F. REFLECTION

This chapter reflects upon the study in considering the extent to which the adopted methods applied to the research topics and variables to be measured. Also the wider social context and relationship to the research laboratory and wider academic domain in which the study took place are discussed.

A. RESEARCH SUBJECT AND DESIGN

THE PROJECT AND THE WIDER SOCIAL CONTEXT

The relevance of the comparison between NYC and Rotterdam has been elaborated upon in previous chapters. It was established on expert consultations, media publications and academic literature. The relevance of this selection was confirmed throughout the study by various urban planning and water management experts. The limitations of the generalizability of the findings were anticipated and covered in the chapter on research methodology.

RESEARCH APPROACH

The choice for qualitative, rather that quantitative research approach is based on the nature of the studied concepts and in reflection is still holds. As mentioned, this study examines the effectiveness of public policy on achieving the goal of increased flood resiliency of urban areas. To measure if this goal is reached, the study examines to what extent local actors perceive these aspect as being realized in the area. This approach is consciously taken rather than quantitative assessment of for example reduced flooding risks or a decrease of assets in vulnerable areas. This, firstly because there is no set of objective measures for flood resiliency. It is a cultural concept, which means that for example generally accepted safety levels and the emphasis on either preparedness or response can vary between countries and regions. The resiliency of urban areas is a local concept, and thus best defined by local actors.

Furthermore, the choice for a qualatitive approach is backed by the supposition that urban areas and change processes can be explained by the characteristics of the actor-network theory. Actor-network theory is based on the notion that communication and decision-making in a project's process is shaped by individuals or groups of individuals, each of which is tied to particular networks of relationship (Crane & Livesey, 2003). In line with the concept of the network society and the emergence of strategic planning, Albrechts (2006) points out that in political decision-making, spatial plan-making and project implementation efforts the actors involved tend be organized in separate 'networks' and 'arenas' (Daamen, 2010). Hence, this research is based on the supposition that actor-network theories indeed are most applicable in describing the process of urban development.

ADOPTED MODELS

The models adopted to measure the variables of institutional landscape, flood resiliency and policy instruments were selected after a thorough examination of available literature in the respective field of research.

The data collection is carried out in line with the adopted model of institutional analysis as described by Inam (2013). The study analyzes the situation and characteristics on the specific level of policy 'output'.

Inams model of this kind of analysis prescribes the studying of a specific policy or programme (in our case: building urban flood resiliency) and collection of data by drawing on information from interviews with officials, observations of institutional behavior and analysis of institutional documents. This study fully reflects this approach in using the research methods of document analysis and semi-structured interviews with both experts as well as case actors.

The characteristics to measure flood resiliency as proposed by Lu (2014) were chosen as they are developed especially for the field of in urban planning and international comparison. As mentioned, one of the main challenges of comparing flood resiliency lies in the definition of resiliency as it is understood as a capacity of a society to absorb and bounce back from external disturbances. This makes it a social, cultural and local concept.

Even if a model would be found to assess flood safety on physical aspects, it would be very unlikely that the requirements when it comes to obtained safety levels differ between countries. For example, the multi-layered safety model of Rijkswaterstaat is considered as a model to assess flood resiliency in this research. However, as became clear throughout the study, this model may work well in the Dutch approach of preparing and protecting areas to make them resilient while US practice may score low as culture here stipulates a more responsive approach, emphasizing a systems capacity to bounce back from disturbances. This understanding directly validates the study's focus on institutional landscape, inlcuding stakeholder interests and norms and values to explain the differences to explain the realization of flood resiliency.

The study's approach to measure the effectiveness of policy instruments is by comparing the issued policies with the ones that are experienced by local actors of the studied areas. Discrepancies are then set out against the interventions that local actors indicate would stimulate the building of flood resiliency. Here the choice for a qualitative model of research, based on perception, again pays off. While certain policy instruments may be not experienced by local actors, they may not be crucial for increasing flood resiliency of the area. The findings of the institutional landscape enabled the interpretaion of these differences. This allowed us to make the international comparison and formulate recommendations on policy instruments that would work in urban area developments, given their specific setting.

CASE SELECTION

The case areas within the cities were chosen on their assumed similarities in scale, function and situation with regard to flood safety. This was also linked to their representation of a specific type of urban area developments, inner-city former port areas at the waterfront. As explained, the choice was guided by local planners and experts. There were some crucial differences between the case areas that were not anticipated and made comparison more difficult. For one, the risk of flooding and possible damages are found to be very different. This, because of differences in the areas' elevation and according base level of protection of the Merwe-Vierhavens area and Sunset Park.

Also, in Rotterdam actors can easily compare the development of the Merwe-Vierhavens area to the other Stadshavens locations. Actors in Sunset Park do not consider their district to be show many similarities to other waterfront areas of the city. However, the extent to which this should be taken as a problem for the selection of this area is limited. This, because the actors also indicate that there are chances to learn from each other's methods and experiences and no area in the city is really very comparable to another.

In retrospect these differences are understood to be reflecting the cultural characteristics, making the study's focus on the institutional landscape all the more valid.

RESULT PROCESSING

Document analysis was carried out by selecting relevant literature and marking specific parts that are especially relevant for the research's focus. Both academic literature as well as case documents was widely available. In the beginning of the study it was therefore hard to get an overview and make an informed decision on which pieces to select. However, as the research focus became more definite this selection process became more easy. The findings of the document analysis are tested in the semi-structured interviews with experts. This combination of methods allowed for triangulation, or double-checking, of the results and thus adds to the validity of the conclusions.

