Reflection paper

Master of Science Architecture, Urbanism & Building Sciences.

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Looking back on the past graduation period, it appears that the subject of low-tech timber design in combination with affordable housing is a lot more complicated than previously thought. The topics are very relevant in current issues about housing and climate change in the Netherlands and in the world and can certainly play a role in the solutions to these problems. During the whole graduation project, I notice that I slowly but surely get a better grip on the subjects, but this certainly took a long period of time, which was not always motivating. During the research phase, it was very difficult to find the right method to determine the degree of low-tech and its influence on affordability. The research has attempted to establish parameters that should determine the degree of low-tech and affordability of projects, but these parameters initially remained on the surface and lacked a certain degree of depth. This is partly because the parameters were regarded as equivalent, which made it hard to determine what the essence of low-tech actually was. A parameter such as 'ease of construction' should be a much more decisive aspect in terms of manufacturability and required processes than a parameter such as 'cascading possibilities', which should be regarded more as a good side effect. Besides the interrelation between the notion of low-tech and affordability was not clear when handing in the paper at P2. It was only when another method was applied that looked at low-tech at different scale levels that it became clear which aspects/parameters were relevant for element level, building level and urban level. This made it easier and more clear to gain insight into what low-tech really means and to make design choices. It also helped to start from the element level and zoom out from there, instead of starting at the urban level and zooming in from there. By comparing different timber products in terms of manufacturability and required processes, it quickly became clear that a purely light timber frame system is the most low-tech, since engineered timber products require a lot of high-energy consuming machines and additives.

In addition, it was difficult to come up with something innovative at element and building level. At the urban level, there is a clear picture of innovation in local production chain and collaboration. At element level, an attempt has been made to maintain a universal width of 1.2m for all elements. This ensures that there is variety and freedom in which elements can be used. At the building level, an existing concept of 'Slow City' has been used to make certain design choices, as this concept has many principles and criteria that align well with the subject of low-tech.

Taking the concept of a housing cooperative as a method to redefine and realize affordable housing, offered opportunities to define the interrelationship between the notion of low-tech and affordable housing. It also offered opportunities to align the project better with the social principles of low-tech. It can result in greater participation by residents and keep affordable housing in the city. This approach requires a clear division between which elements of the building are fixed from the outset and which elements can be determined by the users. That is why I want to focus the final part of the

graduation period on making an elaborate catalogue of options for the users/residents, encompassing options for dwelling typologies and for inside and outside finishing. Ideally being able to make substantiated statements on the implications of the different options in terms of affordability and sustainability. Besides I want to clarify and illustrate the identities of the different areas in the design with renders and/or impression sketches.

With this project I try to offer an elaboration and example of how a housing cooperative can be utilized in combination with low-tech principles to create and sustain affordable housing in the city. This is done by offering a playing field in the form of a fixed structure of housing units, in which the residents have a high degree of freedom in the way they want to live together. When more and more housing cooperatives are realized, the main obstacle of the initial funding becomes less and less of a problem. Thereby making the concept a real alternative between social rent and expensive purchase.