Open Landscape Academy

# Biodiversity and Environment

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# Impressum

## INTENSIVE COURSE IN ATHENS

### “Biodiversity and Environment”

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Linking landscape education, research and innovative practice
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# INTRODUCTION

Visions and goals

# Introduction

## Goals for 2050

- Make spaces beneficial for people and include them in the co-creation process.
- Prioritise pedestrian areas for safety and good microclimate (tree canopies for shade)
- Promote a network of green spaces with a diversity of uses and habitat types (natural, semi-natural and urban)
- Most of the trees have adequate growing conditions (space for crown/roots) and are well managed (pruning, protection)
- Sustainable hydrological system for the area, especially the river Prophet Daniel with water catchment, drainage, sewage system without pollution, nature restoration)

## Vision

- The landscape of Elaionas/Keramikos is beneficial for people and nature with a sustainable water system, a network of green and public spaces. The spaces offer a diversity of uses and habitat types (natural, semi-natural and urban). There is a network of safe and comfortable walking and cycling routes. Canopies and lines of well-tended trees provide shade and wild-life. The green spaces and tree structures have a cooling effect.
- The river Prophet Daniel sees daylight again, has space for its natural flow, and is clean . The riverside is accessible with places for natural vegetation, recreation and leisure. It is connected with a series of green sites with diverse functions.
- People feel engaged with this landscape and its elements because they were included in the design and development.

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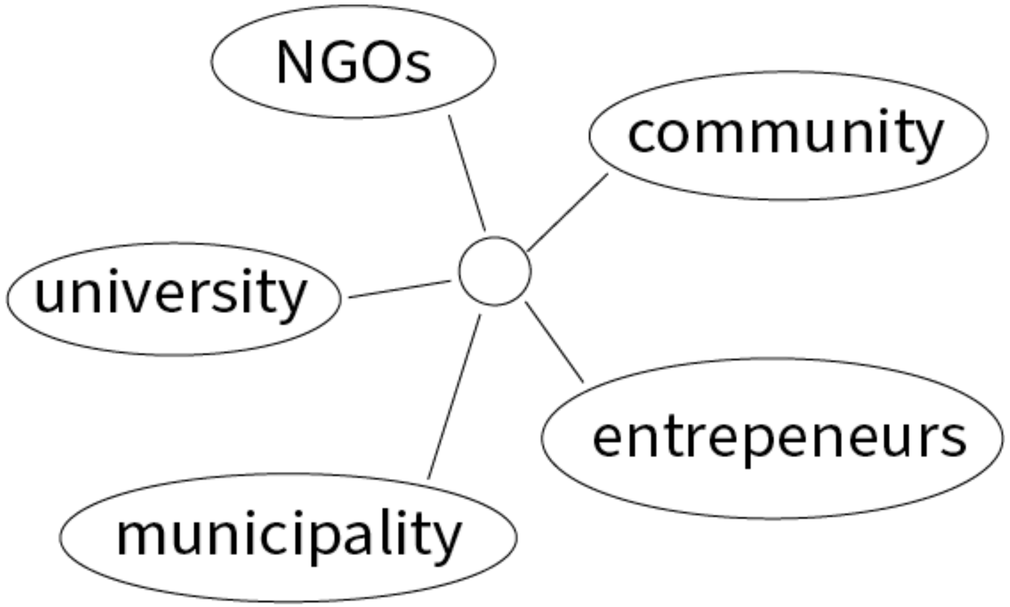
## Strategy for reaching the vision 2050

- The development of the area is guided by a process of co-design of prototypes of key sites and elements. Residents, workers and other participants are invited to take part in a series of on site co-design sessions where they make use of typologies to define what they need in a specific site and how the site should look.
- The participants make use of real life objects such as trees, shrubs, walk ways, bicycle paths to negotiate in a collaborative way what is in the design.
- The prototypes will be evaluated and used as a basis for further development and construction of the sites in the area.
- The process will be guided by a living lab in which local universities, local authorities, civil society and community members are partners.

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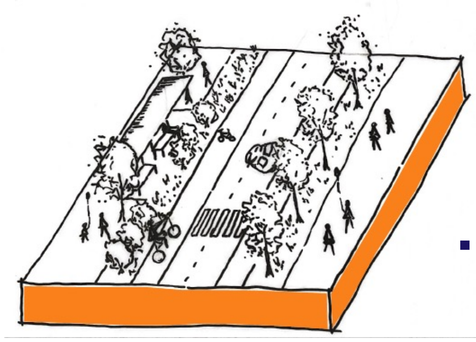
# CHAPTER 1 -TYPOLOGIES

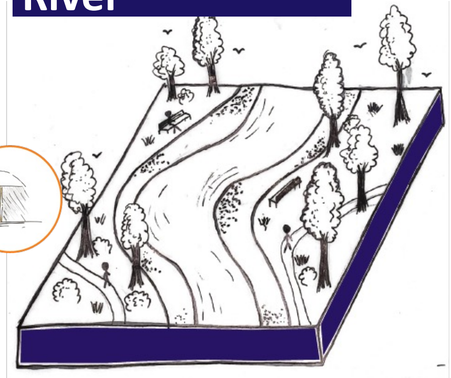
# 1.1.Typologies

## Streets



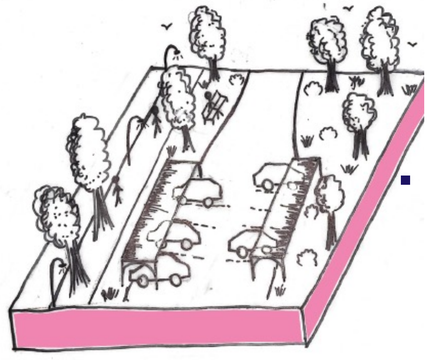
- garden, park and street trees, ornamental green shrubs, grass verges, ruderal vegetation

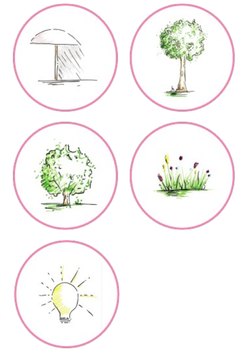
## River



- riverside vegetation & river

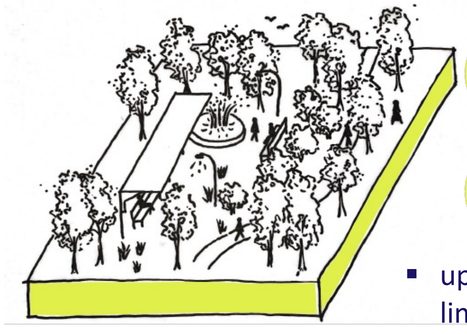
## Parking areas





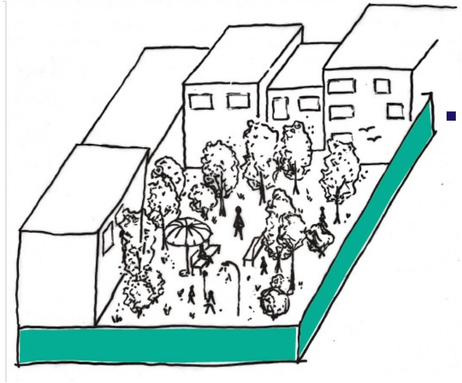
- garden, park and street trees, ornamental green shrubs, grass verges, ruderal vegetation

## Public green areas



- upper limestone layers, limestone with euphorbias, limestone vegetation , forest of eucalyptus, carob groves,etc.

