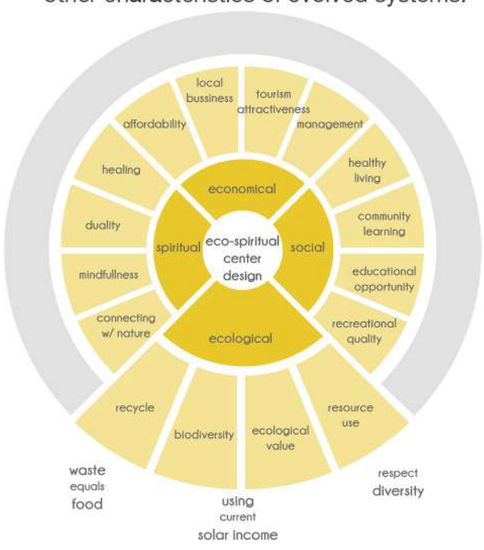
Nilsu Erdoğan (Urban Planner) - Ş. Diğdem Arı (Urban Planner) Rümeysa Akgün (Landscape Architect) - Büşra Gizem Yılmaz (Architect) - Farnush Golabi (Architect)

Eco-Spiritual Center - 'A Living System' That Can Assume a Life of Their Own...

WHAT IS GAIA THEORY ?

The theory asserts that living organisms and their inorganic surroundings have evolved together as a single living system that greatly affects the chemistry and conditions of earth's surface. Gaia is a system of interacting biological and material subsystems that have co-evolved together over billions of years and depend on each other. Human beings are a species that has evolved like any other species, with all that implies in terms of terdependence, self-organisation and the other characteristics of evolved systems.

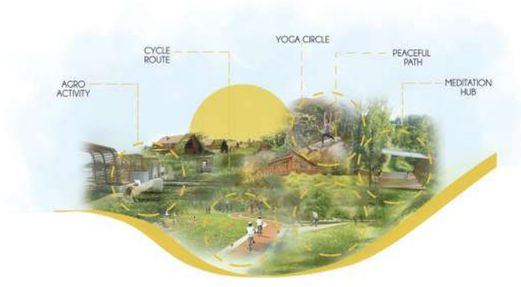
Gaia Theory can help us model human activities after the living systems of our planet; the concept offers lessons for the design of eco-spiritual center. The concept created to design an eco spiritual center is associated with four main topics: Economical, Ecological, Social and Spiritual. All these issues are related to different subtitles. The key to creating an ecological spiritual center is to meet the criteria for these topics. Sub-topics such as healthy living, recreational quality, educational opportunity are related to social issues. Subheadings such as healing, connecting with nature, mindfulness are related to spiritual issues. Topics such as local business, management, tourism attractiveness economical; recycle, resource use, biodiversity are related to ecological issues.



Our vision is creating ecological spiritual center which is self-maintaining and self-regenerating 'a living system' that can assume a life of their own. Designing a spiritual center where people live, learn and heal and this center would provide the feeling of the connection and the attachment of people and nature. Our mission is to creating an ecological settlement where human activities are harmlessly integrated into the natural world.

Aims are as follows:

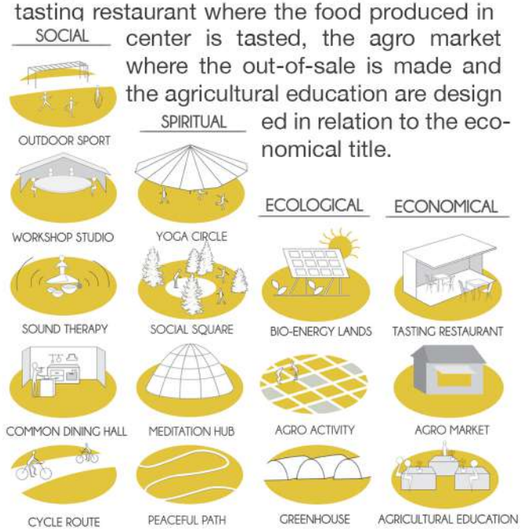
- To develop and implement comprehensive land and water management plans
- To maximize sustainable agricultural use of open land while protecting and fostering native species and systems in its natural areas
- To produce a substantial part of the food for spiritual center on site with agricultural activities
- To encourage pedestrian and bicycle circulation and connecting these axes to residential areas
- To minimize the ecological footprint of the residential community by using green building techniques and materials
- To provide recreational, social gathering, meditation and yoga space for residents and the broader community.



