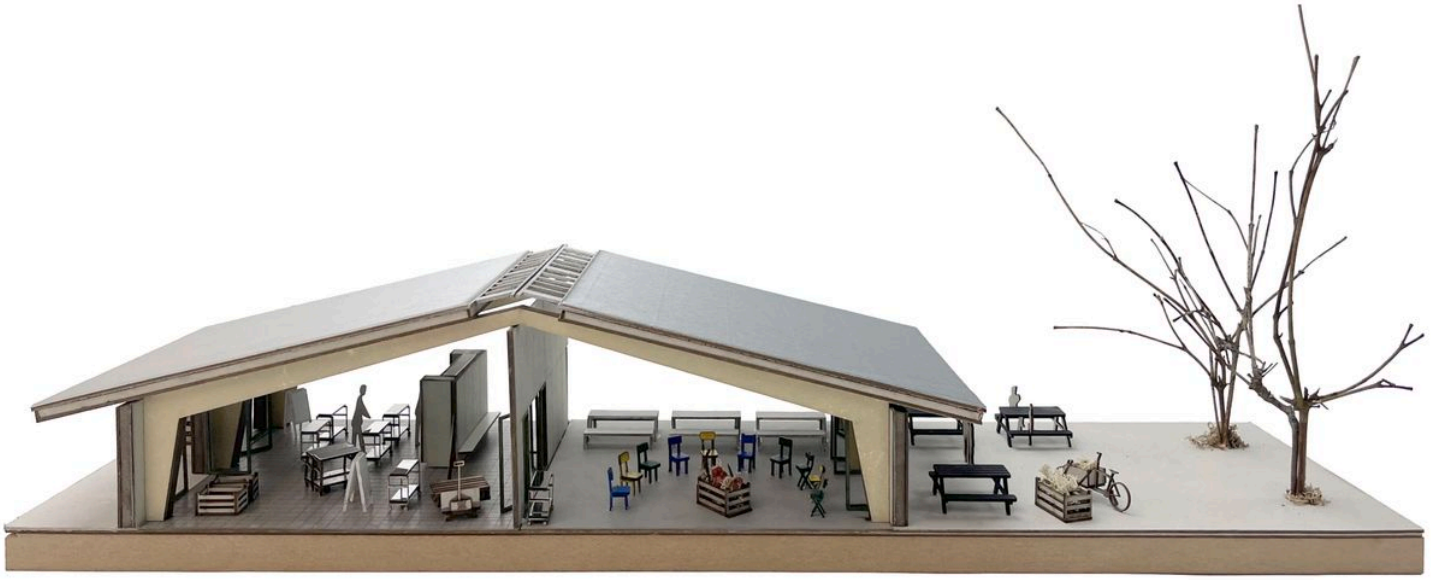
ETH Zurich Department of Architecture
ARCHITECTURE OF TERRITORY
Chair of Architecture
and Territorial Planning
Professor Milica Topalović

Agritopia
Fall 2023

Food

Eating Local Food Together

Irina Burau, Dilara Aydemir, Beda Sievi, and Raphael Ulli



Society has become increasingly disconnected from the origins of its food. Many rush to the supermarket, selecting pre-packaged meals, sandwiches, or salads, often consuming them on the go without taking a moment to sit down. Do we really need a special occasion to truly value our food and acknowledge the efforts involved in bringing it from the fields to our plates? In Agritopia, a Foodtopia emerges, transforming not only our food culture but also influencing the way food is distributed and educating us about its journey from farm to table.

Challenges in the Current Food Culture



“The customer wants apples that are as firm and long-lasting as possible, which goes against the natural characteristics of an apple. This results in additional chemical treatments and distribution costs” Farmer Samuel Frei

The current food culture is characterised by long supply chains, big amounts of food waste, the control of the market by big retailers and the standardisation of products. Long supply chains call for big infrastructure and transportation vehicles such as LKWs, planes, ships and cars leading to a lot of carbon dioxide emissions.

For long supply chains to work an elongated shelf life is necessary. Produce needs to stay fresh for longer and to achieve that it gets treated with different chemical gases. This adds another step from field to plate and makes it even more expensive.

We also stopped appreciating our food. In the past it was not certain that one would make it through winter and one had to prepare all summer long to even stand a chance of surviving. Nowadays food is taken for granted and we want our crisp apple all year round even if the local climate hasn't intended it this way. The popularity of ready-made meals leads to people forgetting how to cook with fresh produce and how to follow a healthy and balanced diet.



The current supply chain



Standardisation



Transportation



Animal Industry



Big retailers. Source: Tagesanzeiger

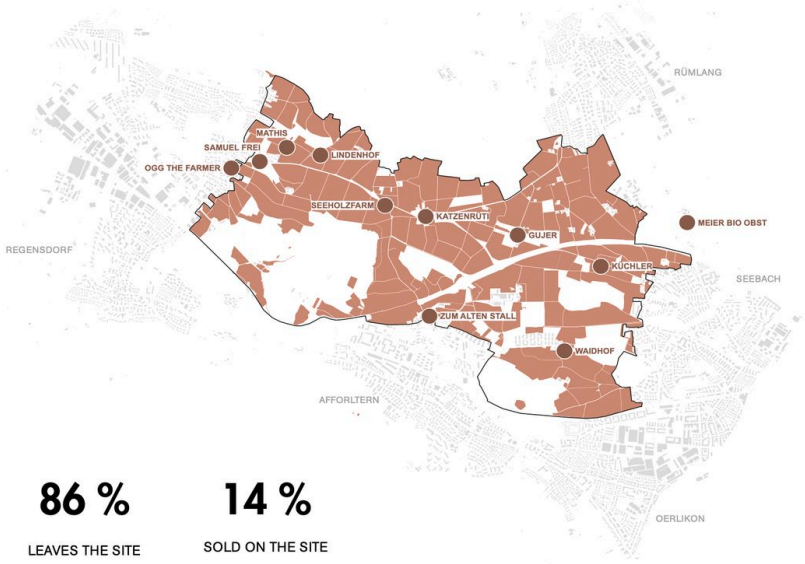


Chemical treatments. Source: La Vanguardia



Foodwaste. Source: Pinterest

How Does the Current Food Culture Affect Our Site?



Where does the food go? Only 14 % are sold on the site, the remaining 86 % are shipped to other destinations in Switzerland and beyond.

Currently, half of the harvest is allocated to animal fodder, resulting in a negative caloric value. This imbalance arises because more food is invested in feeding the cows than what is gained from consuming their meat and milk. The existing system can sustain 3,241 people. The cultivation of vegetables and fruit is characterised by monocultures and mass production and standardisation. A significant 86 % of these products are not retailed on site but are transported to CA storage facilities, distribution centres, and eventually find their way onto the shelves of big retailers.