## Vacant lot



- upper limestone layers limestone with euphorbias, limestone vegetation,
forest of eucalyptus,
carob groves,
olive or fruit orchard, vineyard,
agricultural plots,
ruderal vegetation

## Private gardens

- herb garden , olive orchard, fruit orchard, vineyard garden, park and street trees , ornamental green shrubs , agricultural plots

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# 1.2.Typologies – Elements

## Trees

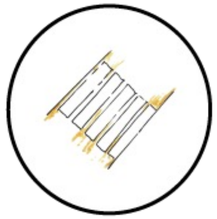
- Enhancing biodiversity
- Improving air quality
- Providing shade, lower Sky View Factor
- Providing habitats for local fauna

## Bushes

- Improving air quality
- Enhancing biodiversity (flora and fauna)
- Providing screens

## Flowers

- Wildflower meadows
- Attracting pollinators
- Blooming all year round (native species)



## Crossing

- Accessibility (eg. crossovers, ramps, anti-slip materials)

## Walkways

- Improving the accessibility of the area
- Making it possible to reduce the use of cars

## Bike line

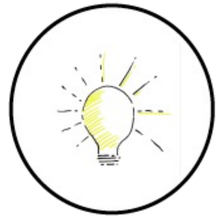
- Reducing carbon emissions (using bikes instead of cars)

## Shade

- Higher Sky View Factor (SVF) leading to lower Land

## Water

- Improving the climate with cooling effect
- Providing different habitats for flora and fauna



## Lighting

- Providing safety for pedestrians
- Sustainable solutions are possible (solar panels)

## River shoals

- Enhancing biodiversity and improving the microclimate
- Providing different habitats for local flora and fauna

## Rest area

- Different scale/type depending on the needs (eg. bench)

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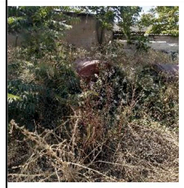
# 1.3.Typologies – Habitats

| Habitat type | Upper Limestone layers | Limestone with Euphorbias | Limestone vegetation | Forest of Eucalyptus: | Carob groves |
|---|---|---|---|---|---|
| Type of vegetation | Dry herb layer, Dry limestone areas high in the mountains | Small shrub layer, tall herbs, perennials and chamaephytes | Herbs, tall herbs, perennials, | Trees, shrub layer, | Shrubs, herbs, bulbs |
| Images |  |  |  |  |  |
| Locations | 3-vacant lots<br>5-green areas | 3-vacant lots<br>5-green areas | 3-vacant lots<br>5-green areas | 3-vacant lots<br>5-green areas | 3-vacant lots<br>5-green areas |
| Species short | Drought resistent ferns and herbs, and geophytes, Alyssum, Campanula, Cyclamen, | Drought resistant shrubs and herbs, Euphorbia, Silene, Thistle, Malva | Drought resistant shrubs and herbs, Allium, Centaurea, Euphorbia, Sedum, Sage, | Mixed woodland with Eucalyptus, Asparagus, Thistle, Pistache, Lemon, black hawthorn | Carob trees, Holm Oak, Crocus, |
| Services / functions | Nectar and fodder<br>Nature experience plants<br>Foraging herbs and fruits | Nectar and fodder plants<br>Foraging herbs and fruits<br>Nature experience | Nectar and fodder plants<br>Foraging herbs and fruits<br>Nature experience | Shade, cooling<br>Nesting and resting places<br>Nectar and fodder plants | Shade, cooling<br>Ornamental<br>Nesting and resting places<br>Nectar and fodder plants |
| Species detailed | Alyssum simplex Antirrhinus majus, Asplenium ceterach, Aurinia saxatilis. Campanula celsii, Campanula drabifolia, Campanula rupestris, Capparis spinosa, Centaurea raphanina subsp. mixed, Clypeola | Large community of Euphorbia characias subsp. Wulfenii, Agave americana, Ephedra foeminea, Euphorbia characias subsp. wulfenii. Inula verbascifolia, Opuntia stricta, Silene colorata, Silene corynthiaca, Silene | Anthirrhinus majus. Asparagus acutifolius, Asphodelus ramosus. Allium chamaespathum, Ballota acetabulosa. Centaurea raphanina subsp. Mixta, Euphorbia characias subsp. wulfenil, Phlomis fruticosa, Rumex bucephalophorus. Salvia | Asparagus acutifolius, Ballota acetabulosa, Cistus creticus, Cyclamen graecum, Echinops sphaerocephalus, Eryngium campestre, Eucalyptus globulus, Euphorbia helioscopia, Phlomis fruticosa, | Ceratonia siliqua, Quercus ilex. Medicago arborea. Asphodelus ramasus, Crocus cancellatus subsp. mazziaricus, Crocus cartwrightianus Colchicum attic. |
| Species detailed | | | | | |

| Habitat type | Garden, park and street trees | Ornamental green shrubs | Grass verges | Agricultural / horticulture plots | Ruderal vegetation |
|---|---|---|---|---|---|
| Type of vegetation | Solitary, grouped, rows of trees | Groups of shrubs, hedges | Rough grass vegetation with some flowering herbs | Mostly annual plants: grains, vegetables, herbs | Spontaneous vegetation of trees, shrubs, climbers, tall herbs, thread plants |
| Images |  |  |  |  |  |
| Locations | 1-streets<br>4-private garden<br>5-public green areas<br>6-parking areas | 1-streets<br>4-private garden<br>5-public green areas<br>6-parking areas | 1-streets<br>5-public green areas<br>6-parking areas | 3-vacant lots<br>4- private gardens | 1-streets<br>3- vacant lots |
| Species short | Variety of indigenous and exotes: Cypres, Olive, Ailanthus, Robinia, Plane, Cercis, Populus, Fig, Flametree, Mulberry, Carob tree, Desert fan palm, Slender date palm, Bitter orange tree | Variety of indigenous and exotic species: Oleander, Laurel, Wax leaf privet, Honeysuckle, Hedera, Jasmine, Vine, Porcelain vine, Woodbine | Mix of mostly indigenous grasses and annuals:<br>small leaved plantain | Variety of crops: | Invasive and euthrophic plants of disturbed habitats: Ailanthus, Purple Amaranth, wild mustard, cichorey, nettles, plantain |
| Services / functions | Shade<br>Cooling<br>Nectar and fodder plants,<br>Nesting and hibernating | Ornamental<br>Cooling<br>Feeding plant for butterflies, bees.<br>Nesting and hibernating | Ornamental in spring, functional year round<br>Nectar, hibernation for insects | Providing food | Nectar and fodder plants, hibernation for insects<br>Hiding place for small mammals and reptiles |

