

16. Reflection

The relationship between research and design

The job of urbanists is in its core a continuous loop of researching, taking decisions, trying out designs and then widening the scope for further research. Despite the acquired benefits of a comprehensive design, it is unlikely to answer all questions put forward by the research with the same depth. Commonly used, the theory-based and context-based researches complement each other by developing a detailed idea of the explored space. Yet, they also help generating more questions for the design. This favours the nature of our professional work to the phase of constant reflection and further exploration.

The reality suggests far less possibilities for this repetitiveness as it has to face the urgency of the context. However, it allows for making more concrete assumptions with direct impact on the imaginable futures. As I am being a foreigner to the context of Indonesia, this has played an important role in the project. It brings limitations for understanding the site with the dynamics of its systems, but it can also allow for a better focus over the essentials forming the context. With this in mind, the starting point of the context research was found in data analysis and literature review. This refers to historical overview of Bandung Region, socio-economic specifics, nature of ecological systems and role of spatio-temporal dynamics. Essential part of understanding the extent of complexity of those findings in reality was the site visit. It brought the facts and figures of the abstract analysis to the eye level and showed the identity of the place. Both analytical and empirical studies allowed me to grasp the advantages and constrains of the context for the next steps towards the design.

Understanding the context pushed forward concepts and theories which were further explored using the theoretical research. Recognising the socio-spatial vulnerabilities created by the flood risk exposure drove the theoretical exploration. The empirical research made me recognise an important characteristic of the local people living in the informal settlement around Bandung, who were experiencing the highest flood risk, their high adaptive capacity threshold. This inspired the search for a concept which would use this valuable feature of the population as the foundation for building upon a framework for design. This led me to the definition of adaptive resilience, which over arches the pursued aims and more importantly creates a logical path for achieving them.

Both the theoretical and empirical research made an impact on the decisions I took for proposing the strategic framework, phasing and design interventions. These were cautiously reasoned by linking the obtained contextual knowledge with research concepts

from the literature review. For instance, reflecting upon the context of rapid population growth and rising vulnerability creates the need for safe, liveable space, which inspires the design of an urban dike, while the theoretical research draws upon the additional societal benefits that could be created from increasing the adaptive capacity in socio-spatial terms.

The relationship between the theme of the studio and the chosen subject / case study / object

The dynamics of the natural systems are changing more rapidly than ever before under the immense pressure of global trends like climate change and population growth. The urgency of configuring new types of spatial conditions that can accommodate this change is recognised in the work of the urbanist. Today's "normal" is a term in transition, bordering with the "extremes". It requires flexibility and adaptability of all natural or urban systems in order to correspond to the uncertainty.

Looking at trends in the current processes of spatial development in Bandung region made me question the integration and efficiency of the measures taken for overcoming the rising vulnerabilities. The solutions seemed unbalanced and many times contra productive to the social and physical flood resiliency of the region. Often the coordination between different fields of expertise is missing links and functional relations, thus not being able to withstand the changing conditions of the context.

Trying to comprehend all the elements and their relationships, I constructed my conceptual framework which could clarify the needed equilibrium between the agencies driving future (re)developments. Re-tuning the roles of the conventional domains of spatial planning, urban design and engineering enhances the performance of both social and physical systems at risk. This multidisciplinary approach has been integrated in the practice of the master track of urbanism, but also pursued by the studio of Transitional Territories. Dealing with such uncertainty levels as the one in the case study of Bandung region calls for the integration of different fields of knowledge, which was my motivation to choose this studio.

By choosing these concepts complementing socio-spatial integration and safety, it was important to go beyond the static fields of the conceptual framework, but look into the functional relationships that could be constructed in the context. My work on the matrix of adaptive resilience was a showcase for combining spatial measures dealing with flood vulnerability and looking at them across scales and different time frames. With this, my project also contributes to the studio. By working with the different fields of knowledge and illustrating the spatial perspective of the theoretical concepts I revealed potentials and limitations of the design. My work proposes a narrative for dealing with flood risk extremes and creates a platform for long term and short term practices in reality.