CA storage and MCP treatments involve chemical treatments to prolong the shelf life of fruits and vegetables, allowing for the availability of crisp apples even when they are out of season. While it is more financially rewarding for farmers to sell products in their own farm shops, the limitation of on-site customers makes it impossible to sell the entire harvest locally. Only the remaining 14 % is sold on site. To enhance the appeal of farm shops, various products are imported to diversify the range offered.

In summary, the current agricultural setup on the site is not optimised to efficiently feed people, and the financial returns to farmers are insufficient. The predominant focus on animal fodder and the challenges associated with on-site sales result in a system that falls short of its potential. The goal is to provide food for 12,000 people by 2073.



~ 3241

3241 people can be fed from the agricultural area of Zürich Nord in 2023.



~ 12’000

Ca. 12,000 people can be fed from the agricultural area of Zürich Nord in 2073.

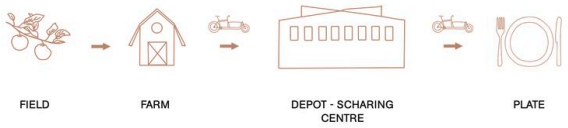
From Field to Plate: The Distribution Network



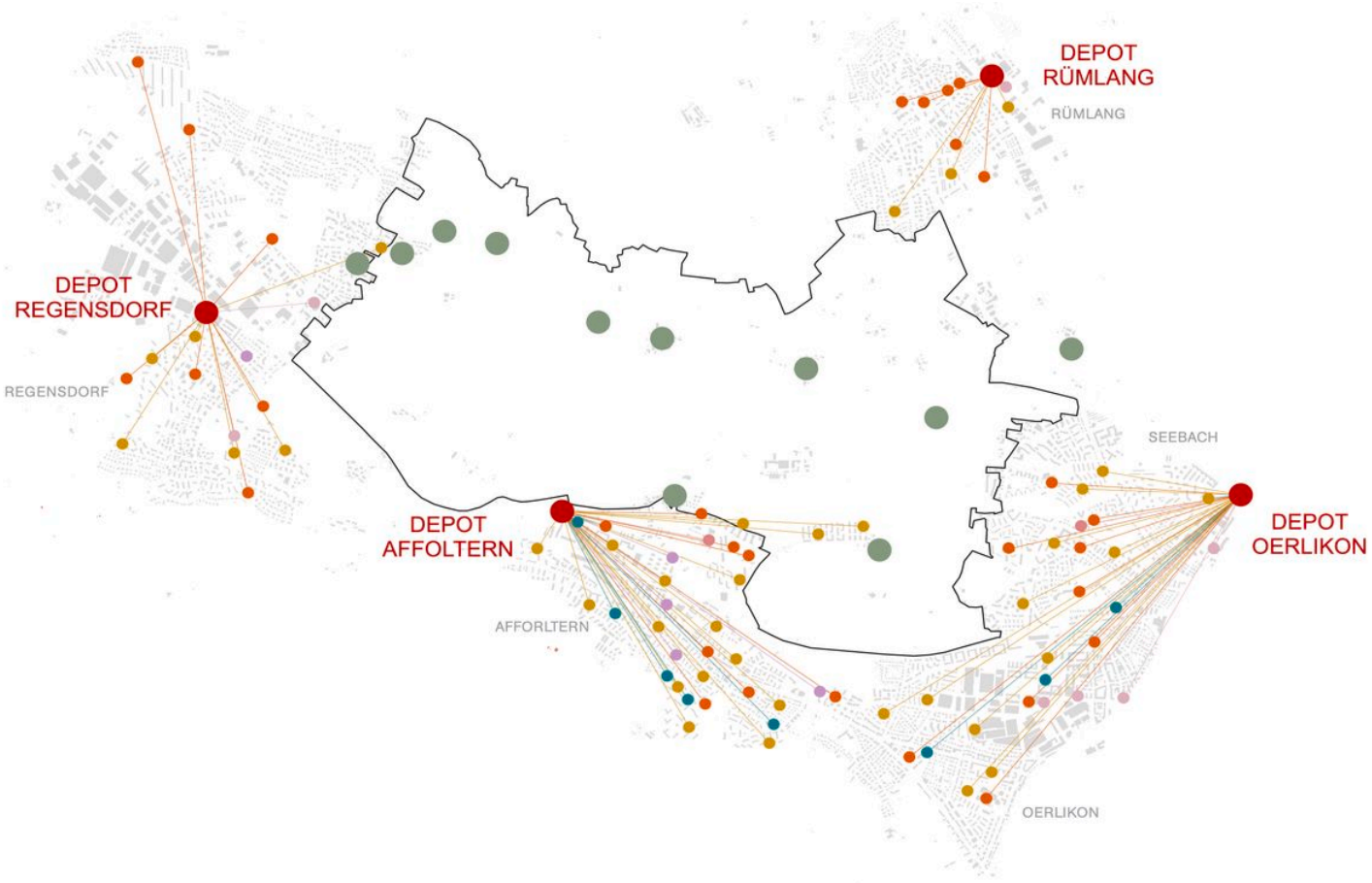
Short supply-chains between farm and farm shop, close-by depots, and local schools minimise the need for chemical treatment of the produce and food waste.

The harvested produce is transported to the farm, where 5 % of the harvest is set aside for sale in the farm shop. The remaining goods are sent to four depots strategically located around the site in Affoltern, Oerlikon, Regensdorf, and Rümlang. A significant 70 % is allocated to local schools, ensuring the provision of nutritious, locally produced lunch meals for students. This approach minimises the need for chemical treatment, as the shortened supply chain allows for immediate consumption. Careful meal planning also contributes to reduced food waste.

The remaining 25 % is designated for on-site workers, who, by virtue of their employment, enjoy a discount and can collect their fair share of the harvest from the depot. The entire distribution process is carried out using cargo bikes, taking advantage of the fast bike tracks on site, facilitating the seamless transport of food to depots and subsequently to local schools. Each bike has a capacity to transport up to 145 kg, ensuring efficient and eco-friendly distribution.

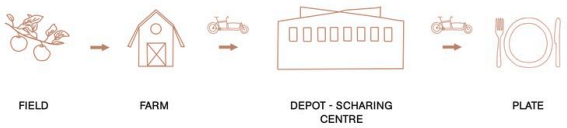


The new supply chain.

