A search for a cohesive socio-morphological urban structure to strategically reinforce the municipal urbanization process of Paraisópolis.
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This master thesis supports the graduation project 'A VALUABLE CONTRAST, Paraisópolis - Morumbi. A search for a cohesive socio-morphological urban structure to strategically reinforce the municipal urbanization process of Paraisópolis.' The graduation project is developed in the final year of the Urbanism track in the master Architecture, Urbanism and Building Sciences 2012-2014 at the faculty of Architecture, Technical University of Delft.

TITLE
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KEYWORDS
Urban divide, informality, favela, municipal upgrading interventions, socio-spatial and socio-economic assets, cohesive socio-morphological urban structure, key-actors, street-based approach.

AUTHOR
Belinda Cynthia van Zijl
Student ID 4051904
e-mail: belinda_vzijl@hotmail.com
phonenumber: 0652017335

MENTOR TEAM
1st mentor: Dr. R.C. Rocco
2nd mentor: Dr. M.J. van Dorst
3rd mentor: Dr. D.A. Sepulveda Carmona
External mentor: Dr. F.W.A. Koopman

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COVER
Photograph on the cover: Municipal works in the favela. Source: Authors own.

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“Cities have the capability of providing something for everybody, only because, and only when, they are created by everybody.”

Photo 01. Standing on the building site of the new parque Santona overlooking the area of Grotão, the hilliest grounds of Paraisópolis, and the condominiums of Morumbi in the background. Source: Author’s own. Taken on 2/12/2014.
On the southwest border in the city center of São Paulo, the largest city in Brazil, an established favela is receiving municipal urban developments. This is the favela complex Paraisópolis which roughly means ‘Paradise City’. The incredible contrasts and juxtapositions in and around this favela stirred up my initial desire to research the urban developments and the complex reality of daily life within this favela. Following these interests the subject of my research project was formulated: The ongoing municipal urbanization process that is changing the urban structure of the complex Paraisópolis, an informal settlement with three communities, with the aim to transform it into an integrated, desirable neighborhood within the city of São Paulo.

Unlike the majority of slums in the cities of the global south, the favela Paraisópolis is known by many because of the almost cliché images showing the hard contrast between the informal houses of the favela Paraisópolis and the luxurious condominium towers of the high-end residential neighborhood Morumbi. Famous is the image of the luxurious condominium towers with private swimming pools on each balcony overlooking the dense, overcrowded self-constructed houses of the favela Paraisópolis. This image is iconic for representing the poor and dispossessed communities in a flourishing developing world, in other words for representing the conflict of urban divide in the world. Rarely do these these popular images and communities in a flourishing developing world, in other words for representing the la balcony overlooking the dense, overcrowded self-constructed houses of the favelal image of the luxurious condominium towers with private swimming pools on each

In 2005 the favela Paraisópolis was choosen as a trial location within the city for intensive research on the theoretical background of slums, the policy framework towards slums and the practical dimensions of this favela is shaping the content of the master thesis. Morphology, movement and activity are the main aspects to provide a representative image of the daily life in Paraisópolis. During my graduation year I have been reading, observing, mapping, documenting, talking and interviewing, with detail and sensitivity, the community, the municipality of São Paulo, NGO’s and the different architectural firms. I have been researching a broad range of urban activities and processes so I would be able to not only understand, but also engage directly with the processes of change happening within the community of Paraisópolis.

As a part of the research I went to São Paulo and visited Paraisópolis multiple times. During these trips I experienced the vibrant, cultural and social power of this community. Paraisópolis is the very dynamic neighborhood of a lifely and vibrant community that managed in a process of survival to develop many local businesses and social activities. The broad range of activities developed by the community has made the favela not only their home, but also into ‘a city within a city’. The variety of functions, the small local businesses and street vendors, the strong social network and the vibrant streetlife distinguish this favela from others. The local developments and the sharp contrast with its neighbors turns Paraisópolis into a neighborhood that is excluded from their surroundings, but offering all the daily necessities for its inhabitants.

Behind all these local flourishing developments there is a story of exclusion, racism, struggle and survival. Brazilian society has been against informal communities and despite governmental removals, gentrifying actions and real estate pressure the community managed to built up their life. In Brazilian society there was a struggle for rights which eventually has leaded to the firm establishment of democracy and citizenship in the country (Rocco, 2014). Even despite the rapid changes in Brazilian society I still witnessed many inhabitants in their struggle to survive. Within the community of Paraisópolis there is a large income diversity and many still struggle to overcome their less fortunate living circumstances. Paraisópolis is one of the largest clusters of irregular homes in the city and is built on a topography of slopes reaching the 35% with the presence of several waterstreams. On the slopes some unfortunate families are living and they face difficulties such as collapsments, waterfloodings, mudslides and diseases.

During my talks with the community I noticed a sense of uncertainty and awareness among the community. The municipal urbanization process is changing the favela and the inhabitant witness a major transformation of their living environment. In 2005 the favela Paraisópolis was chosen as a trial location within the city for Morumbi, located on the southeast of the Pinheiros River, is one of the most exclusive neighborhoods in the city of São Paulo. It houses particular closed condominum towers with luxurious apartments, sophisticated security systems, well maintained parks and the seat of government of the state of São Paulo. The closed condominium towers are in sharp contrast with the precarious site conditions of the favela, which is typical for the segregated social classes and deep gaps between the rich and poor of Brazilian society (IABR, 2008).

Behind this first impression of extreme contrasts, there is a relationship of mutual dependency and tension between the inhabitants of Paraisópolis and its affluent neighbors. Paraisópolis is attractive for slum dwellers because of its good location in the city, the main infrastructure to the city and its proximity to workplaces. An estimated sixty percent of the favela inhabitants work in the surrounding districts as domestic helpers, drivers, gardener and security guards. Especially working as a security guard can be called ironic because the work arises from the demand of the rich to be protected against the favalea inhabitants. The favela Paraisópolis is a product of its inhabitants, however denied by its neighbors. Both Morumbi and Paraisópolis have received a negative title within the city. Morumbi is considered to be the ‘fear zone’ and Paraisópolis is called the ‘danger zone’. Overall Morumbi and Paraisópolis are seen as a paradigm, presenting two coexisting realities which adjoin but ignore another, even knowing that one depends on the other.

During these trips I experienced the vibrant, cultural and social power of this community. Paraisópolis is the very dynamic neighborhood of a lifely and vibrant community that managed in a process of survival to develop many local businesses and social activities. The broad range of activities developed by the community has made the favela not only their home, but also into ‘a city within a city’. The variety of functions, the small local businesses and street vendors, the strong social network and the vibrant streetlife distinguish this favela from others. The local developments and the sharp contrast with its neighbors turns Paraisópolis into a neighborhood that is excluded from their surroundings, but offering all the daily necessities for its inhabitants.

Behind all these local flourishing developments there is a story of exclusion, racism, struggle and survival. Brazilian society has been against informal communities and despite governmental removals, gentrifying actions and real estate pressure the community managed to built up their life. In Brazilian society there was a struggle for rights which eventually has leaded to the firm establishment of democracy and citizenship in the country (Rocco, 2014). Even despite the rapid changes in Brazilian society I still witnessed many inhabitants in their struggle to survive. Within the community of Paraisópolis there is a large income diversity and many still struggle to overcome their less fortunate living circumstances. Paraisópolis is one of the largest clusters of irregular homes in the city and is built on a topography of slopes reaching the 35% with the presence of several waterstreams. On the slopes some unfortunate families are living and they face difficulties such as collapsments, waterfloodings, mudslides and diseases.

During my talks with the community I noticed a sense of uncertainty and awareness among the community. The municipal urbanization process is changing the favela and the inhabitant witness a major transformation of their living environment. In 2005 the favela Paraisópolis was chosen as a trial location within the city for
informal upgrading processes. Since then it is part of a municipality’s extensive multi-year upgrading program, the Paraisópolis Program, which was planned to end this year, but is already receiving more plans for future developments. The aim of the municipal upgrading program is to improve the living conditions of the community and turn Paraisópolis into a middle-income neighborhood, but also to achieve integration of Paraisópolis within the city. The program is replicable, because in the future the municipality is planning to use it in other informal settlements throughout the city. The Paraisópolis Program reacts strongly on one of the major problems in the area, the precarious site conditions, but also on other problems related to the favela such as the water floodings, the garbage on the streets, the lack of public space and public facilities. The program provides in infrastructure, public services and social housing for a sustainable development of the area.

Some unpredicted problems occur with the spatial interventions of the program. New developments such as social housing, infrastructure and facilities are established within and on the border of the favela. The new urban developments are a valuable addition for the people in Paraisópolis and they have the ability to generate social and economic improvement. Unfortunately the municipality is experiencing that the new developments have unpredictable effects and produce undesirable changes on the urban structure of the favela and on the social structure of the community.

The master thesis contains the aim, goal, approach and outcome of my graduation project on the municipal urbanization process towards the favela Paraisópolis. The main goal of the graduation project is to evaluate the municipal urbanization process of Paraisópolis and to propose a solution for the occurring undesirable socio-spatial changes. Validating the existing urban network, transforming it into a cohesive socio-morphological urban structure through the improvement of public space will enhance the social infrastructure and the informal economy. I propose an asset-based integrative spatial strategy to achieve a cohesive socio-morphological urban structure, consisting of a vision with strategic spatial interventions, design alternatives and a participatory planning model.

With this master thesis I would like to provide a valuable contribution to the approaches and methods in the workfield of informal urbanism, but also to the approach of daily life inside urban communities by proposing a model for a cohesive socio-morphological urban structure. Furthermore I would like to inform, educate, inspire and stimulate all those that are concerned with the uneven distribution of benefits in the developing world. Throughout my critical search for social and spatial solutions I combine academic methods and theories with creativity and commitment to achieve relevant insights and real spatial alternatives, with the final aim to contribute, in a modest manner, to urban improvements for the future of the people that call Paraisópolis their home.

Belinda van Zijl
My trip to Paraisópolis

In February of 2014 I visited the city São Paulo and the favela Paraisópolis for fieldresearch. I started this journey after collecting and investigating theories and literature on unequal urban development. Throughout this process I developed a concern, you can even call it a personal doubt, that led the direction for the fieldresearch: I wonder if the municipal urbanization process truly has the potential to change Paraisópolis from ‘a city within a city’ into a desirable neighborhood, integrated within the formal city, but also still capable to house its current inhabitants and without losing the particular assets of the community. With this in mind I visited Paraisópolis and spoke to many actors, searching for answers.

During my fourth visit to the favela Paraisópolis I was accompanied by the ladies Christiana and Flavia, two social workers of the municipal housing department SEHAB. They showed me the area of the waterstream Antonico in Paraisópolis, informed me about the municipal efforts within this area, the people living in this area and the municipal collaboration with the inhabitants. Also they very clearly pointed out the problems within the area and the problems that occurred during the upgrading efforts for the area. One of the first photos I took during this visit is presented on the cover of this master thesis. For me this photo tells the story of the upgrading process of Paraisópolis, the subject of my research.

Municipal efforts in the area of the Antonico waterstream

The issue that concerns the municipality, political and social organizations the most are the precarious site conditions of the favela and the presence of informal buildings in these areas. SEHAB has pointed out areas with precarious site conditions inside Paraisópolis, the environmental risk areas. Housing in these risk areas are built on land, often within the dense block structure, with slopes likely to face landslides or waterfloodings and some houses are made from waste materials. This leads to major concerns on hygiene and safety.

The housing department has declared that the area of the Antonico waterstream is such a risk area. The main issue in this area is the waterstream Antonico. The Antonico waterstream varies over time from a small undependable waterstream to a waterflood, depending on the amount of rain. The waterstream flows from the southeast to the northwest of Paraisópolis and is passing through dense urban blocks of informal houses. It is mainly within these dense blocks that the greatest problems of Antonico occur. The water is flowing under the houses, destroying their construction or when the water rises houses becomes unaccessible and sometimes collapse. Another problem is the amount of garbage within the waterstream contaminating the water, attracting musquitos and spreading diseases.

One of the first interventions of SEHAB was the removal of houses in environmental risk areas. Also in the area of the Antonico waterstream houses were removed, leaving the area unused and open. Unfortunately many families occupied the area of the Antonico waterstream again after the removals.

Christiana and Flavia arranged for me a meeting with a family that rebuilt their house on the waterstream Antonico after the municipal removals. The family consists of four persons: a mother, three children and three housecats. The former house of this family was removed by SEHAB. SEHAB tries to replace families within Paraisópolis, however they were not able to offer the family a new house in Paraisópolis so they were supposed to move to another area of the city. The mom decided that she could not leave Paraisópolis, because she would be without income and rebuilt her house with some help. She is working in a condominium in Morumbi as a cleaning lady and in the evening she works as a prostitute. The house is constructed of waste material. It is a small house for a family of four, they all live in one room of approximately 12 m². Inside there were two rooms, one bedroom/living area. During a heavy rainfall the construction was not able to hold the house and the bathroom collapsed. The construction materials and their personal belongings are lying and floating in the water. The mother can not afford to rebuild her bathroom and she and her children use the contaminated water of Antonico to clean and wash.

The story behind the coverphoto

On the coverphoto many characteristics of the area and the municipal efforts are shown. The beginning of the municipal works was celebrated by the housing department by putting banners in the streets. Nowadays a few banners are still there, never removed and refering to earlier days. The removal of houses in this risk area was not succesfull, wooden shacks did appear on the same location, housing families still in the same unfortunate living circumstances. These wooden shacks appeared directly on and besides the waterstream, next to the brick houses. The inhabitants improve their houses and living environment in their struggle of survival. The houses differ from one level to three levels and have all the necessities, such as water, gas and electricity. Most families are tapping the electricity illegally, the housing department has equiped the houses along the main street with a legal electricity connection. Besides residential buildings there are many low economic activities taking place in Paraisópolis, the photo shows a typical small bar and shop. There is a lot of garbage in this area, mainly within the blocks in the waterstream, but also on the streets. A new planned garbage collection point is supposed to improve this situation.

In the background of the photo you can see the famous closed condominium towers of Morumbi. It is quite shocking to see these luxurious towers in the immediate surroundings of the favela. They represent an incredible contrast in housing typology, density, social background, income and way of life. The wealthy surroundings of Paraisópolis have effected the favela inhabitants with their concern...
The graduation project and research process of the master thesis was a difficult academic challenge that I was able to establish with the help of others. I would not have been able to reach this result if I did not have the support of the following people:

I would like to thank the local team of the municipal housing department of the city São Paulo, SEHAB, for having me over, informing me about the urbanization process, showing the projects and their experiences and answering all my questions. I could not have done my field research without the tremendous help of: Maria Teresa Fedeli, Mariana Guimarães, the team of social workers and their drivers.

I would like to thank some of the local key-NGO’s in Paraisópolis for answering my questions and informing me about the community and their work in the community: Albert Einstein, Escola do povo, Union of Inhabitants and Commerce, Jornal Espaço do Povo, Associação das Mulheres.

I would like to thank the architects and planners of the architectural firms involved in the projects inside Paraisópolis for sharing their material and informing me about their projects and their involvement in the urbanization process: MMBB, Elemental, Studio Rosa, Urban Think Tank, Redocara and Jansana de la Villa de Paauw Arquitectes.

I would like to thank the mentors of my graduation project; Dr. R.C. Rocco, Dr. M.J. van Dorst and Dr. D.A. Sepulveda Carmona for their knowledge, education and support and Dr. F.W.A. Koopman for his guiding of the formal assessments.

I would like to thank Dr. R.C. Rocco for his guidance and support in the project, for sharing his knowledge especially on society, governance policies and programs, actor involvement in the Brazilian context with me. This enabled me to develop a deep understanding of Brazilian society and the development of the position of informality within this.

I would like to thank Dr. M.J. van Dorst for his involvement in the project, sharing his knowledge especially on liveability, urban structure and social safety in the context of informal urbanism. With his help I was able to manage the multiple scales and the development of spatial variants for the proposal.

I would like to thank Dr. D.A. Sepulveda Carmona for devoting his time and effort to support me during the entire graduation process. Especially his knowledge on the daily system in informal communities has provided great value for the graduation thesis.

And finally I would like to thank friends and family for their support and love.
EXECUTIVE SUMMARY

A COHESIVE SOCIO-MORPHOLOGICAL URBAN STRUCTURE

Introduction

The master thesis supports the graduation project ‘A VALUABLE CONTRAST, Paraisópolis - Morumbi’, A search for a cohesive socio-morphological urban structure to strategically reinforce the municipal urbanization process of Paraisópolis. The graduation project of the master thesis is evolving around the ongoing municipal urbanization process of the favela complex Paraisópolis in the city São Paulo. The master thesis evaluates the executed and planned interventions of the municipal urbanization process and searches for a true valuable outcome that allows the municipal interventions to be effective for the community and to provide in further sustainable development of the community and their assets.

The favela Paraisópolis is closely located to the Central Business District of the city São Paulo and within the high-end residential area Morumbi. The favela Paraisópolis is called a complex by the municipal government, because it consists of the favela Paraisópolis and two other adjacent favelas, Jardim Colombo and Porto Seguro. The complex is the second largest favela in the city of São Paulo. The favela is located on a hilly area of 995.693,50 m² and houses 55.590 inhabitants in 20.832 properties (Hagplan, 2005).

The favela Paraisópolis is unusual and not a typical slum. Paraisópolis is not the most deprived area in the city, the favela is poor but by no means the worst. All kinds of people live in Paraisópolis including people that can afford a home in a formal neighborhood, however good location and the community spirit keeps them in Paraisópolis. The favela is recognized by the government, but life is still difficult and many unfortunate people struggle to survive. Paraisópolis is the very dynamic neighborhood of a lively and vibrant community that managed in a process of survival to develop many local business activities and a strong social network. Because of the broad range of activities developed by the community the favela functions as a ‘city within a city’. The spatial, economic and social characteristics of Paraisópolis turned the favela into a ‘city’ providing all necessities in daily life. The variety of functions, the small local businesses and the street vendors, the strong social network and the vibrant streetlife distinguish this favela from others.

The favela is highly different from its direct surroundings. The luxurious condominium towers of the high-end residential neighborhood Morumbi are in sharp contrast with the dense, overcrowded self-constructed houses in the favela Paraisópolis. Their is a hard contrast between Paraisópolis and Morumbi in housing typology, density, social background, income and way of life. However there is also a relationship of mutual dependency and tension between the inhabitants of Paraisópolis and its direct wealthy neighbors. Paraisópolis is attractive for slum dwellers because of its good location in the city, the main infrastructure to the city and its proximity to workplaces. Overall Morumbi and Paraisópolis are seen as a paradigm, presenting two coexisting realities which adjoin but ignore another, even knowing that one depends on the other. The local developments and the sharp contrast with its neighbors turnes Paraisópolis into a neighborhood that is excluded from their surroundings, but offering all the daily necessities for its inhabitants.

Because of the wealthy surroundings, the good location and the accessibility for visitors and politicians Paraisópolis can be seen as an obvious target for governmental actions. In 2005 the municipality of São Paulo started the Program Urbanização de Favelas (Favela Urbanization Program) and the favela Paraisópolis was chosen to be the first favela to receive upgrading efforts, as an example for futher slum upgrading within the city. Within the program Urbanização de Favelas the Paraisópolis Program is developed specifically for this location. The aim of the municipal upgrading program is to improve the living conditions of the community, turn Paraisópolis from a favela into a middle-income neighborhood and achieve integration of Paraisópolis within the city. The Paraisópolis Program is replicable because it is part of the Program Urbanização de Favelas with the aim to replicate it in other informal areas of the city. The Paraisópolis Program reacts strongly on one of the major problems in the area, the precarious site conditions, but also on other problems related to the favela such as the water floodings, the garbage on the streets, the lack of public space and public facilities. The program provides in infrastructure, public services and social housing for a sustainable development of the area.

The new urban developments are a valuable addition for the people in Paraisópolis and they have the ability to generate social and economic improvement. Unfortunatly the municipality is experiencing some unpredictable effects of the projects and some undesirable changes on the urban structure of the favela and on the social structure of the community.

The graduation project

The graduation project is derived from the main topic of urban division in the city of São Paulo. A main hypothesis and aim is developed regarding informality and slum upgrading processes, which is describing the importance of integrating slums into the formal city, placing multisectoral upgrading interventions within a larger urban scale that considers flows and movement, the activities, the urban structure and a participatory decision-making process that enhances local assets and thruly considers the local needs of a community.

The graduation project started with a personal quest: I wonder if the municipal urbanization process has the potential to change Paraisópolis from ‘a city within a city’ into a desirable neighborhood and integrated within the formal city, but also still capable to house its current and future inhabitants and without losing the particular assets of the community. This raise questions on the following topics: the municipal urbanization process, the urban structure of Paraisópolis and its surroundings, the daily life in Paraisópolis, the future development of Paraisópolis and the local assets of the community.

A threefold review is used throughout the research approach, guiding the problem statement, the main and sub-questions, the methodology and the analysis. The threefold review consists of three components: (A) Structural component: socio-spatial and socio-economic conditions of the favela, (B) Design component: municipal response in plans, projects or interventions, policies and programs, (C) Process component: current decision-making process and implementation process. These three components make it possible to diagnose the daily life inside the favela and to evaluate the executed and planned interventions of the municipal urbanization process and to evaluate the actor involvement within the municipal upgrading process.

The research questions need the addition of two components to guide the graduation projects towards the proposal: (D) Process component: proposed decision-making process and implementation process, (E) Design component: proposed design in vision and strategic spatial interventions. Finally a process and design proposal can be developed that allows the municipal interventions to be effective for the community and provides in further sustainable development of the community and their assets.

The subject of the graduation project is the ongoing municipal urbanization process of the favela complex Paraisópolis in the city São Paulo. The Paraisópolis Program is an action of the municipality to react on urban problems related to informality. The graduation project investigates these problems, but also the problems that occur within the municipal interventions and in the urbanization process. The problems occur within the three components: the socio-spatial and socio-economic conditions of the favela, the municipal response in plans and the decision-making process.

A hypothesis is developed to guide the graduation process towards a valuable outcome that allows municipal interventions to be effective for the community and...
The structural causes and products of urban division and the upgrading of a slum lies not only in the development of urban services, accessibility, and infrastructure but should also go along with the consolidation of local social networks. Slums generally have scarce places for social interaction and an analysis of community activities and interaction related to space can reveal the potentials of public space to guide slum development. A conceptual framework is developed capturing the daily life of the inhabitants and the functioning of the community by combining three essential concepts: the morphology of the site (urban structure), social and economical condition (activities) and the infrastructure (flows, movement of people).

The theoretical framework introduces and discusses theories that hold and support the research problem. By reviewing literature that adress the main topic as a theoretical background and the components of the graduation project, the structural component, the design component and the process component, theories are used in de development of all thesis parts. 'The urban divide' supports the theoretical background, 'Governance of the inclusive city' supports the process component, 'Slum upgrading approaches' support the design component and 'The urban network of a slum' supports the structural component.

The upgrading of a slum lies not only in the development of urban services, accessibility, and infrastructure but should also go along with the consolidation of local social networks. Slums generally have scarce places for social interaction and an analysis of community activities and interaction related to space can reveal the potentials of public space to guide slum development. A conceptual framework is developed capturing the daily life of the inhabitants and the functioning of the community by combining three essential concepts: the morphology of the site (urban structure), social and economical condition (activities) and the infrastructure (flows, movement of people).

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The main research question is: How can an integrative spatial strategy based on local assets achieve a cohesive socio-morphological urban structure that will reinforce the municipal urbanization process of Paraisópolis? The research question validates the existing urban network and recognizes the morphological characteristics of space in relation with the social infrastructure. Therefore, the urbanization process of informal settlements should focus on a cohesive socio-morphological urban structure of the area. Validating the existing urban network, transforming it into a cohesive socio-morphological urban structure through the improvement of public space will enhance the social infrastructure and the informal economy. The existing urban scale network or urban structure can be analyzed through the community activities, the movement and flows in the area and the morphology of the area. The sub-research questions discover the local potentials and the potentials within the municipal urbanization process in relation to the community and other actors. Also they discover the possibilities within the spatial interventions and the planning framework of the upgrading process.

The methodology is divided into five segments, in the following order: the subject definition, the theoretical framework, the empirical framework, the analytical framework and the final product. The analytical framework is based on the threefold review; the components (A) Structural component: socio-spatial and socio-economic conditions of the favela, (B) Design component: municipal response in plans, projects or interventions, policies and programs, (C) Process component: current decision-making process and implementation process. The structural component is researched with the use of a conceptual framework.

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The main conclusions of the analysis are: (1) The spatial structure of the area

Often the interventions do not strengthen the assets of the community. There is missing a vision that is leading the development of the favela for the current and future inhabitants. (3) To improve the conditions of slums it is crucial to consult the main actors and the community so that residents can participate in the planning, design, implementation, and maintenance of interventions. This is fundamental for creating sustainable and responsive interventions.

Conclusions on the analysis are formulated through a diagnosis providing input for the proposal. A process proposal and a design proposal are developed to reinforce the municipal urbanization process, providing a structural plan with possible local strategic interventions.

The theoretical framework

The theoretical framework introduces and discusses theories that hold and support the research problem. By reviewing literature that address the main topic as a theoretical background and the components of the graduation project; the structural component, the design component and the process component, theories are used in de development of all thesis parts. 'The urban divide' supports the theoretical background, 'Governance of the inclusive city' supports the process component, 'Slum upgrading approaches' support the design component and 'The urban network of a slum' supports the structural component.

The main topic of slum growth in relation to the urban divide in developing cities is investigated by reviewing literature on globalization processes and urban development in the developing cities. The process of rapid urbanization within developing countries has increased the appereance of slums within the urban city structure. Urban growth and economic development in cities create an unequal share of the benefits among the urban population and divide cities.

In the city São Paulo urbanization and economic development have historically been linked in a process of industrialization and modernization. São Paulo's economy is transforming into a tertiary sector, focusing on services and business. There is a high degree of informality in its economy. The cityspace is spatially segregated containing different extreme residential typologies and there are high numbers of slums. More specific are reviewed the causes and products of urban division and social exclusion to explain the existence of informal settlements and other extreme living typologies.

As last part of the main topic the term informality is explained in the context of urban planning and development. Informal urbanism is a product of exception in urban planning as it does not comply with the formal, traditional, planned urban framework and the regulations. Informality proliferates under the circumstances of rapid urban growth, migration, failed governance and policies, corruption, inappropriate regulation, dysfunctional land markets, unresponsive financial systems, and a fundamental lack of political will. As a result of these problems informal urbanism is sometimes the only available access to the city, because no other options exist for some social groups.

Literature about 'Governance of the inclusive city' discussed the social, economic and spatial conditions of an inclusive city. Upgrading slums and preventing the formation of new slums benefits a city in multiple aspects. Social and spatial inclusion within the city can be achieved through slum upgrading, which contributes to an inclusive city. Besides the fundamental rights that slum dwellers gain through slum upgrading, upgrading is more affordable and effective for a city government than eviction and relocation of families to public housing. Recognizing all citizens of title and security of tenure makes a positive contribution to both the economic prospects of the poor, as well as to the national economy (Cities Alliance, 2014).

Research on 'Slum upgrading approaches' introduces slum upgrading efforts and programs. Upgrading in a slum at its simplest is providing basic services that allows all citizens to live with basic dignity and in decent living conditions. Upgrading activities contain legal, physical, environmental, social, cultural and economic actions which recognize slum dwellers as citizens and positively change the quality of life in a slum. Slum upgrading as a program is generally a governmental initiative, but improvements also come from community organizations and NGO's, sometimes
collective but also as separate initiatives. If upgrading is collectively approached governments have the role of ‘facilitators’ rather than ‘providers’ (Cities Alliance, 2014).

Finally research on ‘The urban network of a slum’ explains the development of community assets and the value of an asset-based approach. The asset-based approach does not only focus on creating enabling conditions in a slum community, but is also a diagnostic and analytic framework that can provide effective entrypoint in slum upgrading (Aziz, 2012). Based on the unique features of locality, the local assets and the sense of the place, successful interventions can be developed that encourages positive changes, builds up capacity and empowers the community.

“The sense of a place is the concept that describes the feeling of being part of a place, and is created by the life experiences and intangible emotions experienced in that particular place. The description of a place is not only a geographical or spatial issue; it is an existential space full of significance, emotions and meaning for the people inhabiting it.” (Arroyo, 2012, p12).

This is followed by research on the value of a cohesive socio-morphological network through public space. Public spaces in informal settlements have a key-role in linking economic conditions, the informal economy, and social conditions, the social infrastructure. The morphological characteristics of public space are intensely related to the social behaviour of people in the public space. Therefor the urbanization process of informal settlements should focus on urban network of the area. The urban network captures the daily functioning of a community, taken into account the morphology, the movement and the activities. Restructuring the urban network through the improvement of public space will enhance the social infrastructure and the informal economy. Public spaces are an extension of the community and in them they have the ability to support the livability, safety, mobility and local social and economic development. The local space can enable economic activities and businesses enhancing the informal economy, but local space can also enable accessibility to social infrastructure and provide in social activities. Public space can have the role of ‘front porches’ at institutions, public facilities and services, where inhabitants can interact with each other and access public functions. In the basis open space is needed to compensate the crowded housing conditions, fresh air and recreation, but even more important open space in a public function has the ability to trigger economical and social development and provide citizenship.

**Integrative spatial strategy**

Slum upgrading is a complex process that needs multisectoral interventions. The favela Paraisópolis has developed over time and the community has achieved their own assets, such as a vibrant streetlife and low-economic activities. Unfortunately the municipal slum upgrading process is not intended to strengthen the local developed assets of the community. Revision of the municipal strategy is required to solve the current problems in Paraisópolis. Current municipal strategy is accentuating the problem of undesirable changes in the urban structure, as the removals take place while developments work are not finished. A result of the strategy are the occupations of the cleared areas, but also the attraction of people towards the already finished developments. The urban structure is changing uncontrolled and negatively influences the urban network and the continuation of developments works (Espaço do Povo, 2014).

