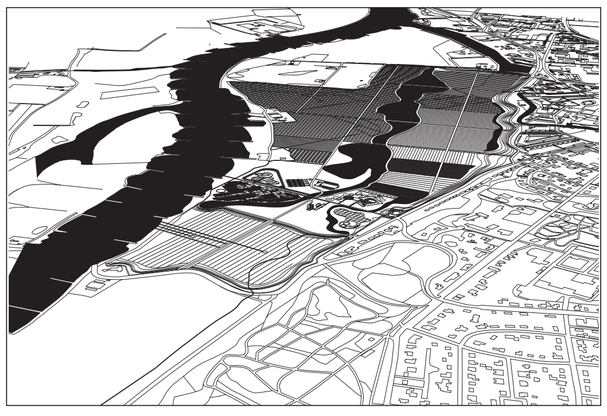
Lab Oratory — Georgia Katsi [(GR)]

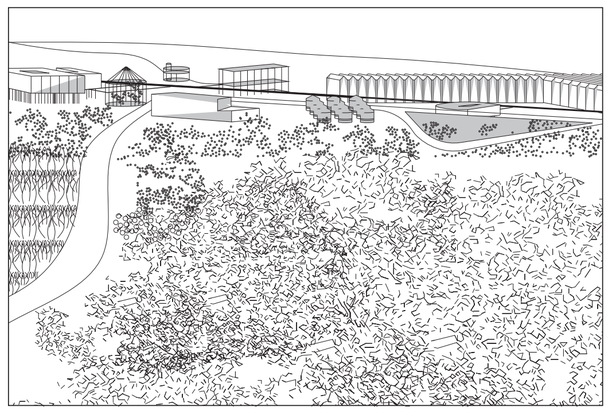
This contribution is a highly curated agricultural landscape that reimagines the future of farming to combat food scarcity.

1

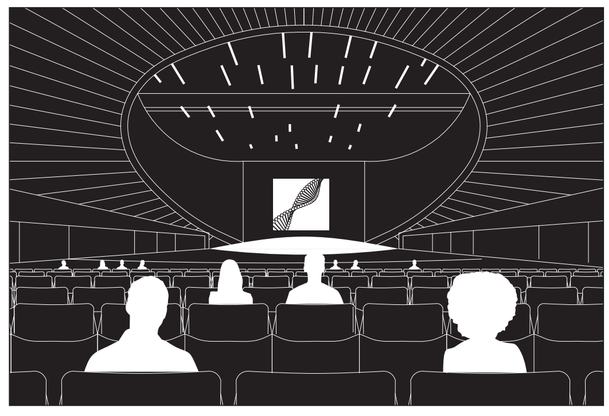
Contribution to *Supermarket*



In Wageningen, a “multidisciplinary” experiment that delineates the future of farming occurs. From genetic modification to permaculture and from the lab-produced seeds to the land-cultivated crops, the Lab Oratory suggests an alternative to how crops are being cultivated in the existing ecosystem of Wageningen Uiterwaaden that is yearly flooded as well as in natural ecosystems across the world.

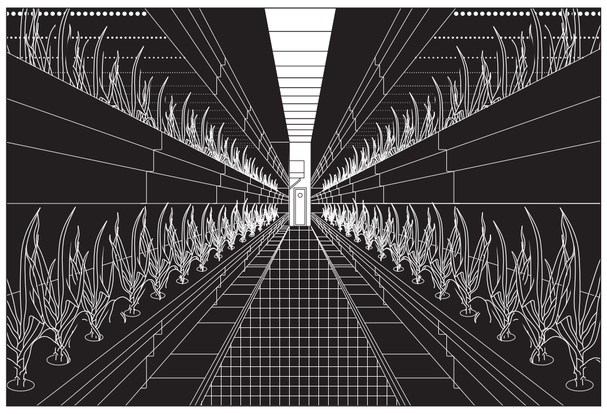


A central linear axis overlooking the crops, composes Lab Oratory’s functional spine and becomes the public viewpoint of the experiment, where visitors and experts from all around the world meet with academics from Wageningen University, members of Foodvalley NL, an organization that fights against chronic hunger across the world, and scientists and growers from the Lab Oratory.

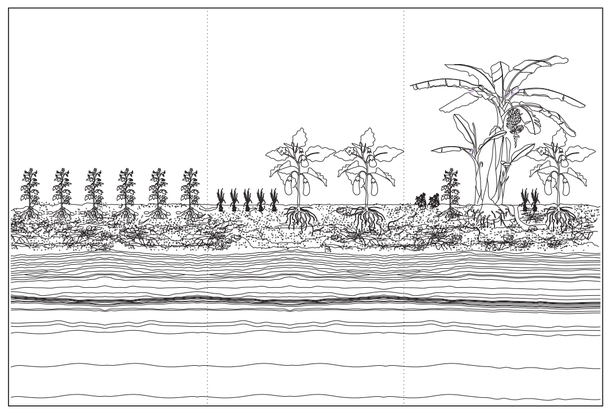


The facility’s amphitheater suggests a space of discourse on the implications of GM production on agriculture, hosting lectures and discussions on the potential and benefits of the emergent medium.

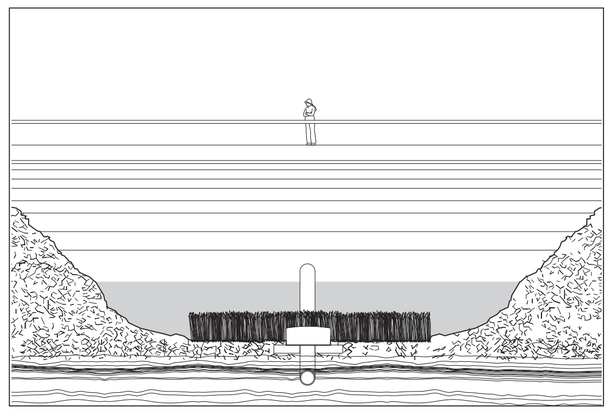
The crop’s seeds, whether local or exotic, begin as cell cultures in a biosafety level 2 laboratory. Scientists, specially trained in handling biohazardous and pathogenic materials, change the attributes of seeds through genetic modification.



In controlled growth facilities a variety of rooms offer precise environmental control for the growth of high- or low-light plants, through the use of a top-down airflow pattern.

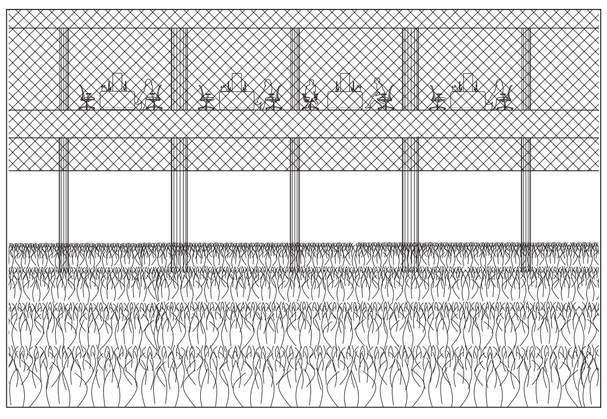


Out of the laboratory stretches an area where, 3 different methods of farming -monoculture, strip cropping, and pixel farming- are tested. Research, here, is based on the collection of data concerning crop yield, pest control, biodiversity, pollination, nutrient cycling, water regulation, and soil fertility.