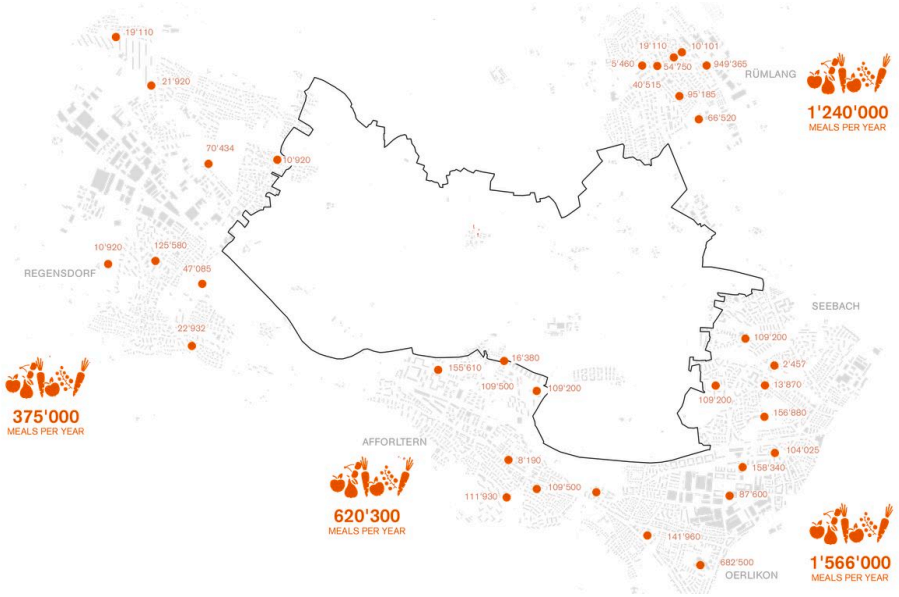


Depots are distribution hubs for numerous institutional consumers.

- Farmshops: Food for the locals
- Depots
- Schools, Kindergardens
- Housing co-operatives
- WOKO student housing
- Hotels
- Emergency housing assistance, neighbourhood assistance
- Community centre (GZ)
- Katzenrüti: Food education and more



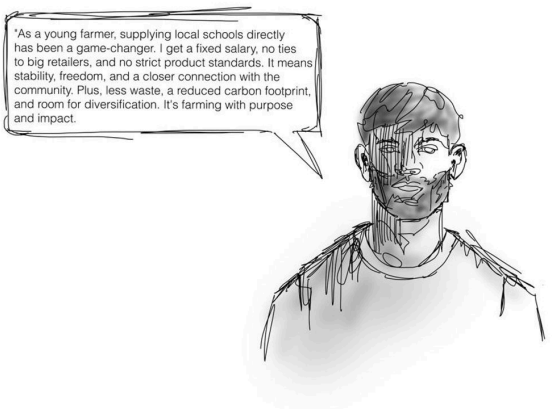
The new supply chain



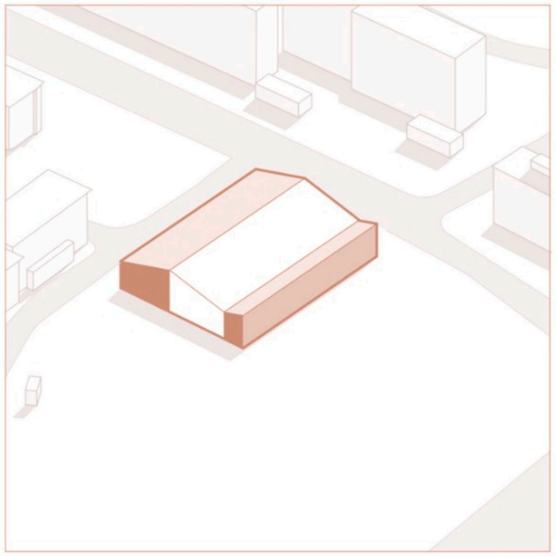
Meals per school.

The City and the Farmer Working Together

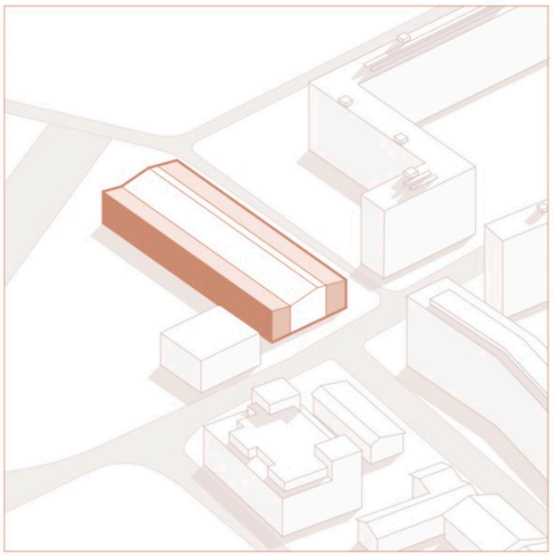
“As a young farmer, supplying local schools directly has been a game-changer. I get a fixed salary, no ties to big retailers, and no strict product standards. It means stavility, freedom, and a closer connection to the community. Plus, less waste, a reduced carbon footprint, and room for diversification. It’s farming with purpose and impact.”



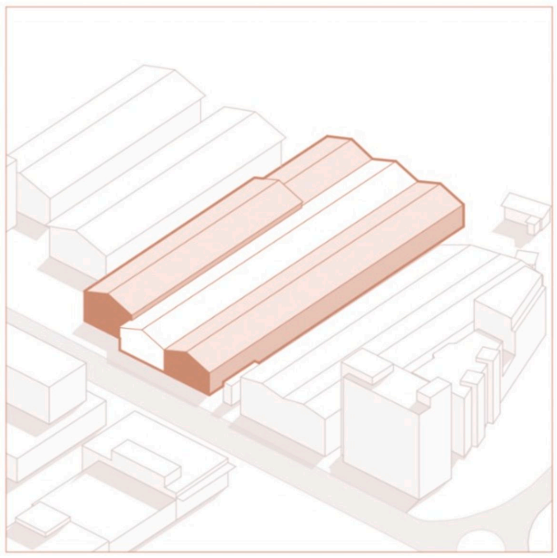
The Four Depots



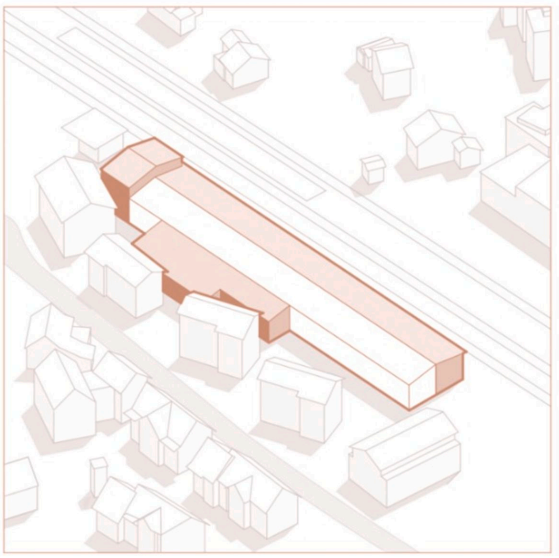
Depot Oerlikon
Reuse and extension



Depot Affoltern
Reuse and extension



Depot Regensdorf
Reuse



Depot Rümlang
Reuse

The four depots are evenly situated around the site, easily accessible by the cargo bikes. They all are re-used industrial buildings which are currently used as car garages and storage halls. Each depot is adapted to its structure; however they all have the same three utilisations: Food storage, a professional kitchen and a greenhouse.