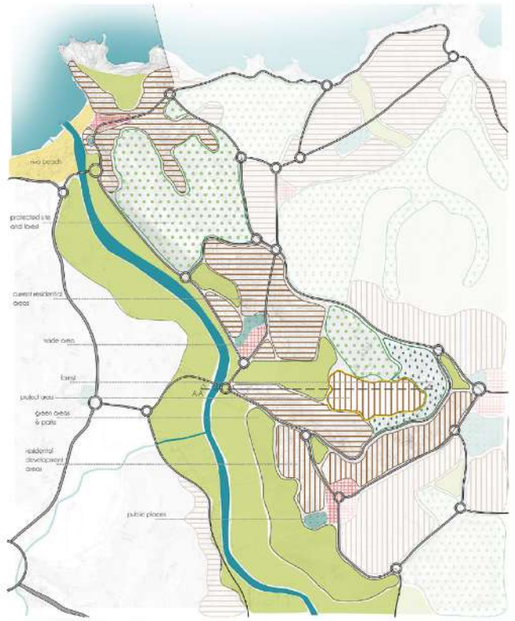
In order to increase the circularity underlying the Gaia theory to the design, cycles related to four predetermined main topics were created. Cyclicity of processes and issues related to ecologically sustainable, economically sustainable, socially sustainable and spiritually sustainable has been defined.

INDIVIDUAL & SOCIAL DESIGN ACTIVITIES

In the ecological spiritual center, various individual and social activities have been designed through four main topics (social, ecological, economical and spiritual). Activities determined in connection with the social title; outdoor sport, workshop studio where various events take place, sound therapy, common dining hall where people eat collectively and cycle route. Yoga circle, social square, meditation hub and peaceful path activities have been decided in relation to the spiritual title.
Bio energy lands, the agricultural activities that the visitors perform and the greenhouse are designed in relation to ecological title. The tasting restaurant where the food produced in center is tasted, the agro market where the out-of-sale is made and the agricultural education are designed in relation to the economical title.

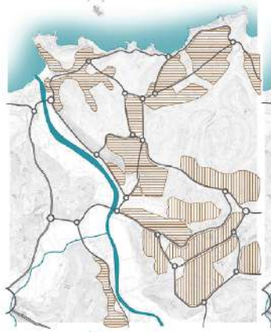


1:5000 PLAN



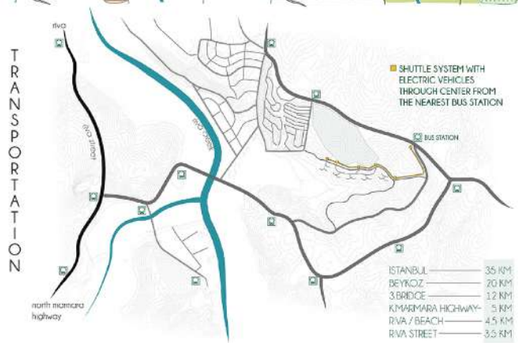
Riva creek side is planned as green area according to flood plain border and agricultural lands that include 4 zone; coastal zone, wetland zone, agricultural zone and nature tourism zone.