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# 1.3.Typologies – Habitats

| Habitat type | Riverside vegetation & River | Herb garden | Olive orchard | Fruit orchard | Vineyard |
|---|---|---|---|---|---|
| Type of vegetation | Broadleaf/mixed woodland Extensive shading<br>Aquatic plants | Small shrubs and perennials with kitchen, medical herbs | Olive trees with a grass vegetation | Fruit trees with a grass vegetation | Rows of vines with grass vegetation or bare ground in between. |
| Images |  |  |  |  |  |
| Locations | 2-rivers<br>5-public green areas | 4-private garden<br>5-public green areas | 3-vacant lots<br>4-private garden | 3-vacant lots<br>4-private garden | 3-vacant lots<br>4-private garden |
| Species short | Plane trees, Eucalyptus, Olive, Ailanthus, Poplar, Reed | Thymian, Rosmarine, Origano, | Olive trees | Lemon, mulberry, mandarin, oranges, grapefruit, loquat trees | Vine varieties |
| Services / functions | Shade, cooling<br>Nesting and hiding places | Fodder plants insects (butterflies)<br>Food and herbs<br>Ornamental | Food (fruits, oil)<br>Nesting and hiding places<br>Ornamental | Food (fruits)<br>Nesting and hiding places<br>Nectar plants<br>Ornamental | Fruits and wine<br>Nesting and hiding places<br>Nectar plants |
| Species detailed | Platanus orientalis<br>Pinus halepensis<br>Eucalyptus sp.<br>Olea europea<br>Arundo donax,<br>Ailanthus altissima<br>Phragmites australis | Aurinia saxatilis, Baliota acetabulosa. Carlina corymbosa, Euphorbia acanthathamnos, Hypericum perforatum. Lagurus ovatus, Thymbra capitata. Thymus vulgaris, Thymelaea hirsuta | Olea europea | Citrus × limon<br>Morus sp<br>Citrus reticulata<br>Citrus × sinensis<br>Citrus × paradisi<br>Eriobotrya japonica | Vitis vinifera varieties |

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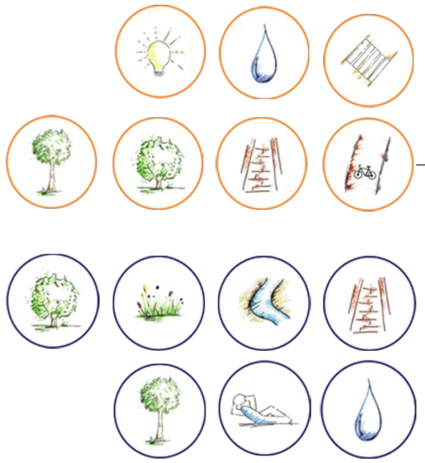
# CHAPTER 2 – PROTOTYPING SPACE

# 2. Prototyping Space

**The Implementing typologies:**
In order to show how the typologies and their elements can be implemented, we chose a part of the area we analyzed and placed elements, that would fit to each park, private garden or parking lot



LEGEND

- STREETS
- RIVER
- VACANT LOTS
- PRIVATE GARDENS
- PUBLIC GREEN AREAS
- PARKING LOTS
- AGRICOLTURAL AREAS
- HISTORICAL SITES
- CULTURAL SPACES

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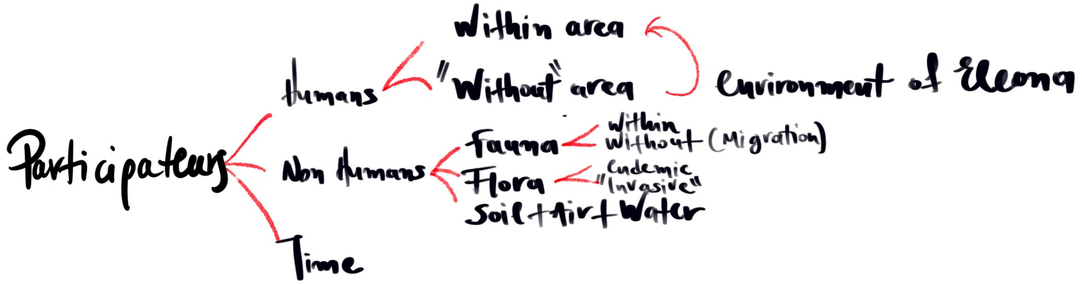
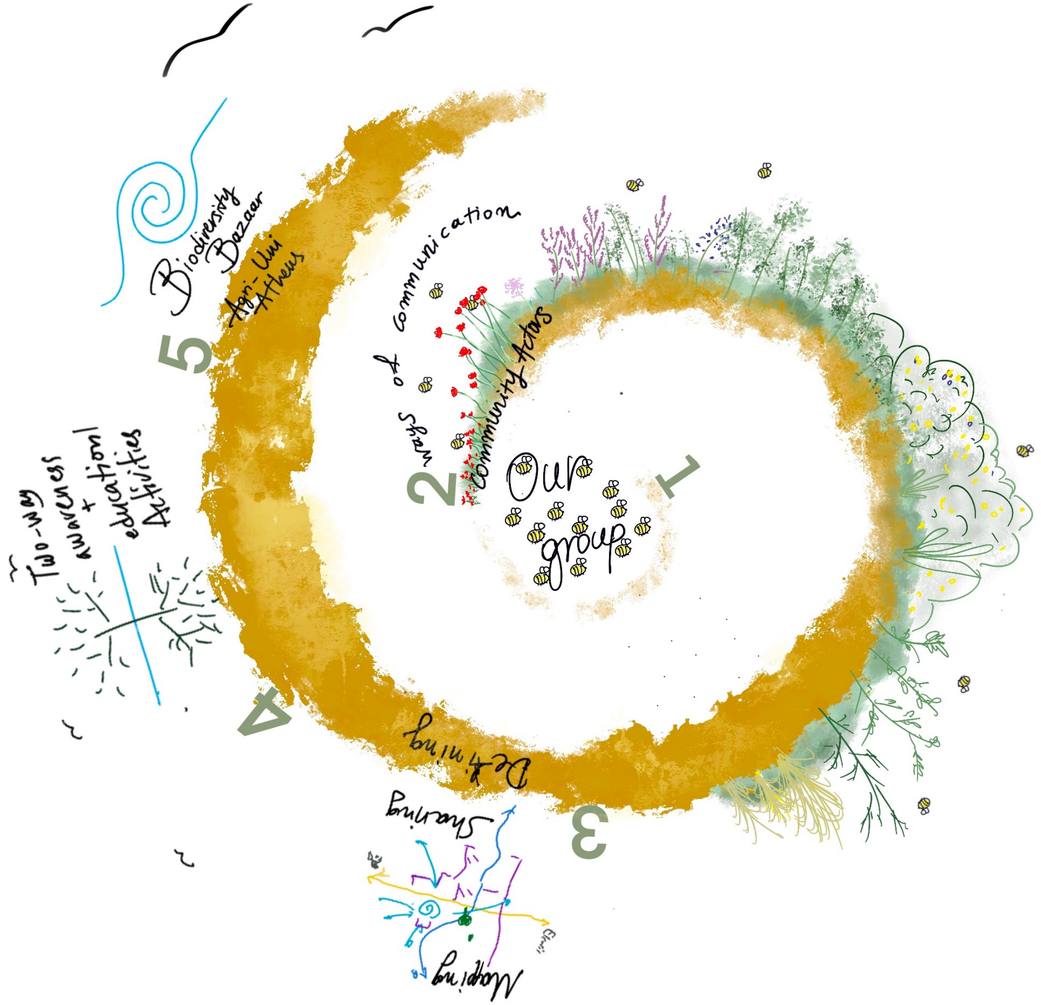
# CHAPTER 3 –
# PARTICIPATORY DESIGN