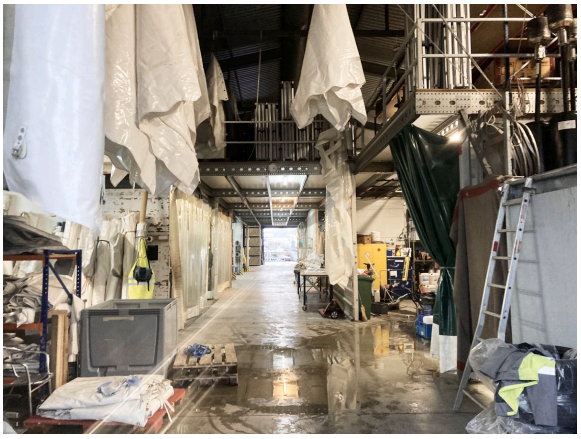
The professional kitchen cooks up meals to get distributed further to the institutions lacking the necessary infrastructure to cook the planned meals. They also play a crucial role in preserving food which gets stored in the storage unit next to the fresh harvested products to use later in the season.

The depots serve as a hinge between the site and the city; creating a social hub and entry point to the site. At the depot the workers can collect their share of the harvest. To benefit the surrounding neighbourhoods it is possible to buy food directly from the storage unit.

The Depot in Affoltern: a Zoom-In



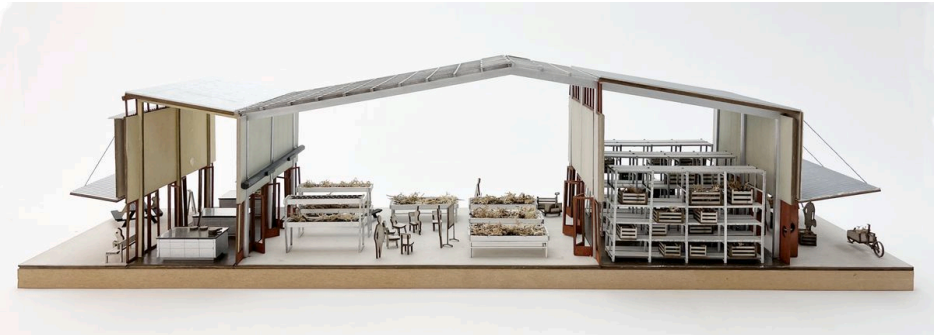
Present: Tent renting storage building (outside)
Future: Depot Affoltern