HOUSING AREAS

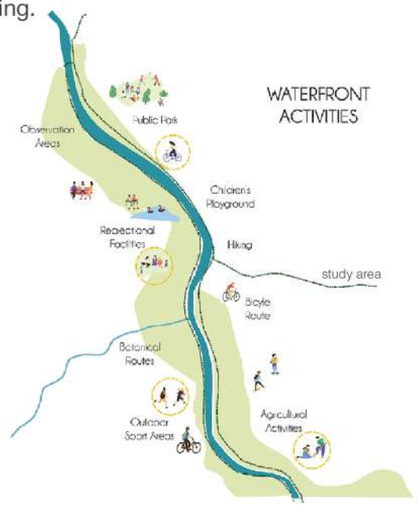


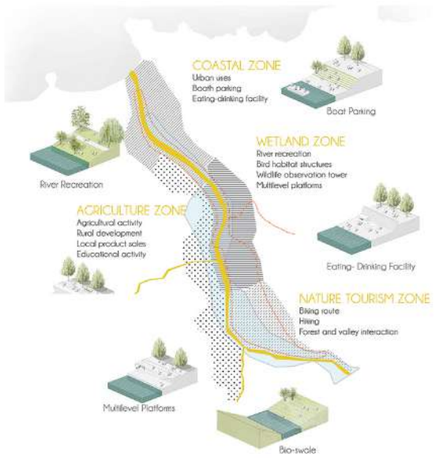
PUBLIC SPACES

TRANSPORTATION

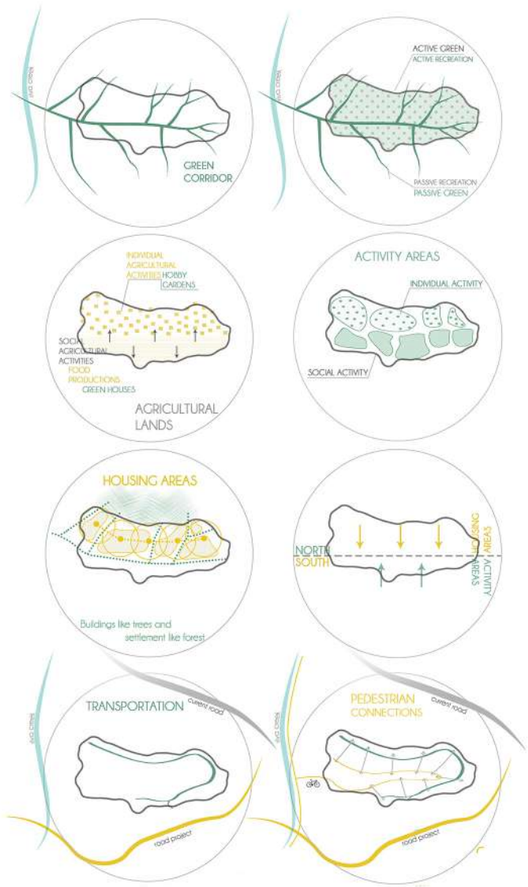


Waterfront activities like biking, hiking, bird observing and also various recreational and agricultural facilities make a connection between zones and study area.It is also important for water management because of lanscaping.





SCENARIO DIAGRAMS



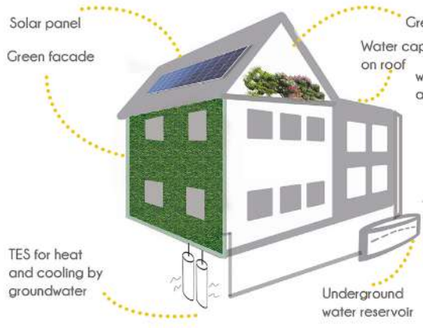
The valley area and water accumulation channels guide us for green corridors to frame our green plan. Different green area types in housing and activity areas; natural, untouched passive greens and active greens where people socialize, cultivate etc.

Individual agricultural activities planned in housing areas; hobby gardens such as allotment gardens for center visitors or householders. Common agricultural areas are south side of the settlement as agricultural lands and green houses. Activity areas concentrate mostly in north aspect lands as social activities for everybody who lives in there or visit for spiritual activities to communicate each others, group lessons etc. And also the activities will settle in housing areas as individual activities like yoga retreats and meditations to return and discover inner soul alone.