# 3. Participatory Design

## 3.1. Participatory Phases

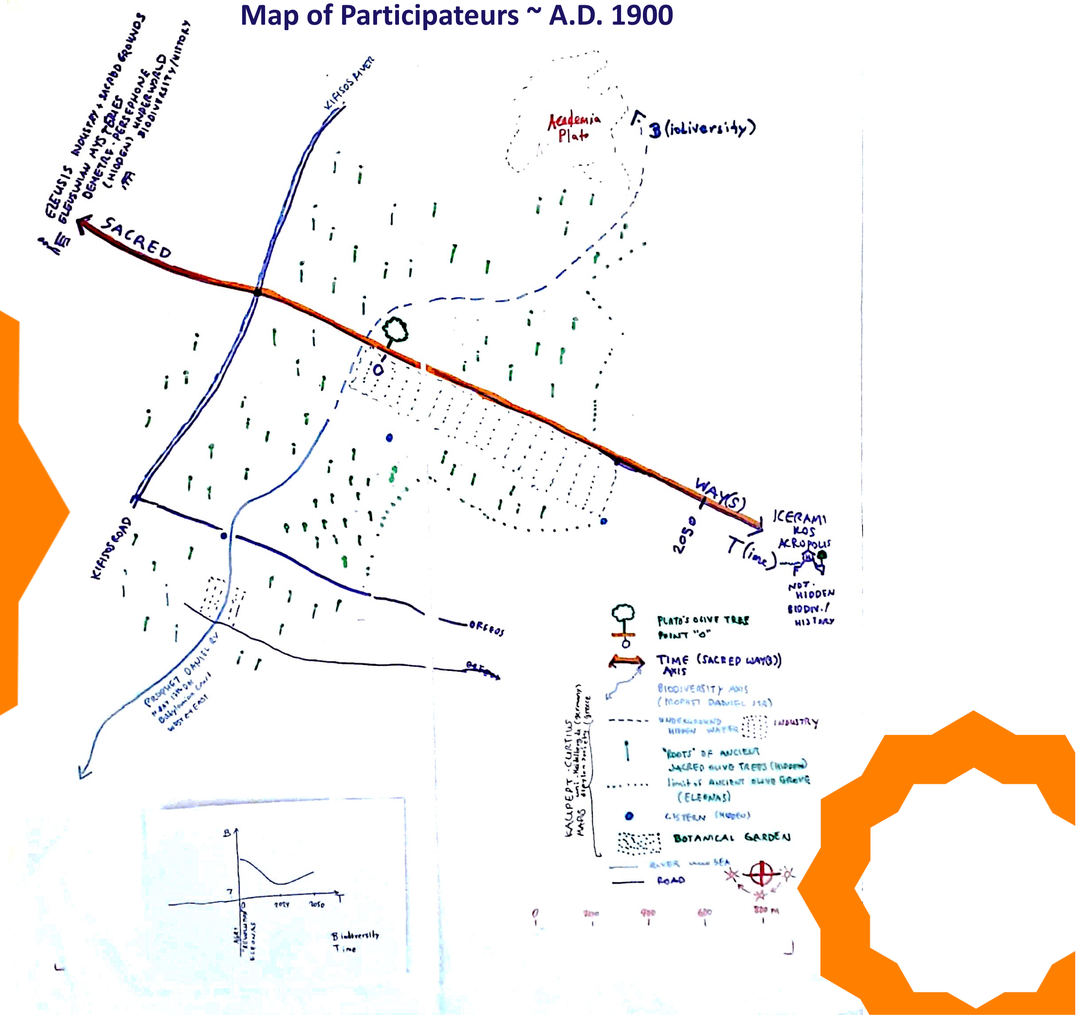




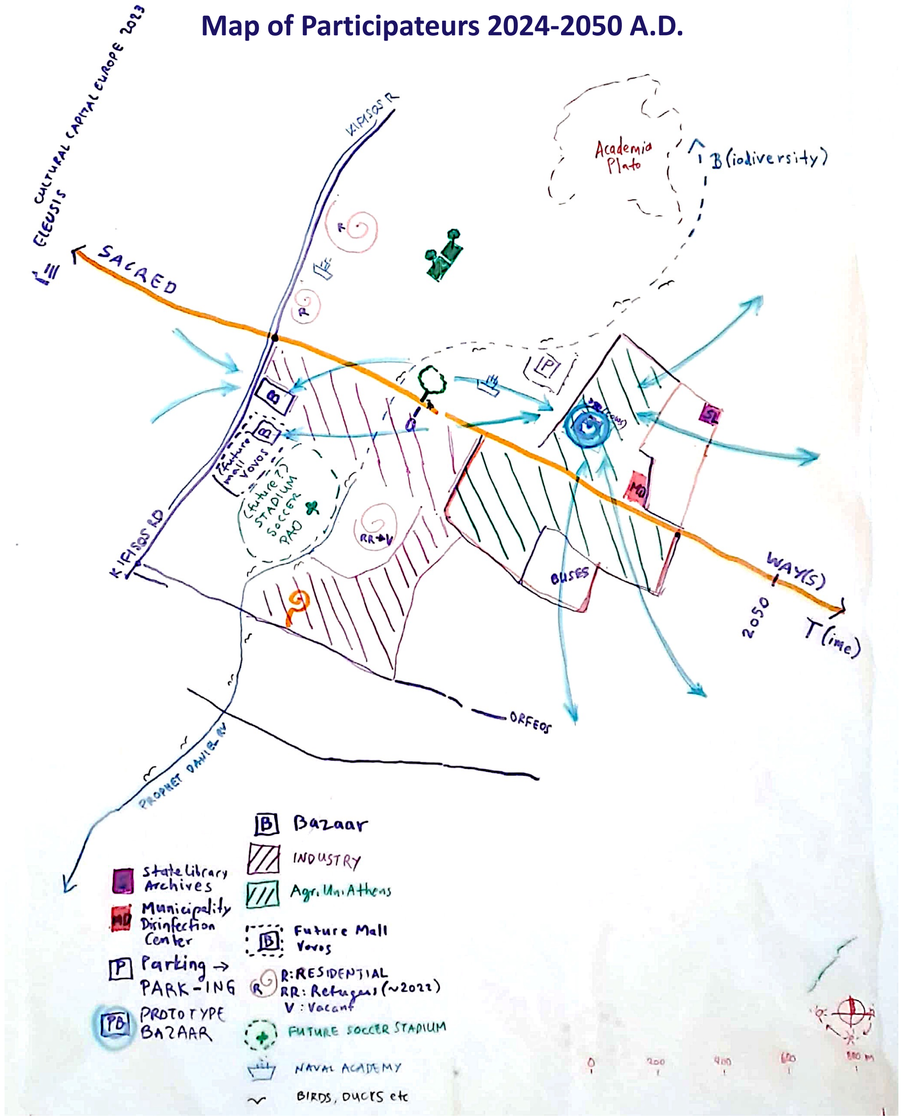


# 3.2. Map of Participateurs

## Map of Participateurs ~ A.D. 1900




## Map of Participateurs 2024-2050 A.D.

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## 3.3. Theories behind the process

**Nature constellations:**
Nature constellations connect participants deeply with nature. By representing animals, plants, and landscapes, participants experience their qualities and impacts. Each session starts with a person's concern in a specific setting (typologies). Participants take on roles as trees, animals, or landscapes. As the constellation unfolds, the relationships and qualities of these elements become clear, revealing the deep connections in nature. This process helps participants understand and feel their bond with nature on a profound level.