The focus for the proposal is on the existing situation, the trends and the future perspective of the favela. The proposal is structuring the existing situation taking into account the interventions of the municipality, the activities in the neighborhood and the mobility flows of the people. Introducing a hierarchy of the streets will provide a better mobility flow and support existing and new activities and create possibilities for new public spaces that support the activities and integrate within the urban structure. Improving the connectivity to the larger urban fabric will facilitate the flow within Paraisópolis and to the city. The activities and future activities can develop along the proposed hierarchy. The proposal is explaining what type of streets and public spaces have the ability to attract activities. For example pedestrian friendly streets with lots of people passing by have the ability to boost ocal economic activity, which can increase the number of jobs and the available goods in the area. The proposal influences all the scales within the urban network. It shows how mobility flows, activities and public spaces can support each other and the local assets of the community.

The urbanization process of informal settlements should focus on a cohesive socio-morphological urban structure of the area. The term socio-morphological urban structure refers to the relation between the morphological characteristics of space to the social infrastructure of a community. In a cohesive socio-morphological urban structure the morphological and social conditions are in balance. Validating the existing urban network, transforming it into a cohesive socio-morphological urban structure through the improvement of public space will enhance the social infrastructure and the informal economy. Urban developments, such as the urban services, social housing, infrastructure and public facilities should be placed in consideration of the urban structure creating a cohesive urban network for the community and stimulating local economic and social development.

The vision is proposing a socio-morphological urban structure through the introduction of a hierarchy in streets, public spaces and new activities. The design of the streets and the public spaces are interconnected, movement and activity are both considered in the spatial design. Another part of the vision is the future development of the favela, for this a block is designed as representative for futher development. Based on the proposed cohesive socio-morphological urban structure the possible development of a new block, part of the grid, is shown in fases. The public spaces and the new houses are developed through alternatives.

A part of the proposal are the physical interventions these show the proposed type of public spaces and the design of them in the local context. Local interventions or projects should not be treated as individual or trials, but as strategic interconnected interventions. These strategic interventions focus on the public space and are planned in relation to the location, the scale, the social, cultural and economic activities and the attraction of these activities.

As a summary the design proposal is a multiscalar proposal for an integrative strategy and consists of the following products:

1. **Model for an urban network: roads (movement), public spaces (morphology) and socio-economic activities (activities).**
2. **A structural vision: hard framework with hierarchy of roads and new functions**
3. **Specific location: street sections and public spaces**
4. **Expansion of the favela: development of a new block and housing typologies**

Besides the spatial design it is crucial to propose planning tools that have the ability to improve the planning process and allow the main actors to participate in the planning, design, implementation, and maintenance of interventions. The level of participation highly affects the inhabitants attachment and by that the development of the local assets to the new design of the streets and public spaces. Communication is crucial to sensitize the community to the changes carried by the proposal.

To improve the conditions of a community it is crucial to consult the main local actors in the community so that residents can participate in the planning, design, implementation, and maintenance of interventions. This is fundamental for creating sustainable and responsive interventions. Actor involvement should depend on the scale of a project, including local key-actors on the urban scale and including direct inhabitants on a local scale.

**Validation of the proposal**

The community is calling for urban intervention and continuation of urbanization works. The proposal for an integrative spatial strategy is a direct response to community and the undesirable outcomes of the municipal strategy. The proposal can be a valuable contribution to the approaches and methods in the workfield of informal urbanism, but also to the approach of daily life inside urban communities by proposing a model for a cohesive socio-morphological urban structure. In essence, the elaboration of this thesis explores the application of urban theories in informal settlements, urban networks and governance programs in a Brazilian context. It contributes more specific to a model: assessing the urban network of a community through a cohesive socio-morphological urban structure with the improvement of public space to enhance local community assets. It also provides an analysis of the problematics in informal settlements and the shortcomings of existing upgrading programs in Brazil, using the favela Paraisópolis as a case study.
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<tr>
<td>BNH</td>
<td>National Housing Bank</td>
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<tr>
<td>CAIXA</td>
<td>Federal Savings Bank</td>
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<td>CBD</td>
<td>Community- Based Development</td>
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<tr>
<td>CBO</td>
<td>Community- Based Organization</td>
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<td>CDD</td>
<td>Community- Driven Development</td>
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<td>CDHU</td>
<td>Housing and Urban Development Company of the State of Sao Paulo</td>
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<td>CEF</td>
<td>Caixa Econômica Federal</td>
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<tr>
<td>COHAB</td>
<td>Metropolitan Housing Company of Sao Paulo</td>
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<tr>
<td>EMPLASA</td>
<td>State of Sao Paulo Company for Metropolitan Planning</td>
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<tr>
<td>FMH</td>
<td>Municipal Housing Fund</td>
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<tr>
<td>FUNAPS</td>
<td>Municipal Fund for Attending Residents of Substandard Housing</td>
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<tr>
<td>FUNDURBS</td>
<td>Urbanisation Fund Administered by the Municipal Planning Secretariat</td>
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<tr>
<td>HABI</td>
<td>Social Housing Authority, which is a department of the Municipal Urban Development and Housing Secretariat</td>
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<td>HABISP</td>
<td>Information and Prioritising Intervention Systems</td>
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<td>HIS</td>
<td>Social Housing Interest</td>
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<td>HMP</td>
<td>Real Estate Social Housing</td>
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<tr>
<td>IBGE</td>
<td>Brazilian Institute of Geography and Statistics</td>
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<tr>
<td>IPTU</td>
<td>Urban Property Tax</td>
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<tr>
<td>MSP</td>
<td>City of Sao Paulo</td>
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<tr>
<td>NGO</td>
<td>Non Governmental Organization</td>
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<tr>
<td>PAC-1</td>
<td>Growth Acceleration Program Part 1</td>
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<td>PAC-2</td>
<td>Growth Acceleration Program Part 2</td>
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<tr>
<td>PAR</td>
<td>Residential Leasing Program</td>
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<tr>
<td>PAT-PROSANEAR</td>
<td>Program for Urbanizing, Regularizing and Integrating Urban Settlements</td>
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<tr>
<td>PMSP</td>
<td>Government of the city of Sao Paulo</td>
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<tr>
<td>PNAD</td>
<td>National Survey of Sample Households</td>
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<tr>
<td>RESOLO</td>
<td>Department of Regularisation of Informal Land Subdivisions</td>
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<tr>
<td>MRSP</td>
<td>Sao Paulo Metropolitan Region</td>
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<td>SABESP</td>
<td>Basic Sanitation Company of the state of Sao Paulo</td>
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<tr>
<td>SEADE</td>
<td>State Data Analysis System</td>
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<td>SEHAB</td>
<td>Sao Paulo Municipal Housing Secretariat</td>
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<td>SEMLA</td>
<td>Sao Paulo Municipal Planning Secretariat</td>
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<tr>
<td>SFH</td>
<td>Housing Finance System</td>
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<td>SNHIS</td>
<td>National Social Interest Housing system</td>
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<td>UCLG</td>
<td>United Cities and Local Governments</td>
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<td>UNFPA</td>
<td>United Nations Population Fund</td>
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<tr>
<td>UN-HABITAT</td>
<td>United Nations Human Settlements Program</td>
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<td>ZEIS</td>
<td>Zones of Special Social Interest</td>
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<tr>
<td>KEYDEFINITIONS</td>
<td>Definition</td>
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<td>BACK LOT PARKING</td>
<td>Parking that is contained behind buildings, in the middle of a block, linked yet hidden from the pedestrian’s experience of a street (UrbanDesignCollective, 2014).</td>
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<tr>
<td>BLOCK</td>
<td>The area bounded by a set of streets and the basic unit of a city’s urban fabric. A block is undivided by any other significant streets carrying vehicular traffic but may be designed to be cut through by pedestrian thoroughfares. A block may be subdivided into any number of smaller land lots (Mohankumar, 2014).</td>
</tr>
<tr>
<td>DISPLACEMENT</td>
<td>The movement of individuals, businesses or industries from their property or neighborhood because of development activities like redevelopment, eminent domain/ compulsory purchase or gentrification (UrbanDesignCollective, 2014).</td>
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<tr>
<td>GATED ESTATE</td>
<td>An area of private housing closed off from the public streets, surrounded by a high wall or fence and protected by electronically operated or guarded gates to make the residents feel more secure (UrbanDesignCollective, 2014).</td>
</tr>
<tr>
<td>GENTRIFICATION</td>
<td>The process of people with higher incomes moving into a residential area and carrying out improvements (UrbanDesignCollective, 2014).</td>
</tr>
<tr>
<td>GLOBAL CITY</td>
<td>A complex organizational entity that concentrates the multiple resources needed for the management, coordination, specialized servicing, and governance of the global economic operations of firms and markets (Sassen, 2002).</td>
</tr>
<tr>
<td>GLOBALIZATION</td>
<td>The growing interdependence of activities and countries worldwide; the reduction of local differences (UrbanDesignCollective, 2014).</td>
</tr>
<tr>
<td>GRAIN</td>
<td>The pattern of the arrangement and size of street blocks, plots and their buildings in an area. The grain of an area can be assessed by the degree to which an area’s pattern of street-blocks, block subdivisions and street junctions is respectively small and frequent (fine grain), or large and infrequent (coarse grain) (UrbanDesignCollective, 2014).</td>
</tr>
<tr>
<td>GRID</td>
<td>A traditional planning tool based on streets and alleys which are (primarily) perpendicular to one another. The grid pattern is often efficient from a traffic engineering standpoint and offers ease in orientation and way-finding (Mohankumar, 2014).</td>
</tr>
<tr>
<td>MEGACITY</td>
<td>A conurbation of exceptional size, geographically or population wise. Also used to refer to a city with a population of more than five million (UrbanDesignCollective, 2014).</td>
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<tr>
<td>MOVEMENT ECONOMY</td>
<td>The urban system consisting of a relationship between fixed elements (the physical and spatial structure) and movement elements (routes) (UrbanDesignCollective, 2014).</td>
</tr>
<tr>
<td>MID - BLOCK CONNECTIONS</td>
<td>Linkages between two streets with the purpose of breaking up large blocks. The new connection provides an alternative way to the footpath/ street grid and can be either a road or a pathway. It improves connectivity and accessibility through a precinct by adding to the choice of routes (UrbanDesignCollective, 2014).</td>
</tr>
<tr>
<td>NATURAL MOVEMENT</td>
<td>The movement through an urban space that is determined by the structure of the urban grid rather then the specific buildings or activities to attract people (UrbanDesignCollective, 2014).</td>
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<tr>
<td>NODE</td>
<td>A place where activity and routes are concentrated; a point of interchange in a transport network. Keven Lynch defines nodes as ‘points, the strategic spots in a city into which an observer can enter, and which are the intensive focto to and from which he is travelling. They may be primarily junctions, places of a break in transportation, a crossing or convergence of paths, moments of shift from one structure to another. Or the nodes may simple be concentrations, which gain their importance from being the condensation of some use or physical character, as a street-corner hangout or an enclosed square’ (UrbanDesignCollective, 2014).</td>
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</table>
**PEDESTRIAN FLOW**

The direction, rate and frequency of pedestrian movement (Mohankumar, 2014).

**PEDESTRIAN NETWORK DIAGRAM**

Diagram that shows all parts of an area that are accessible to pedestrians and inaccessible to vehicles (Mohankumar, 2014).

**PEDESTRIAN - ORIENTED**

An area where pedestrians, from various ages and abilities, can move fast, attractive and comfortable. The design for this area needs to consider separation of pedestrian and auto circulation, street furniture, clear directional and informational signage, safety, visibility, shade, lightning, surface materials, trees, sidewalk width, intersection treatment, curb cuts, ramps and landscaping. Also the location and access to public functions, the type of uses and the front needs to be based on the needs of pedestrians. The functions in a pedestrian-oriented area can rely on pedestrian traffic for the majority of their business such as stores, restaurants, services and repair shops (Mohankumar, 2014).

**PERIMETER BLOCK**

A street block each of whose frontages faces a public street, creating more or less continuous building frontages along the streets. This layout is often characteristic of relatively dense urban development. Perimeter blocks are crucial to the configuration of urban space and offer the additional advantage that any back gardens and private areas are inaccessible to public, making them less vulnerable to intruders (UrbanDesignCollective, 2014).

**POLYCENTRICITY**

Polycentricity or having many centres. The spatial structure of a region or territory, based on the analysis of where specific economic, social and environmental functions take place and the linkages between them (Mohankumar, 2014).

**POWERGRAM**

A diagram showing the degree of influence that various categories of people, such as developers, landowners and planners, exert over urban form (McGlynn, 1993).

**INFORMAL ECONOMY**

Slum economies are comprised of slum-based businesses and slum dwellers engaged in wage work (both inside and outside the slum) and the complex network of economic actors and institutions (for example suppliers and consumers) that participate in and enable the economic activities (Rockefeller Foundation, 2013).
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THIS IS PARAISOPOLIS
HIGO SANTOS DE CARVALHO

"Something I love most are the people in the community. I think this makes Paraisopolis have something different: a who that other communities don't have."
Paraisópolis is one of the 4500 slums in São Paulo. In total there are living 3.340.000 Paulistanos in slum conditions, which is more then 16 procent of the total population.

In São Paulo there are 1500 slums with a population of 1.600.000, 1000 irregular settlements with a population of 1.700.000 and 2000 cortiços in the central area of the city with a population of 40.000.

The 3.340.000 Paulistanos can be generalized by the following characteristics:
1) low-income families - to 3 minimum wages
2) families below the poverty line and extreme poverty
3) families lifecycle young
4) householders with less than 8 years of schooling
5) working relations not formalized
(SEADE, 2008)

Paraisópolis is considered the second largest favela in the city of São Paulo. The favela is located in the district of Morumbi in São Paulo, on a hilly area of 995.693,50 m² that house 55.590 inhabitants in 20.832 properties (Hagaplan, 2005). The favela Paraisópolis consist out of three communities: Paraisópolis, Jardim Colombo and Porto Seguro. Paraisópolis is an unusual favela, because of its location in São Paulo, it is closely located to the Central Business District of the city and within the high-end residential area Morumbi. It is highly different from its direct surroundings and functions as a ‘city within a city’. The favela has many entrances, but is almost a hidden area within Morumbi.

Paraisópolis is one of the two favelas located near the city center of São Paulo. Besides the approximately 15 kilometers to the center, Paraisópolis is still relatively central within the metropolitan area of São Paulo. Paraisópolis covers an area of approximately 2.2 kilometers north-south direction and 1.2 kilometers in east-west direction. Paraisópolis has a spatial structure consisting of a grid with blocks of a dimension of about 200 meter by 100 meter.

The favela Paraisópolis is called a complex by the municipal government, because it consists of the favela Paraisópolis and two other adjacent favelas, Jardim Colombo and Porto Seguro. Within this thesis Paraisópolis refers to the complex Paraisópolis, if not explained differently. Besides the partition of the complex Paraisópolis in three favelas, there also the partition of the favela Paraisópolis in sectors: Antonico, Brejo, Centro, Grotão, Grotinho and the latest additions by the municipality Viario de Perimetral and Area Institucionais.

The favela is located on the border of two districts: Butantã and Campo Limpio. Butantã and Campo Limpio are districts (subprefetura) of the city and located on the west bank of the river Pinheiros. Paraisópolis is a part of both districts, the south part is located in the district Campo Limpio and the north part is located in the district Butantã. The district Campo Limpio covers an area of 36.7 km² and has an population of approximately 700,000 inhabitants, an urbanization rate of 100% with an average population density of 13786.6 inhabitants/ km². The district Butantã covers an area of 56.10 km² with 377.576 inhabitants and a population density of 6.633 inhabitants/ km². (IBGE, 2010).

A city district consists out of different neighborhoods. Paraisópolis is located in three different neighborhoods; Morumbi and Vila Sônia in district Butantã and the neighborhood Vila Andrade in district Campo Limpio. The favela Paraisópolis is located in Vila Andrade, the favela Jardim Colombo in Vila Sônia and the favela Porto Seguro in Morumbi. Morumbi is the richest neighborhood of the city and gives the largest visual contrast between Paraisópolis and its surroundings. In no other area of São Paulo, there are as much luxury apartments and high-end towers. Because of its affluent surroundings Paraisópolis is considered ‘special’, the surroundings provide nearby employment and turn Paraisópolis into a showpiece accesible for visitors, officials and politicians, but also a logical target for the government.

Paraisópolis is a favela that grew rapidly, since its beginning in the 1970s. The population consists out of migrants from the north and northeast of Brazil, along with inhabitants of other slums that were eliminated by the governments to make place for large public works such as metro lines and roads. The favela now has a population of 55590 inhabitants. Paraisópolis is covering an area of 995.693,5 m², almost 1km². The area has a hilly topography, a ravine punctuated by waterstreams. The density of the total area is 55830 habitants/ km². The favela Paraisópolis is the home of 45694 inhabitants, the favela Jardim Colombo of 8511 inhabitants and the favela Porto Seguro of 1385 inhabitants. The density of the favela Jardim Colombo is the highest; 57471 inhabitants/ km², followed by the favela Porto Seguro with 55707 inhabitants/ km², and the favela Paraisópolis with 55539 inhabitants/ km².

The favela is functioning as a ‘city within a city’ because of its spatial, economic and social characteristics. The contrast with the surroundings exclude the favela and the development of the favela by the community in the struggle to survive has made Paraisópolis into a city with all its necessities in daily life. The properties in the area consist out of 83,78% residences, 5,89% commerce and 5,97% is empty. The majority of the residences are 2 or 3- room residences.

Because of the hilly topography, from the outside you see the corrugated roofs, the concrete decks and the brickworks of the 20.832 properties. At least 83,93% of the residential properties is constructed out of brickwork. Only 12,48% of the inhabitants has a property document for their construction or lot and 89,99% of the inhabitants does not participates in actions of adverse possession or repossession of their properties. (HAGAPLAN, 2005)

The poverty of the inhabitants has become severe, there is a lot of difference in income, but the majority, 70 to 75 percent, earn more then one MS (minimum salary) but less then three MS (national poverty threshold). Since 2003 Paraisópolis has been controlled by the prison-based drug gang PCC (Primeiro Comando da Capital). It is said that Paraisópolis is the ‘danger zone’ and Morumbi the ‘fear zone’, but the crime rate shows that there is less crime in Paraisópolis then in other favelas in São Paulo.
Introduction
This is Paraisópolis / Facts

Brazil
Population: 187 Million
Geographic Area: 8,547,408 km²
Urban Population: 80% of Total

São Paulo
Population: 10.5 Million
Metropolitan Region: 19.7 Million
Geographic Area: 1,523 km²

Paraisópolis
Population: 55,590 inhabitants
Geographic Area: 822,739 m²
Occupation Date: 1970s
No. of Lots: 9,236
No. of Properties: 17,141
Residential: 14,538
Other: 2,603

Scheme 01. Location and numbers. Source: Author’s own.
This is Paraisópolis

HISTORY

In the history of São Paulo, since the 1940s, poor families were left to auto-construction (self-provision) as a solution for housing, forming slums. Throughout the history of the city of São Paulo there are public and private developments that have never been completed, the implementation phase and become abandoned regions. Eventually these areas are often appealing for informal occupations. Slums were formed in areas surrounding a small percentage of the city’s population which is housed by capitalist real estate agents, who work in accordance with legislation. These sub-par urban settlements, inhabited precariously by a significant portion of the population, were non-existent in the eyes of the public bodies, who did not officially recognize such installations’ (Bonduki, 2000).

The history of the favela Paraisópolis starts in 1921, when the area was a part of Fazenda do Morumbi (Morumbi’s Farm). The União Mútua Companhia Construtora e Crédito Popular S.A. (construction company) divided the area of in 2200 plots with the aim to sell the plots for housing development. The implementation phase of the 2200 plots by the União Mútua Companhia Construtora e Crédito Popular S.A. did not finish, as the infrastructure was not fully implemented and many of the plot buyers never took actual possession of a plot nor paid the taxes.

The area of Fazenda do Morumbi was abandoned until 1950 when some families, mostly Japanese, started small farms with crops and livestock on some of the 2200 plots. They were called possesiores (squatters) and grileiros (persons trying to get possession of land with false documents). It was the beginning of the informal occupation. From the 1950s until the 1960s the land of the Morumbi region, including the 2200 plots, was mostly used for farmland and livestock with a few houses.

In the 1960s the introduction of some upscale residential neighborhoods, the cemeteries Gethsemani and Morumbi, and the construction of access roads, such as Giovanni Gronchi Avenue, turned the region into an attractive economic object. In 1960 the first development plan was established, but the plan is not executed. The development plan declared the area as public utility, focusing on urbanization (Prefeitura de São Paulo, 2014).

In 1970 the first wooden shacks appear and the occupation of the two adjacent favela’s Jardim Colombo and Porto Seguro started. The informal occupation formed a settlement. In this time Morumbi was still a vacant land while the region already were upcoming with high-end, low-density urbanization. Later on, in 1972, it was decided by the Lei de zoneamento Geraldo Municipio (zoning law) that the occupations in the region should be restricted to single-family housing and mixed-use, such as uses trade and diversified services. The aim was to create conditions for a plan, dealing with a special area of occupations, to be prepared within the next five years. This plan was never established and between 1974 and 1980 the occupations intensified. The Lei de zoneamento Geraldo Municipio was part of a larger movement in the city, interesting housing policies were implemented. Unfortunately this is not continued because of changes in politics (Carvalho, 2014). The politics decided to remove informal settlements, also Paraisópolis, eventually in the late 1980s they gave up trying.

There was a strong growing demand for labor in the field of construction in the region and by 1980 this attracted many workers and the occupation intensified even more. In the late 1990s there was a further increase in population mainly due to the migration of inhabitants of surrounding favelas removed by the municipal government. The last population increase resulted in a densification of the areas Grotão and Grotinho within the favela Paraisópolis. Because the population increased multiple times one can find a wide variety of backgrounds in migrants and immigrants, but the majority is from the Northeast of Brazil. In the northeastern some people migrated to São Paulo during the industrial booming days in search of new job opportunities and a new living, many of them started their new life in Paraisópolis.

Paraisópolis is the lack of basic sanitation. Most of the streets were an open sewer, bringing diseases, and a huge dirt into the favela. Another major problem is the result of the process of privatization and the process of maximizing the built into circumstances where the notion of public space as space for common interests and social services is not appreciated. Some of the inhabitants decide to leave Paraisópolis and return to their origins, but often they can not adapt anymore and end up coming back to Paraisópolis.

The informal development of the occupations is in large contrasts with the real estate developments of its surroundings. Paraisópolis is a favela located in the richest neighborhood of the city, Morumbi. In the 1990s the real-estate market of Morumbi exploded and during this period many luxury apartments and high-end towers were build. The high-end towers are in contrast with the maze of small houses, local businesses and lifely environment of the favela. The daily reality in Morumbi is quite different from Paraisópolis. The business center of the city, Avenida Paulista, is located directly on the other side of the Pinheiros River and is directly connected to the district by the Morumbi bridge, built in 2008. The pressure on the real estate market of Morumbi is still there and as a direct result Paraisópolis is more tightly clamped to lie between real-estate developments. Because of the developments there is no space left for the growth of Paraisópolis. Another consequences of the rapid population growth in Morumbi is the increase of traffic, by 2004, the traffic situation in the district became untenable. (Prefeitura de São Paulo, 2014).

In the 1990s the first efforts of the municipality started with some small social improvements and water and sanitation works in Paraisópolis. In 2002 the municipality developed a strategic plan for Paraisópolis within the Program of Regularização Fundiária (Land Tenure Regularization program), part of Programa Bairro Legal). An extensive program of land reform began in line with the City Statute of 2001 and the ZEIS (Zones of Special Social Interest), a tool within the City Statute that makes it possible for cities to do work with the diversity of occupations and urban land uses. The municipal masterplan of São Paulo of 2002 and the Land Use and Occupancy Law of 2004 recognized the informal settlements and through the ZEIS they were marked on the map, together with the marking of new areas for the construction of social housing. (Carvalho, 2014).

The municipal and federal government have developed some housing programs in the last years that support the urbanization of informal settlements in Brazil and especially São Paulo. A federal program is MCMV (Minha Casa Minha Vida), introduced in 2009 within the PAC 1 & 2 (Growth Acceleration Program 1 & 2) as a social housing initiative for low-income families. The municipality of São Paulo started in 1996 already with the Program Mananciais, which is extended in 2005. In 2002 the municipality introduced the Program Regularização Fundiária (Land Tenure Regularization Program) of which Paraisópolis was the first to executed this. In 2005 the municipality started the Program Urbanização de Favelas (Favela Urbanization Program) and Paraisópolis was chosen as the first, as an example for futher slum upgrading within the city. The aim of the program is to transform Paraisópolis into an integrated, desirable neighborhood within the city of São Paulo. Multiple interventions of the upgrading process have already changed the favela and still many interventions need to be executed (Habisy, 2013).
In 2005 the municipal department of housing developed the Program Urbanização de Favelas (Favela Urbanization Program) focusing on the urbanization and regularization of degraded areas that were occupied haphazardly and without infrastructure. The goal is to transform slums and squatter settlements into neighborhoods, ensuring its residents access to formal city with among others paved streets, sanitation, lighting and utilities (Habisp, 2013).

The program also includes the resettlement of families living in risk areas. The city of São Paulo is urbanizing 670,000 households in slums and settlements and provides 130,000 new dwellings in social housing for the families that need resettlement because they live in risk areas or because of the urbanization process. Between 2009 - 2024 the municipality would like to provide 690,000 new homes in total. Between 2005 and 2012 the total investments for this program were 5.9 billion R$ of which 71% came from the municipality, 10% of the state and 19% of the federation.

The current efforts of the municipality have achieved the following numbers:
(1) 168,000 families assisted with urbanization in slums and 24,000 units built or under construction
(2) 20,000 families receiving rental assistance
(3) 7,500 families in the social partnership
(4) 280 works in 1,200 tenements letter of credit CDHU
(5) 53 buildings in the process of expropriation in the central region
(6) 3,500 new units provided for in the agreement Cohab / MCMV
(SEHAB, 2014)

Urbanization is indispensable for the regularization of slums, in turn, is essential to promote the inclusion of this population in the legal context of the city. This is the largest program of Urban and Land Regularization of the country and also includes irregular and precarious settlements. The Paraisópolis upgrading program is a part of this program (Habisp, 2013).

The Paraisópolis upgrading program started also in 2005. The upgrading program provides infrastructure, public services and social housing for the urban development of the favela. The urbanization process is an upgrading strategy of the municipal government of São Paulo, which is implemented and managed by a local team, the members change with the elections, of the Municipal Housing Department SEHAB. The upgrading process started in 2005 and is planned to finish in 2015. New input of SEHAB proposed to extend the process in 2009 with the MHP (municipal housing plan) that should finish in 2024. Another new input came in 2009, the 4th International Architecture Biennale Rotterdam in collaboration with SEHAB called Testsite Paraisópolis, which aimed to introduce new housing models and public spaces that can foster the transformation of the favela into a new type of inclusive and sustainable urban reality (IABR, 2008).

The urbanization process of Paraisópolis can be described as a multi-year top-down plan composed out of different strategies with several multi-sectoral projects or interventions represented in an intervention map. This intervention map is leading in all, but changing over time, because every project or intervention is treated as a pilot-project and provides new insights in the problematics. It is a learning process for the local team of SEHAB where a few steps forward in the upgrading process is followed by a step back. At the moment many projects are finished, while some still face problems to start or continue, but others are cancelled. Later on, in part D of the master thesis, the projects of the Paraisópolis upgrading program will be described in more detail and will be followed by conclusions.

The goal of the Paraisópolis program is to transform the favela into an integrated neighborhood in the city, aiming for inclusion. Ensuring the inhabitants of Paraisópolis an adequate living and access to the formal city, based on the commitment for a participatory, civil society. This goal is supporting the UN-Habitat (2003): ‘Adequate shelter means more than a roof over one’s head. It also means adequate privacy; adequate space; physical accessibility; adequate security; security of tenure; structural stability and durability; adequate lighting, heating and ventilation; adequate basic infrastructure, such as watersupply, sanitation and waste management facilities; suitable environmental quality and health related factors; and adequate and accessible location with regard to work and basic facilities: all of which should be available at affordable cost.’ The Paraisópolis program even puts forward the addition of the urban scale, the transformation of a favela into an integrated neighborhood in the city, by focusing not only on social housing, but also on public spaces and services.

The Paraisópolis upgrading program is planned to end in 2015. However new plans are already developed. It is clear that the urbanization process of Paraisópolis is still going on and the objectives are not achieved yet.
Photo 06. Maquette 4th Architecture Biennale Rotterdam. Source: SEHAB, local team.
PART B

THE RESEARCH PROJECT

Photo 07. Children playing in the streets of Jardim Colombo. The stairs in the background is constructed years ago by a community-based organization. Source: Author’s own. Taken at 2/20/2014.
DEFINITION OF THE PROJECT
JAIME LERNER

“Every city in the world can be improved in less than three years.”

Photo 08. One of the main streets of Paraisópolis. Construction work in this street is ending. Source: Author’s own. Taken at 2/16/2014.
The negative consequences of urban growth

The research project is derived from the main topic of urban divide in developing cities, more specifically the urban division in the city of São Paulo in the country Brazil. The urban divide refers to the unequal share of welfare benefits creating a socio-spatial gap between social classes in society. Along with the main topic, a main hypothesis and aim is regarded and realized towards understanding informal slum upgrading processes, which is describing the importance of integrating slums into the formal city, placing multi-sectorial upgrading interventions within a larger urban scale that considers morphology, movement, activities and a participatory decision-making process.

The world is becoming increasingly urban, by 2030 more people will live in urban than in rural areas and by 2050 the number of the urban population will be doubled, from 2.5 billion people in 2010 to 5.3 billion people in 2050 and then 7 out of 10 people will be living in cities. An estimated 96% of this urban growth is expected to occur in economic developing countries. Urbanization is a complex process characterized by many aspects: demographic rural-urban shifts, growth of urban population, from agriculture-based economy to mass production and service industries, changes in societal values and governance structures, changes in the configuration and functionality of the cityspace and the spatial scale, density and activities of places, changes in the composition of ethnic, social, cultural groups and the extension of democratic rights. Natural population increase, reclassification of rural into urban areas and rural-urban migration are the three causes of urbanization. It is important to note that rural-urban migration is just accounting for only about 25% of the urbanization (UN-Habitat, 2010).