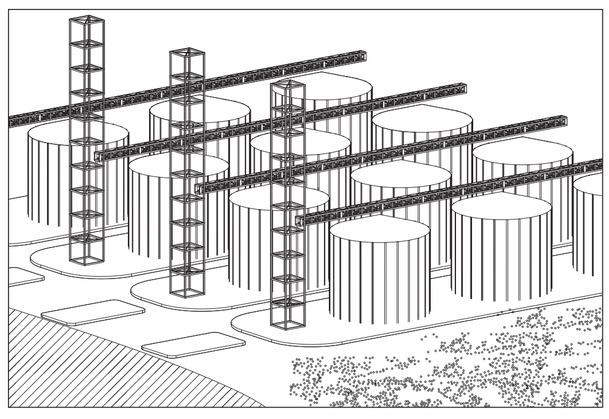


Meanwhile, at the eastern side of the laboratory, a different experiment testing water tolerance is conducted. Through water management techniques, parts of the land are regularly flooded, in an attempt to create deepwater- and flash flood-tolerant plants, similar to the traits of rice.

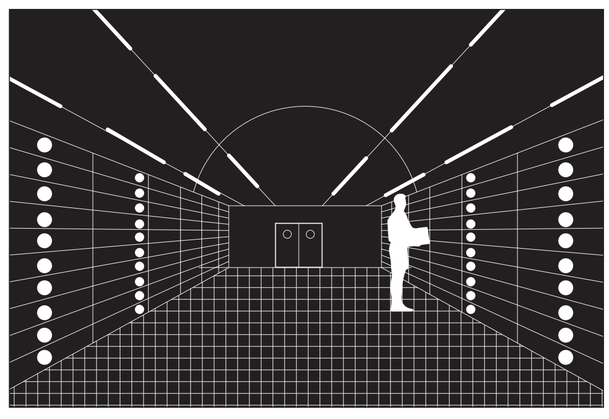
Seeds are subjected one-next-to-the-other to various environmental conditions, testing not only their climatic resilience but also their productive complementarity, forming clusters of companion plant seeds, in the geothermal greenhouses towards the north



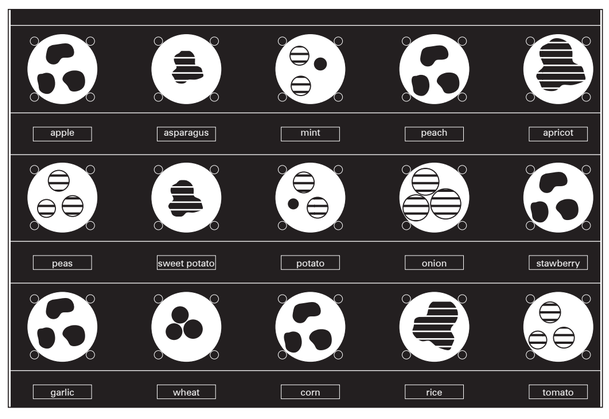
The laboratory works with nature, rather than against it, by observing and taking advantage of the existing surrounding ecosystem as a whole, instead of treating any area as a single product system. The lab-land constructive relationship is epicentral to the experiment, challenging the traditional view of the laboratory as an isolated sterile enclave.



The cultivation of the seeds is succeeded by a process of storage and evaluation that can last up to three years.



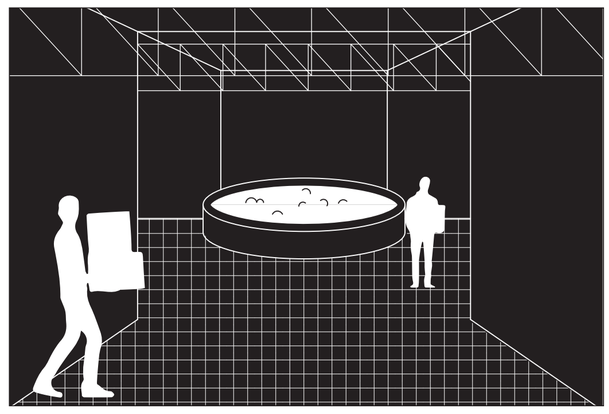
The approved seeds are then collected in a seed volt, designed to safely host the arsenal of novel local and exotic seeds produced through the experiments.



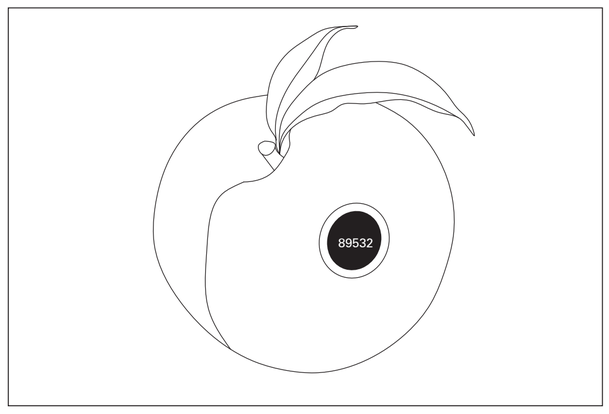
The seed can now be cultivated in different environments all around the world. Thus, for example, a peach -a stone fruit that is threatened by extinction and is normally grown in temperate conditions- can now be sent to a tropical environment, while a seed of amaranth -originally cultivated in North and South America- can grow next to its European companions.

As the seeds travel and grow around the world, the prevalence of monoculture is challenged by the benefits of permaculture, increasing production through biodiversity, and making GMOs part of the organic farming process.

After the cultivation of the seeds, the crops will be harvested and reinfused to the Blue Banana stream, allowing the Netherlands both to alter its crops and sustain its production against the threat of flooding by combining gm techniques with organic farming.



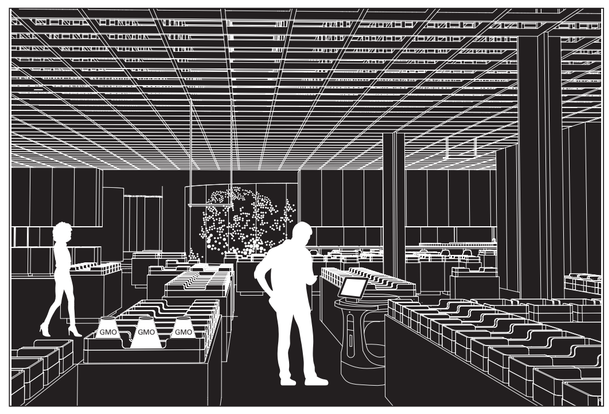
During harvesting, the quality of crops is checked by expert growers. Crops that produce beans are placed in flat areas to dry, while the crops for consumption are washed.