-Naturaufstellungen

**Participateurs in the Design Process**
We explored how anyone, even non-experts, can create good design solutions for both people and places. Design is a process in space and time where new ideas and changes happen. While processes naturally unfold, designers can guide them with intention.

Good feedback comes from those deeply involved, known as "participateurs." Participateurs, both human and non-human, actively engage in the design process, connecting with others and the environment.
To succeed, we must immerse ourselves in the field, interact with its elements, and engage with other participateurs, becoming part of the process. This leads to innovative and inclusive design solutions.

- Jascha Rohr: Die große Kokreation

## 3.4. Bazaar Format

1. **Collaborate with the Community:** Work together with local universities, authorities, community groups, and residents.
2. **Plan the Event:** Decide on the funding and set up a temporary market (bazaar) in an open space at the university, possibly in the olive orchard or near livestock paddocks
3. **Identify Participateurs**: Recognize everyone involved, including people, animals, the environment, and time, in the Elaionas area.
4. **Invite Everyone**: Invite all participateurs to join the living lab event. Let them know they will be shopping, negotiating, and bartering at the bazaar to help design neighborhood types.
5. **Collect Items:** Gather items for the bazaar based on the toolkit of elements. Ensure there are at least three different items for each category and a minimum of three items per category.
6. **Set Up Displays:** Arrange six trailers to symbolize Panathenaic ships, each showing models of six different neighborhood typologies.
7. **Display Items:** Set up different vendor stations in a bazaar layout to show the items. Participateurs can browse and learn how each item contributes to the neighborhood with cost benefit and ecosystem services.
8. **Price Items**: Set prices based on how common the elements are and the importance of each item's role in the neighborhood.
9. **Facilitate Communication:** Start the event with a group discussion. Ensure everyone has an equal chance to speak, forming a circle.
10. **Discuss History**: Talk about the environmental history of Elaionas and the neighborhood types found there.

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# 3.4. Bazaar Format

11. **Explain Bartering:** Explain how the bartering at the bazaar will help decide the neighborhood's functions. Decide if participants represent themselves or other non-vocal stakeholders.
12. **Group Participateurs**: Divide participateurs into groups responsible for selecting items from the bazaar to include in the six neighborhood typologies.
13. **"Shop" for Items**: Allow participateurs to choose the elements they want for the neighborhood. They can take as many items as they think are needed.
14. **Use Play Money:** Each participant uses a fixed amount of "money" to decide what to keep and what to leave, based on their or their stakeholder's needs.
15. **Negotiate Together:** Bring groups together to "purchase" land for theoretical transformation, reducing their money. They must negotiate what items to keep or return.
16. **Prioritize Locations:** After deciding what items to keep, let participateurs vote on priority locations for transformation using stickers.
17. **Move the "Ship":** Place the purchased items in a symbolic "Panathenaic ship" and arrange them as they will function together. Ceremoniously move the ship to the top priority locations.
18. **Exhibit Transformation:** Leave the ships at each location for a set time to show the community the collective vision for the future. Move them to the next location on the priority list, continuing the exhibition over time.
19. **Analyze and Educate:** Create educational signs to explain the neighborhood design and transformation.
20. **Gather Feedback**: Provide a physical diary and a virtual comment box for community input.

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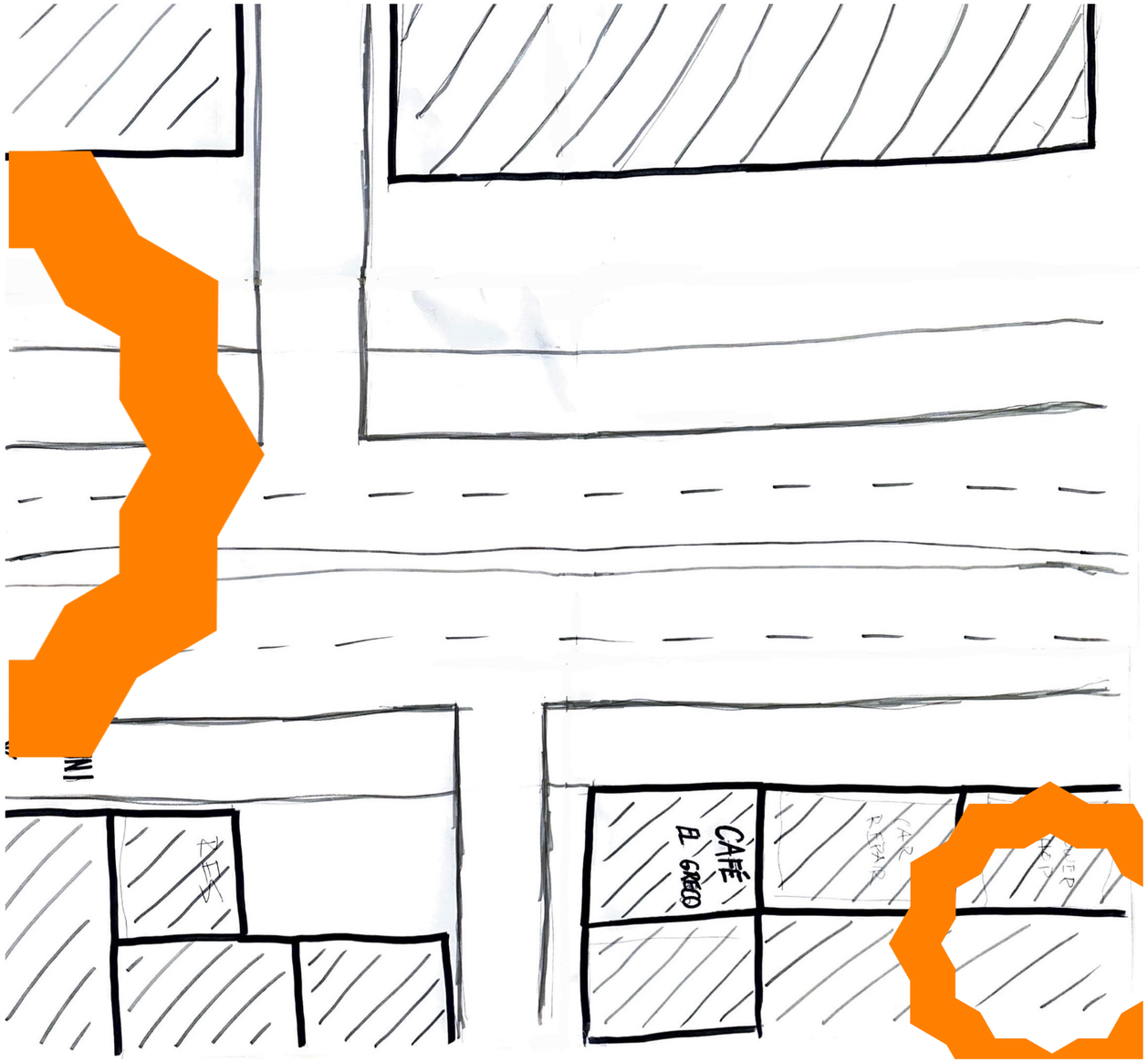
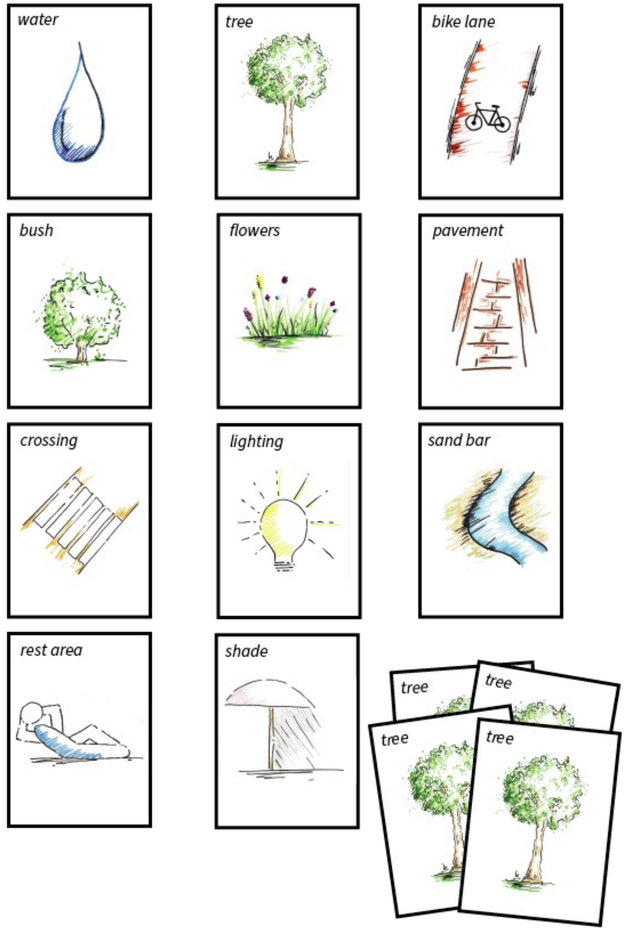