Urbanization is an inevitable outcome of the economic development processes in cities. Urbanization and economic growth typically happen at the same moment. Nowadays economic development seems to be undoubtedly linked with the process of globalization. In general cities have the ability to generate wealth, prosperity, economic growth and human development. However for many global cities, developing in the 20th century, this is accompanied by the unpredicted challenges of urbanization, such as unequal living conditions and economic opportunities for the urban population. Cities can be places of high inequality, because welfare does not imply an equal distribution of wealth or income. Urbanization is then resulting in the urban divide of cities, creating a gap between the rich and the poor.

The negative consequences of urban growth in developing countries are characterized by informality, illegality, unplanned urbanization, poverty and slum growth. The challenge of urbanization is to adopt public policies that equally divide the benefits of urbanization, manage the negative consequences of urban growth and decrease the urban divide between social classes. The large amount of informal settlements, their consolidation in global cities and the large amount of inhabitants living in informal settlements shows that the challenge of urbanization is uncredibly actual. Governments must revise and increase the amount of ‘slum target’ to take into account both existing and potentially new informal urbanization.

Socio-spatial divide in the city of São Paulo

The city São Paulo in the country Brazil is one of the global cities that tries to overcome the urban divide. According to the 2014 Global Cities Index (GCI) of A.T. Kearney the city São Paulo the 34th position in the ranking of global cities. According to the Emerging Cities Outlook (ECO), a ranking that builds on the previous numbers, there is a lot of business development in the city and São Paulo is 4th in the list of becoming more global in the future (AT Kearney, 2014).

In the city São Paulo urbanization and economic development have historically been linked in a process of industrialization and modernization. The city is transforming into a tertiary sector, focusing on services and businesses. The city is also experiencing serious problems, there is a high degree of informal urbanism and informal economic development. The urban division within the city space of São Paulo presents itself very clear in fragmentation of different spatial forms and segregation of different social groups throughout the city space, there are extreme residential typologies and there are high numbers of slums.

The distribution of benefits is largely determined by various organizations and institutions, formal land and labourmarkets and public utilities. A problem, seen in São Paulo, is that some of these institutions are dysfunctional. Despite significant progress in democratic governance, political institutions, the law and accountability is not working properly and still falls short in the expectation of urban populations. Necessary public institutions are lacking together, in which case essentially private vested interests fill the void and act as substitute for institutions that would otherwise prioritize the interest of society at large. Urban development is leaded by real estate companies, which makes slum evictions and removals very usual. The markets for land, basic services and labour are skewed in favour of private interests, enabling some residents to claim more of the benefits then others. Unequal opportunities create groups that are a minority in the market and they are automatically excluded from a wide range of outcomes associated with economic growth and globalization. Respect for lower social classes depends on the capacity of citizens to organise themselves and formulate demands. Therefor the reform of government institutions, combined with public policies and participatory decision-making is crucial in the achievement of inclusiveness.

Key-aspects of a successful approach towards informal settlements

The development of a main hypothesis and aim towards informal settlements provides a general ground for strategies towards informal living conditions and informal settlements. The hypothesis is describing the importance of several main aspects within an urbanization process of an informal settlements. It puts forward the key-aspects of a successful approach towards the urban development of informal settlements. A successful urbanization process of an informal settlement should contain the following key-aspects:

1. Spatial, social and economic integration of informal settlements to achieve an inclusive city.
2. A participatory decision-making process that allows governments, experts and local key-actors to make decisions that truely respond to the needs of the community and will improve local community assets and generates social and economic development.
3. The urbanization process of informal settlements should focus on a cohesive urban structure for the area. It is through the use of a structure vision that there is freedom for participatory local scale development.

Overcoming the problems of the urban divide in cities, the negative consequences of urbanization and equally share the benefits among society should be the goals of governments to create inclusive cities. More specifically regarding informal urbanization the main aim is to improve the daily life of slum dwellers by providing in a cohesive urban structure that will enhance their local assets and generates social and economic development.
The municipal approach towards Paraisópolis
The ongoing municipal urbanization process of Paraisópolis, a large favela located in a high-end residential area of the city São Paulo, is chosen to be the subject of the graduation project. The title of the master thesis is: *A search for a cohesive socio-morphological urban structure to strategically reinforce the municipal urbanization process of Paraisópolis.* The graduation projects analyze different aspects of the subject: the socio-spatial and socio-economic conditions of the favela, the spatial interventions and the decision-making process of the municipal urbanization process and their effect on the daily life of the residents by researching the urban network.

Like most other informal settlements, the favela Paraisópolis lacked many services and facilities, until recent efforts of the municipality. In 2005 an extensive multi-year upgrading program lead by a local team of SEHAB, the housing department of the municipality, started. The Paraisópolis Program is a complex slum upgrading program and the execution of the program consists of several multisectoral interventions or projects. Many of these interventions or projects are already executed, while others still need to start or were cancelled. The Paraisópolis Program was planned to end in 2015, however the interventions are still continuing, new plans and projects are already developed and cancelled projects require new input.

The aim of the municipality with the Paraisópolis Program is to provide the favela inhabitants with urban services, infrastructure, social housing and public facilities. The aim of the municipal upgrading program is to improve the living conditions of the community, turn Paraisópolis from a favela into a middle-income neighborhood and achieve integration of Paraisópolis within the city. The urbanization process of Paraisópolis is a first attempt of the municipality in the development of a replicable approach towards informal settlements that can be implemented within other favelas of the city. The Paraisópolis Program is part of the municipal Program Urbanização de Favelas (Favela Urbanization Program).

Researching the municipal urbanization process of Paraisópolis allows me to evaluate several multisectoral interventions and contributes to my knowledge on different slum upgrading projects or interventions. The postponed ending and the municipal efforts for repeating the urbanization process in other informal areas of the cities make it even more valuable to research the subject; the municipal urbanization process of the favela Paraisópolis. The proposal of the master thesis can have a valuable impact in the continuation of the municipal Favela Urbanization Program.

The Paraisópolis Program
The municipal urbanization process is the execution of the Paraisópolis Program, a complex program that consists of several multisectoral interventions. The Paraisópolis Program is developed specifically for this favela. The Paraisópolis Program reacts strongly on one of the major problems in the area, the precarious site conditions, but also on other problems related to the favela such as the water flooding, the garbage on the streets, the lack of public space and public facilities. The program provides in infrastructure, urban services, public facilities and social housing for a sustainable development of the area.

The urbanization process started in the year 2005 and consists of three phases, the last phase is planned to finish in 2015. The Paraisópolis Program can be described as a multi-year top-down plan composed out of different strategies with several multi-sectoral projects or interventions represented in a leading intervention map. The first part of the municipal strategy is the removal of constructions in risk areas. The cleared areas are given new functions that the community lacked. Unfortunately this strategy is creating undesirable changes within the urban network. The implementation of new interventions is leaded by an intervention map. This map is changing over time, because every project or intervention is treated as a pilot-project and provides new insights in the problematics. It is a learning process for the local team of SEHAB where a few steps forward in the urbanization process is followed by a step back.

The urbanization project Paraisópolis Complex has drawn the attention of authorities and professionals from all over the world. In June 2009 foreign architects with projects focused on community, came to exchange experiences to enhance the work. With them, the director of the Rotterdam Architecture Biennale IABR, George Brugmans. All projects were presented and discussed with the community and can be seen in the Dutch show until January 2010. (Prefeitura de Sao Paulo, 2009)

The municipal approach towards Paraisópolis
The existing urbanization program of the municipality needs a change, including an integrative spatial strategy, process improvements and specific actor involvement, to truly understand the needs of the community and the existing urban network. Therefor a hypothesis and aim are developed concerning the municipal upgrading program of Paraisópolis.

The hypothesis is: a participatory asset-based strategy will enhance and develop the local assets of the community and a cohesive socio-morphological urban structure with the improvement of public space will enhance the social infrastructure and the informal economy. The existing urban structure can be analyzed through the community activities, the movement and flows in the area and the morphology of the area. Within a participatory asset-based approach the community can formulate planning principles that will ensure anchoring of spatial interventions in the daily life of the community and can strengthen the socio-economic level of integration of Paraisópolis within the city.

The aim of the research project is to reinforce the municipal urbanization program on the urban scale and on the local scale to prevent undesirable changes and to create a cohesive socio-morphological urban structure that improves the daily functioning of the community. On the urban scale the validation of the urban network and transformation of the existing urban structure into a cohesive socio-morphological urban structure will lead to reinforcement. For the local scale the participation of local inhabitants in the decision-making and implementation process is needed for a successful urbanization process.

Socio-spatial interventions need to fit a cohesive vision for the favela, improve the urban network and stimulate the enhancement of local assets. The proposal should promote a cohesive social-morphological structure that anchors the spatial interventions in the life of the community, supports the social and economic development of the neighborhood and strengthens the socio-economic integration of Paraisópolis within the city. It is through a cohesive social-morphological urban structure and the socio-spatial relationship between the municipal interventions and the informal urban space that the municipal developments will be anchored within the community. Following this it is through the flexible use of the informal urban space and the quality of the local social network that the community is capable to perform its low-economic and social activities. The informal economic activities have the capability to become better integrated within the formal socio-economic network of the city and finally will contribute to further consolidation of the community within the city.

The process improvements should promote community participation for local interventions and a partnership between the government, experts and local key-actors should lead the process for the urban scale developments. Local key-actors and local community assets will reveal the true local needs of the community. This leads to the development of principles for the urbanization process. The use of this principles will ensure the community that the proposed interventions will improve their daily life and turn the favela into a desirable neighborhood.
THE MUNICIPAL INTERVENTION MAP

Definition of the project
The municipal urbanization process

The favela Paraisópolis is ‘special’ from other favelas and cortiços in São Paulo because of its location within the wealthy neighborhood Morumbi closely to the city business district. In the favela their are many businesses and shops, it functions as a city within a city. The favela is occupied in a grid structure of blocks on a hilly topography. All these ‘special’ conditions lead to specific problems, such as exclusion, racism, hard borders and unaccessible urban structures. The municipality tries to react on all these problems and the ones mentioned before with a multi-year urbanization process, but also within the Paraisópolis Program many problems occur.

Implications within the municipal program

The upgrading program consists out of multisectoral interventions implemented inside the favela, but also on the border of the favela as an expansion of the original occupation. These interventions are located within risk areas, on the main streets, within the dense blocks and on the borders. The location of the new public space, social housing, new facilities and new services inside and on the border of the favela change the dynamic of the favela as a neighborhood. A very clear example of changing dynamics inside the favela after the implementation of new public space is the new staircase. After the new staircase was built to shorten the walkingtime in a busy, but hilly location, over night new wooden shacks occupied the open space besides or in the stairs. Today there is a dangerous situation, as the stairs is not built to handle the weight of the wooden shacks. The conclusion can be made that the interventions attract, effect and unexpected, often undesired, change the favela as a neighborhood. This process is not guided and creates undesirable socio-spatial changes. The problem is that the location, scale, attraction and interaction of the new interventions were not considered by the municipality on an urban scale and within a cohesive vision.

Another problem is the typology of the new social housing developments located on the border of the favela: high density, high rise, low cost housing, i.e gated condominiums. Condominiums are the standard building typology within the formal city, but they have different urban characteristics in comparison to informal housing which makes it difficult to integrate them within the urban fabric of the favela. They bring physical borders such as gates and fences into the favela, behind these fences there are small public spaces only for the residents. Condominiums are often monofunctional, while informal housing is multifunctional and adaptable.

The following problem is that the municipality has put forward the objective to ensure further consolidation of the community within the city through integration, however they only attempt to reach this objective with spatial interventions focussed on heavy infrastructure and do not consider the social and economic aspect of integration to achieve an inclusive city, while it is through the flexible use of the streets and the main informal urban space, the movement in the area and the quality of the local social network that the community is capable to perform their social and low-economic activities, which have the capacity to contribute to consolidation of the community within the city.

Other problems occur within the decision-making process of the upgrading program. The municipality has a participatory approach towards the favela, however the level of participation is not satisfying. In my interviews with local inhabitants, NGO’s and the municipality it became clear that many inhabitants are somewhat anxious, because they lack information or the new interventions do not support their needs. Many community-based organizations and NGO’s have their own local initiatives and local programs, unfortunately this local social network is not fully utilized within the planning process of the upgrading program.

The upgrading program is implemented and managed by a local team of the municipal housing department SEHAB. However more people within SEHAB have worked on the plans for Paraisópolis. The communication and information transfer between them is not optimal, some information does not reach the local team or is not used. There are also transition in the local team, the team of 2009 was replaced in 2011 by a new local team because of the elections. Information of the old team has not received attention of the new, currently leading, local team.

A threefold problem statement

As a summary the problem can be stated towards three aspects: (A) problems related to the conditions of the favela, (B) problems related to spatial plans the municipal program, (C) problems related to the decision-making process and implementation process of the municipal program.

(A) Problems related to the conditions of the favela:

(i) Mobility: cars and traffic that dominate the scarce open space, overcrowded streets, parking problems, unreliable and minimal public transport.

(ii) Infrastructure: Equal streets and crossings poorly designed in favour of cars.

(iii) Lack of urban services: garbage on the streets, insufficient health care, poor education and a general lack of public facilities.

(iv) Urban structure: unaccessibility, spatial borders and lack of functional public space.

(v) Environmental risks: homes in risk of collapsing, water contamination, water floodings and mud slides.

(vi) Social problems: social exclusion, racism, violence, drugs.

The municipality tries to react on all these problems, but also within the urbanization process many problems occur.

(B) Problems related to the plans within the municipal upgrading program:

(i) The location, scale, attraction and interaction of the new interventions are not considered by the municipality on an urban scale and within a cohesive vision. The urban interventions create undesirable changes of the urban network.

(ii) The new building typologies and new public space present contradictory urban characteristics, which makes it difficult to achieve a cohesive urban structure.

(iii) The intermediate scale is missing. The interventions of the urbanization program are functioning on an urban scale or intervene on the smallest scale within the blocks.

(iv) The objective of the upgrading program is to ensure further consolidation of the community within the city through integration, however they only attempt to reach this objective with spatial interventions focussed on heavy infrastructure and do not consider the social and economic aspect of integration to achieve an inclusive city.

(C) Problems related to the decision-making process and implementation process of the municipal program:

(i) The level of community participation is not satisfying.

(ii) The local social network is not fully utilized.

(iii) Lack of communication and information transfer between the different teams of SEHAB and municipal departments.

The three discussed aspects of the problem statement also form the conditions of the threefold review. The threefold review is used throughout the research approach, guiding the problem statement, the main and sub-questions, the methodology and the analysis. The proposal needs to consists of a spatial aspect and a process as-

Definition of the project  Undesirable changes of the urban structure  36
Photo 09 (on top). The new staircase. Source: Max Fabris

Photo 10 (below). Wooden shacks are built around and within the new staircase with the risk of collapsing. Source: Author's own.
Upgrading efforts
The urbanization process or upgrading of an informal settlement lies not only in the development of urban services, public facilities, social housing and infrastructure but spatial interventions should go along with the consolidation of a cohesive urban network based on socio-morphological conditions. Upgrading or urbanization in an informal settlement is providing basic services that allows all citizens to live with basic dignity and in decent living conditions. Upgrading activities contain legal, physical, environmental, social, cultural and economic actions which recognize slum dwellers as citizens and positively change the quality of life. Upgrading as a program is generally a governmental initiative, but improvements also come from community organizations and NGO’s, sometimes collective but also as separate initiatives. If upgrading is collectively approached governments have the role of ‘facilitators’ rather than ‘providers’ (Cities Alliance, 2014).

The implementation of the multisectoral upgrading efforts should consider the existing urban network of the community, because the implementation of new works will attract inhabitants or upgrading efforts will trigger undesirable changes in the urban structure. Placing the efforts within a cohesive socio-morphological structure will improve the urban network of the community and stimulates social and economic development. Current municipal strategy is creating undesirable changes in the urban structure, as removals take place while developments work are not finished. A result of the strategy are the occupations of the cleared areas, but also the attraction of people towards the already finished developments. The urban structure is changing uncontrolled and negatively influences the urban network and the continuation of developments works (Espaço do Povo, 2014).

Revision of the municipal strategy is required to solve the current problems in Paraíso. The new strategy has to take into account the input of the threefold analysis:
(A) Structural component:
(i) Morphology: the grid is of great valuable in organizing the urban structure, because it allows several spatial connections between the different blocks of the grid, automatically provides infrastructure and could be used for a structured development.
(ii) Activities: The daily functioning of the community is based on the location of functions in the area. When interventions, such as services, facilities, activities are implemented in a community that lacks public facilities, the location of these new interventions should be considered carefully. The aim to place the new interventions in areas most needed, but also in relation to the other activities strengthening the daily system.
(iii) Movement: In the final product their needs to be implemented a hierarchy of the existing streets based on the current and future movement. The grid structure allows the implementation of pedestrian connections on a neighborhood scale, improving pedestrian movements inside the blocks.

(B) Design component: A sustainable vision for a socio-morphological structure should guide strategic local projects. The interventions or local projects should not be treated as individual or trials, but as strategic interconnected interventions. On an urban scale there must be searched for a cohesive socio-morphological structure to achieve successful implementation of projects that do not change the functioning of the community, but do strengthen the social infrastructure and the informal economy.

(C) Process component: to improve the conditions of slums it is crucial to consult the main local actors in the community so that residents can participate in the planning, design, implementation, and maintenance of interventions. This is fundamental for creating sustainable and responsive interventions. Actor involvement should depend on the scale of a project, including local key-actors on the urban scale and including direct inhabitants on a local scale.

Design proposal
An integrative strategy is a flexible set of steps & actions taken over a certain timeframe, within the framework of a desirable vision, used in order to fulfill the achievement of societal goals connected to the organization of space (Rocco, 2014). The societal goals are formulated as the local assets of the community: strong social infrastructure and the informal economy. The organization of space must be approached multiscalar and multifunctional: new functions (activities), hierarchy of streets (movement) interconnected with public spaces (morphology). Finally the favela could become a vibrant dense neighborhood where the living conditions reach the standard and community life is dynamic.

The focus for the proposal is on the existing situation, the trends and the future perspective of the favela. The proposal is structuring the existing situation taking into account the interventions of the municipality, the activities in the neighborhood and the mobility flows of the people. Introducing a hierarchy of the streets will provide a better mobility flow and support existing and new activities and create possibilities for new public spaces that support the activities and integrate within the urban structure. Improving the connectivity to the larger urban fabric will facilitate the flow within Paraíso and to the city. The activities and future activities can develop along the proposed hierarchy. The proposal is explaining what type of streets and public spaces have the ability to attract activities and influences all the scales within the urban network. It shows how mobility flows, activities and public spaces can support each other and the local assets of the community.

The urbanization process of informal settlements should focus on a cohesive socio-morphological urban structure of the area. The term socio-morphological urban structure refers to the relation between the morphological characteristics of space to the social infrastructure of a community. In a cohesive socio-morphological urban structure the morphological and social conditions are in balance. Validating the existing urban network, transforming it into a cohesive socio-morphological urban structure through the improvement of public space will enhance the social infrastructure and the informal economy. Urban developments, such as the urban services, social housing, infrastructure and public facilities should be placed in consideration of the urban structure creating a cohesive urban network for the community and stimulating local economic and social development.

The vision is proposing a socio-morphological urban structure through the introduction of a hierarchy in streets, public spaces and new activities. The design of the streets and the public spaces are interconnect, movement and activity are both considered in the spatial design. A part of the vision is the development and growth of Paraíso. Based on the proposed cohesive socio-morphological urban structure the possible development of a new block, part of the grid, is shown in phases. The public spaces and the new houses are developed through alternatives. Local interventions or projects should not be treated as individual or trials, but as strategic interconnected interventions. These strategic interventions focus on the public space and are planned in relation to the location, the scale, the social, cultural and economic activities and the attraction of these activities.

Process proposal
Besides the spatial design it is crucial to propose some planning tools that have the ability to improve the planning process and allow the main actors to participate in the planning, design, implementation, and maintenance of interventions. The level of participation highly affects the inhabitants attachment and by that the development of the local assets to the new design of the streets and public spaces. Communication is crucial to sensitize the community to the changes carried by the proposal. To improve the conditions of a community it is crucial to consult the main local actors in the community so that residents can participate in the planning, design, implementation, and maintenance of interventions. This is fundamental for creating sustainable and responsive interventions. Actor involvement should depend on the scale of a project, including local key-actors on the urban scale and including direct inhabitants on a local scale.
DEFINITION OF THE PROJECT / ACADEMIC AND SOCIAL RELEVANCE

Academic relevance

There the pressing urgency for commitment towards urbanization and upgrading efforts of informal settlements. The research of a complex municipal urbanization process offers important lessons in the transformation of informal areas. There are few slum initiatives that have received funding and undergone the complete process of slum upgrading. The most upgrading programs are initiated as models for replication and represent the projects of future development. Research that evaluates the transformation of these few slums can provide a valuable contribution to the academic resources on slum upgrading programs, overall slum upgrading efforts, methodologies, policies and innovations.

This research focuses on the transformation and urbanization process of the favela Paraisópolis in the city of São Paulo. The city of São Paulo has made tremendous progress over the last years regarding poverty reduction and informal urbanism. It is becoming a city that serves all its citizens. The city recognized the importance of investing in a slum upgrading program and legitimising land tenure in subdivisions on a city-wide scale. Support, funding and collaboration from local, state and federal government show the efforts given to combating urban poverty and informality. In 2005 the city government started with slum upgrading in the Program Urbanização de Favelas (Favela Urbanization Program). The aim of the municipality with this upgrading program is to transform favela’s into an integrated, desirable neighborhoods within the city of São Paulo. The upgrading process of Paraisópolis is a first attempt for developing a replicable approach that can be implemented within other favelas of the city. It is part of the municipal Program Urbanização de Favelas (Favela Urbanization Program). The outcomes of this master thesis can contribute to the already remarkable progress made in the city São Paulo. The planned ending and the efforts for repeating the program to the other favelas in the city make it even more valuable to research this subject. The outcomes of the master thesis can have a valuable impact in the continuation of the Favela Urbanization Program.

The proposal can be a valuable contribution to the approaches and methods in the workfield of informal urbanism, but also to the approach of daily life inside urban communities by proposing a model for a cohesive socio-morphological urban structure. In essence, the elaboration of this thesis explores the application of urban theories on informal settlements, urban networks and governance programs in a Brazilian context. It contributes more specific to a model: assessing the urban network of a community through a cohesive socio-morphological urban structure. In essence, the elaboration of this thesis explores the application of urban theories on informal settlements, urban networks and governance programs in a Brazilian context. It contributes more specific to a model: assessing the urban network of a community through a cohesive socio-morphological urban structure with the improvement of public space to enhance local community assets. It also provides an indepth analysis of the problems in informal settlements and the shortcomings of existing upgrading programs in Brazil, using the favela Paraisópolis as a case study.

The research model for assessing the urban network of a community is not only applicable in the context of informal settlement or in the Brazilian context, but also to the approach of daily life inside urban communities by proposing a model for a cohesive socio-morphological urban structure. In essence, the elaboration of this thesis explores the application of urban theories on informal settlements, urban networks and governance programs in a Brazilian context. It contributes more specific to a model: assessing the urban network of a community through a cohesive socio-morphological urban structure with the improvement of public space to enhance local community assets. It also provides an indepth analysis of the problems in informal settlements and the shortcomings of existing upgrading programs in Brazil, using the favela Paraisópolis as a case study.

Social relevance

Last month, November 2014, the conditions in the area of the Antonico waterstream became intolerable for the inhabitants. In peaceful demonstration and with an act of 2000 residents, the community of Paraisópolis asked for immediate intervention in the area of the Antonico waterstream. Urban interventions were expected in the urbanization program three years ago, however the initial removals of the government left an empty area where wooden shacks occupied again. The situation has become dramatic because residents living in wooden shacks face heavy rainfalls and numerous floods. The community asked for plumbing measurements and the advancement of urban development and social housing developments. The community, together with the Union of Residents and Paraisópolis Trade (UMCP) already proposed various solutions to the government. The Housing Secretary, SEHAB registered the families that live in shacks in the environmental risk area, as a compensation they will receive social rent until the end of December. The families in brick houses that live in the risk area also will be compensated with a partition of the social rent.
City government is including informal settlements in the masterplan of Sao Paulo. The Master Plan aims to rebalance the city, approaching housing and jobs and facing the socio-territorial inequalities. The government is developing actions, such as: housing policy for those who need; enhance the environment; guide the growth of the city in the vicinity of public transport; qualify urban life in the neighborhood scale; promote economic development in the city; preserve the heritage, enhance cultural initiatives and strengthening inhabitants participation.

The increase in Special Areas of Social Interest (ZEIS) to 33 square kilometers, determined in the new Strategic Master Plan (PDE) of 31 July 2014 should contribute to the issue of housing in Paraisópolis. In order to reduce the displacement of people to work some new ZEIS were also marked in inner-city areas, giving priority to public transport and the housing deficit, since, in addition to receiving their homes, people will live near where they work. With the increase in the area for ZEIS, 60% of the buildings should be designed to families earning less than three minimum wages. Beyond the boundaries for housing construction, the new masterplan will guide the growth of capital over the next 16 years and will update laws such as zoning, land use and occupation and the building code. In addition to setting land for the construction of affordable housing, the plan also sets a solidarity dimension, which, at each luxury development with more than 20,000 m², 10% is allocated to social housing (Espaço do Povo, 2014).


Photo 11. Recent protests of the community asking for direct solutions for the Antonico waterstream, but also for new facilities, social housing and continuation of the urbanization process. Source: http://jornal.paraisopolis.org/moradores-de-paraisopolis-realizam-ato-para-cobrar-obras-no-corrego-antonico/. Retrieved at 12/7/2014
RESEARCH QUESTIONS
"Research is the process of going up alleys to see if they are blind."

Photo 12. An alley within a block of housing and shacks in the area of the Antonico waterstream Paraisópolis. This alley is an example of alleys within the block structure (block scale).
Source: Author’s own.
RESEARCH QUESTIONS / MAIN QUESTION

Research question
The research questions are guiding the research process towards the aim: reinforcing the municipal upgrading program by providing appropriate spatial variants that strategically contribute to a cohesive socio-morphological urban structure and to provide process improvements that secure anchoring of urban interventions within the community and further strengthening of community assets. Furthermore, to have a beneficial contribution for the continuation of the Favela Urbanization Program.

It is chosen to state the research question following an inside-out approach towards the subject; firstly the socio-spatial and socio-economic conditions of the favela, secondly the multi-sectoral interventions of the municipal upgrading program and finally the socio-economic integration of Paraisópolis as a neighborhood within the city.

The main research question is: How can an integrative spatial strategy based on local assets achieve a cohesive socio-morphological urban structure that will reinforce the municipal urbanization process of Paraisópolis?

The research question validates the existing urban network and recognizes the morphological characteristics of space in relation with the social infrastructure. Therefor the urbanization process of informal settlements should focus on a cohesive socio-morphological urban structure of the area. Validating the existing urban network, transforming it into a cohesive socio-morphological urban structure through the improvement of public space will enhance the social infrastructure and the informal economy. The existing urban scale network or urban structure can be analyzed through the community activities, the movement and flows in the area and the morphology of the area. The sub-research questions discover the local potentials and the potentials within the municipal urbanization process in relation to the community and other actors. Also they discover the possibilities within the spatial interventions and the planning framework of the upgrading process.

Components
A threefold review is used throughout the research approach, guiding the problem statement, the main and sub-questions, the methodology and the analysis. The threefold review consists of three components: (A) Structural component: socio-spatial and socio-economic conditions of the favela, (B) Design component: municipal response in plans, projects or interventions, policies and programs, (C) Process component: current decision-making process and implementation process. These three components make it possible to diagnose the daily life inside the favela and to evaluate the executed and planned interventions of the municipal urbanization process and to evaluate the actor involvement within the municipal upgrading process.

The research questions need the addition of two components to guide the graduation projects towards the proposal: (D) Process component: proposed decision-making process and implementation process, (E) Design component: proposed design in vision and strategic spatial interventions. Finally a process and design proposal can be developed that allows the municipal interventions to be effective for the community and provides in further sustainable development of the community and their assets.

The main research question can be subdivided into the three components of the threefold review:

<table>
<thead>
<tr>
<th>Components</th>
<th>Question</th>
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<tbody>
<tr>
<td>(A) Structural component (socio-spatial and socio-economic conditions of the favela)</td>
<td>What are the social, economic and spatial conditions of the favela and how to they influence the daily life of the inhabitants and the functioning of the community?</td>
</tr>
<tr>
<td>(B) Design component (municipal response in plans, projects or interventions, policies and programs)</td>
<td>What are the spatial planning challenges of the existing municipal upgrading strategy and how can the municipal policies, instruments and actions better meet local conditions and enhance local assets?</td>
</tr>
<tr>
<td>(C) Process component (current decision-making process and implementation process)</td>
<td>How to involve the different actors within the planning and decision-making process and thruly make decisions that respond to the local needs and contribute to the strengthening of both the social and economic network on multiple scales?</td>
</tr>
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</table>

Scheme 04. The desirable future: a cohesive social-morphological structure that anchors the municipal interventions in the life of the community and strengthens the socio-economic integration of Paraisópolis within the city. Source: scheme is made by the author.

Scheme 05. Scheme of the inside-out approach; 1. local socio-spatial assets, 2. municipal interventions, socio-economic integration. Source: scheme is made by the author.

Scheme 06. The inside-out approach: local socio-spatial assets, municipal response towards socio-spatial assets, socio-economic integration. Source: scheme is made by the author.
RESEARCH QUESTIONS

SUB-QUESTIONS

Organization of the sub-questions
The research project is guided by sub-research questions, supporting the main research question. The threefold approach with components is leading the categorization of the sub-research questions, but extended with research questions on the desirable outcome for the proposal. The structural component (A) refers to the socio-spatial and socio-economic conditions of the favela. The design component (B) and the process component (C) represent the municipal response towards the favela conditions. The design component (E) and process component (D) represent the proposal of the graduation project. Component (B) and (C) together represent the municipal urbanization process. Component (D) and (E) together represent the final proposal. Both react on the problems within the favela. However component (C) and (D) could not be developed without evaluating component (B) and (C).

The answers of the sub-questions form the content of the master thesis. It is through the organization of the research questions in components that the proposal reacts on all the three components of the threefold review.

The last group of sub-questions address the decision-making process of the municipal upgrading program. The aim of these questions is to provide process improvements that can enable actors to make decisions truly based on local needs and enhancement of local assets.