After sorting and processing, the crops are now properly labeled as Genetically Engineered Organics, with a price look-up code that starts with the number 8, denoting the use of genetic modification, and then a 9, indicating that they were cultivated according to the principles of organic and sustainable farming. The distribution process to the Dutch food industry begins.

The crops, already mature enough, are packaged in jars to maintain their freshness and enhance their long-lasting quality, as well as to comply with the Albert’s packaging policies. The jars are then heavily bubble-wrapped and padded, with the ripening process of the contents slowed down by cooling packs and insulative pads.

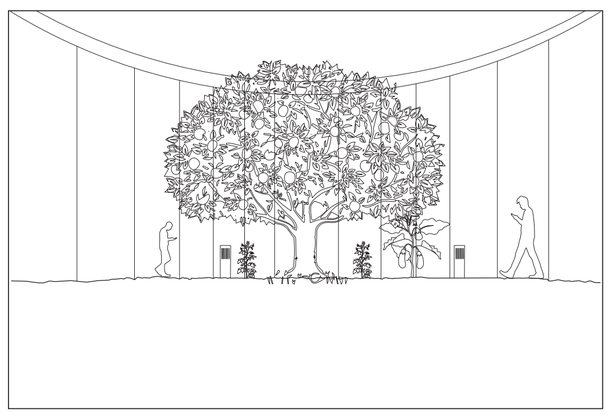
The crops that survived extreme conditions caused by climate change travel from the Blue Banana and beyond to supply Albert’s integrated distribution center
in Delft.



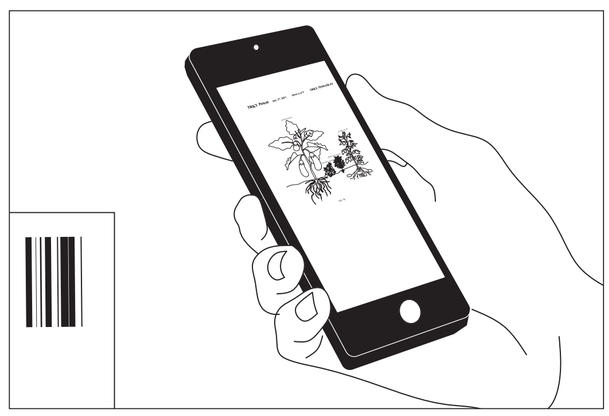
In 2030, the products threatened with extinction, such as avocados, bananas, wine grapes, strawberries, stone fruits, soybeans, wheat, maize rice, and chickpeas, are revitalized through their genetic modification and redistributed to the marked, to be offered in supermarket shelves.

Smart shopping carts display information regarding product origin countries while barcodes on the jars explain farming processes, particularly highlighting seed production and distribution.

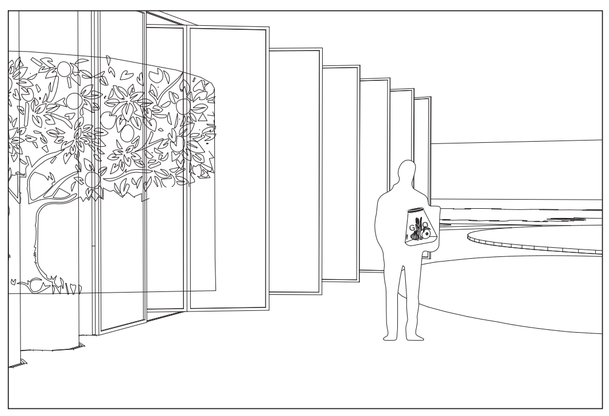
As an essential service, the supermarket incorporates integrated agriculture strategies, accentuating a new civic presence within the supermarket, and diluting the opacity of GM production that currently induces bias and subsequently controlled patent monopolization.



Farmers can also witness a demonstration of various, organically farmed, genetically modified seeds inside the supermarket, turning the green areas into a space of profit.



Through a barcode, consumers are informed about specific characteristics of crops and companion plants that they can now order.



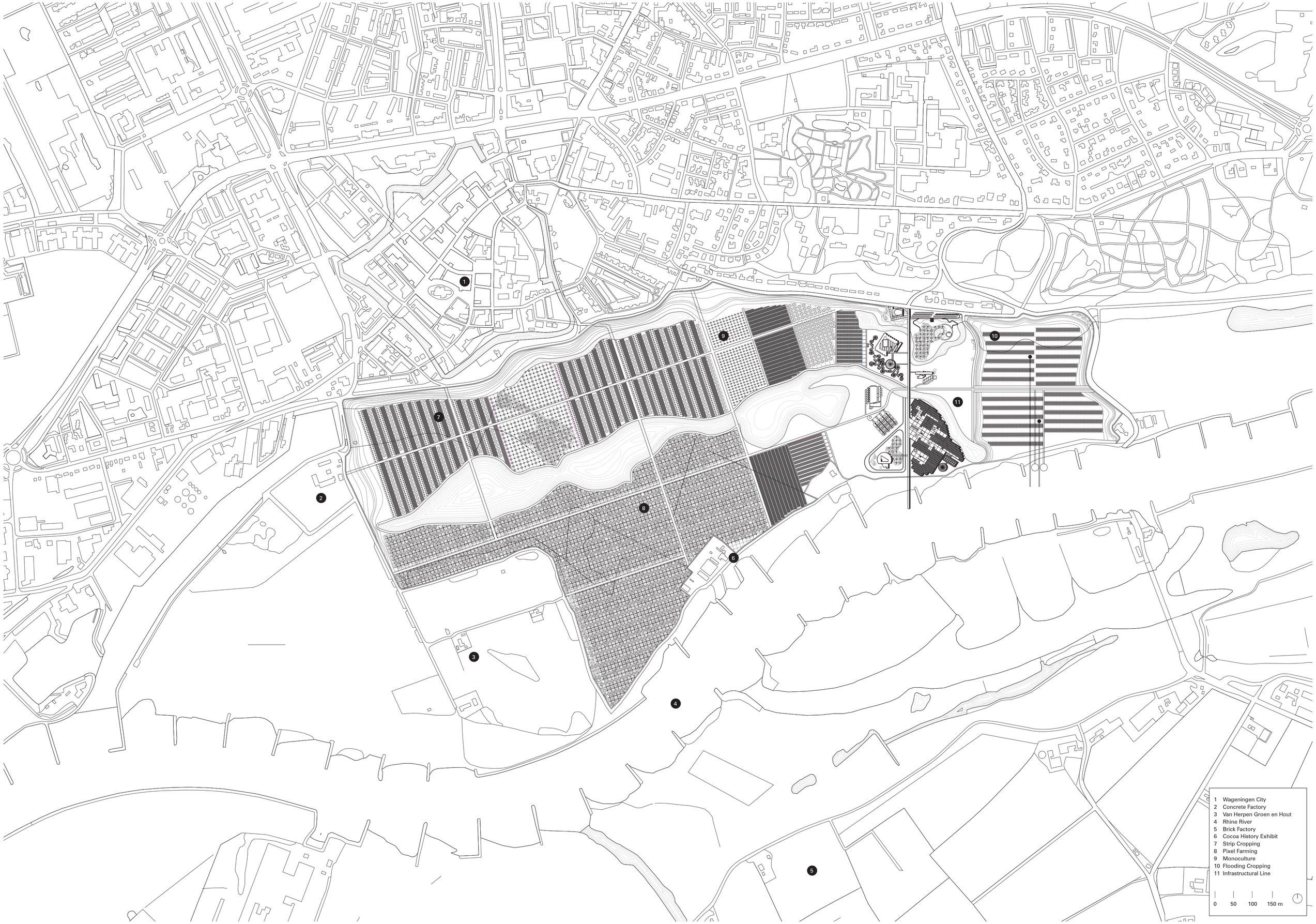
Scarcity is now reversed, extinction is averted, and biodiversity is enhanced. The crops of avocados, bananas, wine grapes, strawberries, stone fruits, coffee, soybeans, wheat, maize rice, and chickpeas, are now saved, and available for consumption!