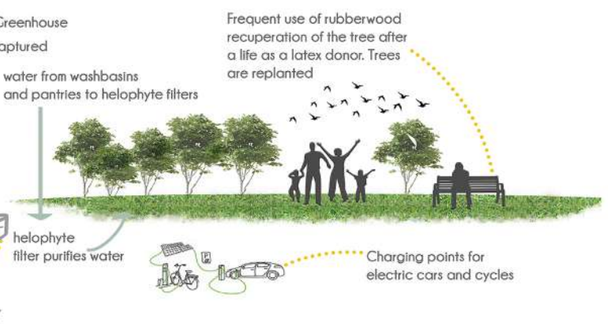
Road network planned according to topography. Vehicle roads are at high elevations to feed housing areas and some activities like agricultural activities. Pedestrian network is mainly on valley that make connection with Riva creek side and housing and activity areas.

Housing areas settle in south aspect lands for maximum benefit from the sunlight and also view of houses could be activity and green areas for creating privacy.

C2C Buildings



C2C Area development



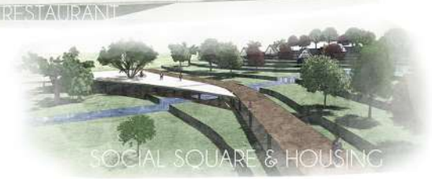
Various decisions have been taken in line with our vision, mission and goals in 1/1000 plans. The main road is the axle, which creates a border passing through the north, east and half of the south of the project area. Apart from this, the road that connects to this road and creates loop and feeds the residential areas is the service road. The remaining axles in the residential areas and in the valley are pedestrian roads. Parking lots are located on the main transportation axis and vehicle access to the project area is blocked as much as possible.

In the valley, which forms the main backbone of the project area, social areas and activity areas are designed. A system has been designed in which rainwater flows through the valleys and creates a natural lake. A yoga center, which forms the basis of the ecological spiritual center, is designed in this main valley axis.

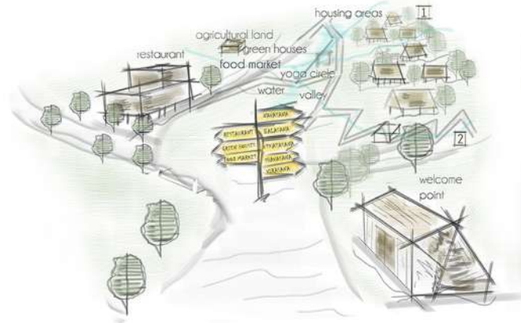
Juice bar, skate area, observation points, workshop area are designed. In the south of the area, a general agricultural area has been determined to meet the agricultural needs of the center.

Greenhouses are also located here. In addition, a restaurant area has been designed in which products produced here are consumed and local tastes unique to this center are made.

An elevated pedestrian path has been constructed from the ground circulating the main activity valley and ensuring the continuity of pedestrian circulation. This pedestrian path continues from the valleys between the residential areas to the points where the slope increases. In the project area where the slope is high, sitting steps following the valley have been created from the points where the residential areas end, by using the slope.

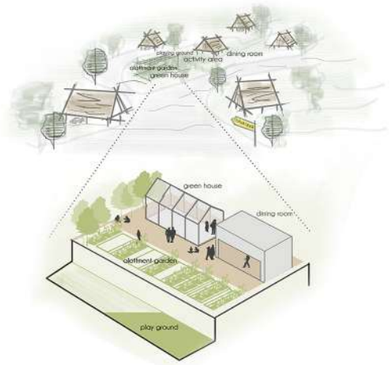


ENTRANCE OF THE GAIA SPIRITUAL CENTER



HOUSE TYPOLOGY

1 HOUSING AREA : SHAVASANA



CRADLE TO CRADLE

WATER

The rainwater is captured and used to water the green facade.

MATERIALS

The materials used do not wind up on the rubbish tip, but are given a new life at the end of their use.

