

Reflection paper on graduation project:

Housing Cay Hill

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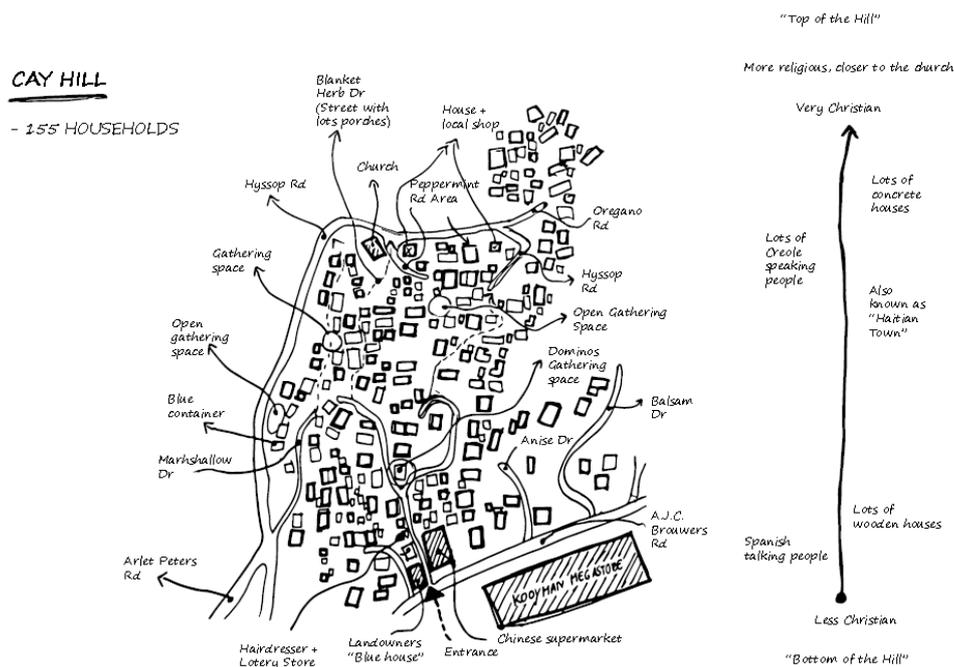
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## The relation between the graduation lab theme and the location/object

I always wanted to be part of a project that is focusing on climate change and could improve the well-being of a community who is most in need of improvement. Sint Maarten, an Caribbean island, that is dealing with hurricanes quickly steered my interest into making a design for housing issues on the island. Designing for a country outside of my context means getting to know a different culture and traditions. As an architect you need to understand their building traditional building methods, materials, principles and processes.

For my studio "Architectural Engineering: Sint Maarten", I am creating new socio-economic housing interventions for locals, including the local builders, living in the neighborhood of Cay Hill, who own a small business or practice at home, such as a small food vendor. This typology needs to solve the issues regarding the informal housing settlements, tourism-led economy and hurricane. So it will make a distinction of social, spatial, climatological and cultural needs. Through studying the character of the neighborhood, current ways of living and business models my goal will be to create a typology that creates a sustainable way of living and local economy. The most important task for this my design research is finding out which interventions will have a positive outcome for the local.



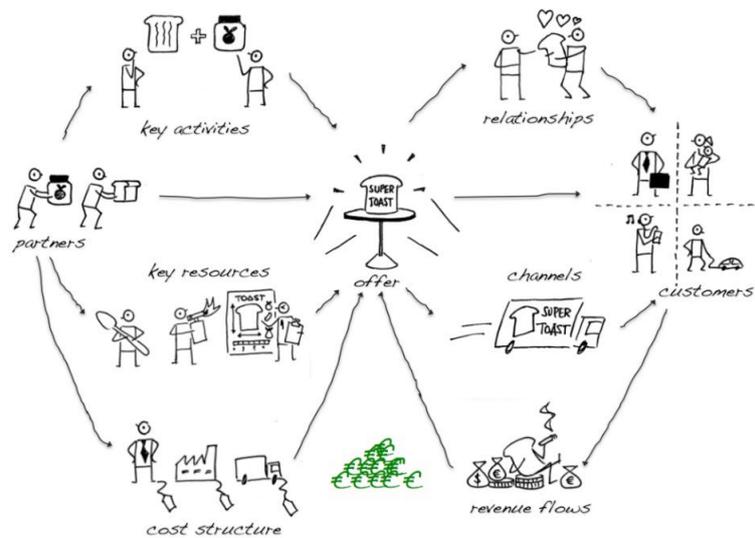
Sketch project location neighborhood Cay Hill, Sint Maarten (Own work)