Lab Oratory — Georgia Katsi [(GR)]

Presented in a set of spatial narratives, the contribution of a highly curated landscape producing “smart” crops demonstrates the modified supply chain commencing with Wageningen’s floodplain to reconfigure at the future supermarket—Albèrt—on Martinus Nijhofflaan in Delft.

1/14

Contribution to *Supermarket*


1 Wageningen City
2 Concrete Factory
3 Van Herpen Groen en Hout
4 Rhine River
5 Brick Factory
6 Cocoa History Exhibit
7 Strip Cropping
8 Pixel Farming
9 Monoculture
10 Flooding Cropping
11 Infrastructural Line
0 50 100 150 m

Lab Oratory — Georgia Katsi (GR)

In Wageningen's flood plain, a highly calibrated landscape of multidisciplinary experimentation reconstructs the boundaries of the unviable industrial and the exclusive organic crop production to reverse impending scarcity.

2/14

Contribution to *Supermarket*

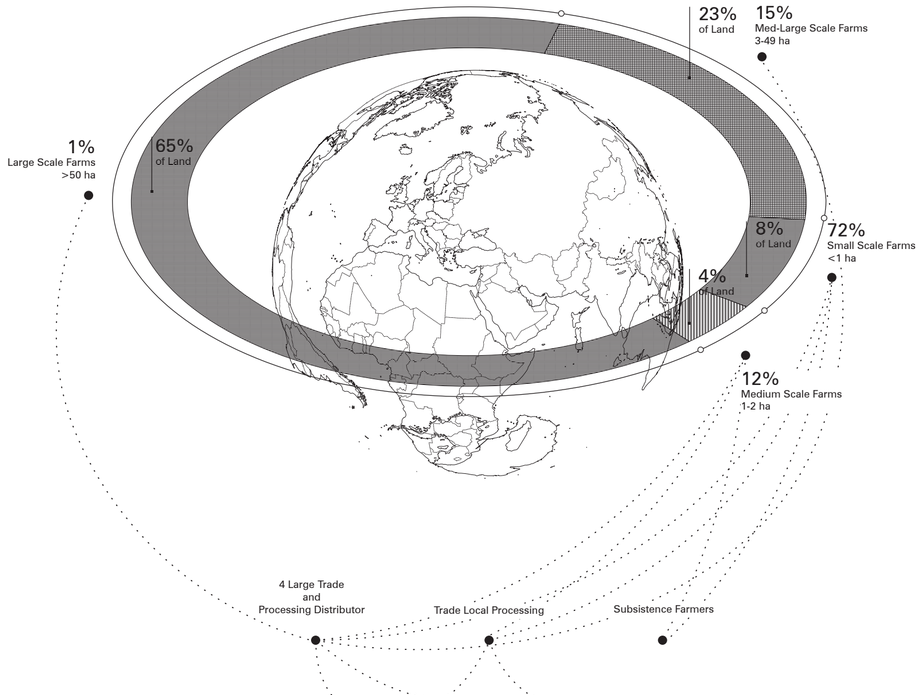
2022

Crops

Fertilizer Producers
- Mosaic 40%
- Rest 35%
- 7 Other 25%

Pesticide Producers