The expert interviews were fully transcribed in the language in which they took place. This, to prevent any misinterpretation of the sometimes rather specific concepts that were talked about. The actor interviews were all transcribed in English for processing reasons. All interviews were well prepared, providing general question-schemes for the actor-interviews and specially formulated questions for the experts. Also, all interviewees consented to the conversation to be recorded. This allowed for more detailed transcription.

The process transcription of the actor interviews could have been better anticipated upon. These interviews were sometimes a very structured question-answer form of dialogue and sometimes more free-flowing conversations. It was hard to decide on an approach as how to process both kinds in a singular manner. In the end it was decided not to try to fit the transcripts into one format, but rather make a differentiation according to the nature of the records. This results in some transcripts that follow the questions-scheme rather strictly and others, where the questions were only secundairy in steering the conversation that are based solely on the interviewees' statements.

This treatment of the recordings also allows the reader to better follow the line of interpretation of the transcripts to the application of scorings. The recorded answers were interpreted by the researcher into a scoring of 1-10 on the variables to be measured. This process is also described in the chapter on methodology and is illustrated by a section of the Excel-document in which this process was carried out. This interpretation by the researcher can lead to results that are open for discussion. The risk of biasing is limited as the interviewing, transcription and interpretion works were all carried out by the same researcher. This made that to some extent also notes of non-verbal communication could be featured in the scorings. Also, the interpretations the researcher made were well informed in the sense that they were made against thorough knowledge of the backgrounds of studied literature and documentation. Besides, the scorings that resulted from the interpretations have been used to visualize findings rather than quantify them. As shown in the figure below, the diagrams are intentionally left scale-less to illustrate emphasis fields rather than exact measurements. Lastly, transcripts of both expert as well as actor interviews are checked with the interviewees before publication of the final report. This confirmation strengthens the validation of the interpretation of their anwers into the scorings.

As can be concluded from the lists in appendices 1 and 2, a vast number of interviews have been conducted for the study. However, over half of the interviews were with planning or water management experts or city officials. To make the results of the perceived flood resiliency and experienced policy instruments more accurate, more local actors could be interviewed.

It would have been helpful, especially if the research would have taken longer, to develop a topic-labeling framework to place findings of the interviews and documents into. However, the understanding that this perhaps more structured way of working could have helped in retracing some rationalizations came to late in the study's process to be adopted without significant investments in time.
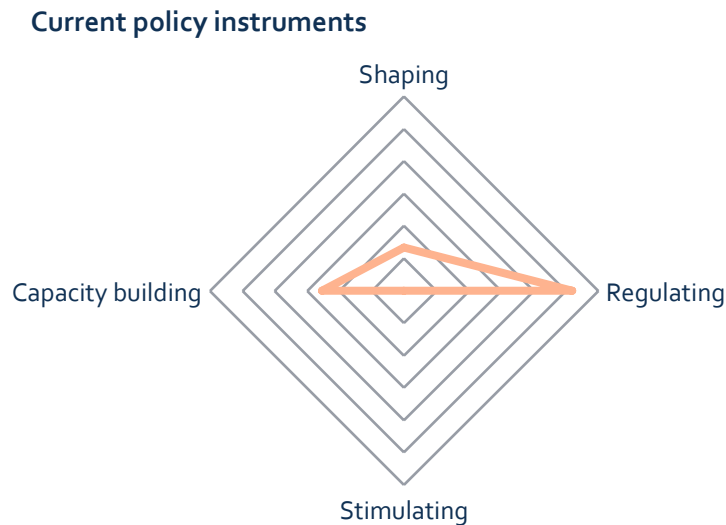
Current policy instruments

Figure XXX. Example of visualized scoring interpretation. (own illustration)

B. THE STUDY WITHIN THE RESEARCH LAB OF URBAN ADAPTATION STRATEGIES

The study took place withing the TU Delft Real Estate graduation laboratory of Urban Adaptation Strategies (UAS). Here studies focus on management challenges in how cities act and react on external, as well as internal change. The effects of climate change, and cities' strategies and actions on these issues clearly fit into this field of research. However, climate adaptation and more specifically flood resiliency has not been the subject of many graduation or PhD research within this academic group.

This study first focused on the implementation of climate adaptation strategies in urban planning practice. However, this proved a very broad subject and over the course of the research emphasis was narrowed down to the realization of flood resiliency in urban area develpments. This more demarcated subject allowed for specific research questions and more insightfull findings rather than obvious conclusions.

INTERNATIONAL COMPARISON

Studies in the research lab of UAS often evaluate Dutch practice with respect to other approaches around the globe. In particular comparisons to other European or Anglo-Saxion countries are common. This can on the one hand be explained by the high level of similarities, which makes for more easy and

valid comparison. On the other hand the contrast of the Dutch controlled planning system with more liberal social system are often the reason for the comparison with Anglo-Saxion countries. This is strengthened because of the renewed public interest in reduced public interference, moving towards a more facilitating practice of governance.

In the emphasis on institutional landscape this study aims to provide more insight in the difficulties when it comes to translating effective policy between countries. Findings are also intended to inform other researchers in this field working on international urban policy comparisons. The concept of the institutional landscape thus gives a perspective on the generalizability of findings of the UAS lab in general.

METHODOLOGY

Where in some other research fields within the Real Estate & Housing department a quantitatve approach may be more obvious, qualitative studies are especially applicable when it comes to the examination of urban strategies and change processes. As elaborated upon in the report's description of the theoretical framework, the study is conducted in the paradigm in which most of the research in the field of urban planning nowadays takes place.This is based on institutions theory and the concept of the network society. The connectedness of processes and actions within a certain domain is understood to shape outcomes in the urban environment. Therefore, like other studies in the UAS laboratory, the research focuses on actors perceptions, relationships and communication processes and rather than project or strategy outcomes.