

Reflection paper graduation project The Food Producing City of Tomorrow By Lisa Marije de Groene.

I did my graduation project at the master track Dutch Dwelling, Architecture. The studio describes the graduation assignment as following: "The task in the Dutch Housing Graduation Studio is to design a housing project that fits in a scenario of your own making for the future of Amsterdam. Behind the brief for an apartment building lie the bigger questions of 'how do we want to live in the future?' and 'what do our cities need?'"

To answer this question, I asked myself what kind of problems Amsterdam will face in the future in order to be able to answer the first question, what will Amsterdam need in the future.

There are numerous issues that the future city have to deal with, and my approach was that if a city focuses on food production within the urban fabric, it can at the same time tackle a lot of other issues in different fields as energy, rainwater management and reusing resources.

When focusing on food production in the city, you encounter two sides of this topic. There is a technical side and a social side. In my research and design I stress this twofold. The project is about combining these two elements, using technology to make the food production as efficient as possible and incorporating the social aspects of food production to increase the livability of residents and the people visiting. To let these two elements profit from each other, the dwellers of the green and the green of the dwellers, was the challenge of the design.

The relation between these different components is critical which I found out after the P3. For the P3 I designed the dwellings for the project, a public ground floor, I designed the green house and a huge conservatory coffering these elements, saying that this is the part where all these elements come together. The feedback from my mentors was that, although this conservatory was covering all these elements, it didn't provide an interaction between the elements, it was just there with the single function of having large, pretty trees to look at. The question was how can this truthfully become the part that brings the project together. I think at that point they really pinpointed the most important part of my design and put me in the right track of what I had to put my focus on.

I worked on how the dwellings can really experience and enjoy this conservatory and what kind of functions this conservatory can have for the food production as well as the livability for the dwellings. This was my focus point until the P4 in December. Three weeks before this date I had tutoring with my architecture mentor and we were talking about the relation between the public ground floor and the conservatory. The ground floor is completely dedicated to the food production topic of the project, how is their relation to the conservatory and the greenhouse on top? In the haste of production for the upcoming P4 I didn't took enough time to analyze this topic. This reflected in the design choices I made. I decided that it was worth taking more time to think about this relation since it was a very important part of the design.

I am very happy I made this decision, I now feel I've thought about all the topics I wanted to discuss in this project. I feel that I see very clearly now what the critical parts of my design are and that I gave this a lot of thought in my design.

The intention of this project is to be a prototype. A prototype for buildings where food production is truly incorporated in its design, without it being just an add on to, or produce food very efficiently but where people still have no relation with because it's so technical and nontransparent, or produces food very inefficiently but has their focus on the social aspects to incorporate people in the food process. I think with this project I made a step in this ongoing investigation to a new kind of future building, a new kind of architecture, where producing food is a key element to solve problems cities will face in the future.

The key element to my research is a calculation model I defined. The Urban Foodprint Calculation model can calculate how much square meters of greenhouse is needed to sustain one person. To calculate you first need to know what the food intake is. Then you need to know how much greenhouse you need to produce this amount of food. For the food intake I set up a special diet, and to produce this food I used production figures of growing methods most suited to use in the city. To get all these production numbers I had to dig into a lot of different sources. By doing this investigation with the result of this, global, calculation model I think I can help a lot of other students who are working with this topic. Urban farming is a very hot topic, but in my research I found nowhere a basic tool to give a grip on the square meters needed to actually be able to feed a certain amount of people. This tool gives people a founded estimation on how much space they need.

I learned a lot from my graduation studio. First of all I've learned a lot about food production, about tomatoes, aquaponics, greenhouses and growing mushroom in garages. But most importantly I've learned about designing relations between different elements in a project which has different functions. These different functions have different demands, how can design make these relations clear, maximize their interaction so they can profit from each other but with their different functions and demands in mind.

The final part of the graduation period will contain a lot of hard work in the form of producing products. The project with all its ideas is there, now it is time to produce all the products that prove its quality. Until the P4 it is about the content, about the products that show what the project is. After the P4 it is about producing beautiful products, about presentation with products that are beautiful to look at by the professional mentors but also by an audience without an architectural background.