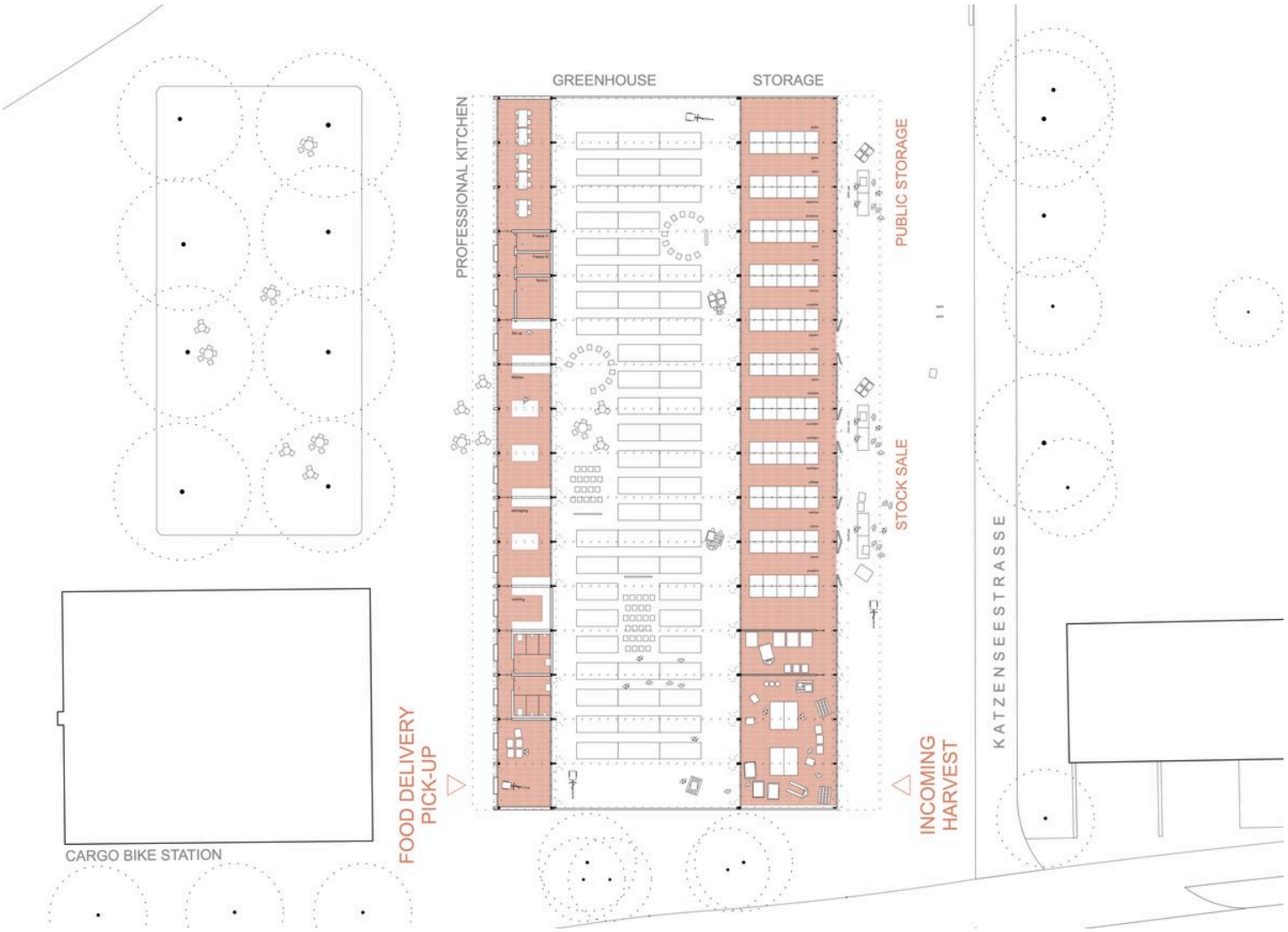


Present: Tent renting storage building (inside)
Future: Depot Affoltern

The Affoltern depot is situated at Mühlackerstrasse 120, easily reachable by bike and bus. This repurposed building now functions as a storage unit for a tent rental service. Positioned between the professional kitchen and the storage unit, it forms a border to the outside, providing insulation to shield the greenhouse from the cold. Additionally, surplus heat from the kitchen is channeled into the greenhouse.

The open space adjacent to the depot serves as a welcoming square for the public before entering the site. The neighboring buildings consist of student residential units managed by WOKO. These students enjoy the benefits of stock sales at the depot. A cargo bike station is also available for bike repairs and storage, ensuring a functional distribution system.





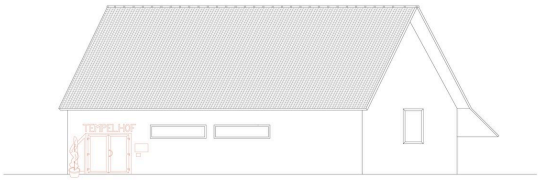
Floor plan of the Depot in Affoltern.

Farm Shops





Frei Farm shop



Tempelhof Farm shop



Waidhof Farm shop

The remaining 5 % of the harvest goes to the farm shops, a system that currently functions effectively. The only change is that, presently, farmers import products due to the limited diversity of their harvest—including only a handful of different items. With the introduction of new crop cultivation, each farm now produces a more extensive range of products, enhancing the selection available to Agritopian customers. The ultimate aim is for every farm to exclusively sell what it has harvested, eliminating the need for imports.

Due to the anticipated population growth on site, the farm shops retain their significance. Various types of farm shops will continue to be offered, including the traditional farm shop, the automated system, and the local restaurant-style farm shop. Scattered throughout the site, they form a network easily accessible to the public. These diverse farm shops serve as a valuable addition to the food system, contributing to the site's unique culinary landscape.



Traditional Farmshop



Restaurant at Seeholzfarm



24/7 Automat

Learning About Food: The Katzenrüti Education Centre



To make sure that children build a healthy relationship with food, an education centre is built. It is located in a reused barn in the centre of the hamlet Katzenrüti.

The centre features a student learning kitchen where students can prepare nutritious meals using locally sourced produce under the supervision of professionals. Additionally, there is a communal canteen where both children and local workers/farmers dine together. The same meals are prepared by a professional cooking team situated in an adjacent building. This intentional mixing of children, workers, and farmers fosters the exchange of knowledge and experiences.

In the evenings, a section of the canteen transforms into a local pub for the residents of Katzenrüti. Serving as a social hub, it provides a space for people to gather, unwind, and discuss the events of the day.

Building an Education Hub: Reusing a Former Barn



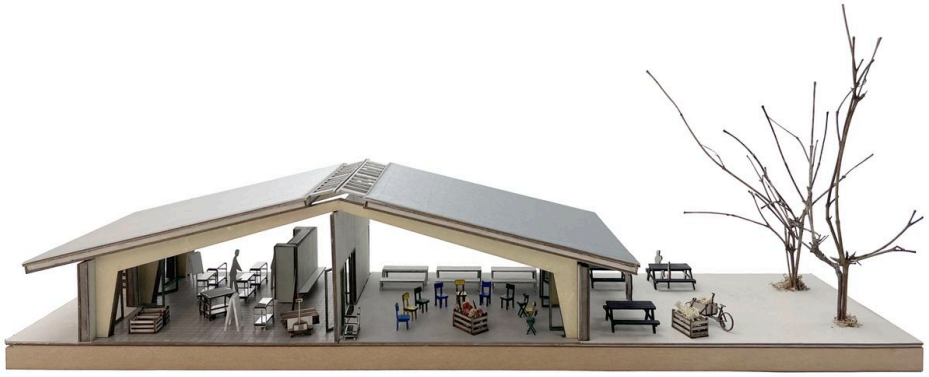
Present: Cow barn at the Katzenrüti (outside)
Future: Education Centre Katzenrüti



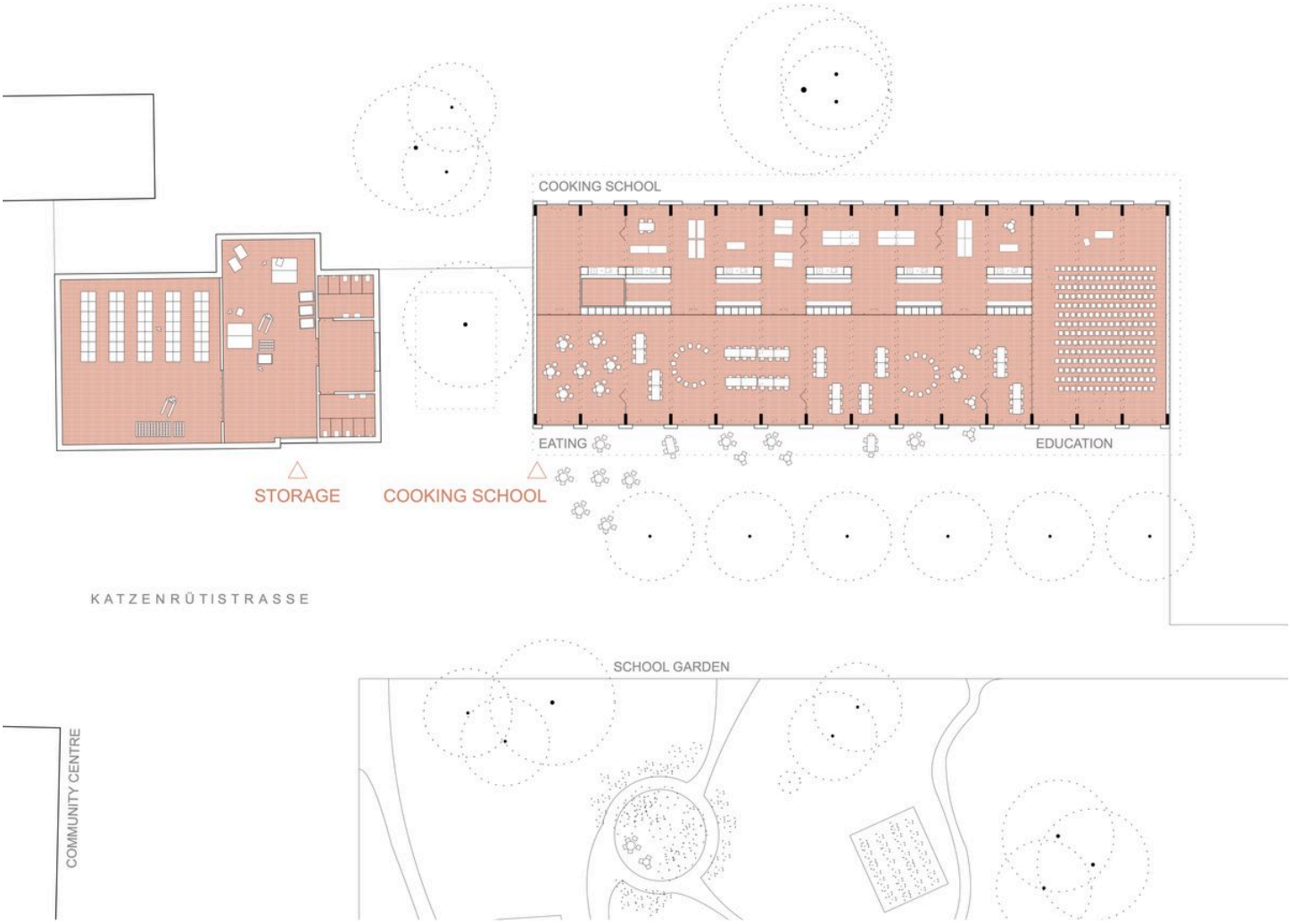
Present: Cow barn at the Katzenrüti (inside)
Future: Education Centre Katzenrüti