- 4 Companies 50%
- Other 50%

Seed Producers
- Monsato 40%
- Other 35%
- 6 Companies 25%



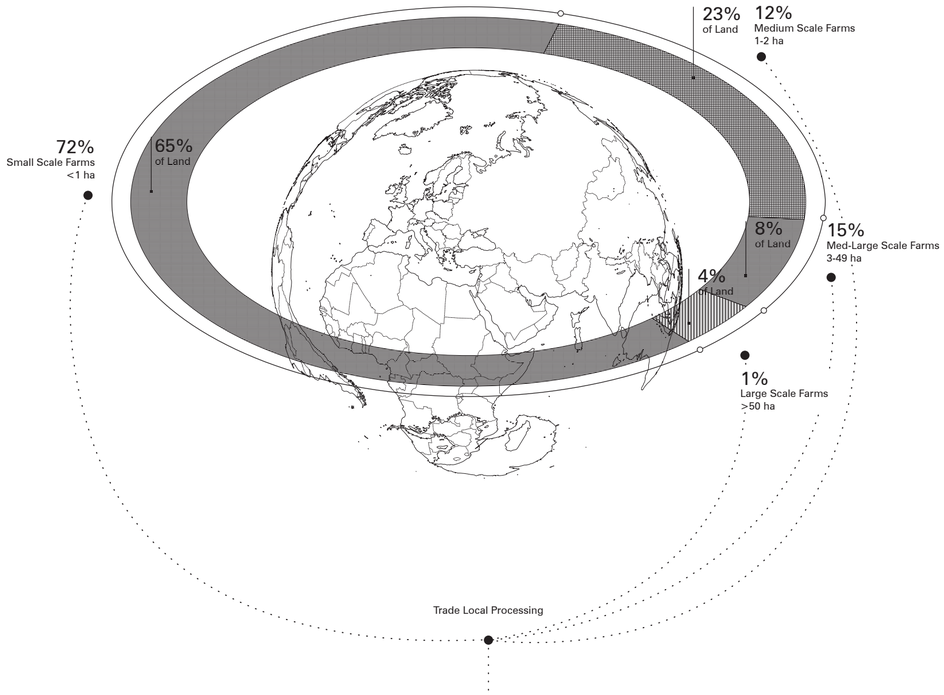
2030

Crops

Fertilizer Producers
- Mosaic 0%
- Rest 0%
- 7 Other 0%

Pesticide Producers
- 4 Companies 0%
- Other 0%

Seed Producers
- Monsato 10%
- Other 70%
- 6 Companies 20%

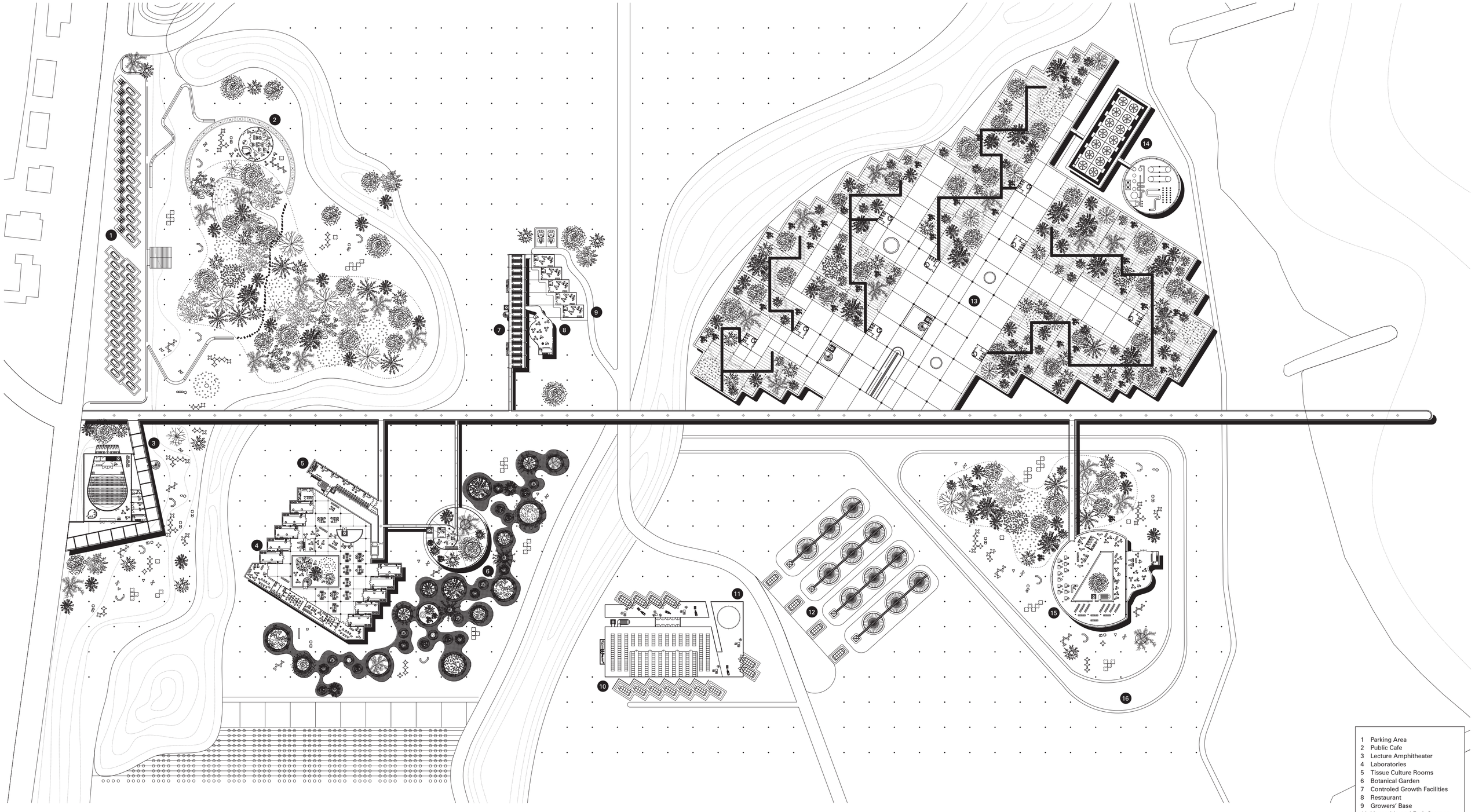


Lab Oratory — Georgia Katsi [(GR)]

By 2030, genetically modified crops, alternatively produced, will feed the world's increasing population, while farmland will be allocated differently, shifting from large-scale farmers to small-scale farmers.

3/14

Contribution to *Supermarket*

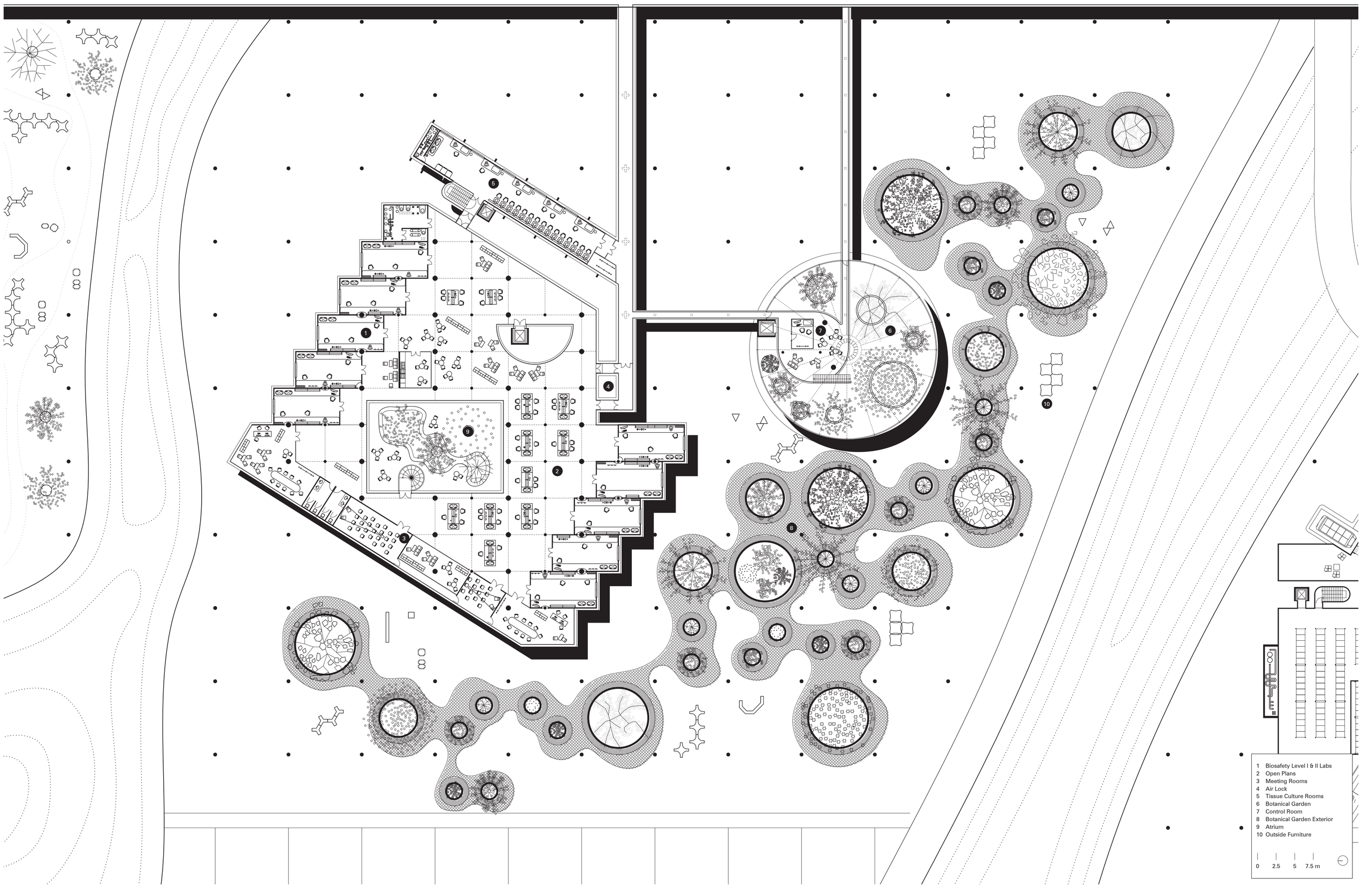

1 Parking Area
2 Public Cafe
3 Lecture Amphitheater
4 Laboratories
5 Tissue Culture Rooms
6 Botanical Garden
7 Controled Growth Facilities
8 Restaurant
9 Growers' Base
10 Vegetable and Fruit Storage
11 Washing Facility
12 Grain Storage Silos
13 Greenhouses
14 Mechanical Support
15 Library
16 Water Barrier
0
10
20m