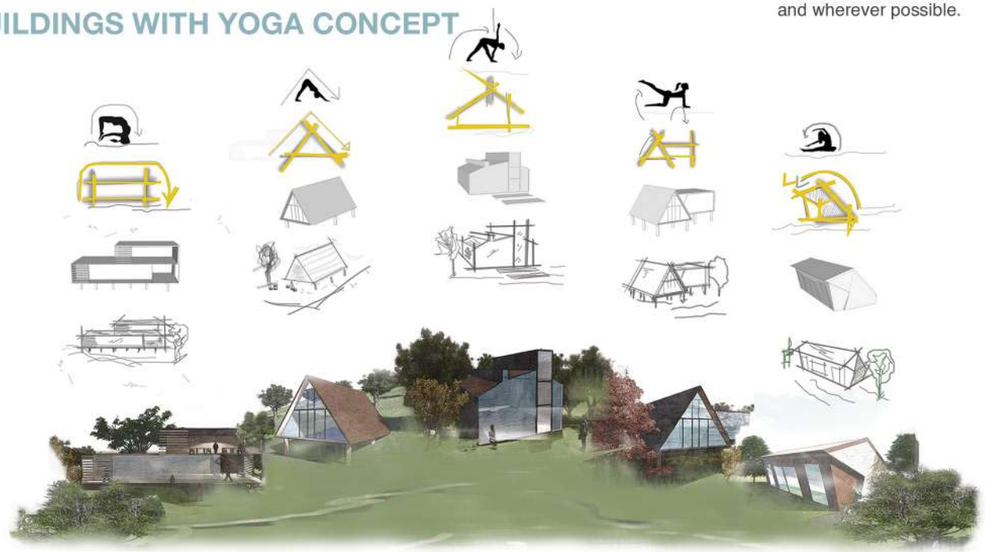
AIR

The green facade works like a green lung to produce clean air for the people and the town.

ENERGY

The sun is an important source of energy. Sunlight is converted into energy and the light and heat is used as much as possible and wherever possible.

BUILDINGS WITH YOGA CONCEPT



URBAN DESIGN STUDIO PROJECTS

GAIA

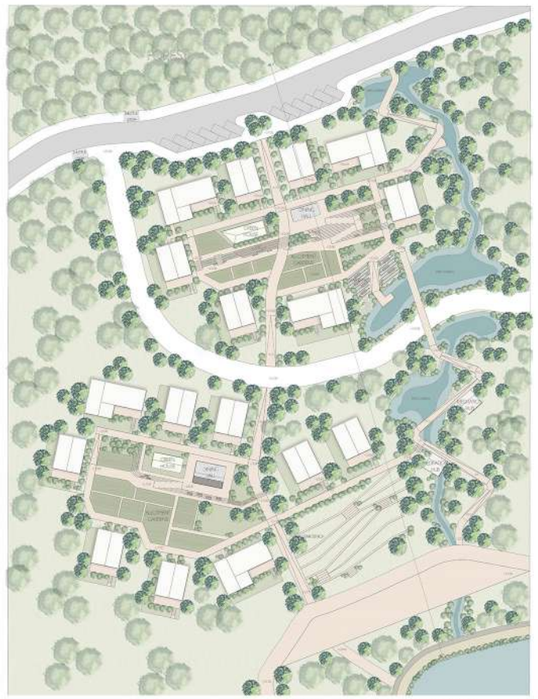
INDIVIDUAL PROJECTS

Ş. Diğdem Arı
(Urban Planner)

NAVASANA SITE DESIGN

Navasana is the last site in west of the Gaia Spiritual Center. There is a vehicle road in north of the site and a service road connected that separates site into two cluster. Parking areas are projected on the vehicle road and a pedestrian-oriented transportation system has been designed in clusters. There are also shuttle stops on the road as public transportation to reach each sites in Center.

As basic desicion, there should be a green house and allotment gardens to grow vegetables and fruits and a dining hall that people utilize to cook and eat together what they collect from gardens and green house in each cluster. Besides them there are common green areas that designed together green stair benchs that make contact with rain gardens to socialize and spend time with nature, to listen it under the trees.