## 3.5. Board Game

1. First, we **mapped an example area**, (choosing a café and the main street)
2. Next, we **considered which elements** are needed to make the space attractive for people, **biodiversity**, and the **environment**, and then **we drew them on cards** (tree, bush, flowers, water, shade, pavement, bike lane, crossing, sand bar, rest area)
3. **Created a point system for the elements**; each one gets a score from 1 to 3 based on its complexity (the idea was to reflect the limited resources available for such projects)

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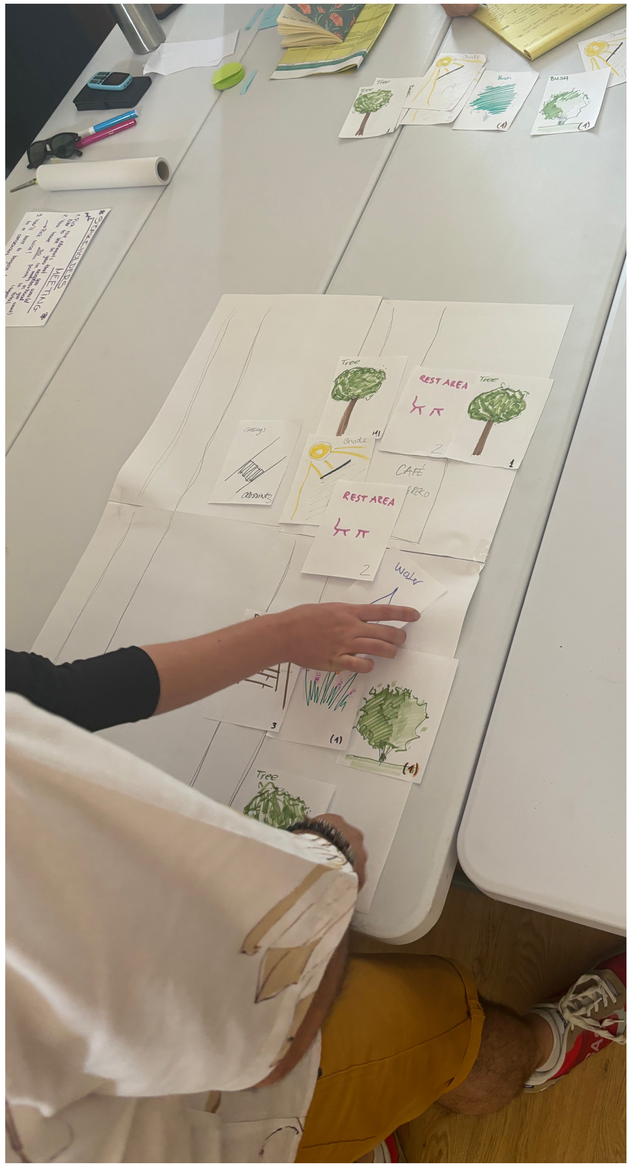
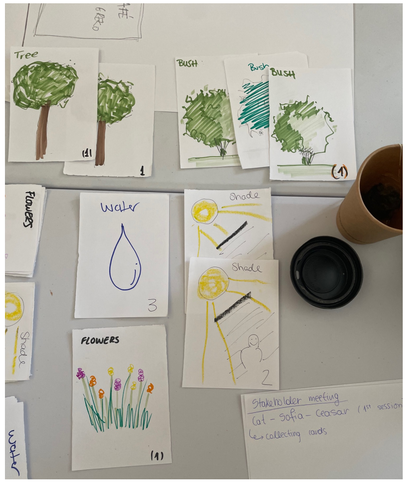
1. In this role play, everyone briefly **introduces themselves**, relating to the project area and its issues
2. In the first step of the game, **stakeholders individually select the elements** that are personally important to them at this location; they can choose **as many as they want.**
3. Further, they **learn about the point system** and must **prioritize their choice**s within a set point limit. (10 or 15 points each)
4. Next, **stakeholders collaborate within another point limit,** justifying their chosen elements based on personal interests
5. Finally, they **jointly decide** where to place the selected elements on the map, considering their placement carefully







**First round:**

- Stakeholders:
  - **a cat,** living near by the café
  - **Sofia,** the owner of the café
  - **Ceasar,** a professor of the university

**Feedback:** They liked the prototype for its simplicity in engaging many people, including youth, and its fun and easy to understand. The point system intrigued them, mirroring real-world constraints. Critiques included wanting a larger map with more context. they noted that the point system affects the impacts more than the biodiversity

After the first round, we added more context to the map and slightly increased its scope.