The first three components form the threefold review of the research project. These three components make it possible to diagnose the daily life inside the favela and to evaluate the executed and planned interventions of the municipal urbanization process and to evaluate the actor involvement within the municipal upgrading process. The research questions need the addition of two components to guide the graduation projects towards the proposal: (D) Process component: proposed decision-making process and implementation process, (E) Design component: proposed design in vision and strategic spatial interventions. Finally a process and design proposal can be developed that allows the municipal interventions to be effective for the community and provides for further sustainable development of the community and their assets.

The first group of sub-questions address the socio-spatial and socio-economic conditions of the favela, the daily life of the inhabitants, the functioning of the community and their accumulated assets. The aim of these sub-questions is to define to improve the capabilities, reach strengthening of their assets and ensure further consolidation of the informal settlement.

In order to define the social dimensions of the spatial occupation, the research will investigate the existing local social network, the social activities and its relation with the informal urban space. Firstly, it will look at spatial related elements such as the spatial characteristics, the pattern of spatial occupations and the local infrastructure network. Secondly, it will look at elements of the local social network such as family compositions, the role of the women, community-ties and the role of the NGO’s inside the area.

And in order to define the socio-economic activities, the research will investigate the informal economic activities and its relation with the informal urban space. Through the flexible use of the informal urban space and the quality of the local social network the community is capable to perform low-economic activities, which contribute to consolidation of the community. The spatial configuration of the city and the favela can explain the social and economic relation of the favela with the city.

The second group of sub-questions address the municipal actions in social and spatial design towards the conditions of the favela, the position of the favela within the city and the functioning of the inhabitants and the community in the favela. The aim of these sub-questions is to evaluate the municipal plans, projects or interventions, policies and programs towards informal settlements and to investigate how these actions respond to the daily life of the inhabitants of Paraisópolis.

But also to investigate at what level the plans of the municipality reach their objective, integration of Paraisópolis within the city. A comparison of the social and spatial aspects of the municipal urban interventions and of the informal urban structure will show at what level the municipal urban interventions are embedded in the livelihood of Paraisópolis.

The first group of sub-questions address the socio-spatial and socio-economic conditions of the favela, the daily life of the inhabitants, the functioning of the community and their accumulated assets. The aim of these sub-questions is to define the community and their assets. The answers of the sub-questions form the content of the master thesis. It is through the organization of the research questions in components that the proposal reacts on all the three components of the threefold review.

Research Questions Sub-questions 44

(A) Structural component (socio-spatial and socio-economic conditions of the favela)

Sub-question I. How to analyze the functioning of the community and the daily life of the inhabitants? (conceptual framework)

Sub-question II. What is the existing urban network of the community?

Sub-question III. What are the unique features of locality or the local assets of the community?

(B) Design component (municipal response in plans, projects or interventions, policies and programs)

Sub-question IV. What are the municipal actions towards informal settlements and how do they improve local conditions?

Sub-question V. How do the municipal actions respond to the daily life of the inhabitants and the functioning of the community of Paraisópolis?

Sub-question VI. How do the governmental actions towards the favela contribute to the efforts of the city to become more inclusive?

(C) Process component (current decision-making process and implementation process)

Sub-question VII. Who are the different actors within the planning and decision-making process of Paraisópolis and what is their role?

The first three components form the threefold review of the research project. These three components make it possible to diagnose the daily life inside the favela and to evaluate the executed and planned interventions of the municipal urbanization process and to evaluate the actor involvement within the municipal upgrading process. The research questions need the addition of two components to guide the graduation projects towards the proposal: (D) Process component: proposed decision-making process and implementation process, (E) Design component: proposed design in vision and strategic spatial interventions. Finally a process and design proposal can be developed that allows the municipal interventions to be effective for the community and provides for further sustainable development of the community and their assets.

(D) Process component (proposed decision-making process and implementation process)

Sub-question VIII. How to improve the decision-making process and the implementation in order to truly meet the local needs of the community and enhance their local assets?

(E) Design component (proposed design in vision and strategic spatial interventions)

Sub-question IX. How to achieve a cohesive socio-morphological urban structure that will strengthen the functioning of the community and the development of their local assets?

Sub-question X. What spatial design variants can improve the local public space and strengthen the socio-spatial and socio-economic activities?

Sub-question XI. How should the development of new areas be planned?
METHODOLOGY AND APPROACH
YANNICK HEYWANG

"Being an architect isn’t only about construction, it’s about creating wide spaces with small spaces."

The methodology is divided into five segments, in the following order: the subject definition, the theoretical framework, the empirical framework, the analytical framework and the final product. Part of the analytical framework is the structural component, the design component and the process component.

The research starts with defining the subject through motivation, a problem statement, aims, a hypothesis and research questions. The problem statement and the motivation provide input for the aim and the research questions. Then the hypothesis is derived from the definition of the subject and becomes the conceptual background of the project. The research questions have given input for the theoretical framework. Besides the theoretical underpinning of the research questions it is needed to gain actual information through semi-structured interviews.

The upgrading of a slum lies not only in the development of urban services, accessibility and infrastructure but should go along with the consolidation of local social networks. Therefor the urbanization process of informal settlements should focus on a cohesive socio-morphological urban structure of the area. Validating the existing urban network, transforming it into a cohesive socio-morphological urban structure through the improvement of public space will enhance the social infrastructure and the informal economy. The existing urban scale network or urban structure can be analyzed through the community activities, the movement and flows in the area and the morphology of the area. The sub-research questions discover the local potentials and the potentials within the municipal urbanization process in relation to the community and other actors. Also they discover the possibilities within the spatial interventions and the planning framework of the upgrading process.

The structural component of the analysis is researched with the use of this conceptual framework capturing the daily life of the inhabitants and the functioning of the community. The conceptual framework provides shows the aspects of the urban network which consists of these three concepts:

1. Urban structure: The morphology of the urban structure describes the spatial form needed for the desired public or private activities.
2. Activities: Vital and diverse places attract activities, but also generate vitality and diversity. Vital places are places that feel alive and have an active streetlife, which means that people come by and in the place during different times of the day. Vitality can only exist in places that are diverse in uses, activity and attract people.
3. Movement: Active places attract people and have a continuous flow of people passing and entering during the day. The movement and flow of people also attract other activities resulting in a vibrant and vital streetlife.

The place and attraction of activities, such as facilities and functions need to consider the existing urban structure and the movement of pedestrians and traffic in order to create a cohesive socio-morphological structure that is linking together this variety of activities. Overlaid, these concepts are fundamental for the daily functioning of a place and provide a basis for the understanding of the urban network of a community.

After the structural component, the design component is analyzed describing the municipal strategy and the urban interventions or projects of the Paraisópolis Program. The interventions are discussed in relation to their effect on the socio-spatial and socio-economic conditions of the community.

The analysis is ending with a diagnosis, comparing the three components of the threshold review, followed by conclusions and input for the proposal. The diagnosis consists of two parts:

1. By comparing the problems of the analysis and the existing planning framework a conclusion can be given on the degree of accomplishment of an existing plan. Is the plan a sufficient solution to solve the current problem of the system?
Scheme 08. The conceptual framework to analyze the urban network combines three essential concepts: the morphology (urban structure), social and economical condition (activities, facilities and public functions) and the infrastructure (flows, movement of people). Source: Author’s own.

Scheme 09. The public space within a cohesive socio-morphological urban structure can activate and facilitate the informal economy and the social infrastructure. Source: Author’s own.

Scheme 10. Scheme of the methodology. Source: Author’s own.
In the process of answering the sub-questions, different methods need to be used. The following scheme explains the methods by discussing each component and the sub-questions of the components. The methods that are: data research, literature research, semi-structured interviews, analysis, case studies and design variants. The methods are chosen in relation to the desired outcome regarding needed information. The first three components gather information on the municipal urbanization process and its socio-spatial effect on the existing conditions of the favela. The last two components refer to the design and process proposal and gather more practical information and design knowledge. The gathered information will help to answer the sub-questions, provide information on the component and finally answer the main research-question.

### (A) Structural component (socio-spatial and socio-economic conditions of the favela)

<table>
<thead>
<tr>
<th>Sub-question I. How to analyze the functioning of the community and the daily life of the inhabitants? (conceptual framework)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Method: Literature research</td>
</tr>
<tr>
<td>(b) Method: Analysis movement, urban structure, activities (social, economic)</td>
</tr>
<tr>
<td>(1) Mapping urban structure/ morphological analysis</td>
</tr>
<tr>
<td>(2) Mapping of activities (linear growth and activities along roads)</td>
</tr>
<tr>
<td>(3) Infrastructure analysis (mobility and movement patterns)</td>
</tr>
</tbody>
</table>

### Sub-question II. What is the existing urban network of the community?

<table>
<thead>
<tr>
<th>Outcome: Maps about activities, movement and the morphology of the area</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Method: Data research</td>
</tr>
<tr>
<td>(b) Method: Semi-structured interview</td>
</tr>
<tr>
<td>- Interview NGO</td>
</tr>
<tr>
<td>- Interview inhabitants</td>
</tr>
<tr>
<td>(b) Method: Observation</td>
</tr>
</tbody>
</table>

### Sub-question II. What are the unique features of locality or the local assets of the community?

<table>
<thead>
<tr>
<th>Outcome: A priority scheme of the different elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Method: Literature research</td>
</tr>
<tr>
<td>(b) Method: Data research</td>
</tr>
<tr>
<td>(c) Method: Semi-structured interview</td>
</tr>
<tr>
<td>- Interview Mrs. Mariana Guimarães</td>
</tr>
<tr>
<td>- Interview Maria Teresa Fedeli</td>
</tr>
<tr>
<td>- Interview community leader</td>
</tr>
<tr>
<td>- Interview NGO</td>
</tr>
<tr>
<td>- Interview with inhabitants</td>
</tr>
<tr>
<td>(d) Method: Literature and local data</td>
</tr>
<tr>
<td>(1) List of community assets</td>
</tr>
<tr>
<td>(2) Selection of the key-assets</td>
</tr>
</tbody>
</table>

### (B) Design component (municipal response in plans, projects or interventions, policies and programs)

### Sub-question IV. What are the municipal policies and actions towards informal settlements and what instruments do they use to improve local conditions?

<table>
<thead>
<tr>
<th>Outcome: Scheme of Brazilian government responses towards informal settlements and a collection of information on municipal policies, actions and instruments</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Method: Literature research</td>
</tr>
<tr>
<td>(b) Method: Semi-structured interview</td>
</tr>
<tr>
<td>- Interview Higor Carvalho</td>
</tr>
</tbody>
</table>

### Sub-question V. How do the municipal instruments respond to the daily life of the inhabitants and the functioning of the community of Paraisópolis?

<table>
<thead>
<tr>
<th>Outcome: Literature on Brazilian government responses towards Paraisópolis.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Method: Literature research</td>
</tr>
<tr>
<td>(b) Method: Data research</td>
</tr>
<tr>
<td>(c) Method: Semi-structured interview</td>
</tr>
<tr>
<td>- Interview Mrs. Mariana Guimarães</td>
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<td>- Interview community leader</td>
</tr>
<tr>
<td>- Interview NGO</td>
</tr>
<tr>
<td>- Interview with inhabitants</td>
</tr>
</tbody>
</table>

### Sub-question VI. How do the governmental actions towards the favela Paraisópolis contribute to the efforts of the city to become more inclusive?

<table>
<thead>
<tr>
<th>Outcome: Literature on Brazilian government responses towards Paraisópolis.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Method: Literature research</td>
</tr>
<tr>
<td>(b) Method: Data research</td>
</tr>
<tr>
<td>(c) Method: Semi-structured interview</td>
</tr>
<tr>
<td>- Interview Higor Carvalho</td>
</tr>
</tbody>
</table>
### Methodology and Approach

<table>
<thead>
<tr>
<th>Methods</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>(C) Process component (current decision-making process and implementation process)</td>
<td></td>
</tr>
<tr>
<td>Sub-question VII. Who are the different actors within the planning and decision-making process of Paraisópolis and what is their role?</td>
<td></td>
</tr>
<tr>
<td>(a) Method: Data research</td>
<td>Collection of information on involved actors</td>
</tr>
<tr>
<td>(b) Method: Semi-structured interview with actors</td>
<td>Collection of existing data to build on</td>
</tr>
<tr>
<td>(D) Process component (proposed decision-making process and implementation process)</td>
<td></td>
</tr>
<tr>
<td>Sub-question VIII. How to improve the decision-making process and the implementation in order to truly meet the local needs of the community and enhance their local assets?</td>
<td></td>
</tr>
<tr>
<td>(a) Method: Literature research</td>
<td>Literature that explains the levels of participation and the positions of different actors in a participatory decision-making process regarding slum upgrading programs</td>
</tr>
<tr>
<td>(E) Design component (proposed design in vision and strategic spatial interventions)</td>
<td></td>
</tr>
<tr>
<td>Sub-question IX. How to achieve a cohesive socio-morphological urban structure that will strengthen the functioning of the community and the development of their local assets?</td>
<td></td>
</tr>
<tr>
<td>(a) Method: Literature research</td>
<td>Literature that explains how to achieve a cohesive urban structure through public space.</td>
</tr>
<tr>
<td>Sub-question X. What spatial design variants can improve the local public space and strengthen the socio-spatial and socio-economic activities?</td>
<td></td>
</tr>
<tr>
<td>(a) Method: Literature research</td>
<td>Literature about the social-economic and socio-spatial impact of spatial form and location</td>
</tr>
<tr>
<td>(b) Method: Case study</td>
<td></td>
</tr>
<tr>
<td>- playgrounds Amsterdam Aldo van Eijck</td>
<td></td>
</tr>
<tr>
<td>(c) Method: Design variants</td>
<td></td>
</tr>
<tr>
<td>Sub-question XI. How should the development of new areas be planned?</td>
<td></td>
</tr>
<tr>
<td>(a) Method: Literature research</td>
<td>Literature on the developments in ZEIS.</td>
</tr>
<tr>
<td>(b) Method: Design variants</td>
<td></td>
</tr>
</tbody>
</table>
PART C

THEORETICAL FRAMEWORK

Photo 14. Children playing in front of their house. This is an example of small semi-public space in the crossing of two alleys within a block (block scale) in Jardim Colombo.  Source: Author’s own.  Taken at 2/16/2014.
THE URBAN CHALLENGE
JANE JACOBS

“Being human in itself is difficult, and therefore all kinds of settlements have problems. Big cities have difficulties in abundance, because they have people in abundance.”

Urbanization

Urban growth and economic development in the global south are creating an unequal share of the benefits among the urban population and divide the city. Slums and poverty are the major problems that occur and despite our gained knowledge slums are expected to keep on growing in developing countries. The topic of urban division in the global south forms the background information of this research project.

The world is becoming increasingly urban, by 2030 more people will live in urban than in rural areas and by 2050 the number of the urban population will be doubled, from 2.5 billion in 2010 to 5.3 billion in 2050 and then 7 out of ten people will be living in cities. An estimated 96% of this urban growth is expected to occur in economically developing countries. Urbanization is a complex process characterized by many aspects: demographic rural-urban shifts, growth of urban population, from agriculture-based economy to mass production and service industries, changes in societal values and governance structures, changes in the configuration and functionality of the cityspace and the spatial scale, density and activities of places, changes in the composition of ethnic, social, cultural groups and the extension of democratic rights. There are three drivers for the urbanization in today’s world: natural population increase, reclassification of rural into urban areas and rural-urban migration. It is important to note that rural-urban migration is just accounting for only about 25% of the urbanization (UN-Habitat, 2010).

City development processes

Urbanization is an inevitable outcome of the economic development processes in cities. Urbanization and economic growth typically happen at the same moment. Nowadays economic development seems to be undoubtly linked with the process of globalization. Cities have become major hubs of economic activity, both within countries and as contributors on the global economy. Globalization is mainly an economic process that can be defined as the deregulation of trade and finance in order to enable businesses and banks to operate globally, which leads to the emergence of a single world market dominated by transnational companies. Globalization is improving interconnectivity and create new forms of interdependence. Mega-regions, urban corridors and metropolises reflect the emerging links between urban growth and new patterns of economy. Cities are the engines of global and regional economies, because they provide the the economies of scale and proximity that generates enhanced productivity. Cities reflect the emerging links between urban growth and economic activity. A highly unequal distribution of income or consumption in cities point to institutional and structural failures and to broader economic problems such as imbalanced labour markets or a lack of pro-poor policies. These economic disparities will result in a socio-spatially divided city. While income inequalities reflect a social divide, spatial inequalities are a reflection of socioeconomic disparities and larger processes of urban development, governance and institutionalized exclusion of specific cultural groups. However urban centres that are economically growing can also be real poverty fighters when adequate policies are implemented. Local and central authorities need to develop policies and strategies to ensure that urban areas become real engines of national economic growth, with the potential to reduce poverty and enhance quality of life for all.

In general cities have the ability to generate wealth, prosperity, economic growth and human development. However for many global cities, developing in the 20th century, this is accompanied by unpredicted challenges of urbanization, such as unequal conditions and opportunities for the urban population. Cities can be places of high inequality, as increased prosperity often does not result in a more egalitarian distribution of wealth or income. The urbanization process is then resulting in the urban divide, creating a gap between the rich and the poor. The urban population benefits from the fruits of globalization and is living in well-serviced, well-built, sometimes privatized, communities or neighborhoods. The poor are restricted in the fulfillment of there basic needs and experience social, cultural, spatial and economic exclusion. For both the rich and poor there can be seen an escape from poor governance, lack of planning an proper access to amenities, where they leave the city and live in the suburbs which is generating further partitioning of the physical and social space. The negative consequences of urban growth in developing countries are characterized by informality, illegality, unplanned urbanization, poverty and slum growth. The challenge here is to adopt public policies that maximize the benefits of urbanization, manage the negative consequences of urban growth and decrease the urban divide.

Unfortunately the urban divide endures, the population of slum dwellers in the world increases around the 10% every year. In 2000 the Millennium ‘slum target’ has been formulated under Goal 7, target 11: improve the lives of at least 100 million slum dwellers by 2020. Without any interventions the people living in slum conditions will be 1.4 billion by 2020. The ‘slum target’ is achieved 10 years ahead of schedule, but it should be mentioned that the target was set too low at only 10% of the global slum population. Between 2000 and 2010 the absolute amount of slum dwellers has grown considerable and the slum population is expected to reach the 889 million by 2020. Despite the gained knowledge and experience around the world the growth and multiplication of slums is mainly getting worse. The large amount of slums, their consolidation in global cities and the large amount of inhabitants in slums, the challenge of slums is uncredibly actual. Countries must revise and increase the ‘slum target’ to take into account both existing and potential new slums. When governments adopt new ambitious, well-designed targets and allocate adequate budget resources countries and cities can increase the prospects for all their inhabitants.

Slum upgrading efforts

There has been a shift in the governmental approach towards slums, there is recognition of the existence of slums and slum issues are higher on local and national political agendas. Slum upgrading programs are now often initiated and led by political leaders and implemented with participation of slum communities. The slum upgrading programs have become more complex and comprehensive, often the scale of the city has been adopted into the programs. The UN-HABITAT estimated that between the year 2000 and 2010 an annual 22 million people are lifted out of slum conditions through upgrading or prevention of slums.Although in absolute terms the amount of slum dweller got worse, the proportion of the urban population living in slums in the developing world has declined from 39% in 2000 to 32% in 2010. Nonetheless slum upgrading is still not part of the mainstream urban planning and management processes and rarely upgraded slums become integrated urban neighborhoods. The challenge is to better understand how the benefits of urbanization can be shared more equitable among its residents, so the development of cities becomes more inclusive, even for the most marginalized. There should become a shift in general thinking of slums as ‘islands of poverty’ to slums as deprived neighborhoods that are an integral part of the city system, but socially, economically and spatially excluded. Slums, poverty and exclusion are multi-dimensional problems and there is not one perfect solution to include and integrate the slum in the city. Therefor slum upgrading asks for an integrative understanding of the spatial conditions in relation to the economic, social, cultural and political aspects of exclusion. There is the need for planning that recognizes that every city resident has the right to full and equal participation in the built environment and that they can shape their own environment to meet their own needs. Inclusive cities have the power to decrease the aspects of exclusion. Inclusive cities do not freeze the urban growth or prevent development, but encourage a more sustainable, prosperous comprehensive growth and development by avoiding exclusion and dislocation. An inclusive city can be defined as a city that provides the opportunities and supportive mechanisms that enable all residents to develop their full potential and gain their fair share of the benefits. They are also more socially just. By including the otherwise marginalized in the productive activities and opportunities of the city, they offer better access to pathways for social and economic betterment. Concepts of human rights,
The urban challenge is multifaceted, encompassing economic, social, and political dimensions. The challenge is not only about providing basic services such as housing, education, and healthcare, but also about ensuring that these services are accessible to all, regardless of their social and economic status. The urban poor, who are disproportionately affected by these challenges, have limited access to these services, leading to a cycle of poverty and exclusion.

In São Paulo, a vibrant and dynamic city, the urban challenge is particularly acute. São Paulo is one of the largest cities in the world, with a population of over 12 million people. Despite its size, the city is characterized by significant levels of inequality, with a large portion of its population living in slums or informal settlements. These slums are characterized by inadequate housing, lack of basic services, and limited access to opportunities for education and employment.

The urban challenge in São Paulo is not only about creating physical infrastructure, but also about creating social and political frameworks that enable equitable distribution of benefits. This includes creating institutional frameworks, such as a Ministry of Cities, to ensure that urban development is inclusive and equitable. It also involves creating policies that prioritize the needs of the urban poor, such as providing secure tenure for slum dwellers and improving access to basic services.

The urban challenge in São Paulo is also about creating a political framework that enables participatory decision-making. This includes involving civil society organizations in the decision-making process, ensuring that the voices of the urban poor are heard, and creating mechanisms for monitoring and evaluation of urban development initiatives.

In conclusion, the urban challenge in São Paulo is a complex and multifaceted one, requiring a holistic and integrated approach that addresses the physical, social, and political dimensions of urban development. The city must work towards creating an inclusive and equitable urban environment, where the needs of all citizens, regardless of their social and economic status, are met.
The urban challenge

Sao Paulo: A divided megacity

Urban division in the city São Paulo

The history of the favela Paraisópolis is the embodiment of urban division and social exclusion. To understand the causes and products of urban division and social exclusion it is necessary to explain the existence of informal settlements and other extreme living typologies such as gated communities within the spatial structure of the city São Paulo and the socio-spatial relation of the movement of social classes through time.

Models that describe the movement of social classes in space

Villaça (2001) explains the movement of social classes in the city structure as follows: ‘Anterior studies and analysis of segregation, done by mostly Brazilian scholars, reveal that since the 19th century the classes that live above the medium standard, tend to segregate in an increasing extent/degree in one region of the metropolis. In their spatial displacements, these classes, by way of the real-estate market, tend to make the principal city center move - continuously or discontinuously - in the same direction. By means of this process, they reveal a tendency which is popularly called the ‘centro novo’, the ‘new center’, localized in a region of concentration of the highest income-groups. The traditional center, abandoned by the bourgeoisie, while the ‘centro velho’ is being captured by the popular class. This division, which takes place in most Brazilian metropolises, gets more and more accentuated turning in two different cities - the city of the rich and the city of the poor and excluded’ (311). In general, Brazilian metropolises have a second area with a high income concentration, besides the principal core. These areas concentrate a very small part of the bourgeoisie and a very small area in comparison to the primary area. In Sao Paulo, these areas were prinically located in the North and later, in a part of the eastern zone, especially in ‘Tatuapé’ and ‘Ánto da Moóca’ (316).

There are widely known three models that have tried to describe the distribution of social groups within the urban area. First of them was the concentric model of Burgess, which is contrasting with the Sector model introduced by Homer Hoyt and the Multiple Nuclei model by Harris and Ullman.

The concept of Burgess is also known as the concentric ring model. It was the first model to explain the distribution of social groups within areas. The ring model depicts urban land use in concentric rings: the Central Business Districts (CBD) was the middle of the model, and the city expanded in rings with different land uses. The centre was the CBD, followed by the transition zone otherwise known as the Inner City, then by low-class residential homes aka Inner Suburbs, the fourth ring would be that of better middle-class homes also known as the Outer Suburbs; the last and fifth zone was known as the “commuters’ zone”. It is noticed that there was a correlation between the distance from the CBD and the socio-economic status of the citizens; richer families tended to live further away from the CBD. As the city grew, the CBD as a consequence would also expand outwards.

The subject of the movement of the elites in relation to the expanding of the CBD is very actual in São Paulo. The elites moved from the center towards the Avenue Faria Lima. The movements of the elites is almost similar to the shifts of the CBD. The shift of the CBD can be shown by the concentration of offices in different time periods. Until 1950 the offices were concentrated in the center, but in 1950 the first changes were noticed towards the south-east. Nowadays the offices are concentrated in Marginal Pinheiros. This an extended area along the river Pinheiros.

The distribution of social classes in the city structure

The city of São Paulo can be characterized by four periods with different spatial distribution of social classes. From 1890 until 1940 the development of the city is characterized by concentration and heterogeneity, from 1940 until 1980 it is characterized by the center and the periphery. From 1980 until now there is a large income diversity and the city is characterized by socio-spatial fragmentation, but since 1993 there is a steady decline in poverty and an increase of human development.

A representation of the distribution of social classes in the city structure of São Paulo is shown in a diagram based on the ring structure of Villaça (1998): the city’s intra-urban dynamics can be structured in five non-physical rings, starting from the central ring, the historic downtown area and ending in the periphery. The municipality of São Paulo can be aggregated into the following five non-physical rings: the central, inner, intermediary, outer, and peripheral ring. The notion need to be
placed that it is a schematic approach of the city structure, not physically present in the city but it helps to understand the different shifts of social classes through the city structure in time.

Since 1980 there is a geographical growth while the urban area of the city is not expanding proportionally and after the period of 1989 until 1940 shifts of social classes start to occur, so it is chosen to start the diagram with this period. It can be characterized by concentration and heterogeneity of the urban space and social classes. The differences between the social classes were significant less present then today.

The next period from 1940 till 1980 can be described with the terms center and periphery and has four main characteristics: the city is dispered, social classes live far apart in the city space, there is homeownership for rich and poor, transportation over roads is done by bus and car. It should be noted that the peripheral expansion was not a phenomenon exclusive of the São Paulo region, but is one of the most remarkable characteristics of the urbanization process in all Brazilian regions up to the end of the nineteen eighties. In all those regions, population growth rates of central cities in metropolitan areas that are also state capitals, were systematically lower than those of other surrounding municipalities, producing dense metropolitan regions with large contingents of poor populations.

In the third period, from 1960 till 1993, social classes live closer in the city space but physically separated in space (Caldeira, 2000). New areas of expansion of the city and the metropolitan region show developments for people with higher incomes located in previously poorer or uninhabited areas and apartments for the rich are constructed alongside huge favelas. This is characterized by income diversity in the society, increasing homogeneity and fragmentation of the urban space. There are discussions if this period has ended and a fourth period has started, because many aspects of the third period are still presented in the city today.

The fourth period is from 1933 till now and is characterized by steady decline in poverty and human development programs. The City of São Paulo’s population growth rates are declining even more strongly than those of the metropolitan region. The factor contributing the most to the stagnation of population growth was the flow of old city dwellers to the outskirts of town. Characteristics of spatial and social exclusion remain, but the level and conditions of poverty have changed. A contradictory phenomenon can be seen: the poverty decreases because of increased average earnings, cash flows and efficient social programs. However, there are lower levels of poverty, but this has no significant effect on income inequality. Income inequality remains high, but human development is increasing.

Population growth
The ring structure is also used to explain the relation between the number of population and the city structure.

(1) The city of São Paulo’s growth occurred entirely in the outer and peripheral rings where the population increased by more than 1 million people, with rates of 0.13% in the outer ring and 2.71% in the peripheral ring.

(2) But the positive growth rate tendency in the outer rings has been maintained. The increase of over 1 million residents in the peripheral ring has offset the loss of 65,000 residents in the more central rings.

(3) The region between the two rivers (Pinheiros and Tietê) – the central and inner rings – lost almost 130,000 residents in the nineteen eighties and more than 168,000 in the nineteen nineties.

(4) On the other hand, the peripheral ring gained about 1,300,000 residents in the 1980-1991 period, and a little over 1,000,000 residents in the nineteen nineties. The poor population has not been limited to the periphery, growth rates are still higher in the peripheral ring than in all other rings.

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Causes of socio-spatial changes
The diagram gives an overview of different moments in within the four time periods that had an influence on the distribution of social classes in the city structure. These moments can be defined for example as policies that were implemented or plans and processes. To explain the influence of the moments the effects are explained in four categories: processes, society, planning and space. The important moments are the dark circles in the scheme.

The first in 1960 is the development of horizontal condominiums, which occurred because real estate developers discovered the potentiality of ‘healthy’ private communities outside the ‘unsafe and unhealthy’ center of the city. A popular example of this horizontal condominium is Alphaville. Located in the northwest of the metropolitan region and 25 km from the centre, Alphaville is an exemplary expression of the new type of exclusive housing estate for the upper class. It lies within the Barueri and Santana de Parnaiba municipalities and is one of the oldest and largest gated communities in Latin America. In 1974, the 1640 ha. project began as a location for industrial companies and the service industry. Owing to the increasing demand for office space, the aim was to bring on the market infrastructurally well-equipped residential neighborhoods. Since its start, the Alphaville corporation has grown enormously and applied and repeated their concept in locations all around Brazil.

In 1970 the original Zoning law was modified for the first time, which made it easier for the real estate companies to build vertical condominiums in the center of the city and the market of appartments exploded. In 1994 São Paulo municipality approved the new law which allowed condominiums in new areas until 15.000m2, to continue the production of the traditional urban type of this city, called villages. Although it has undergone several transformations as housing for workers. The villages produced during the mid-twentieth century and in the 1980s had great appreciation by the market. However, when the law was approved, other urban references had already arised to São Paulo popular knowledge, and the properties created through the law of villages are quite different from the middle 20th century examples.