Lab Oratory — Georgia Katsi (GR)

An infrastructural line opposes the landscape, organizing various public and private functions and generating new juxtapositions of different users, scientists, growers, and visitors.

4/14

Contribution to *Supermarket*


1 Biosafety Level I & II Labs
2 Open Plans
3 Meeting Rooms
4 Air Lock
5 Tissue Culture Rooms
6 Botanical Garden
7 Control Room
8 Botanical Garden Exterior
9 Atrium
10 Outside Furniture
0 2.5 5 7.5 m

Lab Oratory — Georgia Katsi (GR)

The laboratory ensures strict compliance with the safety rules and regulations; while, at the same time, promoting collaboration with scientists, by implementing an open plan in the facility's center. By expanding into a botanical garden of novel species, follows a wholistic approach in plant researching by bringing together researchers and growers.

5/14

Contribution to *Supermarket*

1 Polar Greenhouse
2 Tropical Greenhouse
3 Dry Greenhouse
4 Temperate Greenhouse
5 Continental Greenhouse
6 Two Leveled Entrance
7 Platform
8 Growers' Route
9 Scientists' Route
10 Hot and Cold Air Supply

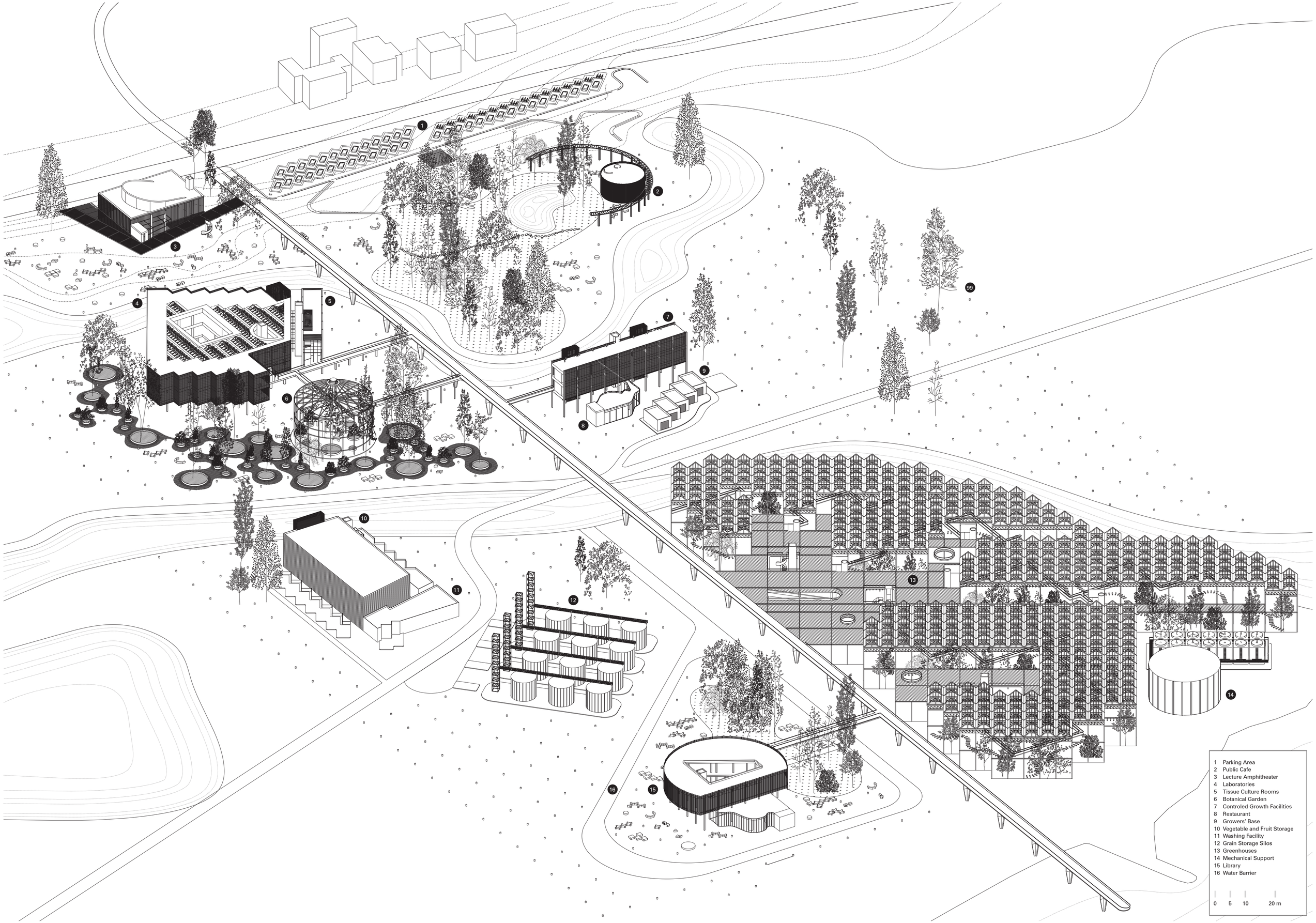
0 2.5 5 7.5 m

Lab Oratory — Georgia Katsi (GR)

Greenhouses are organized according to the five climate zones, and to their thirteen subdivisions, imitating different natural ecosystems for crop production experimentation around a central open space.

6/14

Contribution to *Supermarket*

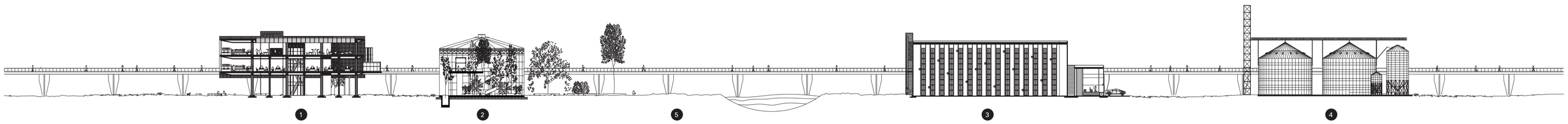

1 Parking Area
2 Public Cafe
3 Lecture Amphitheater
4 Laboratories
5 Tissue Culture Rooms
6 Botanical Garden
7 Controled Growth Facilities
8 Restaurant
9 Growers' Base
10 Vegetable and Fruit Storage
11 Washing Facility
12 Grain Storage Silos
13 Greenhouses
14 Mechanical Support
15 Library
16 Water Barrier
99
0 5 10 20 m

Lab Oratory — Georgia Katsi [(GR)]

Bookended by public spaces, an amphitheater and library respectively, the infrastructural line is elevated separating the movement of scientists and growers into two levels, highlighting the transparency of different uses.