Section Model of the Reused Barn as Education Centre.



Floor plan of the Katzenrüti Education Centre.

The Teaching Plan

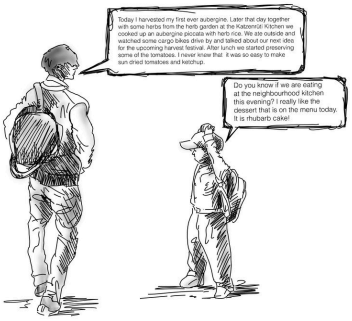


The goal is to create an understanding for the principles of sustainable agriculture, grasp the concept of how food is grown sustainably, gain knowledge about preserving food to reduce food waste, comprehend the importance of consuming food in sync with the seasons and learn how to maintain a healthy and balanced diet.

To provide said knowledge different specialists would come in and work together with the students. If their interests spark further they have the chance to engage in conversation with the workers during lunch.

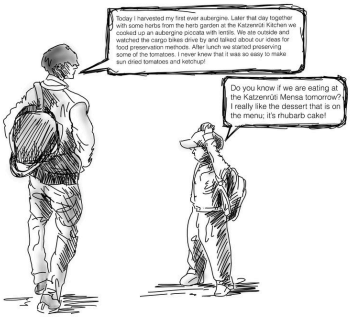
CURRICULUM

Sustainable Agriculture
Crop Growth and Harvesting Techniques
Food Preservation Methods
Seasonal Eating Benefits

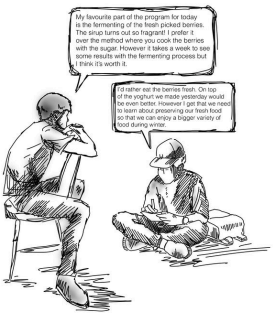




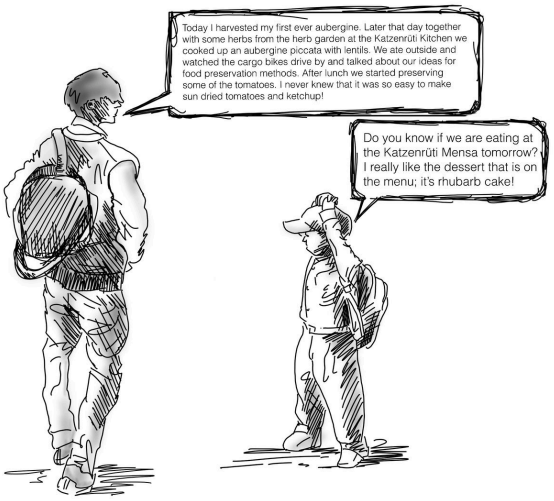




Students talking.

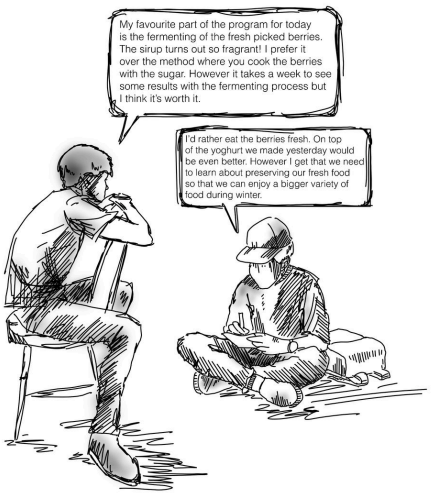


Students talking.



"Today I harvested my first ever aubergine. Later that day together with some herbs from the herb garden at the Katzenrüti Kitchen we cooked up an aubergine piccata with lentils. We ate outside and watched the cargo bikes drive by and talked about our ideas for food preservation methods. After lunch we started preserving some of the tomatoes. I never knew that it was so easy to make sun dried tomatoes and ketchup!"

"Do you know if we are eating at the Katzenrüti Mensa tomorrow? I really like the dessert that is on the menu; it's rhubarb cake!"



"My favourite part of the program for today is the fermenting of the fresh picked berries. The sirup turns out so fragrant! I prefer it over the method where you cook the berries with the sugar. However it takes a week to see some results with the fermenting process but think it's worth it."

"I'd rather eat the berries fresh. On top of the yoghurt we made yesterday would be even better. However I get that we need to learn about preserving our fresh food so that we can enjoy a bigger variety of food during winter."

Following a Meal







The stuffed butternut squash is a representative dish for seasonal eating during the autumn months. There is commitment to sourcing each component from various patches across the site. Notably, the only imported elements are salt and pepper, emphasising the dedication to local and on-site cultivation. The herbs are grown in the greenhouses at the depots the vegetables in the shade of the trees at the bocage. Seasonal eating is not dull; it is an opportunity to savour the freshest flavours.