In 2000 the city São Paulo introduced its masterplan PDE (Plano Diretor Estratégico). And in 2002 it was the first Brazilian city to integrate instruments from the City Statute into the PDE designating some areas as ZEIS (Zonas Especiais de Interesse Social). When located in neglected but central, transportation-rich neighbourhoods, these ZEISs were primarily intended to encourage public and private investments in order to finance quality social housing and attract new residents. ZEISs can be built up to more densely than other areas to attract capital. The implementation of the ZEIS is resulting in urban intereventions at different parts of the city, large parts of Paraisopolis are also designated as areas of ZEIS. The last important moment in the scheme is the starting of the municipals extensive upgrading program in 2005. Paraisopolis is the first in this upgrading program, but other favelas are planned to follow.

Scheme 14. Movement of social classes in the cityspace. Source: Author’s own.
What caused the contrast? Laws, plans, moments and processes.

- Disillusion, scepticism, and high level of uncertainty about the future.
- Informal planning: Increasing number of favelas and rentals.
- Building of vertical condominiums and removal of favelas - poorest move to the decaying areas in the inner city.

Processes of demographic growth, concentration and early industrialization.

1890
2020
2010
2000
1990
1980
1970
1960
1950
1940
1930
1920
1910
1900

- Launching of a bus system
- Plan de Avenidas
- Military regime
- Promotion of homeownership
- Processes of decreasing population density and dispersion
- Processes of industrialization: modern heavy industry
- Processes of privatization: selling plots in the periphery, bussystem
- Processes of the mobilization of social movements

Centre Periphery São Paulo Metropolitan area

- Concentration of workers bring unsanitary conditions
- Working classes move to the periphery
- Upper and middle classes move to the periphery
- Believe in progress and social mobility

Planning

- Government is planning and developing the public space
- Homeownership by a process called autocastruccion
- Development of apartment buildings for the middle classes by private entrepreneurs

Space

- Development of the public space: squares, avenues and streets
- Lack of public space, public functions and infrastructure in the periphery
- Decay of urban space in the inner city
- Improvement of infrastructure near condominiums

Government: urban operations

- Processes of de-industrialization
- Processes of tertiarization: commercial, service centres in the periphery and the centre
- Processes of decline: commercial, service centres in the periphery and the centre

Society

- Distribution, scepticism, and high level of uncertainty about the future
- Poorest move to the decaying areas in the inner city. Moving of the poor and social housing

- Government: urban operations

- Belief in progress and social mobility
- Processes of the mobilization of social movements
- Processes of fragmentation: global and local

Processes

- Processes of demographic growth, concentration and early industrialization
- Processes of industrialization: modern heavy industry
- Processes of industrialization: modern heavy industry
- Processes of decreasing population density and dispersion
- Processes of privatization: selling plots in the periphery, bussystem

Government is planning and developing the public space

- Development of vertical condominiums and removal of favelas - poorest move to the decaying areas in the inner city.
- Development of the public space: squares, avenues and streets
- Lack of public space, public functions and infrastructure in the periphery
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Space

- Development of the public space: squares, avenues and streets
- Lack of public space, public functions and infrastructure in the periphery
- Decay of urban space in the inner city
- Improvement of infrastructure near condominiums
THE URBAN CHALLENGE / WHAT IS INFORMALITY?

The term informality is multidimensional

A key-issue in this master thesis is the phenomenon of informality within the processes of urbanization and the relation between formality and informality in the context of urban planning and development. My ideas and opinions on informality evolved during the writings of this master thesis. From my perspective the meaning of the term informality is not unilaterial, but multidimensional. The term informality cannot be captured in one form, because there is a different explanation of the term for different people in different contexts. Within this section I would like to discuss the dimensions of the term informality; what can informality mean and how is the term informality used within this master thesis?

Informality is originally approached from an economic point of view, often related to employment, movement of labour and poverty. Keith Hart (1973) lecturer in Social Antrophology, was the first that used the term informal in his article on informal income opportunities and urban employment in Ghana. He seperated the formal sector from the informal sector based on typologies of employment. A year later the international Labour Office (ILO) described the informal sector as ‘petty-traders, street hawkers, shoeshine boys and other groups ’underemployees’ on the streets of the big towns, and includes a range of wage-earners and self-employed persons, male as well as female” (International Labour Office, 1972, p.5).

This concept of the informal sector gained popularity and diverged in many directions. Since then informality can have different meanings for different people in different contexts and cannot be captured in one form.

Informal as the exception

It is important to start the discussion of the term informality by stating that the term inextricably linked is to its opposite; the notion of formal. Informality often denotes something close to its etymology; anything that is not formalized. It seems that there is the desire to relate the deviation to the standard. Formal is defined as the dominant notion and is superior to the notion informal which without any doubt remains the exception. This kind of logic creates a clear hierarchy between formal and informal where formal is the standard and informal is deemed to be the secondary. Another result of this logic is the persuasion that we should aim for the formal, what leaves the informal as to be adapted or the exception. Informality as an exception can not be captured by the existing or the standard, which is the formal. Ananya Roy (2009b) is describing informal spaces as a product of exception in relation to standard planning tools, where “the ownership, use, and purpose of land cannot be fixed and mapped according to any predescribed set of regulations or the law” (Roy, 2009b, p.8).

Law and official rules

Ananya Roy (2009b) mentions that “Informality is a mode of production of space defined by the territorial logic of deregulation” (Roy, 2009b, p.8). She implies that deregulation, less formal rules, produce informal spaces. This leads to the understanding of informality from a legalistic view, a term for planning that is not in correspondence with or happens outside the law, official rules and regulations. These planning processes are not regulated and neither part of a predefined formal procedure. Within the the planning processes activities do not closely follow the law or institutionalized planning regulations (James Duminy, 2011). These activities can follow out of personal contacts or negotiations between actors and networks. Occasionally, mainly in the more affluent European countries, the term is even related to illegality. The law can play a crucial role in determining lives and livelihoods for people living in informality. Often they are excluded from the rights, benefits and protections granted to formal workers under legislation. For example land tenure rights are important in the process of improving the life of people living in informality, because they recognize the land as a part of the city, including an adress and this opens up for many services, work and rights. Land rights provide certainty and allow people to create a home and community where they are willing to invest in.

Lack of governance

Thirdly informality can also be seen as a term for everything that is not initiated and left unregulated or uncontrolled by the government, formal institutions or formal business corporations. Governments sometimes fail to recognize the rights of all citizens and do not incorporate all social groups into urban planning, which often results in informal development as a solution for the uncontrolled rapid urban growth in developing countries and thereby contribute to the existence and growth of slums. Another raison is that many countries cannot respond quickly enough to the rapid urbanization and the traditional planning tools are not suited for this rapid development. The attitude of a government also effects informality, as some governments do believe that providing services in informal areas will attract more. Informality in this perspective is often confused with bottom-up, which is not appropriate in most circumstances since it comes from the urgency to survive.

Informalization of the many domains of urban life

Finally informality is used in relation to the various modalities of urban associated life. AbdouMaliq Simone (2001) argues that within cities that are influenced by processes of globalization, trade liberalization and structural adjustment there are possibilities for the informalization of many domains of urban life. From this point of view informality can be described as a marginalized sector originally emerged from the will to survive by the urban poor and developed into several domains of urban life. Examples of these modalities of urban associated life are: (1) informal neighborhoods, (2) informal economy and labour and (3) informal practices.

(1) Informal neighborhoods. In general spatial informality is unplanned and forms under served neighborhoods that are occupied by squatters without legal recognition or rights. The populations of slums lack the most basic municipal services, such as water supply, sanitation, waste collection or infrastructure, and thus are exposed to disease, crime and natural disasters.

In the late 1970s Caroline Moser described the informal sector as “the urban poor, or as the people living in slums or quatter settlements” (Moser, 1978, p.1051). There are many other terms used to describe informal settlements, such as unplanned settlements, unauthorized housing, squatter settlements, inadequate housing, slums, housing in compliance, shantytowns, favelas etc. The built shacks are usually constructed by whatever materials can be found easily and built densely, they are considered inadequate for human habitation. Nonetheless there mostly is a very high degree of organization within the community and they are extremely vulnerable to any kind of natural disaster.

The definition of informal settelments is context-specific and over time various definitions have thus been proposed, but based on the UN Habitat Programme informal settlements are defined as: (i) residential areas where a group of housing units has been constructed on land to which the occupants have no legal claim, or which they occupy illegally; (ii) unplanned settlements and areas where housing is not in compliance with current planning and building regulations (unauthorized housing). The definition of unauthorized housing is that it excludes units where land titles, leases or occupancy permits have been granted (UN-Habitat, 2011).

Informal settlements in relation to the Brazilian society needs explanation of some terms. In Brazil there are a few urban typologies related to self-help and informality: favelas, cortiços, lotamentos irregulares.

(i) Favelas: a specific brazilian expression for slums that have emerged from a specific cultural, economic and geographical causes. The favela is built unplanned by favela dwellers that built their houses out of cheap or waste material, which creates an urban typology of unfinished houses and interstital spaces without or with bad infrastructure and urban services. Favelas are generally invading public land and without security of land tenure. In São Paulo there is 24 sq km of land invaded (SE-HAB, 2011) by favela dwellers that form 8.7% of the city population (IBGE, 2000).

(ii) Cortiços (or tenements): generally a inner-city, dilapidated rental accommodation. The origin dates back to the 19th century as the legal, market alternative of popular housing. This typology of housing consists of crowded tenement houses divided into small rooms. The inhabitants of cortiços are families living in one small room and share bathroom or/and kitchen. They are subject to the laws of the market, rent and payment for services (UN-Habitat, 2003).
(iii) Loteamentos irregulares (informal land allotments): urban areas that can not be regularized because the allotments generally have disputed ownership or the plot division and land use does not comply with laws. Self-help construction is often the standard in these urban areas creating difficult interstitial places and problems with urban facilities. This urban typology occupies 92.6 sq km in the city (SEHAB, 2011) by 28.5% of the city population (IBGE, 2000).

(2) Informal economy and labour. It is usually about any kind of economic activities or transactions that are not officially declared and are thus not controlled or paid with tax. Informality as a component of the modern economy, inextricably linked to the formal sector. It can take many different forms: from subsistence or swap economy, sidewalk trade or waste collection. Some type of informal economic activities may have an extremely high degree of organization, while others are rather random. Examples of informal jobs can be: street traders, vendors, waste pickers, precarious work, illegal drivers, drugcouriers etc. Sometimes informal economy is referred to in the context of illegality.

(3) Informal practices. This are initiatives by representatives of the community, social groups, movements or community-based organizations within the community. In regarding to planning the practices can range from community participation, protest, squats, gardening etc. Informal initiatives can be very helpful in improving the community and involving them in upgrading processes. Upgrading programs are effective when led by the municipal authority and implemented at the community level through multiple actors, such as community-based organizations, NGO’s, and UN agencies such as UNICEF and Habitat. Upgrading efforts in slums need the involvement of the community and local key-actors otherwise it is difficult or even not possible to understand the real needs and local assets of a community.

Informal urbanism

Finally the term informality is approached in the context of urban planning and development, which combines aspects of the above described dimensions of (1) Informality as the exception, (2) Informality does not comply with regulations, (3) Informality as result of bad governance and (4) Informality in many domains of urban life. These dimensions of informality are all part of informal urbanism and will be referred to in this master thesis.

The conclusion is that informal urbanism is a product of exception in urban planning as it does not comply with the formal, traditional, planned urban framework and the regulations. Informality proliferates under the circumstances of rapid urban growth, migration, failed governance and policies, corruption, inappropriate regulation, dysfunctional land markets, unresponsive financial systems, and a fundamental lack of political will. As a result of these problems informal urbanism is sometimes the only alternative access to the city, because no other options exist for some social groups. Informal settlements do not receive governmental assistance and urban services. Often governments fail to provide in the needs and housing of the poor and do not incorporate them into urban planning. The government is inable or lacks effort to provide affordable dwelling options, building and planning regulations, suitable housing finance among other services for the low-income populations which makes them unable to handle the rapid urban growth within the regular formal frameworks. Informal activities are originally emerged from the will to survive by the urban poor and developed into several domains of urban life, such as their homes, economic activities and community initiatives.

The urban challenge

What is informality?
"Even as NGOs and development lenders tinker with good governance and incremental slum improvement, incomparably more powerful market forces are pushing the majority of the poor further to the margins of urban life."

MIKE DAVIS
GOVERNANCE / INCLUSIVE CITY

Exclusion
With the expected urban growth, it is needed for governments to understand how the benefits of urbanization can be shared more equally among inhabitants. As long disparities exist, they will restrict and confine groups of people, limiting their ability to make choices about how and where they live, perpetuating inequity and cutting the social connections that define vibrant and thriving cities. We need a way of objectifying criteria of success, some common points of reference so independent observers and evaluators can arrive at conclusions about what needs to happen as we plan and design cities.

Urban areas or cities generally have the ability to provide in a good quality of life and cities are engines of economic growth, with these capabilities cities can be pathways out of poverty. However in developing cities there is often inequality and exclusion of the most marginalized. This exclusion can be explained in different aspects:

(1) Spatial exclusion: urban inequalities between different neighborhoods in the city as not all inhabitants receive land tenureship, infrastructure, services and public facilities.

(2) Economic exclusion: the struggle of the marginalized for good education, formal employment and capital for business development.

(3) Social exclusion: some city inhabitants are excluded from participation and have no voice in the governance of the city based on their age, gender, race, class, religion, ethnicity or disability.

Inclusion
To overcome the exclusion among residents, there should be aimed for the development of an inclusive city. An inclusive city can be defined as a city for everyone, where also the most marginalized have access to basic services and the opportunity to built a prosperous future. Inclusion can be explained with the same aspects as exclusion:

(1) Spatial inclusion: access to affordable land, housing and services for all inhabitants.

(2) Economic inclusion: the possibility for all to participate in the economy and to share in the benefits and economic opportunities.

(3) Social inclusion: the right for all to participate in city processes and in decision-making. This comes from the principle that all are born equally and deserve equal access to opportunities and refer to the idea of ‘right to the city’.

Inclusive cities are related to the ideas of social justice, social function of property, right to the city, social cohesion and equal access and participatory planning.

Brazilian actions
In general, cities have governments, and programs that include affordable social housing projects, providing infrastructure and basic services, slum upgrading programs. Within the government actions for inclusive cities the focus is on slum upgrading programs and social housing.

Brazil has an important role in the development of government actions for inclusive cities. This has allowed with the history of the countries and changes in governmental actions. The country was under military rule for two decades, from 1966 to 1985. Under military regime participation and debate was impossible, urban development was not guided effective. The public sector, especially the local institutions, were not acting independently and effectively because fraudulent behaviour was accepted. This accentuated urban poverty and spatial, social and economic inequalities. At the same time, between 1980 and 2000, Brazil was urbanising and modernising. Millions of rural inhabitants migrated towards the rapidly industrializing cities in the south east of Brazil and at the same time that governance was minimal. The explosive growth, massive rural migration, poor governance and low capacity of the public sector in planning lead to cities of social inequity with illegal settlements and a lack of good infrastructure.

In 1986 the country became a democracy and by 1988 a new constitution was developed, followed by the City Statute of 2001. The City Statute was revolutionary for the governmental attitude towards informal settlements, it provides the tools and mechanism urban inclusion.

(1) In Brazil social inclusion is achieved through a cash transfer program Bolsa-Familia.

(2) Economic inclusion is achieved through:
  - Microcredits for businesses (Law 11.110/2005)
  - Support and incentives for micro entrepreneurship (Law 123/2006)
  - Policy to increase minimum wages (Law 12.382/2011)
  - Apprenticeship Law (Decree 5.598/2005)

(3) Spatial inclusion is improved through:
  - Land tenureships
  - Zoning laws (ZEIS)
  - PAC program for slum upgrading 2007
  - Housing subsidies ‘Minha Casa Minha Vida’ 2009

Inclusive city
The three aspects of inclusion should not be seen separately. Spatial inclusion should go along with social and economical inclusion, because the living environment of economic and social marginalized inhabitants is usually in spatially deprived spaces. It is multi-objective city planning based on economic, social, environmental and culturally sensitive policies that allow citizens to improve economically as the physical area improves. Generally, slum upgrading efforts focus mostly on the spatial aspect, leaving the social and economic aspect underexposed. Also do the efforts react on the current situation of urban poverty, while it should go along with slum prevention strategies.

Reducing urban poverty requires reversing the current exclusionary trend of many developing cities. This requires fundamental rethinking and reshaping of urban spatial planning and zoning, urban regulations and laws, and urban policies to incorporate the working poor. To achieve this, representatives of the working poor must have a voice in urban planning processes. Inclusive cities that value all people and their needs and contributions equally, ensuring all residents have a representative voice in governance, planning, and budgeting processes and have access to secure and dignified livelihoods, affordable housing and basic services such as water, sanitation and electricity supply. Cities need planning that recognizes that every individual has the right to full and equal participation in the built environment and that they can shape their own environment to meet their own needs.

Upgrading slums and preventing the formation of new slums benefits a city in multiple aspects. Social and spatial inclusion within the city can be achieved through slum upgrading, which contributes to an inclusive city. Besides the fundamental rights that slum dwellers gain through slum upgrading, upgrading is more affordable and effective for a city government than eviction and relocation of families to public housing. Recognizing all citizens of title and security of tenure makes a positive contribution to both the economic prospects of the poor, as well as to the national economy (Cities Alliance, 2014).

Requirements
Progressive policies need to go beyond the traditional land use emphasis of city planning, to integrate all the elements of inclusive design (Inclusive cities, 2007).

(1) Economic development
Opportunities for everyone to participate fully in the economy of the city, with access to a variety of quality jobs. Land use decisions must encourage locally owned, neighborhood-serving businesses and focus on catalyst projects that generate investment and stimulate further development. Cities must insist that new developments hire locally first, develop local vendors and develop courses at colleges or high schools to train community members. New or expanding companies must provide a net gain to the community, both in terms of numbers of jobs and quality of jobs (wages, choices, opportunities for advancement and ability to spend earnings in the community). Cities can explore the use of zoning overlays, square footage...
caps, business improvement districts, parking assessments, and other creative, stimulating policies

(2) Neighborhoods
City development needs to focus on neighborhoods with a range of housing types and price levels that can accommodate diverse socio-economic backgrounds and lifestyle choices. Cities can modernize housing and building codes to focus more on health, safety and community quality of life. They can also adopt in tax credits, developer incentives, zoning changes and public infrastructure development to stimulate private investment ensuring a mix of affordable and market rate housing in scale with the surrounding neighborhoods.

(3) Education
Full access to quality education choices. The physical condition of a school does have an impact on a child’s ability to learn, and defines the social and economic characteristics of a neighborhood. Developers can contribute to renovation, although not in return for usable open space. Cities need to build schools near where children live, explore shared use between schools, parks and community facilities, maintain those facilities, and put their full weight behind any bonds or taxes needed to properly fund them.

(4) Mobility
Viable, multimodal and interconnected public transit systems. Cities can create incentives to promote transit and disincentives to discourage single occupancy car commuting. They can promote transportation demand management measures and funding policies that favor transit.

(5) Liveability
Connected, safe, functional and green connections. Cities can reintroduce the human scale to create pedestrian-friendly and bike-friendly streets that reactivate the public realm. They can reintegrate land uses, rather than maintaining separation.

(6) Public space
Well-maintained and usable open space. Gathering spaces are virtually the only urban places where people of all socio-economic levels have equal access. Parks and open space are key tools for improved air and water quality and preserving rivers, wetlands and urban forests. In return for development rights, cities can ask for park impact fees, open space, pocket parks and plazas, green roofs, and private green space (property frontages). Cities should consider changing operating procedures to allow capital improvement dollars to be used for landscaping and maintenance and promote expanded roles for private citizens and community groups in maintenance.

(7) Identity
Spaces and places to create and display social and cultural rituals and symbols that have meaning for all residents. Public events, such as street fairs and parades, contribute to vibrant neighborhood life. Cities can incorporate one-percent set-asides for arts, provide space for grassroots and community organizations in non-traditional settings and create arts districts, including culinary arts.
### Table: Social programs of Sao Paulo. Source: Author's own.

<table>
<thead>
<tr>
<th>Program</th>
<th>Description</th>
<th>Governance</th>
<th>Year of Implementation</th>
<th>Main Goal</th>
<th>Benefits the Families</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAC1&amp;2</td>
<td>Includes the regularization of informal settlements, the legalization of land titles, and the construction of housing for low-income families.</td>
<td>Municipal government, Federal government, and COHAB</td>
<td>1990; and COHAB, created by the Federal government: law 2002</td>
<td>To ensure decent housing for all</td>
<td>7,726 housing units</td>
<td>Positive outcome: improved housing conditions. Negative outcome: some residents may not be able to afford the new housing costs.</td>
</tr>
<tr>
<td>PAC1&amp;3</td>
<td>Also called PAC 1st and 2nd phases, this program focuses on the regularization of informal settlements, the legalization of land titles, and the construction of housing for low-income families.</td>
<td>Municipal government, Federal government, and COHAB</td>
<td>2001</td>
<td>To ensure decent housing for all</td>
<td>7,726 housing units</td>
<td>Positive outcome: improved housing conditions. Negative outcome: some residents may not be able to afford the new housing costs.</td>
</tr>
<tr>
<td>PAC 3rd</td>
<td>PAC 3rd phase focuses on the regularization of informal settlements, the legalization of land titles, and the construction of housing for low-income families.</td>
<td>Municipal government, Federal government, and COHAB</td>
<td>2005</td>
<td>To ensure decent housing for all</td>
<td>7,726 housing units</td>
<td>Positive outcome: improved housing conditions. Negative outcome: some residents may not be able to afford the new housing costs.</td>
</tr>
</tbody>
</table>

### Notes:
- Positive outcome: improved housing conditions.
- Negative outcome: some residents may not be able to afford the new housing costs.
SLUM UPGRADING APPROACHES
Mohammed VI

“What we aim at... is not simply to have shanty-free cities, still less to set up soulless concrete slabs which thwart all forms of sociable living. We rather intend to evolve cities that are not solely conducive to smart, friendly, and dignified living, but also investment-friendly and productive spaces - urban areas, that is, which are attached to their specific character and to the originality of their style.”

Photo 18. Construction work at Gratao, a risk area, for the developments of Parque Sanfona Condominiums, the Social Paviljoen and the Music school. Source: Author’s own. Taken at 2/14/2014.
SLUM UPGRAADING APPROACHES / WHAT, WHY AND HOW?

Improve living conditions and prevent new slums
Developing countries have difficulties with rapid urbanization and increasing poverty. As a result slums emerged and slums are still growing. Over time governments have tried to deal with slums and the problems that are associated with slums and slum communities in multiple ways. However their approach often failed because of many reasons, such as lack of good governance, corruption, inappropriate regulation, dysfunctional land markets, unresponsive financial systems, and a fundamental lack of political will.

Until the 1970s slums were approached as illegal, unavoidable and temporarily settlements that could be solved through economic development. Often slums were neglected and ignored by governments. If governments acted it was through the planning, design, construction and maintenance of low-income housing. Upgrading started as a housing policy instrument with a focus on providing housing for the poor and later on it includes sites and services (UN-Habitat, 2003).

The approach of governments shifted in the late 1970s towards the evictions of slums. Governments decided that economic development could not integrate the slum population in the city. The mass eviction of slums and their residents was justified by stating that slum dwellers were the actual cause of urban poverty and that the presence of them would encourage further migration (UN-Habitat, 2003). Slums are often built on land that it not suitable for housing, for example because of mudslides, unstable land or floodings. It can be necessary to evict a slum because of risk. Unfortunatly evictions of well-located slums occur mostly because local authorities and developers have interests in this land for high real estate developments.

Since the late 1980s global policy concerning slums has shifted to the improvement large-scale relocation of slum dwellers, to new social housing. This approach of moving or replacing communities did not work well, because of the distance to jobs, lack of public transport to employment in the central city and social networks being destroyed. As a result new slums emerged in the city centers and near good infrastructure. Slums are usually built on well-located land, providing good access to the city and near jobs. Location is critically important for slum dwellers, because of jobs and this is followed by their social network (Mitlin & Thompson, 1995).

A third approach is the redevelopment of existing slums by temporarily moving slum dwellers, clear the land and replace their homes by building social housing on the same land. The new buildings are often high-rise buildings that can achieve the same density, can be built rapidly and at low costs. However experiences have shown that temporarily moving does not have the intended results as the community is distributed over the city and their social network is destroyed. As a result new slums emerged in the city centers and near good infrastructure. Slums are usually built on well-located land, providing good access to the city and near jobs. Location is critically important for slum dwellers, because of jobs and this is followed by their social network (Mitlin & Thompson, 1995).

Legal actions such as democratic rights, legalising or regularising properties and bringing secure land tenure to the inhabitants are a key-element in slum upgrading. Health is improved by providing health clinics, often free of charge because often occupants do not have health insurances, and health education programs on schools. The lack of good education is improved by providing school facilities, daycare and teacher trainings and scholarships. Cultural investments are valuable for the community since there is usually a vibrant culture. Their culture is often different because most of them are migrants. Programs or micro-credits are offered to increase income earning and job opportunities which can improve the general economic health within a community. Incentives are provided for community management and maintenance. Usually upgrading does not involve home construction, but offers optional loans and land tenure rights for home improvements. If there are areas of environmental risk minimal relocation is needed and often social housing is constructed in the direct surroundings. Upgrading has the potential to improve informally developed communities so slums become better place to live, sometimes even better than some of the dysfunctional public housing projects and housing estates produced by commercial developers (Cities Alliance, 2014).

Do we need slum upgrading?
The population of slum dwellers in the world increases with approximately 10% every year. If there is no action undertaken the people living in slum conditions will be 1.4 billion by 2020. However if we continue to undertake the same action as between 2000 and 2010, in this period the absolute amount of slum dwellers has grown considerably, then the slum population is expected to reach the 889 million by 2020. Despite the gained knowledge and experience around the world the growth and multiplication of slums is mainly getting worse. The large amount of slums, their consolidation in global cities and the large amount of inhabitants in slums, the chal-
The most important reason to upgrade and improve the life inside slums is that all citizens have the fundamental basic right to live with basic dignity and in decent living conditions. The benefits of slum upgrading at its simplest are that people can live in an improved, healthy and secure living environment without being displaced. Slum dwellers get a political voice and become more citizen by receiving the fundamental rights of citizenship. Often they are held back by their status and marginality to be a part of the formal economy. Upgrading can provide possibilities, such as education and micro-credits, for slum dwellers to be productive and attract investment. It also minimizes the disturbance to the social and economic life of the community. Since the homes often function as workplaces and warehouses as well, upgrading and securing the homes and environment becomes a major contributor to their employment. Therefore slum upgrading enhances their productivity, strengthen their employment and help them move out of poverty. Through upgrading efforts there can be created a dynamic in the community where there is a sense of ownership, entitlement and inward investment in the area and it essentially leads to poverty alleviation. These are the benefits for the community and on the local scale, but also on the larger scale benefits are proven (World Bank, 1999-2001).

Upgrading slums and preventing the formation of new slums benefits a city in multiple aspects. Social and spatial inclusion within the city can be achieved through slum upgrading, which contributes to an inclusive city. Besides the fundamental rights that slum dwellers gain through slum upgrading, upgrading is more affordable and effective for a city government than eviction and relocation of families to public housing. Recognizing all citizens of title and security of tenure makes a positive contribution to both the economic prospects of the poor, as well as to the national economy (Cities Alliance, 2014).

**How can slum upgrading be effective?**

Today slum upgrading is widely acknowledged to be the most effective approach to tackle the large amount of slums, their consolidation in developing cities, the large amount of inhabitants in slums and urban poverty. Unfortunately not all upgrading efforts are effective. Governments try to deal with these problems, but their approach often fails. This failure happens because of multiple reasons, such as (1) Political pressure on decisions, (2) minimal influence on the local level, (3) complex to implement urban services, (4) Lack of community participation and contribution, (5) community is not acknowledge in their skills and works, (6) high costs.

1. Selection of local measures and decisions is often based on political pressure.
2. Slum upgrading is usually led by the government. Governments units have a top-down structure and centralized line departments have less influence on the local level.
3. Slum upgrading is a complex process that needs to implement multisectoral interventions and services which are delivered by multiple institutions, unfortunately they lack overall coordination and overall policies which makes it difficult to implement urban services in slums through an integrative approach.
4. Lack of community participation and contribution. Without the involvement of the community and local key-actors it is difficult or even not possible to understand the real needs and local assets of a community. Also if a community does not participate in identifying, planning and implementing there will be little incentive to maintain it.
5. Governments often do not build on the community’s own efforts or do not acknowledge the skills and will of the community to undertake community works. Also there is the unfair notion amongst planners that all slum communities are unable to contribute and pay for services, as a result communities do not contribute at all to the capital costs of investments.
6. Governments aim for high service levels and high technical standards often resulting in unnecessarily high costs.

An effective slum upgrading approach needs to include certain elements that can overcome the problems governments experience within their efforts, such as (1) collaboration between actors and community participation, (2) sectoral reforms and urban policies, (3) credits and programs for housing, economic and job opportunities, (4) social capital and (5) others.

1. The most important element for success is the collaboration between all actors. Within this collaboration governments have the role of ‘facilitators’ rather than ‘producers’. Upgrading programs can be effective when led by the municipal authority and implemented at the community level through actors including community-based organizations, local NGO’s, and UN agencies such as UNICEF and Habitat. Not only all actors need to be committed, but the involvement of local key-actors is also necessary to understand the real needs and local assets of a community. Finally a sense of partnership must be developed among all actors. At the phase of implementation there must be incentives for agencies to work with the poor, transparentcy of information, coordination between actors and clear roles and responsibilities of the various agencies.

2. Reforming regulatory and policy regimes for housing, land and infrastructure remove legal obstacles. Pro-poor sectoral frameworks can lower costs, encourage small-scale and other suppliers in the market, make policies and programs more effective and facilitate active partnerships among private investors, communities and local governments.

3. Engagement of private financial institutions in the slum upgrading process for the development of institution-based strategies that can give the slum dwellers access to credit for housing, micro-credits and investment in urban services, but also financing for developers and infrastructure providers. Programs and policies need to be implemented at a city and country level to overcome slum growth and poverty.

4. Upgrading programs should improve organizational capacity of the community as community members negotiate with city hall and utility companies to define solutions that meet their demands.

5. Besides these measures other traditional measures to fight poverty should be included, such as health care, educational opportunities, child care, activities for vulnerable youth and efforts to reduce crime and violence.

