

Reflection on rehabilitating China's crumbling high-rises

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In the following chapter a reflection on the graduation thesis will be made. The reflection will be guided by two aspects.

Aspect 1 Relationship between research and design

As explained in chapter 2.0 of the thesis: Rehabilitating China's crumbling high-rises there was a very strong correlation intended between the research and design components of this thesis. In the research part the rehabilitation strategy would be developed and the design would offer an illustration of how the strategy could be implemented in a case.

The thesis process, as expected, showed a gradual transition between the two components. For the design part to commence the strategy needed to be formed. So in the beginning of the process emphasis was placed on developing the research. Towards the P3 the emphasis transitioned to design. In retrospect the change in the emphasis came relatively late. This was due to two reasons. Both in the product and the process it became visible that the research became a larger component than necessary to fulfil the requirements. This might have distracted from commencing in full capacity with the design component (and so prolonged the graduation period), but it was necessary to give an adequate answer to the posed challenge. The challenge of the crumbling high-rises was a rather big challenge for a graduation thesis to begin with, but especially the aim to develop a (realistic) integral approach proved challenging within a short timeframe. Although during the process I could have limited the scope to correct the weight of the research, I consciously choose not to as it was my personal fascination to "solve" the larger puzzle with all of its complexity.

As the emphasis changed from research to design it also became apparent that with the suggested physical strategy it was not possible to move straight from research results (which were made on a strategic level, consisting of policy with only explanatory icons) to the architectural implementation. As the physical strategy proposed a solution in mass produced systems and products, it became necessary to add another scale and zoom in to develop this system.

The design process itself was categorised by a simultaneous research of all the scales: the development of the mass-produced customisable systems, the architectural on site implementation and the exploration of the implementation in a larger urban scale (1400 high-rises in Beijing). The designs on each of the scales were also continuously tested to the, in the research proposed, integral strategy. In this manner the research proved a continuous guide for design decisions and in a similar manner the design generated input to refine the strategy.

Looking back on the desired link between the research and design components it can be concluded that the desired connection has become reality. Although the choice to closely link the research and the design, combined with the choice to find an integral solution involving many scales and disciplines did enlarge the graduation assignment, I would not have changed it in retrospect. This choice allowed me to develop the approach as I had intended, and which stands for my vision on what is asked of "the architect" to solve the challenge of China's crumbling high-rises.

Aspect 2 Relationship between project and the wider social context

As already explained in chapter 2.2 of the thesis: Rehabilitating China's crumbling high-rises, the research and design are very relevant to a wider social context.

By successfully rehabilitating the early generation high-rises many positive direct effects can be found. We would improve the living conditions of directly involved stakeholders, whilst protecting their rights and fulfilling as much as possible their needs. This would impact the lives of thousands of people in a positive way. Furthermore, at the same time a vast amount of housing is renewed functionally, aesthetically and technically. Making them not only safer, but also improve their worth again to the city as a whole for decades to come. Due to the vast amount of early (and even potentially later generation) high-rise housing involved the impact of rehabilitation would also have a beneficial impact on the environment in terms of energy consumption reduction, CO₂ emission reduction, and waste reduction (due to the choice of sustainable rehabilitation over demolition). Finally the project would offer many (sustainable) long term economic opportunities for all stakeholders directly involved.

However the research also transcended the direct scope and sought to alleviate (in earlier phases), and eventually help solve (in later phases) larger (socio-economic) problems. These larger problems could be identified within the challenge of the early high-rise housing stock, but were not exclusive to them. These larger problems are present in other housing stock, are related to national policy and even to cultural mentality. By proposing win-win solutions, the strategy successfully sought to help with national issues such as: socio-spatial integration in urban context, housing affordability, elderly care, sustainability, waste reduction, heating a long-term oriented real-estate market. All at the same time as the rehabilitation of the high-rises itself.

Finally the research helped not only to solve the issues in the early generation's high-rise housing within the third ring-road of Beijing. The results are also insightful for the vast amount of early generations in other locations and even the later generations. By having developed a clear understanding of the situation and developing a hands-on method to solve the challenges, the thesis successfully helps to bring the problems in all of the early high-rises to attention, helps solve them and for later generations can even help prevent them.

Achieving all these desired effects would be great for society, but one should always remain critical and ask if it can be achieved and if the desired effects will be as predicted. But even if the strategy might not pass its first phases or not be used in practice after all, the development of this strategy will remain relevant to society. As the societal importance of finding the best possible all-encompassing solution now and in the future, able to balance the complex interests of people, manage to adequately improve the living environment, whilst dealing with the financial reality, is not to be underestimated. Many precedents challenges around the world have shown that successful approaches remain exceptional. This research can therefore always be seen as part of a call for more answers.