Elaboration on the chosen methodology and research approach. Scientific relevance of the work.

The motivation of the project's methodology and approach came from the site visit conducted in the beginning of the year. The significance of the site and particularly the local communities there, acted as an inspiration for the search of theoretical foundation that can grasp the spirit of the locals and the identity of the place. Their high adaptive threshold was the basis that I needed to ground my research in. This emerged to the creation of a research approach, which combined several concepts into an assessment tool (Conceptual Framework) and their spatial interpretation (Matrix of Adaptive Resilience).

It is important to note that the inspiration and motivation that I found in my meetings with the local communities was always taken upon with respect and understanding to the difficult, life threatening situation that they are living in. My consideration to their strength and efforts for coping with the natural disasters was never taken for granted or interpreted in a sentimental or poetic manner.

Undertaking this framework defined my further exploration into the relevant stakeholders and their role in the projects. The stakeholder analysis supported an in-depth understanding of the restrictions and opportunities for utilizing the local knowledge and experience in the process of decision making. It created guidelines for establishing efficient cooperation by balancing responsibilities, but also without avoiding overpowering some stakeholders on account of others.

The graduation thesis explores existing projects and uses the example of their implementation outcomes, advantages and constrains to set a starting point for the design. The particular case of the flood management project of JICA for the Upper Citarum Basin has been an object of study for its proposal and current implementation on site. It gives many insights of the relevant practices and the constrains that they meet. For instance, the realization of some proposed measures has met resistance from key stakeholders and therefore has been unable to proceed with their construction. This acts as confirmation for the relevance of exploring the stakeholder analysis and making an attempt for building engagement strategies.

The relationship between the project and the social, professional and scientific framework. Transferability.

As a result of the sensitivity of the graduation topic and the global issue that it is dealing with, it has a significant social purpose. The societal concern and its potentiality has been the motivation for this project. It is dealing with questions like socio-spatial segregation, vulnerability to flood risk, exclusion through infrastructural availability. The aim is answering those questions through design proposals, which will not only improve the safety conditions in the region, but also will create additional benefits for healthy and just urban environments.

The context is facing adversity from two sides – one, is the fact that many spaces in the valley of Bandung are threatened by the constant risk of flooding, and second, the need of re-adjusting the built environment for meeting the expected growth in population.

These two issues create a controversy in which the vulnerable population cannot be evacuated from their land because of the growing demand and higher costs, but it can no longer stay due to the life threatening conditions. Therefore, the design tries to balance those two extremes, by improving the vulnerability capacities of both physical and social systems, but recognising the importance of preserving the identity and value of the local spaces. Acknowledging the importance of the societal issues, the project is built upon the base of stakeholder involvement and decision making through all governance and social levels.

Ethical dilemmas

Comprehending the context as a foreigner always gives a bias and possibility of misreading behaviour patterns or processes. This is reinforced by the language barrier which creates limitations not only in the communication, but also for reaching to different sources of literature. Many of the publications that I found and use in the thesis are from the research from the western world – Japan, Netherlands, etc. This sets a certain tone to the inquiry, which I recognise as a weakness, but also something that cannot be overcome completely as the author of the project I am coming from a western country.

Going to the site visit, the purpose of all the meetings, interviews and informal talks was under the umbrella of the academic nature of the stay. This was only in favour of the project and responded well to the expectations that I had in the beginning. However, all communication was through a translator, hence, paraphrased and interpreted differently. I acknowledge this in my project and that is why the verification through additional theoretical perspective was vital, also in reversed manner – from theory to local experience.

The constraints connected to providing the cost-efficiency of the design proposal are present, despite providing with the intermediate step of the design, which uses the circular approach by creating a closed material loop using materials available on site. However, the bold proposal could be used as a starting point of a discussion, where the importance of safety is not overlooking the relevance of societal values and benefits. This is fundamentally important for bringing awareness and pushing forward new possibilities for accommodating to the change in today's world.