**Second round:**

- Stakeholders:
  - **Anna**, a student of the university
  - **Stella**, a student of the university

**Feedback:** They found the idea very good, but they criticized that the initial instructions were misleading. They were unsure whether to incorporate their personal preferences or those of others when selecting elements. Furthermore, it was sometimes unclear what exactly was meant by each element. For example, is "light" just a lamp or does it refer to illuminating the entire street? Is "sidewalk" referring to just one side or both sides?

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## 3.4. Our team's reflection

- After the prototype, we discussed group feedback for improvements
- Include more biodiversity elements (e.g. Bird feeders)
- Change the size of the cards for the elements
- Use a larger map area and provide more context
- Refine the definition of some elements (light, pavement, …)
- We could do a “real life model” out of this

# CHAPTER 4 – OUR PROCESS

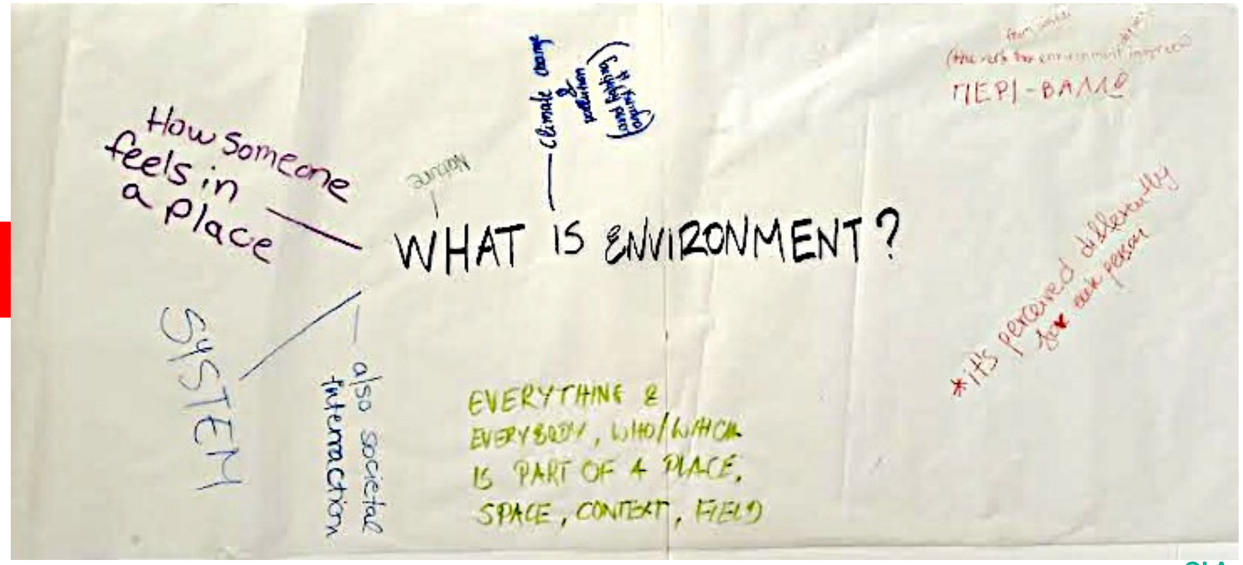
# 4. Our Process

## 4.1. How we started

From the larger course group, we were divided into a group of twelve people, ten of whom were students from Greece, Hungary, Italy, the USA and Germany. It was unclear to all of us how to start our work and some of us were a little intimidated by the new situation of having to speak in a language that is not our mother tongue or simply by being in a group of strangers. One tutor therefore suggested that the first thing we could do was collect ideas on how to define the terms “biodiversity” and “environment”. First, everyone had time to think about this and write down their own understanding.

Next, we collected the definitions together and also talked about the different meanings of the words in our languages. Common results we came up with were: Environment means the co-world of a person or other entity (participant) and how a participant perceives and experiences a space, and biodiversity as the diversity of humans, plants, wildlife, and living organisms in an ecosystem/habitat and their mutual relationships.

Working individually first, and then in a group was helpful. Nevertheless, some were more confident than others and it quickly became apparent that not everyone had the same say or wanted to. All in all, I think we expected more structured guidance from the tutors about the way forward and the requirements.





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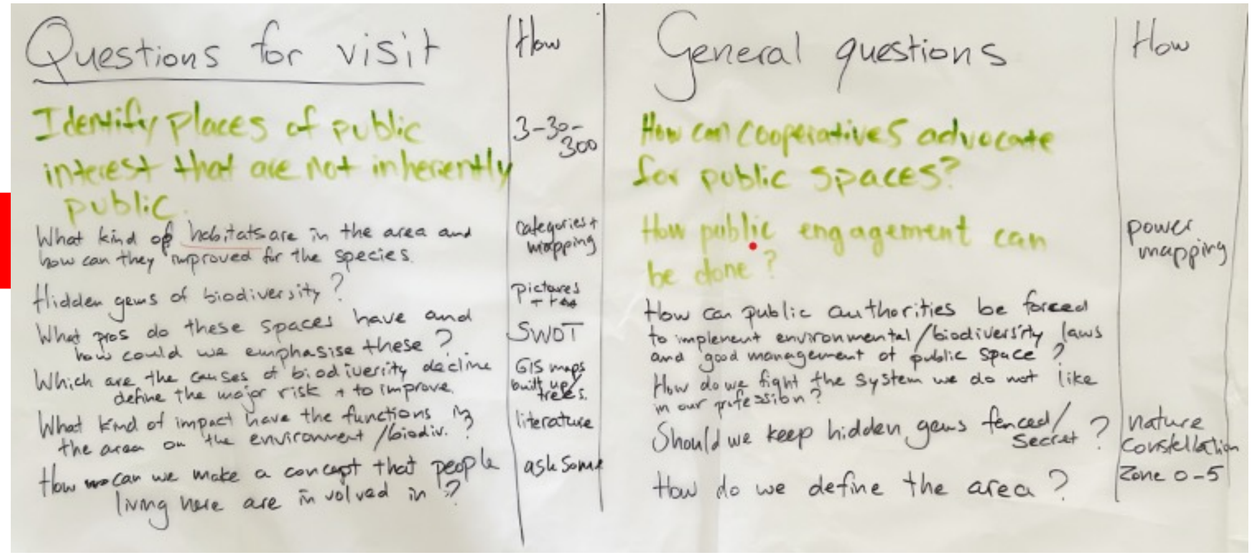
The next day, we started our group work with **an exchange about democratic processes** in our team. Some of us had noticed that the proportion of speaking time was not evenly distributed and we wondered how this could be changed.

We agreed to try out **different methods,** e.g. whether it would help if everyone was given the same amount of speaking time (three minutes) and if people didn't want to say anything, they could simply remain silent. As it turned out, this was also fraught with difficulties, as some felt pressured to contribute something.

Katarina, who is a professor at the University of Athens, gave us a keynote speech on how biodiversity is dealt with in Athens and Greece.

In order to better understand the context of Elaionas, we next **brainstormed ideas of how each of us would like to proceed.** We split into small teams according to interest and worked on topics such as identifying typologies that link environment and democracy and improving the biodiversity of the area through power mapping. We discussed possible concept ideas for the area that include the sacred road [Iera Odos] and special places, and we designed a power map to improve biodiversity.