(Navasana 1.500 plan)

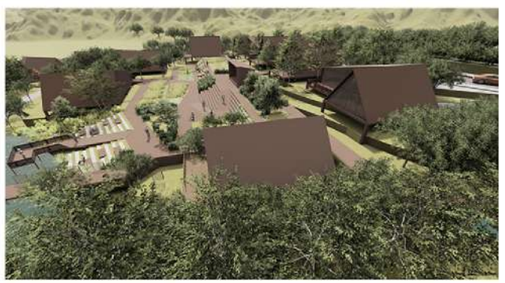
A promonade feeds two clusters and coming down to the valley area from the car parking area. And also an evaluated promonade which is above the water flow and rain gardens comes down on the right side of the site. This promonade is suitable for disabled access with design of ramp system as well as the other pedestrian network.

HOUSE PLANS

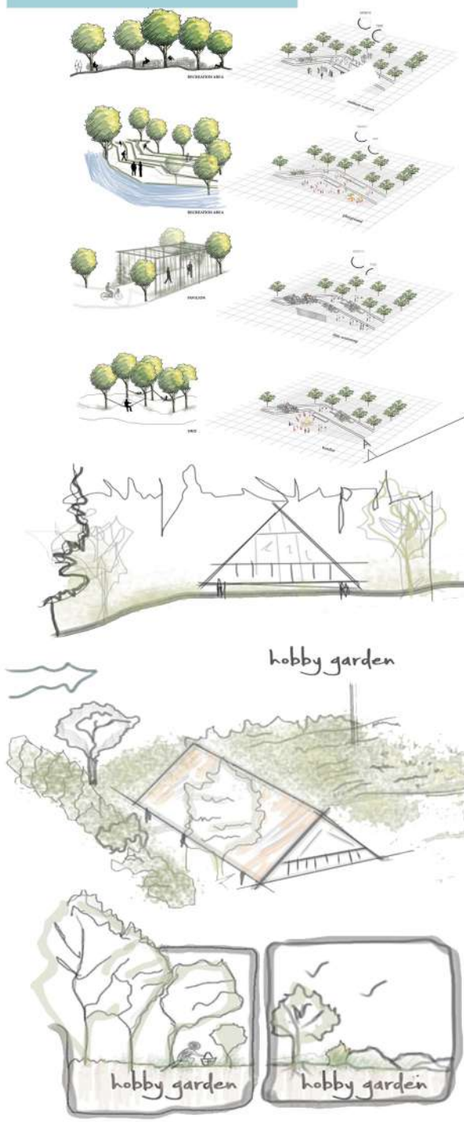
House typologies that designed according to yoga poses are raised from the ground to save the nature and to better sit on sloping topography. There are 2 type of houses. Type 1 have two floor opsion and type 2 is L shape that have three bedrooms for bigger families. All houses have a porch to spend time in pivate in their garden Building materials are generally wood and for some places like sitting stairs and walking paths in green areas, natural stones are used as material.

Section A-A'

VISUALIZATION



URBAN DESIGN STUDIO PROJECTS

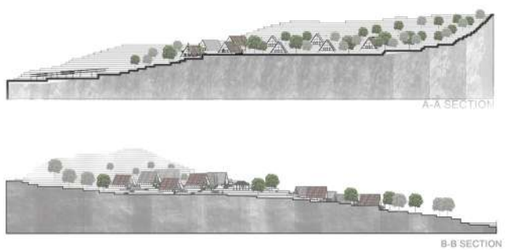


GAIA

INDIVIDUAL PROJECTS

Büşra Gizem Yılmaz
(Architect)

Housing units are placed without forcing the topography. It is aimed to create an organic texture with the structures formed in a frame.



PROJECT RENDERS












URBAN DESIGN STUDIO PROJECTS

GAIA

INDIVIDUAL PROJECTS

Nilsu Erdoğan
(Urban Planner)