Students would learn what it takes to grow these vegetables, herbs and fruits, talk to the people providing them with said food items and harvest some themselves in their school garden at the Katzenrüti.

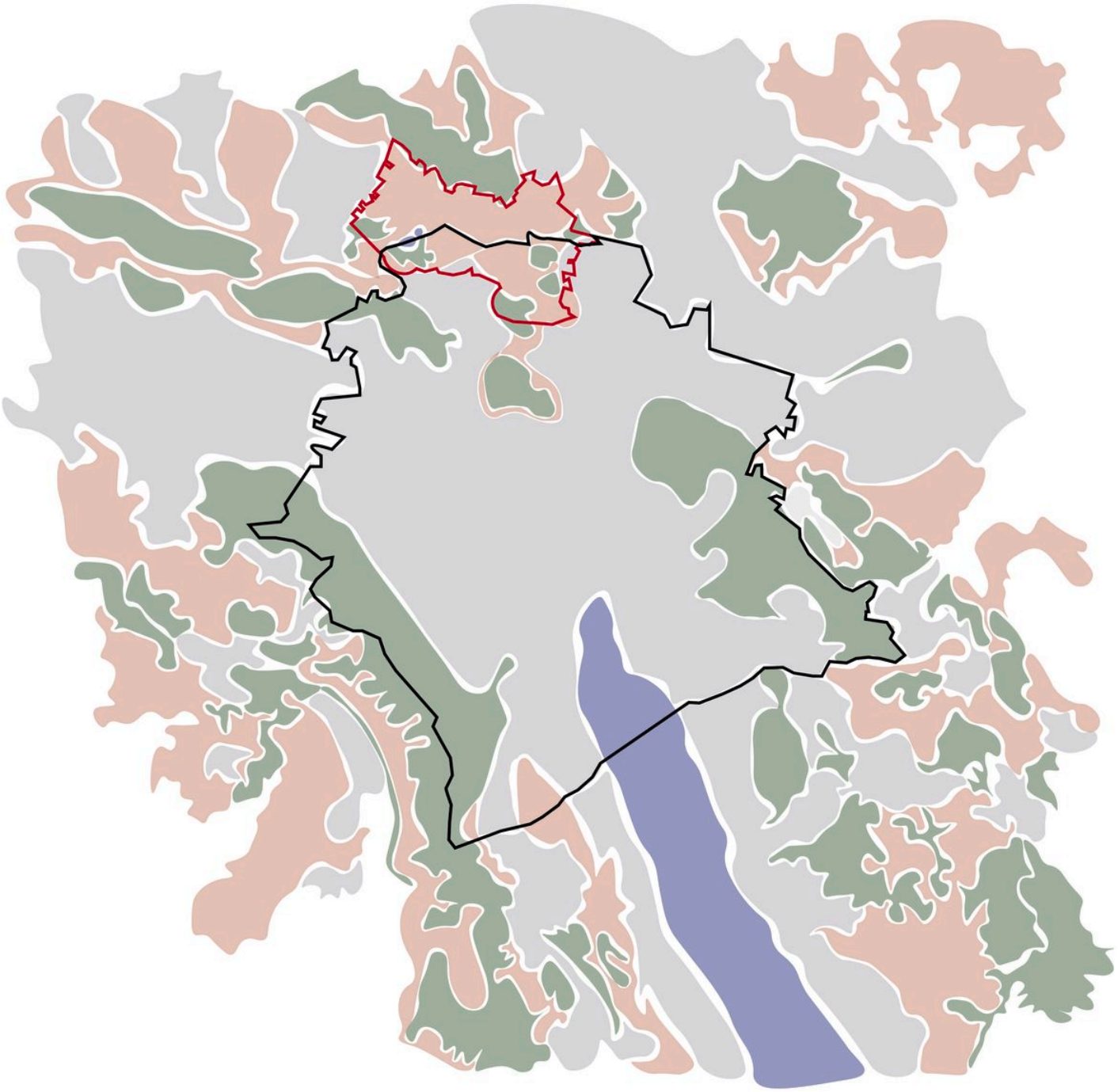
Hyperlocal Food Culture



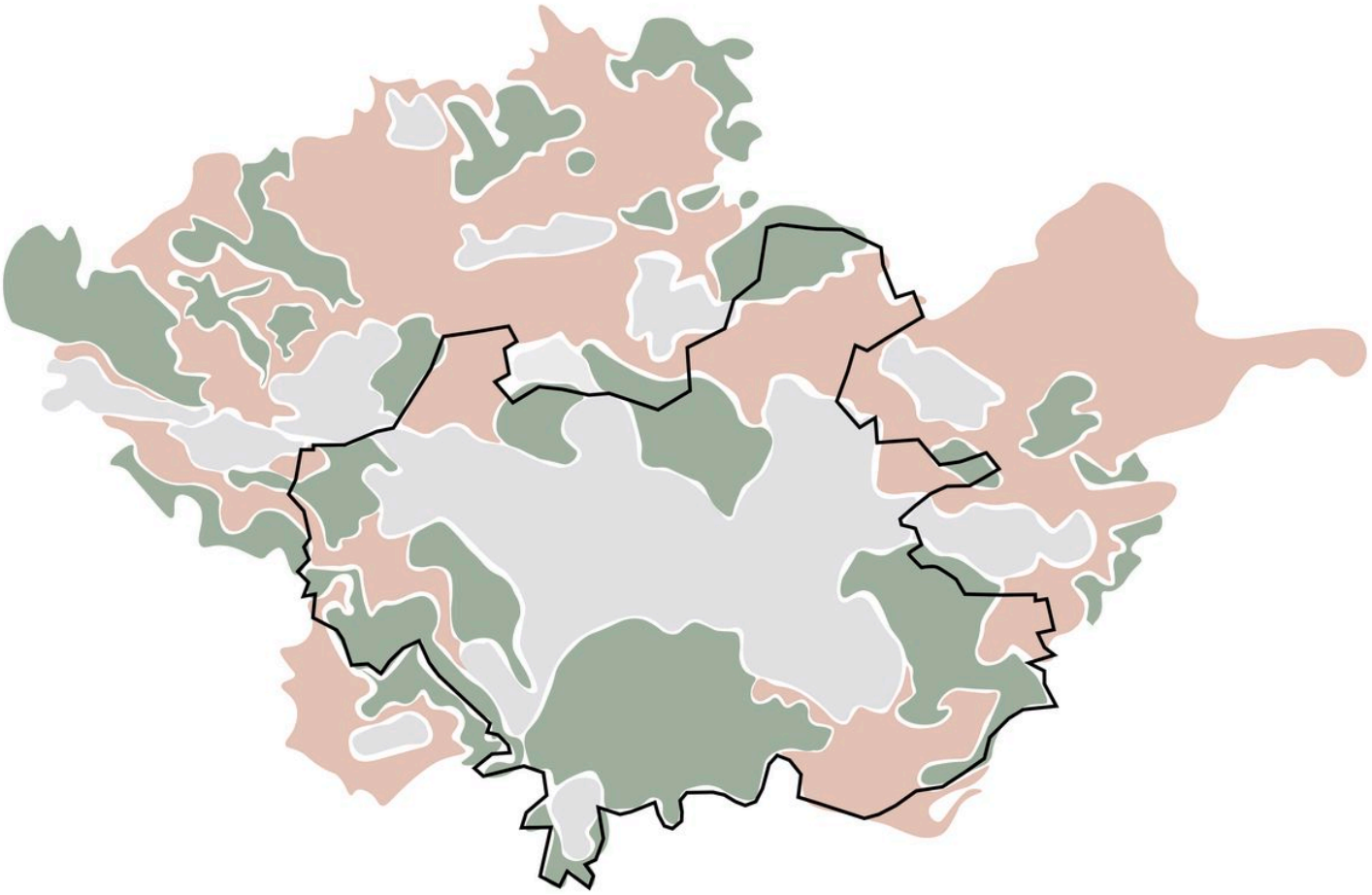
The proposed distribution system for locally produced food could extend beyond Zürich Nord. Maintaining the link between the city and the agricultural areas on the outskirts will be crucial.