7/14

Contribution to *Supermarket*



1 Laboratories
2 Botanical Garden
3 Vegetable and Fruit Storage
4 Grain Storage Silos
5 Bridge

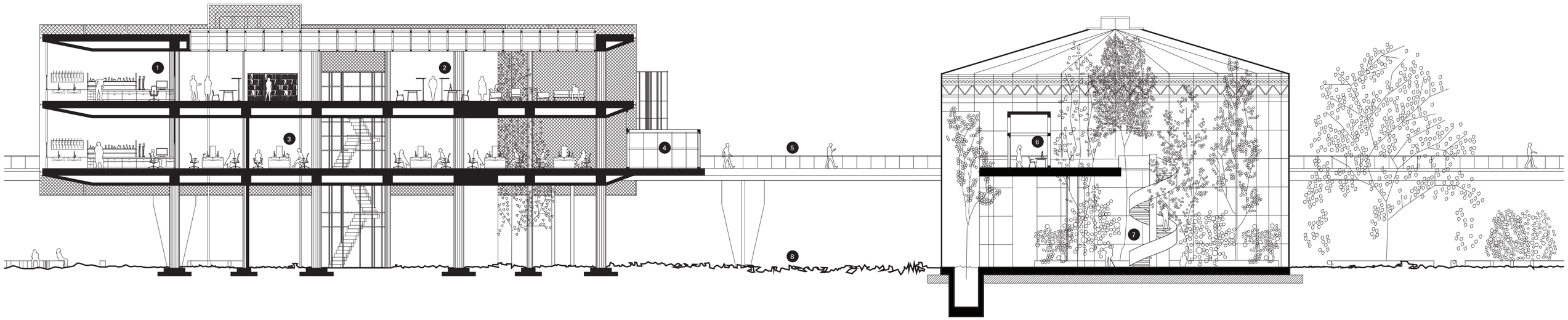
0 2.5 5 10 m

Lab Oratory — Georgia Katsi (GR)

The longitudinal section depicts the sequence of functions, including the laboratory, botanical garden and storage facilities.

8/14

Contribution to *Supermarket*



1 Biosafety Level I and II Lab
2 Study Area
3 Open Labs
4 Air Lock Entrace
5 Bridge
6 Control Room
7 Botanical Garden
8 Ground Level
9 Ground Level

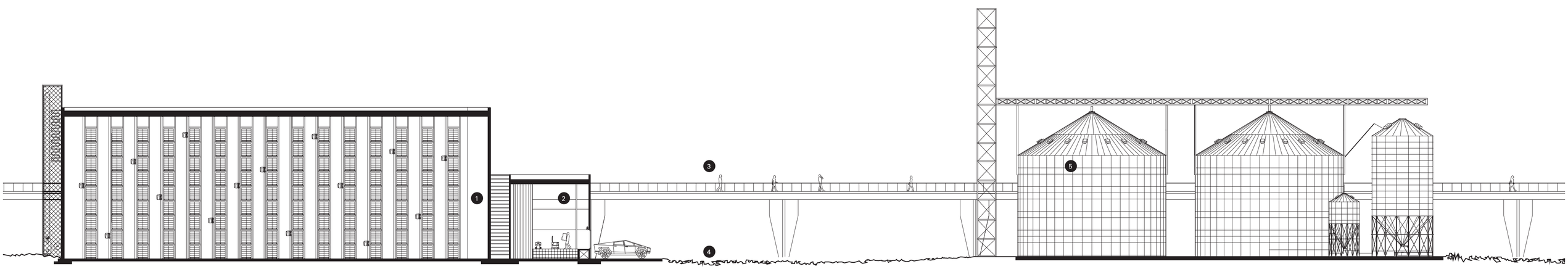
0 2.5 5 m

Lab Oratory — Georgia Katsi (GR)

Highlighting the interchange of expertise, the section illustrates different methods of research, including seed development, biosafety, and botanics.

9/14

Contribution to *Supermarket*



1 Vegetable and Fruit Storage
2 Washing Facility
3 Bridge
4 Ground Level
5 Grain Storage Silos

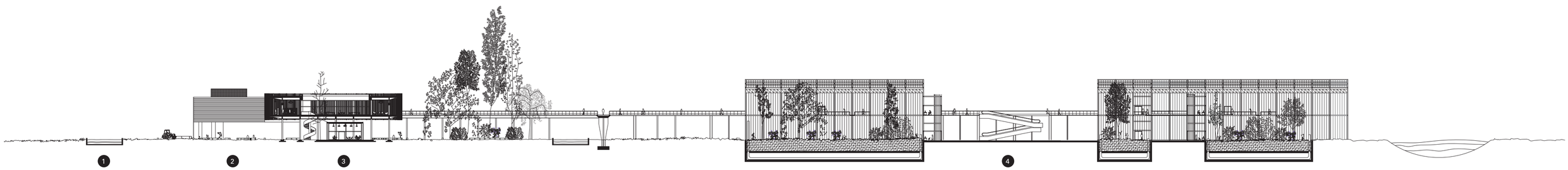
0 50 100 200 m

Lab Oratory — Georgia Katsi [(GR)]

Storage facilities are divided into two buildings: vegetables and fruit are stored in an automated space with different climate temperatures; while grains are stored within silos.

10/14

Contribution to *Supermarket*



1 Water Barrier
2 Vegetable and Fruit Storage
3 Library
4 Greenhouses

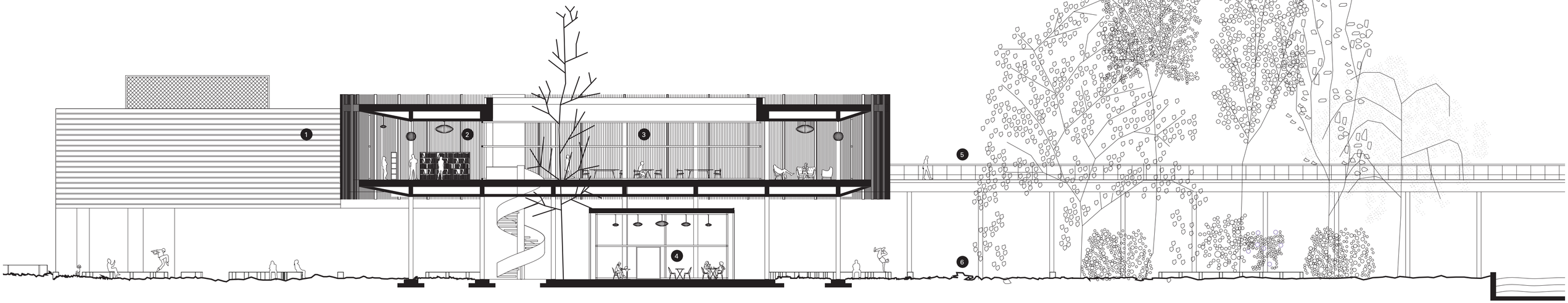
0 2.5 5 10 m

Lab Oratory — Georgia Katsi (GR)

The cross-section accentuates the transitional flows of visitors, scientists, and growers, depicting the public library and the two-story greenhouses.