1:500 PLAN

BALASANA SITE DESIGN

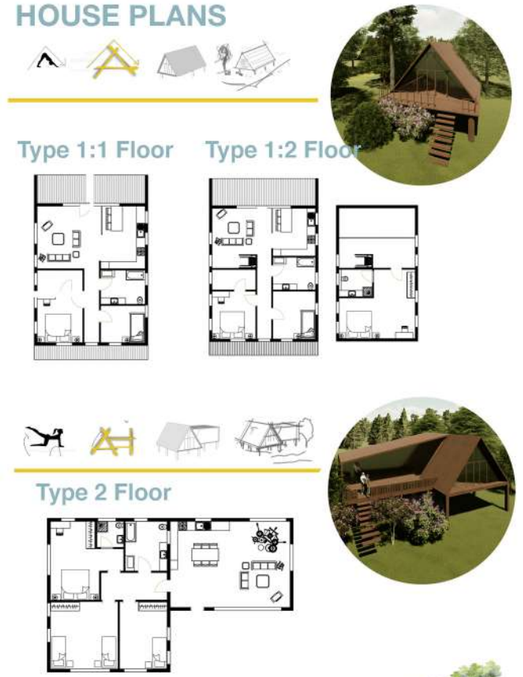
Balasana Site is one of the five main residential areas designed in the creating ecological spiritual Center Gaia. It is designed as a living system that is self-sustaining in line with general design decisions, concepts and objectives. Two car parks have been designed to meet the needs of the residential area on the main transportation axis passing north of the project area. A service road has been constructed that separates from this main axis and forms the western border of the area.

This service road intersects with another main axis passing through the middle of the project area and open to vehicle use. Apart from these roads, all roads that feed the residential area are designed for pedestrian orientation.

The service road passing through the center of the project area has created two different clusters. In the middle of both clusters, common activity areas are designed to meet the social needs of people living in this area.

In each of these areas, as a part of common life, a dining hall is designed, where people can gather and eat together, using the landscape view factor. In addition, a greenhouse has been designed to strengthen the relationship with nature. In addition, allotment gardens have been designed in a way that will contribute to the fact that this center is a self-sufficient spiritual center and strengthen people's relationship with nature, agricultural activities will be carried out in these areas.

Since the project area has a sloping land, it has been tried to get maximum benefit from the slope while constructing the pedestrian axes. Sitting steps were created using the slope in the common area. Among these steps, ramp systems are designed for the use of disabled people and disadvantaged groups. The transportation route of disabled individuals who come to this area to live is considered. Access of the disabled person entering the area to the housing units, the common activity area and the general valley activity area in the south was provided with ramps.



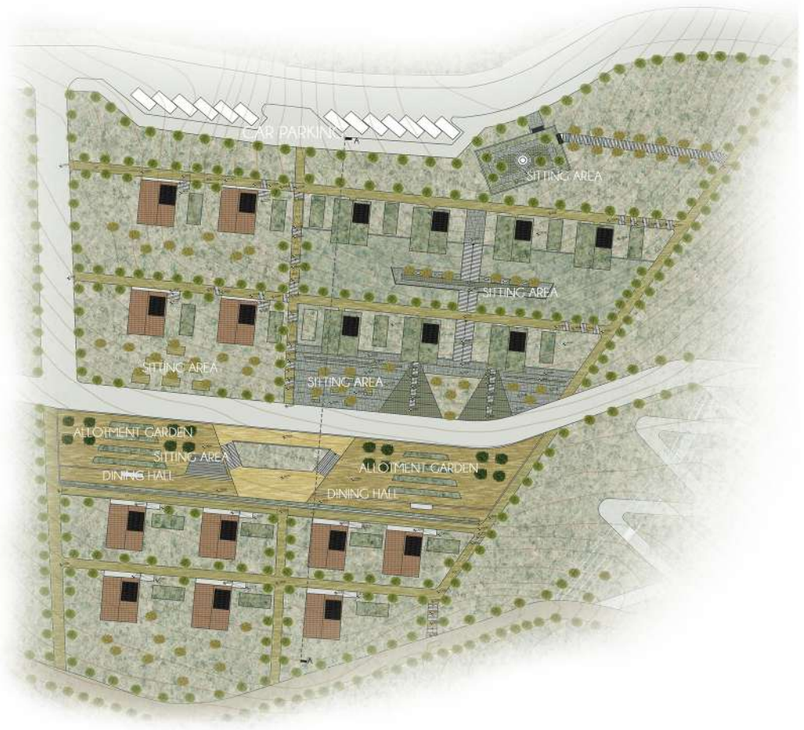
An elevated pedestrian path was created on the valley and water axis forming the border east of the project area, compatible with the slope. This axis is also connected by a elevated pedestrian path in the main valley and activity areas. As a result, Balasana Site is an ecological settlement that is able to live in its own system, compatible with nature, suitable for spiritual activities, and built with ecological, social and spiritual values.