Upgrading of existing slums address the problems of urban neglect, but as the amount of slum dwellers and urban poverty is expected to grow slum upgrading needs to be accompanied by preventive strategies. Since the late 1990s slum prevention has become the main strategy by bringing together access to land and tenure security, access to credit, basic infrastructure, domestic capital and private finance.

Effective slum prevention requires cities to have an effective basic land use planning and land policies that discourage sprawl and housing in unsafe or environmental risk areas and encourages good infrastructure and public transport. There needs to be a focus on the existing and future housing shortage for the urban poor, but it also requires bringing in necessary housing policy reforms and correcting the identified supply and demand constraints in the housing market. Housing should be available for the low-income families accompanied with affordable housing finance options. The demand for urban services will grow which requires good urban management policies and programs, but also an effective partnership with the private sector and the communities themselves (World Bank, 1999-2001).
The concept of community participation

Participation of the community is an important and frequently discussed concept within slum upgrading processes, because of the believe that it is necessary to involve people in matters that effect them in their way of living. The concept of community participation is an important issue, as it is analyzed and part of the design proposal within this master thesis. This article provides an explanation and comprehensive overview of the term by reflecting on various theorists.

Community participation is introduced in the end of the 1960s because of public pressure demanding for justice. It started with demand of the public and bottom-up initiatives in slums, however they came along with top-down programs. Initially the initiatives of the community to improve their living conditions and their environment faced a lot of resistance, but on the other hand also many of the top-down governmental programs failed. In the 1970s governments and NGO's noticed the potential of the community initiatives and the approach for housing became more focused on upgrading of sites and providing urban services. The concept of community participation gained popularity when the World Bank was providing funding to support community engagement (Hamdi, 1997).

Within this master thesis the term community participation is applied as a powerful concept for development cooperation. A good explanation of the term can be given by understanding the separated words 'community' and 'participation'. A community is a group of people containing a various number of different actors, living in the same locality. A community usually shares physical boundaries and common social interests, in other words social and spatial dimensions. People of a community come together to achieve a common goal that is directly effecting their life. Participation can be explained as being actively involved within a process. The people of a community come together to act and participate within a development process, but the type of participation can be on different levels and stages. Hamdi (1991, p.75) refers to this as a "process by which professionals, families, community groups, government officials, and others get together to work something out, preferable in a formal or informal partnership." He is introducing the different actors within a development process that work together, as the community functions as one of these actors. The roles and functions of these actors can be different in term of power and responsibility. Community participation should not be confused with citizen participation, because in community participation there is the involvement of the community as a partner in a specific project while in the goal of citizen participation is to engage citizens directly in policy-making on government level.

Ladder of participation

There are multiple levels of participation of a community in the various stages of a project. Sherry Arnstein (1969) introduced the 'Ladder of Participation', in which each rung of the ladder corresponds with a level of community participation. It needs to be adressed that there is a critical difference in the action of participation and having the power to effect the outcomes. 'Participation without redistribution of power is an empty and frustrating process for the powerless. It allows the powerholders to claim that all sides were considered, but makes it possible for only some of those sides to benefit' (Arnstein, 1969, p.216). The scheme is explaining an elaborated version of the different rungs of the ladder in relation to the type of participation, type of involvement and level of engagement. The 'Ladder of Participation' starts with manipulation, therapy in the category non-participation, which means that the participation is not genuine. The real objective here is for powerholders to educate and receive information from the participants. The category non-participation is followed by the rungs informing, consultation, placation of the category tokenism. Tokenism means that the participants are heard but have no power to insure that their voice makes a difference. At the highest level of tokenism the participators control in the category citizen power. Partnership enables participants to negotiate and engage in the decision-making process. Delegated power and citizen control means that the participant are the majority in the decision-making process and have full managerial power. This categorization is helpful in identifying the motives and shortcomings of the concept community participation. There are some notions to this categorization. Firstly the categorization does not include important struggles in the effort for community participation. The powerholders struggle with sometimes inadequate political socioeconomic structure and knowledge of the community, problems in finding representatives of the community that are genuine accountable. The participants struggle with racism, paternalism and resistance. A second notion is that the eight rungs are a concept, but in reality there a many more distinctions in participation.

Participatory approaches

Besides levels there are also types of approaches, the extremes are: top-down programs or bottom-up initiatives. These are each others opposites, depending on the actor that has the overall control. Top-down programs are imposed on the community, while bottom-up initiatives are self-chosen by people. The UN-Habitat defines four types of approaches (PSU&P approaches) according to their scale of action and participation: (1) Centralized Approach (top-down, focus at national scale), (2) City-Based Approach (partnering public and private, focus at city scale), (3) Slum-Based (very participative, focus on slums pro-active initiative), (4) Mixing the three approaches (acting at the national, city and slum scale simultaneously). The types can be supporting each other and does not exclude each other, which makes it possible to have the fourth type of approach.

![Scheme 18. Elaborated version of the ladder of participation (Arnstein, 1969). Learners are the people of the community. Source: Futurelab, 2006, learnervoice.](image)

![Scheme 19. Types of Approaches. Source: A compass to formulate slum upgrading and prevention programs, PSUP second phase orientat ion serie. UN-Habitat.](image)

Within the first three type of approaches it is possible to compare multiple aspects of slum upgrading: initiative, actors, spatial strategies, policy reforms, finances, participation level, human resources and advantages versus disadvantages.

Within the Central Approach the initiative comes from the top, usually the state followed by other ministries as a reaction on emergence or political pressure. The City-Based Approach starts usually as an initiative of the mayor that noticed the needs to upgrade the slums within the city. Together with public institutions and the private sector a proposal is formulated. In the Slum-Based Approach the initiative is taken by community leaders or NGO's, which can be followed by community-based
organizations, NGO’s, political parties, religious groups, donors or city authorities.

The spatial strategy of each approach has a different focus. In the Centralized Approach all slums in a country are part of the project and the spatial intervention is defined according to emergency or risk. The City-Based Approach targets the most ‘popular’ or strategic slum for showing good governance or land value for cost recovery. The Slum-Based Approach starts within the community, but has the ability to encourage other communities.

Policy reforms are analyzed in relation to the regulatory framework and the public works. The Centralized Approach formulates new land laws, including expropriation laws, plans for expansion of the city and national and regional budgets. The new land laws make it possible to increase the housing stock by developing new land for building mass public housing at a affordable prize for low-income groups. The City-Based Approach focuses on a city-wide strategy of urban renewal, strategic projects and the expansion of the city through interventions related to infrastructure, water, sanitation, education, health and public transport. The major policy reform of the Slum-Based Approach is land regularization, demanded by the community for secure land tenure. This is followed by infrastructure supply and micro-finance possibilities.

The financial resources of the Central Approach come from national taxes in the form of funds allocated for local demand. In the City-Based Approach the financial resourcing is depending on the public-private partnerships that shape the land regulations, but generally comes from land value capture operations. The Slum-Based Approach is depending on funds, donations or savings.

In the Central Approach the state offers individual households affected by upgradation plans a house or money. In the City-Based Approach city authorities and private sector work pro-active, sometimes with the community. The community usually is only consulted in the plans, but depending of the city government can have a more participative role. In the Slum-Based Approach the initiative comes from within the community and is joined by multiple actors. Ideally in the process the community stays involved in the discussion, planning and implementation.

The Central Approach is able to mobilize professionals that deliver plans relying on public resources, use traditional planning tools and comes with bureaucracy work. The City-Based Approach is working with external consultants and the Slum-Based Approach is working with the knowledge within the community supported by NGO’s and CBO’s.

The effectiveness of community participation is dependent on the communites capacity to engage actively with the government. If communities are not able to organize themselves or do not take their responsibilities slum upgrading has a much lower chance of success.

Participation requires an institutional environment where community-based organization can play a dual role in relation to local governments. Firstly NGO’s can strengthen the territorial reach of local governments and secondly they can organize people to act collectively. The creation of formal links between local governments units and local community organizations are important for addressing the key-actors and key-assets of a community and a successful implementation. Decentralization of power can strengthen the collaboration between community-based organizations and local governments and provide a sustainable source of funding for community organizations (Dongier et al., 2002a).

How can community participation be effective?

C.O.N. Moser (1983, 84) elaborates on the aim of a participatory approach by stating the following: ‘Where participation is interpreted as a means it generally becomes a form of mobilization to get things done... Where participation is identified as an end the objective is not a fixed quantifiable development goal but a process whose outcome is an increasingly meaningful participation in the development process.’ He starts a discussion of the effectiveness of community participation and the problems within the participatory process. Participation is time-consuming and therefor can be expensive. Also there is the question if the community is able to make sensible decisions and it is still a controllable situation.

Within each of the four approaches steps need to be taken in the process of participatory slum upgrading. These seven steps are explained in the scheme below.

Scheme 20. Comparison of Approaches. Source: A compass to formulate slum upgrading and prevention programs, PSUP second phase orientat ion serie. UN-Habitat.

In the end the advantages are in all three approaches to be found. The fourth type of approach, mixing the three approaches, has the ability to integrate the positive aspects and have minimal disadvantages. Within the Central Approach the positive aspects are in the efficiency of physical interventions and changes within regulations, good coordination and slum prevention. On the other hand the top-down approach lacks community participation which can result in decisions that do not meet true local needs, it relies on state funds and is very costly and inefficient because of bureaucratic rules. In the City-Based Approach several sectors of the city are integrated, but the approach is also purely based on land value capture which can lead to segregation. This risk is higher when the community is not part of the decision-making process. The Slum-Based Approach can be a genuine process as there is minimal relocation and generated income is directly within the community. Unfortunately this approach is weak in preventing slums and slum growth.
SLUM UPGRADING APPROACHES / CASE STUDIES

Learning from past experiences
Within the past thirty years slum upgrading approaches have been developed and applied in many developing countries. By reflecting on these projects, the products, process, outcomes and programmes it is possible to learn from failures and successes. Reflecting will contribute to new efforts in transforming slums into integrated neighborhoods and inclusive cities. In order to make a efficient reflection the selection of projects is based on several conditions. The projects need to have a focus on: (1) neighborhood scale, (2) community, (3) activities, (4) flows and movement, (5) masterplan, (6) public space, (7) masterplan, (8) local NGO’s and community-based organizations, (9) local community assets.

Reinterpreting streets in Dharavi, Mumbia, India
The NGO SPARC, one of the largest NGO’s in India, and architects from KRVIA, Kamla Raheja Vidyanidhi Institute for Architecture, saw an opportunity to redevelop a slum in Dharavi through a community-led strategy and with the use of a masterplan. The aim of this project is to give an advise and example for the government in participatory slum upgrading. A residential group was established and they chose a dense sector as a pilot-project. Structures, land uses, community activities and functions were mapped and an analysis of the existing pedestrian movement and cooperative boundaries determined the need for a hierarchy of the streets. The involved planners and designers noticed that local scale was not possible to plan issues on a larger neighborhood scale. As a consequence larger community clusters were formed with the freedom to decide in the level of collaboration with the other clusters (SPARC, 2011).

Dharavi is a vibrant community with many low-economic activities. Sheela Patel, director SPARC highlights the informal economy of Dharavi in The architectural Review: ‘These people represent the informal sector that must be integrated into the city’s development process. The people of Dharavi do not want to stop development. They want to participate, but they question the right of the state to do it at their own cost. They question the right of the state to destroy their livelihoods, and the assumption that they will be happy with the basic 21m² tenement that a regular SRA development would provide. They are deeply concerned about what is going to happen to all the businesses that are cheek by jowl with where they live. This is not a greenfield site waiting to be developed, it is the home and workplace of hundreds of thousands of people who want to remain an integral part of this city. It has to work first for them, and for the city, and then and only then for the profits of those who come to develop it. Doing it the other way round will simply not work.' She concludes by saying: ‘this must be seen as a town, not a sea of slums.’ (The architectural review, 2010)

Within the project the informal economy is analyzed as a valuable asset that needs to be recognized. There is chosen for a strategy that is based on an hierarchy of streets. The streets provide a stage for economic and social development. By designing the streets for this function economic development will increase (SPARC, 2011).

Korogocho streetscapes, Korogocho slum in Nairobi, Kenya
This report will explore the role and potentials of streets in slum upgrading, using the street upgrading project in the Korogocho slum in Nairobi, Kenya, as a case study. It focuses on the experiences and perceptions of the residents in Korogocho, and the changes ‘on the ground’. The study argues that successful urban places are based predominately on streets and the connected street life. Streets serve as democratic, open public space and as platforms for economic and social development. Therefore, streets play a fundamental role for the public life in cities and particularly in slums, where open space is scarce. The key findings of the study reveal that the streets have boosted microeconomic activity, which has increased the number of jobs as well as the available goods in the area. The connectivity to the larger urban fabric is improved, which facilitates the flow within and to Korogocho. As part of the larger number of people dwelling in the street, the perception of safety has increased. The level of participation highly affects the resident’s attachment to the streets and communication is crucial to sensitize the community to the changes carried by the project. Overall, the project has brought positive aspects to the community and improved the life of the residents. The publication ends by providing a description of key lessons, and a list of recommendations for planning, designing and maintaining streets in slum upgrading programmes and projects. The publication forms part of an innovative shift promoted by UN-Habitat towards city-wide participatory slum upgrading where streets are used as the entry point. (UN-Habitat, 2012).

Network of playgrounds, Vila Tranquila, Buenos Aires, Argentina
Buenos Aires, Argentina; Villa Tranquila, network of playgrounds designed through a participatory process by the architects Flavio Janches and Max Rohm. The project introduces a work methodology based on the opportunities of public spaces. ‘The build public space not only means creating new urban “objects” but also space s for everyday and special events, for the generation of myth and local history, especially in places of dubious urban identity like informal settlements. For this reason we believe that in the urban reality of contemporary Buenos Aires, where the increase is in socio-economic and spatial inequalities has led to an unprecedented urban dispersion, a physical model for socio-territorial inclusion can be found in the spatial stages for multi-scale cultural events” (Janches & Rohm, 2012, 38).

The focus of the methodology is on the community participation and local initiatives. Public space and recreation facilities, such as playgrounds, have the ability to improve social interaction in the community and between the community and the city. Playgrounds do not only attract children, residents and visitors gather and meet in these public spaces. Public space can also enhance development by residents, public or private institutions. In Vila Tranquila the focus for public space development is on playgrounds, because the community consists mainly of young people and the amount of children is high. The playgrounds are developed in a participatory process in order to act on the needs of the community (Janches & Rohm, 2012).
A strategy based on urban patterns seeks to integrate Utiú with the rest of the City, to overcome the socio-spatial segregational. A methodology is introduced for the spatial, social and economic integration of less integrated areas within the city.

1. Understanding the existing socio-spatial systems, because they determine everyday life.

2. The revitalization of public spaces and facilities community. The public sphere is constitutive in main area of socialization, interaction and integration physical and social.

3. Flexibility. The project must be flexible, as it is in its ability to adapt to changes and physical limitations, social and / or budget, how is consolidated time in the process of transformation.

4. Participation. The project to transform the neighborhood is projected according to the pre-existing information, agreed to consolidate part of design strategies for Construction of the transformation process.

5. Recognizing existing dynamics and consensus constitute the starting point to convert the internal organization structures in urban integration and development: territorial patterns and social, cultural, economic and productive conditions. The value is not only to define the existend urban systems, but to define general criteria for occupation strategic territory in support of coherence future proposals for intervention (Carmona Sepulveda, 2014).

METROCABLE AND LIBRARY PARKS / MEDELLIN, COLOMBIA / VARIOUS ARCHITECTS

The problems of the city Medellin are complex, but the efforts of the community, government and urban planners is admirable. Within the vision for the city informal areas will receive upgrading. This is a list of the most important strategic projects within the vision:

- Línea K Metro Cable en la Comuna Nor-oriental, spans 2,0 km (2004)
- La Biblioteca España (Architect, Giancarlo Mazzanti, 2007)
- El Colegio en Santo Domingo Savio (Architect, Obranegra arquitectos, 2009)
- El Parque Explora (Architect, Alejandro Echeverri, 2007)
- Línea J Metro Cable Comuna Occidental, spans 2,9 km (2008)
- Los reacondicionamientos de los Coliseos para los juegos Sur Americanos (Architect, Giancarlo Mazzanti, 2010)
- Las piscinas de la Unidad Deportiva Atanasio Girardot (Architect, Paisajes Emergentes, 2010)

Metro Cable, Caracas, Venezuela

The excluded slums in Caracas have lacked infrastructure for years, the area suffers spatial fragmentation and sociopolitical isolation. The architectural firm the Urban Think Tank and the local government implemented a metro cable to connect the slums with the city. It is a holistic approach on a city scale as it aims to connect and integrate the less integrated areas within the city. The metro organizes the urban space and connects urban parts. The strong social infrastructure of the informal communities ensures that the infrastructural space is used, maintained and appreciated. Besides an infrastructural, urban an social aspects is there also an identity created. The metro cable provides a unique feature that supports the struggle of informal communities for recognition (UTT, 2010).
THE URBAN NETWORK OF A SLUM
“A slum is not a chaotic collection of structures; it is a dynamic collection of individuals who have figured out how to survive in the most adverse of circumstances.”

Photo 19. The south entrance of the main street Rua Pasquale Gallupi. Source: Authors own. Taken at 2/14/2014.
An asset-based approach is proposed to strengthen the municipal slum upgrading program for the favela Paraisópolis. In the analysis the local assets of the community of Paraisópolis are identified and in the proposal the integrative approach based on these local assets is explained. This section will provide the research on local assets: an overview of history in policies, introduction in local assets, the reasons the role of the community and the elements of this approach.

Shifting from needs to assets

Over time governments developed multiple strategies to identify and analyze local needs of communities, such as housing, healthcare, education and jobs. They invest in these needs of people and places by redistributing public resources through selective policies. People-targeting policies focus on the redistribution of resources among the poor, whereas place-targeting policies focus on local regeneration and slum upgrading. This need-based approach is based on what slum dwellers need and by providing in those needs living conditions can improve on a sustainable basis (Kretzmann & McKnight, 1993). Critics doubt the efficiency and equity of this need-based approach and governmental subsidies reduced because of mistrust between society and governments, as a result of both local communities needed to explore other options based on their own capacity (UN-Habitat, 2008). Debates emerged about people- and place-targeting policies combined with research on community development, capacity-building, empowerment and partnerships, which resulted in an exploration of alternatives for the need-based approach. Regardless of the mentioned doubts the selective policies focus on what the community lacks, rather than what they have.

Contrasting to the need-based approach an asset-based approach does not focus on needs, instead it identifies the resources of a community and provides a strategy to maintain and enhance them. Assets are closely linked with the capabilities of a community. Bebington (1999) states that “assets are not simply resources that people use to build livelihoods: they give them the capability to be and act”. Ford (2004) describes an asset in the most general form: “a stock of financial, human, natural or social resources that can be acquired, developed, improved and transferred across generations. It generates flows or consumption, as well as additional stock.” However in the context of slum development an asset is described with tangible and intangible capital assets. These are the natural, physical, social, financial, human capital and aspirational, psychological, productive and political assets. Moser (1998) provides definition of the first five assets. Physical capital is the stock of plant, equipment, infrastructure and other productive resources owned by individuals, the business sector or the community. Financial capital are the financial resources that are available to people, such as savings, supplies or credit. Human capital is the investment in education, health and nutrition of individuals. Labour is linked to human capital, because health, skills and education determine people’s capacity to work. Social capital defines the rules, norms, obligations, reciprocity and trust embedded in social relations, social structures, households, communities, institutions etc. Natural capital is the stock of environmentally provided assets such as soil, water, green etc. In urban areas land for shelter is a critical productive asset.

It is clear that the degree of poverty and exclusion, but also the degree of development is not the same for all slum communities. To handle these differences within a asset-based approach it is useful to make a distinction in first generation assets and second generation assets. The first provide the precondition for moving out of poverty further enhancing of assets, while the second strengthens accumulated assets. Housing and other related physical capital forms the precondition in the first generation assets (Moser, 2006). In this case the focus is on second generation assets. In the second generation assets financial capital is the most important entry point for accumulation of the other assets (Mahajan, 2006).

The scheme provides a comparison of need-based and asset-based approaches in relation to people and place. In the need-based approach are redistribution and revitalization of central actions, while the key-actions of the asset-based approach are empowerment and partnership.

Reasons for an asset-based approach

It is possible to mention reasons for an asset-based approach by discussing what a need-based approach lacks (Aziz, 2012).

(1) There is little evidence that need-based approaches lead to sustainable improvements.

(2) A need-based approach tends to improve only when there is one-time income or outside investment.

(3) It leads to a situation where slum dwellers only receive.

(4) There is little attention for structural problems.

Another way to mention reasons for an asset-based approach is by reflecting on the positive aspects (Community Tool Box, 2014).

(1) Identifying and mobilizing community assets enables the community to gain control over the upgrading process and they can have an active role in the decision-making process.

(2) Upgrading efforts are effective and last longer when communities dedicate their time and skills to it.

(3) Analyzing community assets requires a deep understanding and familiarity of the community. By knowing the assets it is easier for experts to develop programs or initiatives that truly address their needs.

(4) It is easier to gain community support through an approach that emphasizes the positive and the strengths.

The community

There are many preconceptions of slum communities, partly as a result of the need-based approach. Often they are perceived as unorganized and dependent of governmental resources. To overcome these shortcomings community efforts are an necessary element of the asset-based approach.

Community efforts can be divided into three categories: self-help, technical assistance and conflict resolution. Self-help enables slum dwellers to identify and manage their assets, it is built on their skills and knowledge and contributes to collective assets and resources. Technical assistance provides financial, organizational, political help from government and non-governmental resources to communities, which will boost their self-confidence. When decisions are debated conflicts can arise,
The community can have a great input in the upgrading process if we use for example their social assets. Slums generally have a strong social informal network. It is easily possible to link persons and organizations within the community, but also provides possibilities to link the community with individuals or organizations outside the slum which can share common interests or economic opportunities. In this process communities can identify their potential physical resources, but also their weaknesses. For example they can identify good locations for specific businesses to serve a larger area. Another example is the identification of political connections and local political leadership, since this is often a condition for local projects to succeed.

The elements of an asset-based approach

The asset-based approach does not only focus on creating enabling conditions in a slum community, but is also a diagnostic and analytic framework that can provide effective entrypoint in slum upgrading (Aziz, 2012). Based on the unique features of locality, the local assets and the sense of the place, successful interventions can be developed that encourages positive changes, builds up capacity and empowers the community. “The sense of a place is the concept that describes the feeling of being part of a place, and is created by the life experiences and intangible emotions experienced in that particular place. The description of a place is not only a geographical or spatial issue; it is an existential space full of significance, emotions and meaning for the people inhabiting it.” (Arroyo, 2012, p.12).

There are multiple theories that explain stages of an asset-based approach and for this thesis two have been selected: Kretzmann & McKnight (1993) and UN-Habitat (2008). Kretzmann & McKnight introduce five steps of an asset-based approach, while UN-Habitat explains the three stages of an asset-based approach. In essence the two theories have shared elements, but both add some interesting elements, such as managing local assets and asset-mapping. I will explain the asset-based approach in three stages that are divided in steps.

- (1) Form a partnership of experts and key-actors.
- (2) Analyze the physical characteristics, including deprivations and aggravations.
- (3) Analyze the local economy, businesses and services.
- (4) Analyze the local social network and social activities.
- (5) Analyze political connections and support.
- (6) Analyze human and cultural capital.
- (7) Analyze legal conditions.

After creating a partnership the local assets of the community can be analyzed. The aim of this stage is to target the assets that have the greatest potential and can enhance the other assets.

The second stage is about how to weigh, rank and prioritize the identified local assets. For this it is required to set up priorities, values, goals and discuss what each actor can bring to the table. In this stage it can work successfully if there are set up basic principles. These principles indicate the identified assets and ensure the use of the physical, economical, political, human, cultural, legal and social assets within the development plan.

The third and final stage is to ensure ongoing and long-term revival through financial, political and property management. Managing assets helps to built capacity to sustain in a long-time period. Financial management is to ensure affordable housing. Political management refers to bridging social capital, connections between residents and authorities, such as the local housing authority. Property management hires people, preferable people inside the community with gained respect and many social connections, to oversee enforcement of regulations.

The theories of Kretzmann & McKnight (1993) and UN-Habitat (2008) provide a valuable contribution in relation to each other, as I believe they are stronger combined. The asset-based approach is applied with the project of the master thesis, because it provides a valuable method for a community with a strong social network.
THE URBAN NETWORK OF A SLUM / VALIDATION OF A COHESIVE URBAN STRUCTURE

The function of public space

The public realm has a fundamental role for the public life in cities and particularity in informal settlements. The public realm can be explained as the public sphere in society consisting of accessible public spaces for all inhabitants and represent a democratic forum for citizens and society. Public spaces can also be understood as civic spaces serving as a stage for our public lives.

‘Public space is all around us, a vital part of everyday urban life: the streets we pass through on the way to school or work, the places where children play, or where we encounter nature and wildlife; the local parks in which we enjoy sports, walk the dog and sit at luncheon; or simply somewhere quiet to get away for a moment from the bustling of a busy daily life. In other words, public space is our open-air living room, our outdoor leisure centre.’ (CABE, 2003, 2)

The role of public space in cities has changed, however is still fundamental. Looking back there were three traditional functions of public space: meeting place, market place and access / traffic space. These functions were vital, and in traditional cities these three functions were in balance and occurred side by side in the same spaces. In the past years in many cities this balance is disturbed by a number of factors, but especially by the expansion of car traffic.

City governments have reacted differently, it is possible to define three city models:

(1) The Invaded City: car traffic is dominant to such an extent that the pedestrians and the public life is almost phased out. (Examples: Naples, Madrid, London)

(2) The Abandoned City: pedestrians and public life is non existent. (Example: cities in North America)

(3) The Reconquered City: cities that try to achieve a better balance between traffic, market and meeting place issues. Improvement of the public spaces increased the amount of activities in public space. (Examples: Barcelona, Strasbourg, Lyon, Freiburg, Copenhagen, Portland, Curitiba, Melbourne).

These days almost all the activities in public spaces are optional. There is no need to walk, shop, meet, recreate and socialize in the public space as there are many other options in the private sector or with modern technology. This makes public spaces in cities even more important and creates high demands of the design, because the public domain is not a nessecity anymore in the modern life, but an option (Jan Gehl, 2003).

Spaces in informal settlements

Public spaces in developed cities function different in comparison to public spaces in informal settlements. Informal settlements are often dense and have limited open spaces. The dense occupation, the pressure to increase dwelling space, the lack of governmental actions to provide infrastructure, services, facilities and the drive of the community to survive results in an urban space with minimal interstitial open spaces. The urban structure of a favela is fragmented and dense with overcrowded self-constructed houses creating an unfinished, temporary state of the built area with small interstitial spaces. Generally informal settlements do not have spaces for formal systems, infrastructure, urban services and facilities. Especially densely occupied settlements where there is an absence of infrastructure and open space is scarce or poor infrastructure is available lack public spaces.

Cooper (2007) and Oldenberg (1999) have defined a general typology of spaces in society:

(1) First places: dwellings, residential areas

(2) Second places: work places

(3) Third places: places were inhabitants interact or places for informal encounters which are essential in order to trigger and build social infrastructures.

Despite of all the pressure there still is open space in informal settlements. Open space can be find if present in streets, street corners or crossings, empty lots, but always and mainly in the interstitial open spaces in between the dense built fabric. In the Brazilian context, or more specific in the favela Paraísoópolis, open space predominantly consists out of streets, street corners, empty lots, interstitial open spaces or alleys and a soccerfield. Informal settlements are not guided by a vision or an area-based plan, so over time the urban structure evolves into a dense occupied settlement with inadequate open space to support the intensive use of plots. The minimal open spaces function as stimulators of congestion, while they have the ability to function as public spaces that shape the development of a cohesive socio-morphological structure.

Public space linking informal economy and social infrastructure

Public spaces in informal settlements have a key-role in linking economic conditions, the informal economy, and social conditions, the social infrastructure. The morphological characteristics of public space are intensely related to the social behaviour of people in the public space. Therefor the urbanization process of informal settlements should focus on urban network of the area. The urban network captures the daily functioning of a community, taken into account the morphology, the movement and the activities. Restructuring the urban network through the improvement of public space will enhance the social infrastructure and the informal economy. Public spaces are an extension of the community and in they have the ability to support the livability, safety, mobility and local social and economic development. The local space can enable economic activities and businesses enhancing the informal economy, but local space can also enable accessibility to social infrastructure and provide in social activities. Public space can have the role of ‘front porches’ at institutions, public facilities and services, where inhabitants can interact with each other and access public functions. In the basis open space is needed to compensate the crowded housing conditions, fresh air and recreation, but even more important open space in a public function has the ability to trigger economical and social development and provide citizenship.

![Diagram of a cohesive socio-morphological urban structure with public spaces activating informal economy and social infrastructure](image)

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Public spaces of quality can have many economic benefits, it can improve the attractiveness and local trade of a settlement, worker productivity, attract businesses and attract people. Spaces for walking, gathering, and daily shopping are beneficial for a vibrant public life and for the informal economy. Not only the quality of the open space in a settlement, but also the location to the city center and the population size affect the economic opportunities and position. The informal economy is a critical source of employment, service and daily needs and products for the inhabitants of an informal settlement. In the informal economy a variety of low-economic activities...
occur, for example there are small supermarkets, laundry services, hairdressers, barber shops, food stalls, shops for household items, shoe cleaners, mechanics, internet shops, telephone shops etc. There are street vendors and itinerant sellers on mobile units, carts and bicycles and there are shops in permanent building structures, including shops in homes. Especially for the economic activities that do not take place in permanent building structures which are typical for informal economies, the availability of public spaces is essential. The inhabitants of informal settlements spend their time mostly outside to sell, trade, meet and socialize. Slum dwellers spend a lot of their time in the public space and they make their living in the public space. Generally more then halve of the informal workers are engaged in self-employment, ranging from street vendor to enterprises. Providing safe and adequate public spaces for these activities is crucial and even important as clean water or electricity. Municipal governments have a strong influence on the informal economy through policies and planning decisions, however the local NGO’s and social enterprises often undertake the initiatives that truly improve economic outcomes and work directly with the community. Public spaces with the role of ‘front porches’ at institutions, public facilities and services, are especially important since this are the institutions that directly interact with the community and positively influence the informal economy.