11/14

Contribution to *Supermarket*



1 Vegetable and Fruit Storage
2 Book Archive
3 Study Area
4 Restaurant
5 Bridge
6 Ground Level

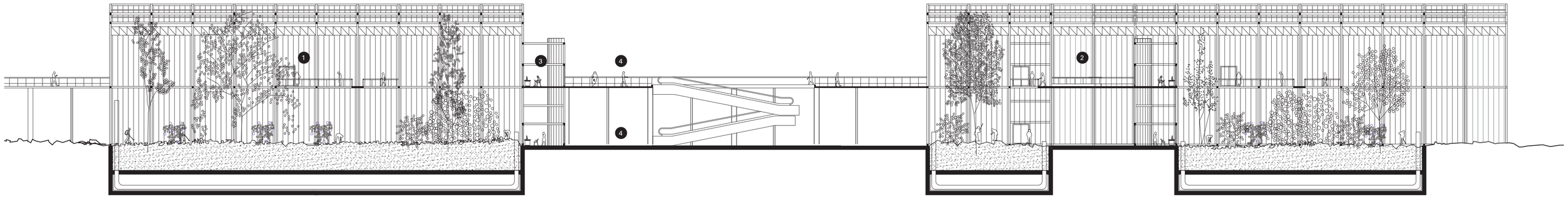
0 2.5 5 10 m

Lab Oratory — Georgia Katsi (GR)

Symbolizing the end of the infrastructural line, the public library, isolated by canals, offers a scientific archive, providing openness and transparency of knowledge and expertise.

12/14

Contribution to *Supermarket*



1 Continental Greenhouse
2 Temperate Greenhouse
3 Airlock Entrance
4 Exit
5 Bridge
6 Ground Level

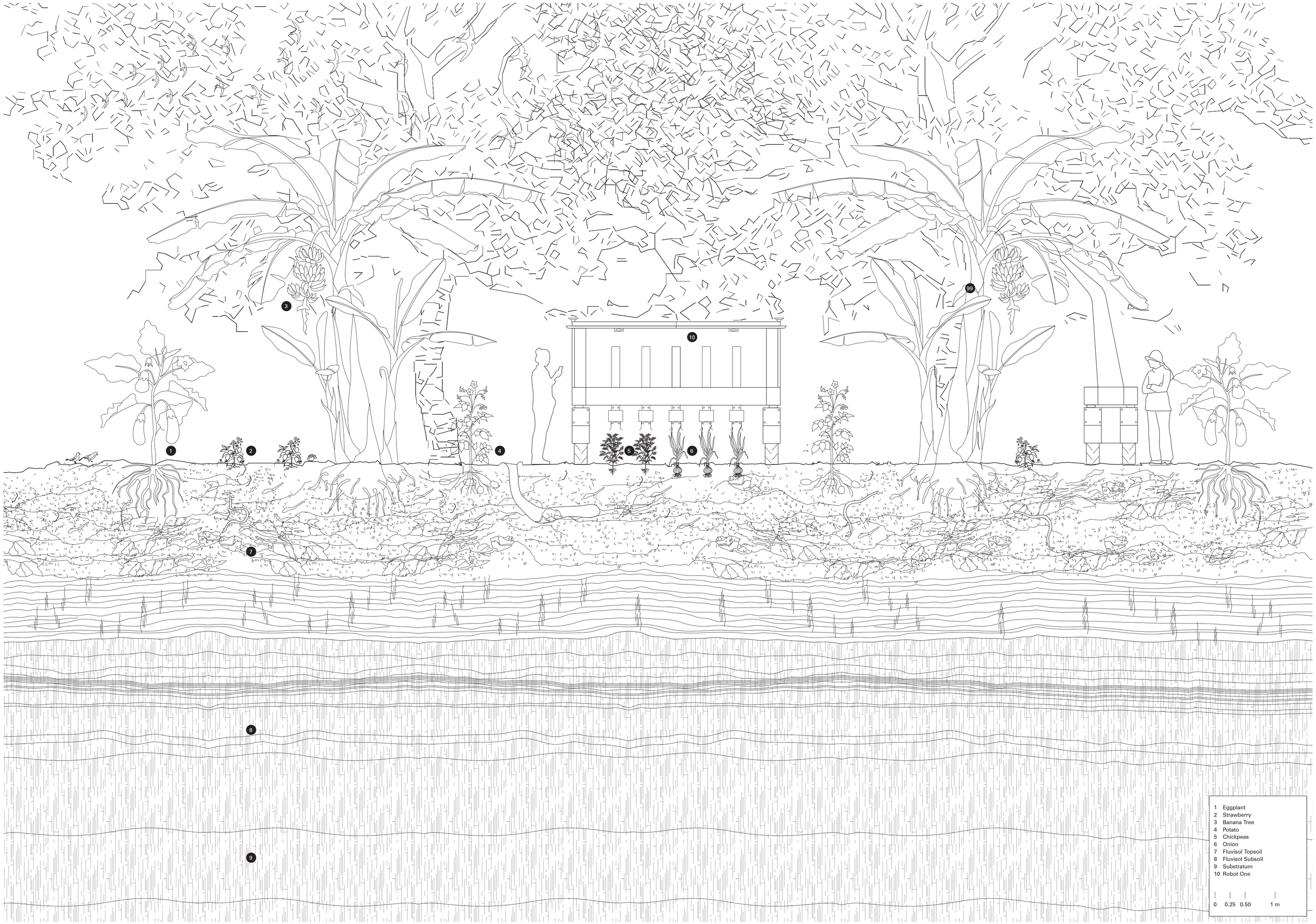
0 2.5 5 10 m

Lab Oratory — Georgia Katsi [(GR)]

Resembling the Dutch agricultural landscape, the greenhouses are developed into two levels, separating the workflow of scientists and growers. Using a sustainable approach, a geothermal heating system recovers the thermal energy reserved in soil and convert it to heat.

13/14

Contribution to *Supermarket*


1
2
3
4
5
6
7
8
9
10
99
1 Eggplant
2 Strawberry
3 Banana Tree
4 Potato
5 Chickpeas
6 Onion
7 Fluvisol Topsoil
8 Fluvisol Subsoil
9 Substratum
10 Robot One
0 0.25 0.50 1 m

Lab Oratory — Georgia Katsi [(GR)]

A cropping system designed to mobilize high-resolution spatial and genetic diversity in arable fields, creating positive effects on crop yields; resource-use efficiency; biodiversity; and pest, pathogen, and weed suppression.

14/14

Contribution to *Supermarket*