URBAN DESIGN STUDIO PROJECTS

GAIA

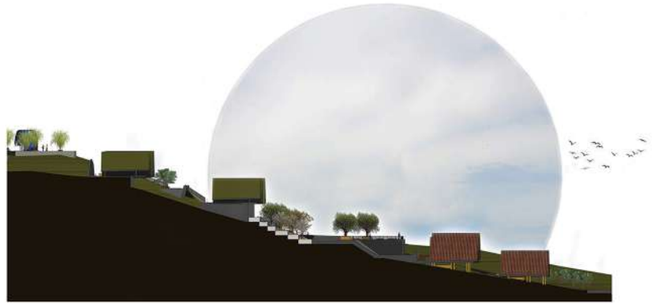
INDIVIDUAL PROJECTS

Farnoosh Golabi
(Architect)



The main purpose of designing this area is using the natural potential of the land, such as: using the land slope and landscape views. To design proportional to nature, designing the houses on the natural slope of the land, using nature-friendly materials, as well as renewable energy have been considered.

In designing this site, an attempt has been made to create a kind of harmony between the triangular shape of the houses and the overall plan of the site (designing spaces for sitting as well as green spaces). In parts with too much slope, the levels are designed, to reduce the slope, and with the help of terraces and stairs, levels are connected.

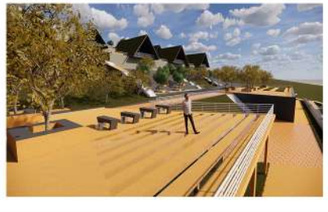


SECTION A-A

PLAN TYPE

In general, it has been tried to connect different parts of the site as much as possible, and for this purpose, three accesses have been designed from the northernmost point to the southernmost point of the site.

This site has 18 duplex residential houses with a unit plan, the houses have made of the equal materials, except for the green roofs in some houses.



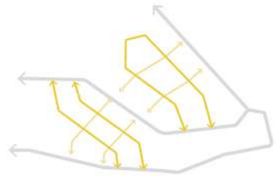
URBAN DESIGN STUDIO PROJECTS

GAIA

INDIVIDUAL PROJECTS

Rumeysa Akgün
(Landscape Architect)

SHAVASANA SITE DESIGN


MAIN CIRCULATION


RECREATION CORE


GREEN AREAS

PLANTS

- Acer palmatum
- Aesculus hippocastanum
- Albizzia julibrissin
- Betula pendula
- Cortederia selloana
- Corylus columa
- Ginkgo biloba
- Lagerstromia indica
- Tilia tomentosa
- Viburnum tinus

KEY MAP

Shavasana site where is located by the entrance of the area, is designed for short term guests. For this reason, unlike other housing units, it has not allotment gardens but it has dining hall, meditation and resting areas as social gatherings. In this area, it is aimed to have the personal spaces that will shape the participants' inner voyage and provide the necessary socialization activities.

A dynamic design is aimed through the slope in the area, common dining area, viewing areas, meditation circles. In this area where individuality come into prominence, socialization is also included. Planting design connects the human and nature relations in common areas and also provides the privacy of each housing unit. Through the wide meadow areas, yoga practices is more paceful, balanced and confident.

SECTION A

Having the option of accessing all age-appropriate activities at the base of the valley is a factor that breaks the monotony of the area. Options such as restaurant, yoga center, observation platform, peaceful path, agricultural areas, children's playgrounds, skate area, juice bar, hygge gardens provide users with many opportunities. Designed with ecological principles, gaia eco-spiritual center brings a new awareness to nature and human relationship.


SOUTH VIEW


DINING HALL


MEDITATION CORE


SOUTH VIEW