A large part of the social life in informal settlements takes place outside which makes open space critical for contact and meetings with neighbors and others. Open spaces with a public function have the ability to bring communities together, provide meeting places, foster social ties, shape the cultural identity of an area and provide a sense of place for local communities. Public space can make a positive impression, presenting the sense of place and improve the relation of the inhabitants with the space. Successful public spaces have a vibrant street life and various ways in which activities occur. The public realm and the street as public space provide a sense of belonging for social interactions through activities such as markets, the street vendor and pavements activities. Open spaces close to home can become valuable places for neighbors to socialize. For example gardens, allotments, playgrounds can provide an opportunity for small, personal interactions and encourage social cohesion and social safety. Local spaces closely located to homes are more likely to be shared among residents. Spaces with a unique identity attract inhabitants and contribute to social cohesion. Larger scale public spaces bring people together and create a sense of neighborhood. Generally larger spaces generate less positive community ties, the location is extremely important for the functioning of large public spaces (Kuo, 1998). Interesting to add is that the use of green in public spaces can positively influence the amount of socializing among neighbours (Kaplan, 1985).

Since the open space is scarce public spaces need to serve multiple functions to a variety of uses for slum dwellers. The assignment of an open space for one specific function excludes others, within an urban structure with minimal open space this should not be allowed. The location of a public space or facility, the spatial conditions and the physical form are of influence on the attraction of people and activities. The place and attraction of activities and public spaces, such as public facilities and services, shops and institutions, public squares and streets, need to be reviewed and consider the existing urban structure and the movement of pedestrians and traffic in order to create a cohesive socio-morphological structure that is linking together the variety of social and economic activities.

Elements of open space

Open spaces such as streets, street corners, empty lots and interstitial open spaces provide opportunities for the development of social, economic and cultural activities.

Streets are the key-elements of open space in informal settlements as they have the ability to integrate, connect, provide access and improve quality of life in informal communities. Streets attract economic and social activities, such as shops and services. They also increase the identity of the inhabitants with their homes, bringing social safety and structured development.

Street corners are at the crossings of roads where multiple types of movements intersect. Corners play a significant anchoring role for in the network of public spaces. They are valuable elements of the urban landscape because of the visibility and accessibility generating a high level of human interaction, social and economical activity. In informal settlements street corners can quickly become crowded because they attract street vendors.

Empty lots and interstitial places have the ability to create local social spaces for neighbors to meet, the can become great third places. Great third places are stages for public life which reflect the people who live, work, and play nearby. Third places are an anchor of community life, fostering interaction between inhabitants. They are vital elements of social needs in informal communities. Third places represent the unique locality of a place, inhabitants should feel rooted in the place. On a higher level these vital spaces can become part of a system, enhancing the social infrastructure and accessibility.

**Streets as a key-element**

Streets are the key-elements of open space in informal settlements as they have the ability to integrate, connect, provide access and improve quality of life in informal communities. Streets are also one of the few open spaces where the public and private meet and form the public space. The street is not only a space to move through but also a place to be in to make a living and to socialize. Streets attract economic and social activities, such as shops and services. They also increase the identity of the inhabitants with their homes, bringing social safety and structured development. Streets should not be designed only for car traffic, but for people and inhabitants.

The street as public space in a slum can combine the public and the private functioning as a doorstep. “Good urban places are judged by their street life. For it is in streets as multipurpose spaces - that all the ingredients of city life are combined: public contact, public social life, people-watching, promenading, transacting, natural surveillance and culture. Streets bring together people who do not know each other in an intimate, private social sense, including strangers.” (Montgomery, 1998, p.).

There are a few concept of the function of a street:

1. The street as predominantly work place: People are working, transporting, trading or selling goods, products and food in the streetscape.
2. The street as predominantly traffic place: There is an absence of sidewalks or there are narrow sidewalks, allowing the pedestrians only to walk. The amount of traffic influences the social and economic activities in the street. Inhabitants along a lightly traffic street see the street as an extension of their home. Especially if there are families with children, because children easily socialize with other children and play in quite streets.
3. The street as a pedestrianized shopping place: People are shopping and window-shopping (ProjectforPublicSpaces, 2014)

These concepts reflect a monofunctional idea of the street, however in informal areas streets are main public spaces where all these above functions come together and battle for their space. This is why streets should be designed flexible, but clear in understanding of use.

**Community participation and public spaces**

Streets serve as democratic, open public space and as platforms for economic and social development. Therefore streets can play a fundamental role for the public life of a community. Street inhabitants have a direct relation with their street and can play a key-role in the local and strategic developments of streets. The local inhabitants should be part of the decision-making and implementation process to respond to local needs and local identity of the place. When inhabitants are well actors in the process, the implementation and maintenance of the street will be more easy and the design more effective (UN-Habitat, 2012).
PART D

ANALYSIS BY A THREEFOLD REVIEW
STRUCTURAL COMPONENT
“When we were walking through the narrow alleys, it was literally impossible not to step in the raw sewage and the garbage alongside the little homes. But at the same time it was also impossible not to see the human vitality, the aspiration and the ambition of the people who live there.”
The structural component is the first part of the threefold review and is followed by the planning framework component and the operational component.

The upgrading of a slum lies not only in the development of urban services, accessibility and infrastructure but should go along with the consolidation of local social networks. Slums generally have scarce places for social interaction and an analysis of community activities and interaction related to space can reveal the potentials of public space to guide slum development. A conceptual framework is developed capturing the daily life of the inhabitants and the functioning of the community by combining three essential concepts: the morphology of the site (urban structure), social and economical condition (activities) and the infrastructure (flows, movement of people).

The structural component of the analysis is researched with the use of this conceptual framework capturing the daily life of the inhabitants and the functioning of the community. The conceptual framework consists of these three concepts:

1. Urban structure: The morphology of the urban structure describes the spatial form needed for the desired public or private activities.
2. Activities: Vital and diverse places attract activities, but also generate vitality and diversity. Vital places are places that feel alive and have an active streetlife, which means that people come by and in the place during different times of the day. Vitality can only exist in places that are diverse in uses and activity.
3. Movement: Active places attract people and have a continuous flow of people passing and entering during the day. The movement and flow of people also attract other activities resulting in a vibrant and vital streetlife.

Paraisópolis is a very dynamic favela where lots of activities happen every day. To capture the daily life of the community in the favela the structural component is focusing on three main aspects: (1) Urban structure, (2) Activity and (3) Movement. Analysis of the urban structure combined with an analysis of activities and movement can indicate the different ways in which the residents have claimed and developed the space in Paraisópolis. The form of the urban space is stimulating certain activity and movement, as well as vice versa.

Various activities are taking place in the streetscape of Paraisópolis which provide a vibrant and dynamic streetlife. The term activities is used to describe the functions, urban services and facilities in the area. The activities in the area are mapped in five categories: (1) production and commercial, (2) social services and community organizations, (3) sport and recreation, (4) education, (5) culture and religion.

Movements in the public space can be analyzed through the type and amount of passengers passing by, all in relation with the activities, public spaces, streets and alleys. Accessibility and entrances of the area indicate movements and flows. Activities foster these movements through urban space. The movement within Paraisópolis is researched through walking distances. In order to understand the daily system of the community the attraction of each activity is rated, translated to walking distances and mapped. The attraction of an activity is spatially translated to the area they serve and is measured by walking distance.

The purpose of analyzing the movement of people in the area is to understand the daily movement in the favela and towards the key-attraction points, in relation to the form of the public space. The outcomes can be used in the proposal for intervention to provide equal access to all urban resources and strengthen the community’s local assets. Consequently locating the activities and their attraction, where people move and what activities they perform in their daily life combined with the urban structure can later on set the proposal for an integrated urban design based on localities.

Consequently locating the activities and their attraction, where people move and what activities they perform in their daily life combined with the urban structure can later on set the proposal for an integrated urban design based on localities.
Map 02. The built area, the designated ZEIS areas and the new proposed areas of the ZEIS.

Source: Authors own

Map: Paraisópolis and its surroundings

built
road
topography
STRUCTURAL COMPONENT

/ URBAN STRUCTURE

Researching the urban structure

Paraisópolis is located in a valley and in the favela there are many high differences, between 10 meters and 90 meters, however the occupation occurred in the spatial form of blocks, with some exceptions in the most environmental inaccessible areas. The new building developments of the municipality do not follow the spatial form of the blocks, but are more based on mass building typology and the geography of the area. Overall the urban structure of Paraisópolis is very unusual and complex.

In the methodology a conceptual framework is developed to research the daily life of the inhabitants and the functioning of the community in relation to space. The urban structure is the spatial condition of the conceptual framework and consists out of multiple aspects. The analysis is about the appearance of the urban structure, its gradual formation over time, the spatial relations of the typologies of its urban tissue, such as the division by administrative boundaries, the geography, the occupation and the new urban developments, the open and the built space and the functioning of the urban form on different scales from local to urban.

Later on there is a focus on the public space, because the redevelopment process of the favela lies not only in the development of urban services, accessibility and infrastructure but should go along with the consolidation of local social networks. Slums generally contain scarce places for social interaction and an analysis of community activities and interaction related to space can reveal the potentials of public space to guide redevelopment processes.

As a conclusion the following elements of the urban structure are discussed:

1. Administrative boundaries
2. Geography
3. Occupation
4. New developments
5. Built and unbuilt
6. Typology of blocks
7. Open space: streets and alleys

Administrative boundaries

The administrative boundaries are formally used to distinguish and separate certain areas for administrative convenience, often they are based on the urban characteristics of an area. The administrative boundaries of Paraisópolis are categorizing Paraisópolis as a complex. A complex of three favelas; Paraisópolis, Jardim Colombo and Porto Seguro. Although it is treated by the municipality as a complex, in each favela lives a different community. The complex scale does not reveal much about the morphology, it is only spatially separating the three favelas from its surroundings by recognizing its contrasting urban characteristics.

The following scale of administrative boundary is dividing the favela into sectors; Antonico, Brejo, Centro, Grotão, Grotinho and the latest additions by the municipal- ity Viario de Perimetal and Area Institucionais, but also Jardim Colombo and Porto Seguro. Remarkable is that Jardim Colombo and Porto Seguro are not divided, but also treated as a sector. A sector is an administrative term, but in this case a sector is functioning as a neighborhood. The urban form and scale of a neighborhood can provide lots of information on the daily life of the inhabitants, which makes the sectors important for this analysis.

The last administrative boundary, as used by SEHAB, is the block. The complex Paraisópolis consists out of 41 blocks. For this counting the sectors Viario de Perimetal and Area Institucionais are not included, there urban form is in general not based on the block structure. The urban structure of the block is not only visible in the favelas, but also in the direct surroundings. A block has the dimensions of 100 meter by 200 meter.

A block of 100 meter by 200 meter is divided in 40 plots. Because of history the process of dividing parcels has resulted in a pattern of long, deep plots of 50x10 meters that have no relation with the geography of the land. The long deep lots were subdivided to sell and many smaller structures were built. The urban pattern of this plot is faded greatly over the years because of informal building development.

By overlapping the sectors or neighborhoods of Paraisópolis with the geography, the hilly underground, it becomes clear that the geography, together with the urban structure of the blocks, the local scale has guided the administrative boundaries of the sectors. Another administrative boundary is imposed by an instrument of the law, the Zones of Special Social Interest (ZEIS), in four different categories. The ZEIS assigns zones of precarious settlements, to provide urbanization and regularization by the government. It also assigns new zones for the development of mainly social housing. The Zoning Law labeled large parts of the settlement as ZEIS 1 and a part of the slum Paraisópolis as ZEIS 3. In total there are six areas labeled as a category of the ZEIS:

ZEIS 1 - W045 (BT) Special Zone of Social Interest Garden Colombo
ZEIS 1 - W046 (BT) Special Area of Social Interest Porto Seguro
ZEIS 1 - W047 (BT) Special Area of Social Interest Porto Seguro
ZEIS 1 - W048 (BT) Special Area of Social Interest Porto Seguro
ZEIS 1 - W050 (CL) Special Zone of Social Interest Paraisópolis
ZEIS 3 - W001 (CL) Special Zone of Social Interest Paraisópolis

Also there is a new proposal at the government to extend the area of ZEIS in Paraisópolis. The new designated areas should be able to handle the further growth of Paraisópolis.

One of the richest neighborhoods of São Paulo, Morumbi, is located within the boundaries of Paraisópolis and is labeled as ZER 1, which means exclusively residential zone of low density. The wealthy surroundings and the fact that the land is mostly private give the complex a great possibility for gentrification, however within the ZEIS this is not possible.

Scheme 25. The conceptual framework to analyze the urban network combines three essential concepts: the morphology (urban structure), social and economical condition (activities, facilities and public functions) and the infrastructure (flows, movement of people). Source: Author’s own.
Map 06. Four maps: grid, topography, built and unbuilt. Source: made by author.
Geography
Paraisópolis is covering an area of 995.693.5 m², almost 1km². Paraisópolis is an area that began to develop in the 1920s around a challenging topography of rivers. The favela has a hilly topography and is located in a ravine punctuated by waterstreams. This results in an almost hidden area behind the residential buildings of Morumbi. However from above in the towers of Morumbi the view over the favela shows all. There are three waterstreams in the area; waterstream Antonico in sector Antonico, waterstream Colombo in Jardim Colombo and waterstream Brejo in sector Brejo. The challenging hilly topography and the three waterstreams have resulted in a problematic occupation dealing with increased erosion, dangerous mudslides, flooding, watercontamination, dense and inaccessible built areas. With-in Paraisópolis there are some of the most high-risk zones in the city.
Generally slums tend to occupy public land because this is easier for slum dwellers to secure their homes, but Paraisópolis is built on private land, divided in blocks, existing street delineations, and lot subdivisions. As a result the favela developed within these delineated blocks, lots and streets. The division of the blocks is in contrast with the quite abrupt, large hills.

All the areas of the waterstreams are included in the Paraisópolis Program, the plans for the waterstreams are included in the maps shown in this chapter. At the moment not all of the plans for the waterstreams are executed, which means that at the moment some are occupied by buildings creating a undesirable living environment. In the sectors Grotão, Grotinho there are also difficulties related to the environment, because of hills, slopes and mudslides.
The block division together with the hilly topography and the waterstreams have shaped the urban development of Paraisópolis. The combination of the grid structure, the division in blocks and lots, and the hilly underground is very unusual for the urban structure of an informal settlement. Generally an occupation on hills or slopes follows the geographic lines resulting in an organical urban structure and an occupation on flat land is sometimes guided by a preliminary division plan. The typical combination of hills, waterstreams and blocks in Paraisópolis results in a complex urban structure, where often the division of the block is guiding the development process until the geography is becoming challenging. In the most hilly areas the block structure was impossible to be implemented and the geography is leading the occupation or the urban structure is a combination of both blocks and topography.

Occupation
The occupation of Paraisópolis started in 1921. A construction company divided the area of a farm in 2200 plots with the aim to sell the plots for housing development. The implementation phase did not finish, the infrastructure was not fully implemented and many of the plot buyers never took actual possession of a plot nor paid the taxes.
The area was abandoned until 1950 when some families, mostly Japanese, started small farms with crops and livestock on some of the 2200 plots. They were called posseiros (squatters) and grileiros (persons trying to get possession of land with false documents). It was the beginning of the informal occupation of Paraisópolis. From the 1950s until the 1960s the land of the Morumbi region, including the 2200 plots, was mostly used for farms, farmland and livestock.

In the 1960s the introduction of some upscale residential neighborhoods, the cemeteries Gethsemani and Morumbi, and the construction of access roads, such as Giovanni Gronchi Avenue, turned the region into an attractive economic object. In 1960 the first development plan was established, but the plan is not executed. The development plan declared the area as public utility, focusing on urbanization (Prefeitura de São Paulo, 2014).
In 1970 the first wooden shacks appeared and the occupation of the two adjaent favela’s Jardim Colombo and Porto Seguro started. The informal occupation formed a settlement. In this time Morumbi was still a vacant land while the region already were upcoming with high-end, low-density urbanization. Later on, in 1972, it was decided by the Lei de zoneamento Geraldo Municipio (zoning law) that the occupations in the region should be restricted to single-family housing and mixed-use, such as uses trade and diversified services. The aim was to create conditions for a plan, dealing with a special area of occupations, to be prepared within the next five years. This plan was never esthablished and between 1974 and 1980 the occupations intensified. The Lei de zoneamento Geraldo Municipio was part of a larger movement in the city, interesting housing policies were implemented. Unfortunately this is not continued because of political changes (Carvalho, 2014). The politics decided to remove informal settlements, also Paraisópolis, eventually in the late 1980s they gave up trying.

There was a strong growing demand for labor in the field of construction in the region and by 1980 this attracted many workers and the occupation intensified even more. In the late 1990s there was a further increase in population mainly due to the migration of inhabitants of surrounding favelas removed by the municipal government. The last population increase resulted in a densification of the areas Grotão and Grotinho within the favela Paraisópolis.
The informal development of the occupations is in large contrasts with the real estate developments of its surroundings. Paraisópolis is a favela located in the richest neighborhood of the city, Morumbi. In the 1990s the real-estate market of Morumbi exploded and during this period many luxury apartments and high-end towers were build. The high-end towers are in contrast with the maze of small houses, local businesses and lively environment of the favela. The daily reality in Morumbi is quite different from Paraisópolis. The business center of the city, Avenida Paulista, is located directly on the other side of the Pinheiros River and is directly connected to the district by the Morumbi bridge, built in 2008. The pressure on the real estate market of Morumbi is still there and as a direct result Paraisópolis is more tightly clamped to lie between real-estate developments. Because of the developments there is no space left for the growth of Paraisópolis. Another consequences of the rapid population growth in Morumbi is the increase of traffic, by 2004, the traffic situation in the district became untenable. (Prefeitura de São Paulo, 2014).

Built and unbuilt
A built-unbuilt map of Paraisópolis shows the urban space and the relationship between built and unbuilt space. It is chosen to show the reverse figure-ground diagram, where the buildings are in white and the spaces black, to focus upon the open space as an object. Treatment of the open space as an object is a predominant factor in figure-ground theory. A built-unbuilt map presents the fundamental urban landscape components, such as plots, streets, constructed spaces, and open spaces into a diagram of solid and void. It shows a mass-to-void relationship and the urban fabric. The proportions of the built can be manipulated to create different urban morphologies.

In the favela the building mass is dense and open space is minimal. Spatial continuity is achieved through articulated public spaces, such as the main streets and the soccerfield. This dense building typology creates a mixed-use urban environment that increases pedestrian activity and socio-economic activity. The dense fabric is also problematic, because then the car becomes dominant, demanding the scarce open space for functions such as parking and infrastructure. The grid structure and division in blocks is very clear, it separates the main public space, the street, from the occupation of buildings. The blocks define the public and the (semi-)private space and the activities along the borders. Therefor the blocks are a key-element in the spatial organization of the favela and are used to define typologies.

A quick look at the map already shows the contrast in the built-unbuilt relation of the favela with its surroundings. It is easy to distinguish the informal settlements from the formal urban structure, because Paraisópolis and Morumbi have shockingly different appearances. The urban structure of Morumbi presents opposite urban characteristics, the open space is much greater and the buildings are larger. The open space is much greater than building mass, resulting in a disconnection between buildings and a lack of spatial definition in the open space. Here the problematic hills are cultivated for buildings or left open.
The striking conclusion drawn from the built- unbuilt map is the ease in which we can identify formal and informal residential areas based on urban structure and building typology.

Map: Developments in Paraisópolis

- **built**
- **road**
- **planned/municipal developments (buildings)**

0 10 100 50 500 200 300 400 meters
New developments

In the 1990s the first efforts of the municipality started with some small social improvements and water and sanitation works in Paraisópolis. In 2002 the municipality developed a strategic plan for Paraisópolis within the Programa de Regularização Fundiária (Land Tenure Regularization program), part of Programa Bairro Legal. An extensive program of land reform began in line with the City Statute of 2001 and the ZEIS (Zones of Special Social Interest), a tool within the City Statute that makes it possible for cities to to deal with the diversity of occupations and urban land uses. The municipal masterplan of São Paulo of 2002 and the Land Use and Occupancy Law of 2004 recognized the informal settlements and through the ZEIS they were marked on the map, together with the marking of new areas for the construction of social housing. (Carvalho, 2014).

The municipal and federal government have developed some housing programs in the last years that support the urbanization of informal settlements in Brazil and especially São Paulo. A federal program is MCMV (Minha Casa Minha Vida), introduced in 2009 within the PAC 1 & 2 (Growth Acceleration Program 1 & 2) as a social housing initiative for low-income families. The municipality of São Paulo started in 1996 already with the Program Mananciais, which is extended in 2005. In 2002 the municipality introduced the Program Regularização Fundiária (Land Tenure Regularization Program) of which Paraisópolis was the first to executed this. In 2005 the municipality started the Program Urbanização de Favelas (Favela Urbanization Program) and Paraisópolis was choosen as the first, as an example for further slum upgrading within the city. (Habisp, 2013).

Within the upgrading program many multisectoral interventions are implemented to upgrade the favela. With the focus on the urban structure, mainly the new building developments and the locations are discussed here. The new developments are concentrated on the east-west border of the favela. The favela did not expand in this direction because of physical borders, walls, that were constructed by community leaders to stop the growth of the favela. Behind these walls new social housing is built.

Another major new development is the construction of the road Via Perimetral, also on the east-south border of the favela. This road is built on the waterstream Brejo and creates a division within the occupation. Along this road new social housing developments are constructed.

The typology of the new social housing developments is: high density, high rise, low cost housing, ie gated condominiums. Condominiums are the standard building typology within the formal city, but they have different urban characteristics in comparison to informal housing which makes it difficult to integrate them within the urban fabric of the favela. They bring physical borders such as gates and fences into the favela, behind these fences there are small public spaces only for the residents. Condominiums are often monofunctional, while informal housing is multifunctional and adaptable.
Typology of blocks

A block is 100 meter by 200 meter and is divided in 40 plots. These 40 plots are 50 by 10 meters. The urban pattern of the block is faded over the years because of informal development. The development of the urban patterns in the blocks are not equal, there can be distinguished five different patterns. All of these are based on the block division and the geography, where the new developments are also based on mass housing typologies. However the overall difference is in the adaptance of the urban structure towards the geography or the block division.

The blocks reveals to be a key-element in the spatial organization of the favela. The blocks define the public and the (semi-)private space and the activities along the borders. In the favela the building mass is dense and open space is minimal. Spatial continuity is achieved through articulated public spaces, such as the main streets and the soccerfield. This dense building typology creates a mixed-use urban environment that increases pedestrian activity and socio-economic activity. The dense fabric is also problematic, because then the car becomes dominant, demanding the scarce open space for functions such as parking and infrastructure. The grid structure and division in blocks is very clear, it separates the main public space, the street, from the occupation of buildings. Therefor the blocks are a key-element in the spatial organization of the favela.

There are five different typologies of blocks:

1. The fragmented block: the occupation is built within the grid structure and subdivision of lots, however over time the grid gradually dissapeared and resulted in a fragmented urban structure. This typology is dominant in the overall urban structure of the occupation.
2. Block with original subdivision: the occupation is built within the grid structure and subdivision of lots. The subdivision remained in tact over time.
3. Block fragmented/ subdivision: A part of the subdivision remained over time, mostly because there are public functions or institutions located. The other part of the block resulted in a fragmented urban structure.
4. Block based on geographic conditions: this typical block is located in an environmental high-risk area resulting in an occupation that is based on the geographical lines.
5. New housing developments: the new housing developments do not follow the grid structure of the block, they more or less follow the geographic lines.

The geographical underground combined with the subdivision of lots is showed in the first row of images. The second row shows the buildings.

As a conclusion it can be stated that the lot subdivision structure gradually dissapeared, but that the blocks remained. When the geographic conditions are challenging the occupation did not follow the subdivision in lots, which means that in these cases the geography is dominant and the grid structure subdominant.

(1) The fragmented block
(2) The block with the original subdivision
(3) The fragmented block/ the large plots
(4) The fragmented block/ the large plots in an environmental risk area
(5) New housing development
Open space: street and alleys

In the favela open space is scarce. The urban structure of the block has defined the main streets as the major open spaces in the favela. Within the blocks there are alleys that provide access within the dense urban fabric. The streets and the alleys form the two main elements of open space inside Paraisópolis. It has to be noted that in the brazilian culture the soccerfield as a public and open space is always present in the favela, also in Paraisópolis. However the focus is on the open space typical for the urban structure in Paraisópolis: the streets and the alleys.

The streets are characterized by strict and hard boundaries in comparison to the fragmented informal urban structure. It is an element of the urban grid structure that is respected over the years and kept open, as a result it became the major public space within the favela. In the streets all activities come together: car traffic, pedestrians, social interactions, shops, street vendors, children playing etc. The street width varies from 7 till 9 meters and is predominantly designed for traffic. Over time some inhabitants constructed their own semi-private spaces and sidewalks on the streets.

The alleys are the only open spaces within the blocks and have opposite characteristics. They are very small and are used in general by the inhabitants of a block. Although they are open and accessible for the public, because of their small dimensions, irregular and fragmented structure, private sphere they function for the inhabitants of a block. The width of an alley varies from less than 1 meter till 4 meters.

The form of a street or alley is related to the functions and activities that happen in this place generating a sense of place. In Paraisópolis the form of the urban structure has created contrasting open spaces: the streets as public spaces and the alleys as semi-private spaces. This is the general distinction in characteristics, however there can be made a more gradual distinction in typologies of the open space.

The more gradual distinction in the characterization of streets and alleys is described through function, activities, passengers, dimensions and the sense of a place. There are the following typologies of open spaces:
(1) public spaces: streets
(2) semi-public spaces: two type of alleys
(3) parochial spaces: alleys for housing
(4) private spaces (public inaccessible open spaces): business or housing

There is no hierarchy in the streets of Paraisópolis, but the favela is accesible by regional roads. Regional roads function for heavy traffic and large traffic distribution, existing out 4 to 6 lanes. The streets of Paraisópolis are as a consequence of the grid the same in dimension, always public of nature and create equal crossings. However the facilities and activities, the accessibility and the geography of the location create a different sense of place and attract more or less public activities on the streets. This dense building typology within blocks creates a mixed-use urban environment that increases pedestrian activity and socio-economic activity. The dense fabric is also problematic, because then the car becomes dominant, demanding the scarce open space for functions such as parking and infrastructure. Here rises the question if the streets should be adapted to support the different assets of each location.

Inside the blocks the accessible open spaces are alleys. There is more variety in the typology of this open space, from private spaces (public inaccessible open spaces) to semi-private spaces and semi-public spaces. It is not a very clear, but a gradual distinction in open spaces. In general the buildings do not have private open space, however the buildings used for business and the larger houses often have some private open space. Alleys are semi-private if they only function for accessing houses which means that there come pedestrians with their home as destination. The sense of these alleys is private and often the alley is used as an extension of the house. There are two types of alleys that are semi-public, there are alleys that function on the scale of a single block, but there are also alleys that function on the scale of a center. The alleys that function on the scale of a single block are used only by the inhabitants of a block. Children that live there play together, neighbors meet and chat, and inhabitants pass by to go home. The alleys that function on the scale of a center are used by inhabitants living in the direct environment for more destinations then only their homes, also for reaching facilities, businesses and services. The differences between alleys is not visible in dimensions and design, but in function, activities, passengers and the sense of a place. The dimension of the alleys is minimal and creates often problems where multiple activities meet. Also here rises the question if the dimension and design of the alleys should be adapted to foster the activities and movements of the inhabitants inside the blocks.

<table>
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<th>Description of open spaces: streets and alleys</th>
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<td>category of open spaces</td>
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<tr>
<td>regional road</td>
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<tr>
<td>streets</td>
</tr>
<tr>
<td>alleys for routing</td>
</tr>
<tr>
<td>alleys for the block</td>
</tr>
<tr>
<td>alleys for housing</td>
</tr>
<tr>
<td>open space that belongs to a building</td>
</tr>
</tbody>
</table>

Scheme 26. Description of open spaces: streets and alleys Source: author’s own.
images of (1) main public spaces: streetscape

images of (2) semi-public spaces: alleys that connect to other alleys and provide access to facilities (center scale)

images of (2) semi-public spaces: alleys network within the block (block scale)

images of (3) parochial spaces: alleys to access houses

Photo 23. Images of (4) private spaces (public inaccessible open spaces): business or housing.
Source: Author’s own.
Social infrastructure and activities

The second part of the threehold review focusses on the activities that take place in the favela. Activities take place in the open space and within the built space, but are all there to serve the community or certain social groups of the community. The social infrastructure of a place forms the spatial backbone of the activities. Activities are directly related to the social infrastructure of a place. Social infrastructure is the set of formal and informal facilities, services and arrangements that people use in the organization of their daily life. By analyzing the social infrastructure on the scale of the favela organization of the socio-spatial and socio-economic activities within the community can be understood. This chapter describes and maps the economic, social, educational, cultural and recreational facilities, services and arrangement within a community, also referred to as the social infrastructure of a community.

Earlier in this document is mentioned that Paraisópolis functions as a ‘city within a city’. This refers to the mixed uses of space, the several activities, the complex variety, diversity and vitality of Paraisópolis. The term diversity means that there is a large variety in uses. Vitality refers to the number of people on the streets and their activities which can also be described as an active streetlife. Activities indicate the identity of a place and the sense of a place.

The form of the urban space, analysed before, is stimulating certain activity and movement, as well as vica versa. Besides analyzing the social infrastructure the activities in the open space need to be discussed. There can be identified three type of activities in the open space:

1. Necessary activities: common daily activities that happen in order to maintain the required actions of a day, such as travel to work or school, waiting for public transport, buying food etc.
2. Optional activities: activities that happen voluntarily when it is allowed by the public space, such as strolling, sitting, having a drink etc.
3. Dependent activities: activities that are dependent of the presence of others in the public space, such as chatting, children playing, group activities, street vending, business structures and leisure activities etc.

Dependent and optional activities often occur within the same open public space (Gehl, 2006).