For the research I used a framework, called the business model, developed by Alexander Osterwalder and Yves Pigneur (2010) in which the researcher can get an overview and a better understanding of the activities and daily life of a local person. The business canvas is used as a visual layout and emphasizes functional fields of daily activities and insights of a business (Farren, Kinney, Crotty, 2017). With this method, the actions and needs of a local will be intensively studied, through observation and interviews.

interviews. The BMC is simple and clearly showing how a strategy is centered around nine key building blocks, and more importantly encourages the researcher to think about why these interactions occur and their consequences. The nine-building blocks of the BMC include (figure 2); Customer Segments, Value Proposition, Customer Relationships, Channels, Revenue Streams, Key Resources, Key Activities, Key Partners and Cost Structure (Farren, Kinney, Crotty, 2017).

The business model canvas method aims to have a picture of the local's current way of living and discover their needs while finding out more about their gains and pains (figure 3). To create a picture of the local user the researcher should spend a certain amount of taking interviews, talking to the locals and observing their

behavior. Which is also known as ethnographic research. For this method, the researcher will do an active and passive observation of the culture and activity of the people(Linda, 2013).



Sketch of the business model, Osterwalder and Pigneur, 2010

For my design, the study of typology will be used to create a new architecture. The term typology originates from the Greek which is made of the term 'type' and 'logy'. The types come from the Greek word 'tupos' ("blow, dent, mark") which means a category of people or things having common characteristics. Logy originates from the Greek word 'logos' ("reason, idea, word") which means a study of the interpretation of types(Gorny, 2019). Typological research focuses mostly on the formal context of organizations of meaningful spaces. It makes a distinction of social, spatial, historical and cultural structures. Typology is a way of looking at buildings and their form, arrangements, spatial configurations and social organizations. Explored through the use of plans or axonometric drawings that often highlight specific architectural objects of the elements.

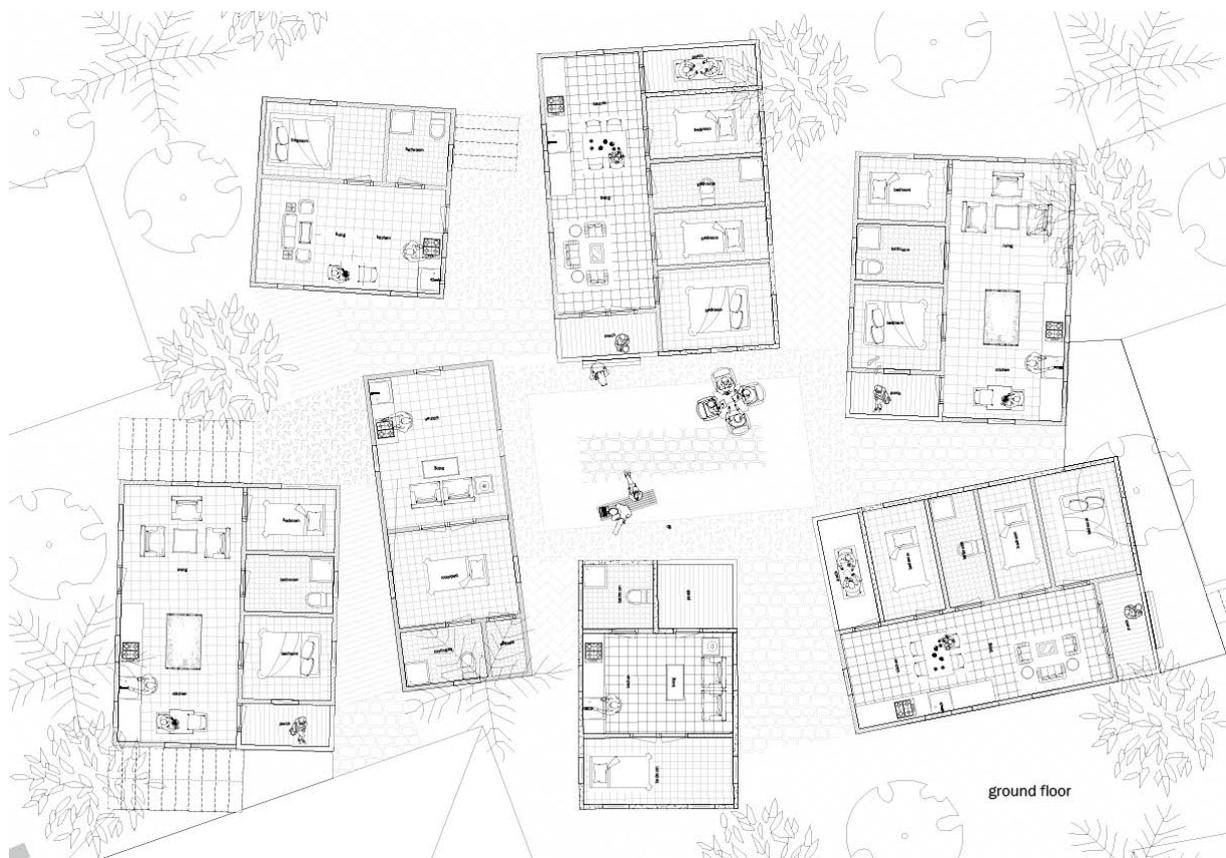
After the research on the business model I decided to shift my focus on materials and techniques. Based on architectural and structural design. Therefore I created a second research focusing on building materiality and technical issues. Nowadays the locals of the island start to build that houses more and more out of concrete. The use of wood is getting less. The question that raised my mind were how can the use of concrete become less and is there an alternative solution? How can wood be used in a proper way? For this type of research I had to make clear what the current building methods, costs and weak points were. In order to create new and alternative solutions.