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## 4.2. Site Visit

After returning from the Elaionas tours, the group tried **the nominal group technique for sharing experiences.** First, we tried to implement the idea that each of us would summarize our findings in two minutes. This was the first time for many of us using this technique and it didn't work that well. Some of us spoke for longer and we didn't wait for the time when one person had finished earlier. This time would have been important, even if we had remained silent. Afterward, the more talkative of us tried to add points that didn't fit into their two minutes. This round resulted in a **list of our observations.**

We now had the task of **formulating our five goals** for the development of Elinoas for the large group. Each of us first wrote down three goals that were important to us. We clustered these on a board and decided to vote on them. Now something interesting happened: different people tried to push “their goals” forward by trying to convince others that they were particularly important. The result was something that we know all too well from our political processes: Lobbying. As we were already very behind schedule, we were no longer able to address this problem. Other procedures are needed here to help us **find a joint solution that is supported by everyone.**

Once the goals were established, the **group discussed** the specific **typologies** and came up with the final 6. Off of the typologies, three main efforts were created. One would explain the typologies, the next would find them on a map, and the last would create a list of how to create a participatory experience within the typologies. The group then split the efforts amongst the team and we worked in breakout sessions

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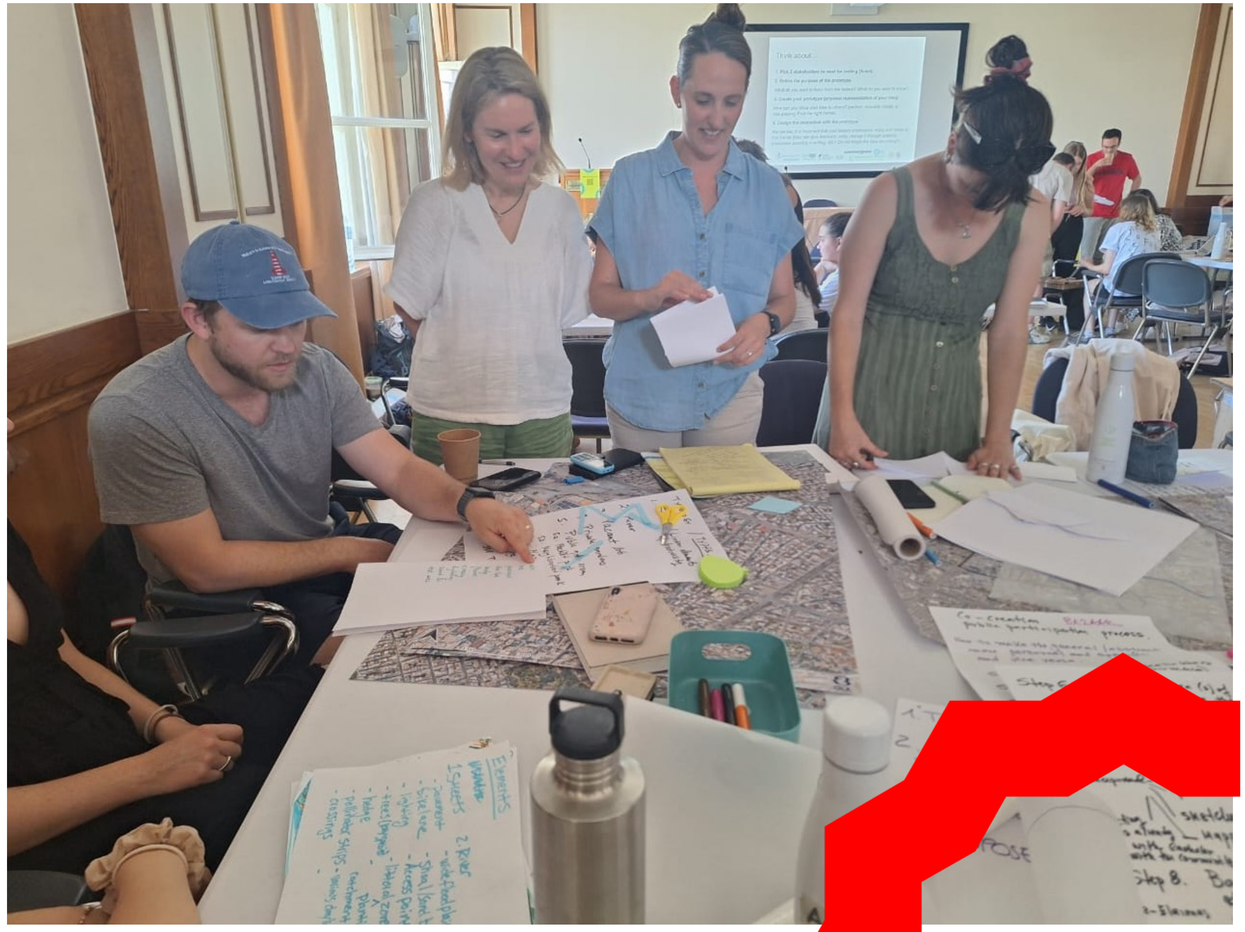

## 4.3. Protoryping

In the afternoon, we had a workshop on **prototyping** with Anna. After a short input, we were given **a prototyping assignment** and had limited time to develop a prototype for interaction with the stakeholders and get their feedback. Using the three groups' focus areas, the idea of a bazaar card game was established as a merge of multiple ideas. It would take place on a board that was in a selected site that met typology criteria and used the “toolkit” elements as the cards. The group worked well together during the limited time to create a board, cards, and rules. Upon the start of the stakeholder participatory experience, roles were assigned to a host, picture documenter, and scribe. Through the first exercise, some members of the group **threw out different ideas** to the stakeholders which influenced their decisions or helped further explain the process. After receiving feedback, the game was refined and round two required less direction from the group to the stakeholders. The **reflection** of the session was that the game was a success with some improvement points. We were all quite amazed at **what we were able to develop** in such a short time and it was a lot of fun.

## 4.4. Final Product

On Thursday morning we met for a **check-in** and to **discuss our final product**. The formulation of a final product was a group decision where two ideas were thrown out and the group agreed on **creating a booklet**. The chapters of the booklet were briefly discussed and assigned by volunteering. The group broke apart and worked independently to create their sections with minimal crosstalk but with an overall understanding of the direction.
Throughout the **landscape democracy learning process**, the Biodiversity & Environment group began to operate more democratically.

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# 4. Our Process

## 4.5. Final thoughts

**What makes a landscape democratic and for whom?**

First of all, we would like to expand this question and ask: What makes a landscape democratic and for whom and what? Because we agreed on this: we should not only consider landscape as a place that is made for our species. We need to include all entities: Elements, other organisms and us, all participants.

Then we realized in our own group process that it is not so easy to establish a structure that functions democratically. What does Landscape Democracy mean for the way we work together? It would certainly have been easier and also more comfortable for all of us if the tutors had set the route more strongly: in terms of method, content and also structure.
We experienced obstacles due to our different backgrounds, nationalities and personalities, exactly what would be expected if we were working with the various participants in Elaionas. The process would not have reflected the struggle for equal rights for all, which is essential in such a diverse landscape as here locally - even with the uncertainty and confusion that is sometimes associated with it.

Process qualities and design belong together. This is perhaps a realization that is also reflected in our ideas, which you can find in this booklet.

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