The Agritopian embraces a diet consisting of locally sourced, seasonal food, free from chemical treatment. They have reconnected with their food, cultivating an appreciation for the labor involved in bringing it to the table. Animal products will be a byproduct of landscape maintenance. This represents the evolved food culture of 2070—a commitment to a healthy, balanced diet in harmony with the seasons and nature.

Visions for Zurich and Winterthur



The proposed distribution system for locally produced food could extend beyond Zürich Nord; it could prove successful in various regions. Preserving the connection between the city and the agricultural land at its edge will be crucial. Collaboration between these entities will ensure the continued significance of these areas to the city, mitigating the risk of urban encroachment. Such zones will potentially not be scarce but rather common. The map illustrates potential areas for implementing our system, emphasising the symbiotic relationship between the city edge and urban centres. These areas contribute to the city's sustenance through short supply chains, fostering a deep connection and a healthy food culture. With those areas it would be possible to feed 235,133 people in Zurich which is about half its population. In Winterthur 257,487 people could be fed which even surpasses its population.



Urban fabric
Forest
Potential for Foodtopia
City border of Winterthur

ACKNOWLEDGEMENTS

We would like to thank farmer Samuel Frei for his openness and transparency, which gave us an insight into the world of food production. Thanks to Habib Aydemir we were able to get a glimpse behind the walls of food distribution centres.

SOURCES

- Frigotec. „CA/ULO-Lagerung.“ Accessed 9 October 2023. https://frigotec.de/kaelte-lagersysteme/caulo-lagerung/
- Gerber, Julian. “Wird die Kundschaft bei Bio-Produkten geschröpft, Herr Meierhans?” SRF 4 News online. 27 January 2023. https://www.srf.ch/news/schweiz/hohe-margen-im-detailhandel-wird-die-kundschaft-bei-bio-produkten-geschroepft-herr-meierhans
- La Vanguardia. “Los métodos más eficaces para eliminar pesticidas de frutas y verduras.” Accessed 10 December 2023 https://www.lavanguardia.com/comer/tendencias/20190320/461034990138/metodo-limpiar-pesticidas-frutas-trucos.html
- „Milchpreismonotoring“ Accessed 15 October 2023. https://www.swissmilk.ch/de/produzenten/milchmarkt/milchpreismonitoring/
- Mooh Milchpreis. „Milchpreis Oktober 2023.“ Accessed 11 October 2023. https://mooh.swiss/aktuelles/milchpreis
- “No waste let’s taste.” Baudirektion Kanton Zürich, Amt für Abfall, Wasser, Energie und Luft (AWEL) Abteilung Abfallwirtschaft und Betriebe. Accessed 30 October 2023. https://www.zh.ch/content/dam/zhweb/bilder-dokumente/themen/umwelt-tiere/abfall-rohstoffe/abfallwirtschaft/publikationen/no_waste_lets_taste_2016\.pdf
- Pinterest. Accessed 10 December 2023 https://www.pinterest.ch/pin/505529126941384029/
- Qualiservice. „Schweizerische Quelitätsbestimmungen für Gemüse.“ Accessed 11 October 2023. https://www.qualiservice.ch/gemuese.html
- Sauter, Valerie. „News vom Hof, Farmticker. Accessed 18 October 2023. https://www.juckerfarm.ch/farmticker/hintergruende/aepfel-noch-laenger-lagern/ SMO. PSL.
- Strickhof. “Qualität bei Frischgemüse – Was bedeutet das eigentlich genau?” Accessed 17 October 2023. https://www.strickhof.ch/publikationen/qualitaet-bei-frischgemuese-was-bedeutet-das-eigentlich-genau/
- Tagesanzeiger. “Zürichs bekanntestes Providurium – Das Globus-Provisorium geht in die Verlängerung.” Accessed 10 December 2023 https://www.tagesanzeiger.ch/das-globus-provisorium-geht-in-die-verlaengerung-873649534002
- “Was isst Zürich: Handlungsspielräume auf Lokaler Ebene zur Förderung einer Nachhaltigen Ernährung.” Stadt Zürich, Umwelt- und Gesundheitsschutz Fachbereich Ernährung. Accessed 10 October 2023. https://www.stadt-zuerich.ch/content/dam/stzh/gud/Deutsch/UGZ/umwelt-energie/ernaehrung/dokumente/wiz/Was_isst_Z%C3%BCrich_Schlussbericht_WEB.pdf

This work by Irina Burau, Dilara Aydemir, Beda Sievi, and Raphael Ulli was created as part of the design studio Agritopia at ETH Zurich in Fall 2023. The PDF is intended for educational purposes only. Its commercial distribution is strictly forbidden.

© 2025, Architecture of Territory

Architecture of Territory
Professor Milica Topalović

TEACHING TEAM
Dorothee Hahn
Milica Topalović
Jakob Walter
Jan Westerheide

Prof. Milica Topalović
ETH Zurich
ONA G41
Neunbrunnenstrasse 50
8093 Zurich
Switzerland
+41 (0)44 633 86 88
www.topalovic.arch.ethz.ch