### **The relation between the graduation theme and the location**

I have chosen the Architectural Engineering studio because it is dealing with very realistic problems and solutions. Designing a building according to the locals needs, wishes and traditions is important to create a suitable housing design for its location. Looking at the technical aspects such as climate, the positions of the sun, wind direction, rainfall will help to understand why the build should be designed in a certain way. Furthermore, the use of local and recycled materials and building techniques will have an positive impact on the outcome of the design as well. So not only the technical approach, but both social and cultural approaches of the Architectural Engineering studio are needed to create the new design.

I chose Cay Hill as my project location because I could see the problems of the island coming together in this small neighborhood. It is a totally different compared to The Netherlands in terms of climate, ways of living and culture. To make a design which is suitable for the people living in the neighborhood of Cay Hill it is important that the building becomes affordable for the locals and easy to build for the local workers. By creating

sustainable solutions which are very stimulated in this master track a lot of research on materials and techniques is required.



Situational plan of current ways of living 1:100 (Own work)

### **The relationship between the methodical line of approach to the graduation lab with the project**

In the first phase of the graduation I had to choose a technical building fascination. I knew from the beginning that I wanted to work with low-tech and affordable solutions. I wanted to create a flexible space where locals can benefit from their surrounding environment, such as the waste-dump or from the wood factory next to Cay Hill. Or where they could create their own small business, such as a food vendor. Creating low-tech and affordable shophouses solution became the backbone of my project. By analyzing the current techniques and ways of living from traditional architects such as the porches to wooden structures, resulted in a very positive outcome.

During the second semester I decided to focus on materials which could be found locally such as waste material which can be transformed into building materials. After deciding I wanted to work with locally available materials it became easier for me to make the other decisions. Looking back, the development of my project had deep highs and lows. Mainly, because I think if I focused more on the technical parts in the first semester it would have helped me a lot in the second semesters. Also the hurricane became an extra layer of difficulty for the project to deal with, but it is also what is making this project unique in a way.

### **The relationship between the project and the wider social context**

The project could be considered as both local and global. Cay Hill is seen as a shantytown or informal settlement. Shantytowns can be found all over the world in countries such as, Brasil, India or Ghana. These informal settlements can be found in both developed as well as undeveloped countries. tourism on Sint

Maarten could also be seen a local and global topic. However, the tourism-led economy is very specific for this small island. The tourism industry on Sint Maarten is dealing with the off-season and cruise ships entering the island almost every day. Also the natural disasters are not only found on the Caribbean island, but actually in a lot of countries close to the equator. They are only given different names, such as typhoon or cyclone. Combining these topics, the climate, culture and looking at the locals needs and wishes is what makes this project unique.