The purpose of analyzing the social infrastructure of Paraisópolis is to understand the quality and character of the activities by pointing out the facilities, services and arrangements within space, their attraction and identifying the key-nodes. Mapping of activities is essential in grasping the daily life inside the community. By choosing the key-attraction facilities conclusions on the attraction level and possible key-nodes can be made. Consequently locating the facilities and their attraction, where people move and what activities they perform daily in the streets can later on set the proposal for the urban design. Activity often generates more activity, so it can be assumed that some of these places have the potential to become economic and social key-nodes in the community. However a high amount of activities can also lead to conflicts as they limit the advantage of another (Gehl, 2006). In the streetscapes of Paraisópolis there is a high level of activity which produce conflicts of space. Car transportation and parking for example is limiting the space of pedestrians.

As a conclusion the following elements of the social infrastructure are discussed:

1. Listing all activities in the following categories: production and commercial, social services and community organizations, sport and recreation, education, culture and religion. An identification of the key-activities is included.
2. Mapping of the category production and commercial
3. Mapping of the category social services and community organizations
4. Mapping of the category sport and recreation
5. Mapping of the category education
6. Mapping of the category culture and religion

Categorization of activities

The urbanization process of informal settlements needs to focus on a cohesive socio-morphological urban structure of the area. Validating the existing urban network, transforming it into a cohesive socio-morphological urban structure through the improvement of public space will enhance the social infrastructure and the informal economy. The existing urban scale network or urban structure can be analyzed through the activities or facilities, the movement and flows in the area and the morphology of the area.

In the spatial analysis of the activities it is necessary to make a distinction between the kind of activities. Each of these categories are defined in relation to the existing socio-territorial structure providing a basis for the proposal of the spatial integrative strategy for Paraisópolis. The following categories are defined: production and commercial, social services and community organizations, sport and recreation, education, culture and religion. All categories are listed in schemes presented on the next pages.

The first category production and commercial consists of local businesses, banks and hardware stores. There is no list with all the local businesses mentioned, however the most common local businesses are: supermarkets, bars, cafés, internet shops, bakeries, restaurants, hairdressers, groceries and mechanics.

The second category social services and community organizations consists of social-assistance organizations, community-based organizations, labor unions and health services.

Followed by the third category sports and recreation which is divided in sportclubs and sportplaces.

Then the category education is organized in the following sub-categories: schools of the municipality, schools of the state, other educational facilities and education infantil.

Finally the category culture and religion consists of libraries, culture organizations, culture facilities infantil, internetcafes, sound studio, dancing studio, cinemas, auditoria, music and dance organizations, community artists and churches.
**Scheme 28. Commercial and productive activities of Paraisópolis. Source: author's own.**

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<td>Banco Brasileiro</td>
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**Scheme 29. Social services and community organizations of Paraisópolis. Source: author's own.**

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**Scheme 30. Sports and recreation of Paraisópolis. Source: author's own.**

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**Scheme 31. Educational activities of Paraisópolis. Source: author's own.**

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**Structural component**

**Urban structure**

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<td>Escola de Informática de Produtores Rurais</td>
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<td>Sala de leitura</td>
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<td><strong>name</strong></td>
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Scheme 32. Culture and religion of Paraisópolis. Source: author’s own.
Map 10. Schematic approach of the activities in Paraisópolis. Source: author’s own.

(next pages) Map 11. category production and commercial and attraction
Map 12. category social services and community organizations and attraction
Map 13. category sport and recreation and attraction
Map 14. category education and attraction
Map 15. category culture and religion and attraction
Map 2. Social services and community organizations in Paraisópolis. Source: author’s own.
Social Infrastructure and activities

- Education
  - EMEF (Municipal)
  - EE (State)
  - Other educational facilities
  - Education Infantil

- Social
  - Social-assistance organizations
  - Social organisations founded by local inhabitants

- Culture
  - Libraries
  - Cultural organizations
  - Cultural facilities Infantil
  - Cinema
  - Music/Dance
  - Auditoria

- Labor unions
- Banco Bradesco
- Santander
- Sportclubs

- Health care

- Other

- Built demolished for projects
- Geography
- Built formal
- Road
- Water stream
- Block 100x200m

- Scale: 0 10 100 500 200 300 400 meters
Movement and flows
The last part of the threehold review focusses on the movement that takes place within the favela. Movement and activities within the space point out the daily functioning of the inhabitants. The term movement is used for the flow of people in a specific location.

The form of the urban space, analysed before, is stimulating certain activity and mobility, as well as vica versa. Movements in the public space can be analyzed through analyzing the type and amount of passengers coming by, all in relation to the public space, the streets and the alleys, and in relation to the social infrastructure and the activities that foster these movements. All the elements of the social infrastructure are mapped. To understand they area they serve it is needed to make a spatial translation of the attraction by measuring radius in poly-centers, walking distances and exact time-distances. This provides a good insight in the movement related to the hilly geographics of the area.

Aspects such as mobility and accessibility define the opportunities for social-spatial integration with the surroundings and the city. It is essential to provide good accessibility and entrances towards the key-attraction points in the area, making a difference between pedestrians and motorized traffic.

The purpose of analyzing the movement of people in the area is to understand the daily system of the area. The outcomes can be used in the proposal for intervention to provide equal access to all urban resources and strengthen the community’s local assets.

As a conclusion the following elements of the movement are dicussed:
(1) Main roads and movement
(2) Type and amount of passengers
(3) Acces points and entrances

Type and amount of passengers
Walking is the common mode of transportation inside Paraisópolis. This is in contrast with the surroundings where the car is the most common mode of transportation. The streets of Paraisópolis are congested with people during rush hours, people walking to work, children walking to school and people performing their daily chores. A large part of the day people spent their time outside, just in front of their house, in the streets or at their families house. This aspect is inbedded in their culture and possible in this climate.

In the streets with the highest amount of activities there is the highest amount of people during the day. These streets function as markets and business streets. In these streets there are conflicts of space. Car transportation and parking for example is limiting the space of pedestrians, while there is a high amount of pedestrians in this area. Also businesses and street vendors claim there spaces in the streets.

Figure 33. The conceptual framework capturing the daily life of the inhabitants and the functioning of the community combines three essential concepts: the spatial condition (urban structure), social and economical condition (activities) and the infrastructure (flows, movement of people). Source: scheme is made by the author.
DESIGN COMPONENT
“When we were walking through the narrow alleys, it was literally impossible not to step in the raw sewage and the garbage alongside the little homes. But at the same time it was also impossible not to see the human vitality, the aspiration and the ambition of the people who live there.”

Photo 24. Construction work at Gratao, a risk area, for the developments of Parques Santona, Condominio Nue Social Paviljoen and the Music school. Source: Author’s own. Taken at 2/14/2014.
**DESIGN COMPONENT / STRATEGIES**

**Municipal strategy**

In 2005 the municipality of São Paulo started the Program Urbanização de Favelas (Favela Urbanization Program) and the favela Paraisópolis was chosen to be the first favela to receive upgrading efforts, as an example for further slum upgrading within the city. Within the program Urbanização de Favelas the Paraisópolis Program is developed specifically for this location. The aim of the municipal upgrading program is to improve the living conditions of the community, turn Paraisópolis from a favela into a middle-income neighborhood and achieve integration of Paraisópolis within the city. The Paraisópolis Program is replicable because it is part of the Program Urbanização de Favelas with the aim to replicate it in other informal areas of the city. The Paraisópolis Program reacts strongly on one of the major problems in the area, the precarious site conditions, but also on other problems related to the favela such as the water floodings, the garbage on the streets, the lack of public space and public facilities. The program provides in infrastructure, public services and social housing for a sustainable development of the area.

The municipal strategy is placing new developments within Paraisópolis. One of the major problems in Paraisópolis are the environmental risk areas were inhabitants living in shacks face mud slices, flooding and collapses of their house. The strategy is based on the location of these risk areas. The living conditions within these areas are unacceptable and inhabitants should be offered another house. The municipality tries to provide social housing on the border of Paraisópolis for these families, but there is a waiting list and some families are offered houses in other parts of the city. When the shacks are removed an open empty area is left. Architectural firms are asked to help the government with the implementation of urban developments in these areas. The maps show an overview of the removals.

The municipal urbanization process started in 2005 and is planned to finish in 2015 and can be described as a multi-year top-down plan composed out of different strategies with several multi-sectoral projects or interventions represented in an intervention map. The intervention map is changing over time, because every project or intervention is treated as a pilot-project and provides new insights in the problematics. It is a learning process for the local team of SEHAB where a few steps forward in the upgrading process is followed by a step back. At the moment many projects are finished, while some still face problems to start or continue, but others are cancelled. New input of SEHAB proposed to extend the process in 2009 with a municipal housing plan that should finish in 2024.

The municipal strategy produces several problems:

1. **The location, scale, attraction and interaction of the new interventions were not considered by the municipality on an urban scale and within a cohesive vision.**
2. **The new building typologies present contradictory urban characteristics, which makes it difficult to achieve an integrated urban structure.**
3. **The objective of the upgrading program is to ensure further consolidation of the community within the city through integration, however they only attempt to reach this objective with spatial interventions focussed on heavy infrastructure and do not consider the social and economic aspect of integration to achieve an inclusive city.**

These problems occur because there are missing steps of the strategy: scenarios, vision and strategic goals. The strategy is based on an analysis of environmental risk areas, the problem of the unacceptable living conditions in the risk areas and the spatial interventions that place new functions after the removals of constructions in risk areas.

The scheme shows the flexible set of steps and actions taken over a certain timeframe, within the framework of a desirable vision, used in order to fulfill the achievement of societal goals connected to the organization of space.

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The interventions of the municipal urbanization process

In 2005 the municipality of São Paulo started the Program Urbanização de Favelas (Favela Urbanization Program) and the favela Paraisópolis was chosen to be the first favela to receive upgrading efforts, as an example for further slum upgrading within the city. Within the program Urbanização de Favelas the Paraisópolis Program is developed specifically for this location. The aim of the municipal upgrading program is to improve the living conditions of the community, turn Paraisópolis from a favela into a middle-income neighborhood and achieve integration of Paraisópolis within the city. The Paraisópolis Program is replicable because it is part of the Program Urbanização de Favelas with the aim to replicate it in other informal areas of the city. The Paraisópolis Program reacts strongly on one of the major problems in the area, the precarious site conditions, but also on other problems related to the favela such as the water flooding, the garbage on the streets, the lack of public space and public facilities. The program provides in infrastructure, public services and social housing for a sustainable development of the area.

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The upgrading program consists out of multi-sectoral interventions implemented inside the favela, but also on the border of the favela as an expansion of the original occupation. These interventions are located within risk areas, on the main streets, within the dense blocks and on the borders. The location of the new public space, social housing, new facilities and services inside and on the border of the favela change the dynamic of the favela as a neighborhood.

The upgrading program is implemented and managed by a local team of the municipal housing department SEHAB. However more people within SEHAB have worked on the plans for Paraisópolis. The communication and information transfer between them is not optimal, some information does not reach the local team or is not used. There are also transition in the local team, the team of 2009 was replaced in 2011 by a new local team because of the elections. Information of the old team has not received attention of the new, currently leading, local team.

### Projects Table

<table>
<thead>
<tr>
<th>Phase</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>First phase</td>
<td>May, 2005</td>
<td>Channeling and improving the existing drainage systems and streets.</td>
</tr>
<tr>
<td>Second phase</td>
<td>July, 2007</td>
<td>Improvement of the public facilities and sanitation.</td>
</tr>
<tr>
<td>Third phase</td>
<td>October, 2010</td>
<td>Improvement of the public facilities and sanitation.</td>
</tr>
</tbody>
</table>

### Design component

- **Planning:**
  - **First phase:**
    - Channeling and improving the existing drainage systems and streets.
  - **Second phase:**
    - Improvement of the public facilities and sanitation.
  - **Third phase:**
    - Improvement of the public facilities and sanitation.

- **Implementation of projects:**
  - **First phase:**
    - Channeling and improving the existing drainage systems and streets.
  - **Second phase:**
    - Improvement of the public facilities and sanitation.
  - **Third phase:**
    - Improvement of the public facilities and sanitation.

- **Effects:**
  - **First phase:**
    - Channeling and improving the existing drainage systems and streets.
  - **Second phase:**
    - Improvement of the public facilities and sanitation.
  - **Third phase:**
    - Improvement of the public facilities and sanitation.
null
Design component

Projects

- Brejo, AMA, Antonico stairs
- CEU, condominium A & D
- Condominium E & F, music school
- Grontinho, Elemental, Jardim Colombo
- Porto Seguro, Antonico waterstream, Jardim Colombo B
- Parque Santona, Porto Seguro

Photo 25. Projects: soccerfield, Via Perimetral
PROCESS COMPONENT
"When we were walking through the narrow alleys, it was literally impossible not to step in the raw sewage and the garbage alongside the little homes. But at the same time it was also impossible not to see the human vitality, the aspiration and the ambition of the people who live there."
Community Board

The community can vote for the people who will represent the next three years the community of Paraisópolis. Founded in 1983 by mobilizing the residents of a community that had just graduated, today the residents of Union is an important tool in the struggle for the rights of residents and is responsible for many projects and transformations guaranteed to the community in recent years mainly in the last ten, with the arrival of urbanization.

What started as just a movement to prevent the withdrawal of the land where residents now live more than 100 thousand inhabitants, was gaining momentum and turning Paraisópolis in a decent place to live. This is because the residents realized they organized was the way they had to ensure their basic rights. And through this struggle was possible to make the voice of more than 100 000 people were heard by the government, as it is today.

Responsible for major change that the community currently lives, the Union of Residents also brought numerous social projects that directly benefit today more than 5000 families in the community, and education projects and integration in the labor market, such as the Community Employment Security and the School of the People, responsible for literacy 3,479 residents, projects that contribute directly to the social and educational development of the community.

Even knowing all the achievements guaranteed by the association, not mandatory, many residents do not participate in the election, and fail to choose their representatives.
Introducing the diagnosis
The analysis ends with conclusions, a diagnosis of the three components: structural, planning framework and operational component, and the formulation of input for the final product. The conclusions are defined for each component of the analysis and are summarizing the main findings of the analysis.

The components of the analysis are interconnected and need to be reviewed in relation to each other. This is possible in the diagnosis. If there is a spatial system that is not integrated and the existing plans do not solve this problem, or a plan is not supported by all actors in the final product the spatial proposal needs to integrate this system. The diagnosis consists of two parts:

1. The first part is comparing the structural component with the planning framework component. By comparing the problems of the urban structure and the existing planning framework a conclusion can be given on the degree of accomplishment of an existing plan. Is the plan a sufficient solution to solve the current problem of the system?

2. The second part is comparing the planning framework component with the operational component. By comparing an existing plan with the demands of the actors a conclusion can be given on what the plan is proposing and if that is in conflict with the demands of the stakeholders.

Based on the conclusions and the outcome of the diagnosis the necessary input for the final product can be defined which validates the final product and makes sure that it truly responds to the problems and needs of the inhabitants.

Conclusions
The main conclusions of the analysis are:

(A) Structural component: the urban structure of the area is based on two aspects: the grid and the hilly topology. The grid is a planning tool that was already implemented before the occupation and influenced the occupation, however also the hilly topography influences the occupation mainly in difficult environmental areas creating different urban structures (spatial analysis of the block). The grid is spatially organizing the urban space on a complex scale, a neighborhood scale and a local scale. On an urban scale it is creating urban blocks that divide the private from the public space and provide open space on the streets. The open space is scarce and mainly find on the streets, therefor the streets play a fundamental role for the public life. The organization of the urban structure in a grid creates streets and crossings that are equal, however the movement and use in the streets is not equal. On a neighborhood scale the grid provides possibilities for pedestrian connections inside the blocks. On a local scale the subdivision of a block allows the creation of small open public spaces.

(B) Design component: the planning framework consists out of multisectoral interventions which function as individual projects. The multisectoral aspect and the amount of interventions create a non-transparent and extremely complex planning framework. It can be described as a multi-year top-down plan composed out of different strategies with several multi-sectoral projects or interventions represented in one intervention map. This intervention map is changing over time, because every project or intervention is treated as a pilot-project and provides new insights in the problematics. It is a learning process for the local team of SEHAB where a few steps forward in the upgrading process is followed by a step back. At the moment many projects are finished, while some still face problems to start or continue, but others are cancelled. New input of SEHAB proposed to extend the process in 2009 with several multi-sectoral projects.

(C) Process component: the main actors of the municipal urbanization process are the municipal housing department, the community board, the architectural firms and the construction company. The construction company is decisive in the development of new interventions, which is steering the project towards standard Brazilian urban building solutions. Within the community board there are elected members representing the community, which does not guarantee a good representation of the community.

Input for the final product
From the conclusion input for the proposal can be defined. The input is given for each component of the analysis. By recognizing input for the proposal I make sure that the information of the analysis is represented in the proposal. The final product needs to be based on the analysis to be able to truly respond on the problems and needs of the inhabitants. The final product will provide both spatial and process solutions, combining actors and plans.

(A) Structural component:
(i) Urban structure: the grid is of great valuable in organizing the urban structure, because it allows several spatial connections between the different blocks of the grid, automatically provides infrastructure and could be used for a structured development.

(ii) Activities:
The daily functioning of the community is based on the location of functions in the area. When interventions, such as services, facilities, activities are implemented in a community that lacks public facilities, the location of these new interventions should be considered carefully. The aim is to place the new interventions in areas most needed, but also in relation to the other activities strengthening the daily system.

(iii) Movement:
In the final product their needs to be implemented a hierarchy of the existing streets based on the current and future movement. The grid structure allows the implementation of pedestrian connections on a neighborhood scale, improving pedestrian movements inside the blocks.

(B) Design component: A sustainable vision for a socio-morphological structure should guide strategic local projects. The interventions or local projects should not be treated as individual or trials, but as strategic interconnected interventions.

(C) Process component: to improve the conditions of slums it is crucial to consult the main local actors in the community so that residents can participate in the planning, design, implementation, and maintenance of interventions. This is fundamental for creating sustainable and responsive interventions. Actor involvement should depend on the scale of a project, including local key-actors on the urban scale and including direct inhabitants on a local scale.
Degree of accomplishments

The three components of the analysis are compared in two parts to identify the degree of accomplishment in the plans and the structure and to identify conflicts and cooperations of the actors in the planning process.

(1) Structural component & design component:

On the urban scale the intervention map is coming short. The intervention map is guiding the urban scale development, but is changing over time and can be seen as a map showing all individual projects. The municipality has developed an analysis of the area and proposed a vision. By using the intervention map as a guiding tool the created vision is not respected. The interventions have the possibility to become a valuable addition for the people in Paraisópolis as they have the ability to generate social and economic improvement. Unfortunately the municipality faces unpredictable effects of the projects and undesirable changes on the urban structure of the favela and on the social structure of the community. The projects are not based on the socio-morphological structure of the community which is the main cause of the undesirable and unpredicted changes in the favela. The functioning of the community on an urban scale needs to be recognized to place interventions successful in the favela. The conceptual framework of the structural component has the ability to identify the functioning of the community by defining their activities, movement related to the morphology of the area.

The individual interventions and their effect on the urban structure can be analyzed with a spatial analysis on the scale of a block. The spatial analysis of the interventions (or projects) is addressing the comparison of urban structure and projects. The division of the multisectoral interventions into five spatial approaches are analyzed for their socio-spatial influence on the block, identifying their strengths, weaknesses, opportunities and threats. The spatial analysis of the interventions (or projects) is addressing the comparison of urban structure and plans. The division of the multisectoral interventions into five spatial typologies are analyzed for their socio-spatial influence on the block. The five spatial typologies are:

(1) Fragmentation
(2) Original subdivision
(3) Fragmentation and large plots
(4) Fragmentation and large plots in an environmental risk area
(5) Condominium development

Conclusions of this analysis are:

The development of condominiums presents the largest contrast with the grid, the occupation of the favela and the social aspects of the community, however is built in respect with the hilly topography. The fragmented blocks have many weaknesses in the socio-spatial development of a block, but do manage to deal with environmental risks. They react to the local scale, but are less sufficient on the neighborhood scale. The occupation that follows the grid division provides the most socio-spatial opportunities, however is needs adaption in environmental risk areas.
(1) The fragmented block

- alleys
- stairs
- third places
- 0.7 households/m2

Type of social activities:
- private activities
- semi-private activities
- destination traffic (walking)
- illegal activities

Type of upgrading:
- improving infrastructure
- removal minimal amount of household
- widen & expand current network of alleys
- making new construction walls
- creating semi-private places

(2) The block with the original subdivision

Spatial characteristics:

Type of social activities:

Spatial characteristics of the fragmented part:
- alleys
- stairs
- third places
- 0.7 households/m2

Type of upgrading:

Spatial characteristics of the original part:
- small long plots (history)
- 0.2 households/m2

Type of social activities:
- private activities
- semi-private activities
- destination traffic (walking) - visitors traffic (walking)
- illegal activities

Type of upgrading:
(3) The fragmented block/ the large plots

- Spatial characteristics:
  - third places
  - stairs- alleys
  - 0.7 households/m²

- Spatial characteristics of the large plots:
  - combined small long plots (history) into a large plot
  - 0.08 households/m²
  - fencing
  - alley along the borders of the plot

- Type of social activities:
  - private activities
  - semi-private activities
  - destination traffic (walking)

- Type of upgrading:
  - improving infrastructure
  - removal minimal amount of household
  - widening & expand current network of alleys
  - making new construction walls
  - creating semi-private places

(4) The fragmented block/ the large plots in an environmental risk area

- Spatial characteristics:
  - third places
  - stairs- alleys
  - 0.6 households/m²

- Spatial characteristics of the intervention part:
  - street

- Type of social activities:
  - private activities
  - semi-private activities
  - destination traffic (walking)
  - illegal activities
  - visitors traffic (walking and bike)
  - shopping
  - playgrounds
  - seating places

- Type of upgrading:
  - improving infrastructure & water stream
  - building a new construction for informal housing development

(5) New housing development

- Spatial characteristics:
  - 0.2 households/m²
  - semi-private open space
  - fencing and walls
  - alley along the borders of the plot

- Type of social activities:
  - private activities
  - semi-private activities
  - destination traffic (walking)

- Type of upgrading:
  - improving infrastructure
  - housing units
  - creating semi-private places

Scheme 41. Socio-spatial analysis of the projects and the blocks. Source: Authors own
(1) The fragmented block

<table>
<thead>
<tr>
<th>STRENGTHS</th>
<th>WEAKNESSES</th>
</tr>
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<tbody>
<tr>
<td>inner part - fragmented plots without a clear grid</td>
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</tr>
<tr>
<td>inner part - minimal amount of small alleys</td>
<td>inner part - minimal amount of small alleys</td>
</tr>
<tr>
<td>inner part - no private open space</td>
<td>inner part - no private open space</td>
</tr>
<tr>
<td>inner part - small alley poor quality</td>
<td>inner part - social control</td>
</tr>
<tr>
<td>original subdivision of plots hardly prevent anymore</td>
<td>inner part - hard to control illegal activities</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OPPORTUNITIES</th>
<th>THREATS</th>
</tr>
</thead>
<tbody>
<tr>
<td>pavement of the alleys</td>
<td>removals required</td>
</tr>
<tr>
<td>create semi-private open space</td>
<td>inner part - less private</td>
</tr>
<tr>
<td>improve the accessibility of the alleys</td>
<td>affect the strong social cohesion</td>
</tr>
<tr>
<td>lower density</td>
<td>affect the economical activities</td>
</tr>
<tr>
<td>lower the amount of passing cars</td>
<td>lower the amount of passing cars</td>
</tr>
<tr>
<td>lower the amount of parking places</td>
<td>extend the sidewalk</td>
</tr>
<tr>
<td>extend the sidewalk</td>
<td>one-way traffic</td>
</tr>
<tr>
<td>improve the social cohesion</td>
<td>improve the strong social cohesion</td>
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(2) The block with the original subdivision

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<td>inner part - small alley poor quality</td>
<td>inner part - high density</td>
</tr>
<tr>
<td>original subdivision of plots still present</td>
<td>original subdivision of plots still present</td>
</tr>
<tr>
<td>integration of vibrant streetlife and private life</td>
<td>integration of vibrant streetlife and private life</td>
</tr>
<tr>
<td>facilities part of strong social cohesion</td>
<td>facilities part of strong social cohesion</td>
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</tr>
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<td>create semi-private open space</td>
<td>affect the strong social cohesion</td>
</tr>
<tr>
<td>alleys as a network within plot structure</td>
<td>affect the economical activities</td>
</tr>
<tr>
<td>improve the accessibility of the alleys</td>
<td>segregation of the blocks into different parts</td>
</tr>
<tr>
<td>lower density</td>
<td>more cars passing through</td>
</tr>
<tr>
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(3) The fragmented block/ the large plots

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<th>STRENGTHS</th>
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<tr>
<td>clear borders</td>
<td>inner part - minimal amount of small alleys</td>
</tr>
<tr>
<td>borders - vibrant streetlife</td>
<td>inner part - minimal amount of small alleys</td>
</tr>
<tr>
<td>inner part - private life</td>
<td>inner part - no private open space</td>
</tr>
<tr>
<td>integration of vibrant streetlife and private life</td>
<td>inner part - social control</td>
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</tr>
<tr>
<td>improve the social cohesion</td>
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</table>

(4) Alley Intervention (reaction on block 1, 2, 3)

<table>
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</tr>
<tr>
<td>inner part - no private open space</td>
<td>inner part - no private open space</td>
</tr>
<tr>
<td>inner part - small alley poor quality</td>
<td>inner part - high density</td>
</tr>
<tr>
<td>original subdivision of plots still present</td>
<td>original subdivision of plots still present</td>
</tr>
<tr>
<td>integration of facilities</td>
<td>integration of facilities</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OPPORTUNITIES</th>
<th>THREATS</th>
</tr>
</thead>
<tbody>
<tr>
<td>extension of the alleys</td>
<td>removals required</td>
</tr>
<tr>
<td>pavement of the alleys</td>
<td>inner part - less private</td>
</tr>
<tr>
<td>create semi-private open space</td>
<td>affect the strong social cohesion</td>
</tr>
<tr>
<td>alleys as a network within plot structure</td>
<td>affect the economical activities</td>
</tr>
<tr>
<td>improve the accessibility of the alleys</td>
<td>segregation of the blocks into different parts</td>
</tr>
<tr>
<td>lower density</td>
<td>more cars passing through</td>
</tr>
<tr>
<td>lower the amount of passing cars</td>
<td>lower the amount of passing cars</td>
</tr>
<tr>
<td>lower the amount of parking places</td>
<td>extend the sidewalk</td>
</tr>
<tr>
<td>extend the sidewalk</td>
<td>one-way traffic</td>
</tr>
<tr>
<td>improve the social cohesion</td>
<td>improve the strong social cohesion</td>
</tr>
</tbody>
</table>

(5) New housing development

<table>
<thead>
<tr>
<th>STRENGTHS</th>
<th>WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>new housing</td>
<td>inner part - minimal amount of small alleys</td>
</tr>
<tr>
<td>semi-private spaces</td>
<td>inner part - minimal amount of small alleys</td>
</tr>
<tr>
<td>secured living area</td>
<td>inner part - no private open space</td>
</tr>
<tr>
<td>private life</td>
<td>inner part - social control</td>
</tr>
<tr>
<td>good infrastructure</td>
<td>original subdivision of plots still present</td>
</tr>
<tr>
<td>good amount of light inside the building</td>
<td>facilities part of strong social cohesion</td>
</tr>
<tr>
<td>more parking spaces</td>
<td>social control</td>
</tr>
<tr>
<td>owners receive an address</td>
<td>self-control</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OPPORTUNITIES</th>
<th>THREATS</th>
</tr>
</thead>
<tbody>
<tr>
<td>division between the cars from the pedestrians</td>
<td>selling of houses</td>
</tr>
<tr>
<td>new layer within the grid structure</td>
<td>no social control</td>
</tr>
<tr>
<td>connection for traffic between facilities</td>
<td>new house extends behind the borders of the favela</td>
</tr>
<tr>
<td>create semi-private spaces</td>
<td>creates hard borders with other blocks</td>
</tr>
<tr>
<td>new borders - attracts economical activities</td>
<td>spatial segregation</td>
</tr>
<tr>
<td>new borders - suited for economical activities</td>
<td>minimal amount of space for social activities</td>
</tr>
<tr>
<td>new borders - vibrant streetlife</td>
<td>minimal amount of space for economical activities</td>
</tr>
<tr>
<td>inner part - private life</td>
<td>is not integrated within the urban structure</td>
</tr>
<tr>
<td>create space for social activities</td>
<td>is not possible for the poorest inhabitants</td>
</tr>
<tr>
<td>create public space</td>
<td>unclear responsibility of the semi-private spaces</td>
</tr>
<tr>
<td>more light inside the buildings</td>
<td>unclear responsibility of the semi-private spaces</td>
</tr>
</tbody>
</table>

Scheme 42. Socio-spatial analysis of the projects and the blocks. Source: Authors own
Conflicts and cooperations
The three components of the analysis are compared in two parts to identify the degree of accomplishment in the plans and the structure and to identify conflicts and cooperations of the actors in the planning process.

(2) Design component & process component:
The planning framework consists of multisectoral interventions providing infrastructure, services and housing. The multisectoral aspect of the planning framework requires the development of the plans includes involvement of the main actors. There should be more involvement of the community to achieve projects that truly respond to their needs and can strengthen their assets. In the starting fase on urban scale the community is participating, however there has not been made a selection of local key-actors. In the continuation of the urbanization process community is involved through the community board. The most projects or interventions address the local scale but do not include the participation of the direct inhabitants. This defines a conflict between the scales of the plan and the actor involvement.

Another conflict is the influence of the construction company on the urbanization process and in particular on the housing projects. The construction company is decisive in the development of new interventions, which is steering the project towards standard Brazilian building solutions, which do not necessarily contribute to the socio-spatial and socio-economic conditions in the favela.

There are also problems with the continuation of some projects, this is related to the municipal strategy. The strategy of clearing environmental risk areas for new developments created temporary open areas in the development process, which has proved to be risky in an area with the tradition of occupation. Legal rules do not always comply with risk areas in the favela, for example do allow less density.

The last conflict is the influence of the strategy to consult famous architectural firms for the design of the projects. The approach of the architectural firms towards slum upgrading is not equal and can accentuate the individuality of the projects in the design, but also does not improve the interconnection of the projects. With this approach a strong vision for the urban scale should be followed to guide the architectural projects, unfortunately has the intervention map replaced the vision in the municipal urbanization process.
PART E
INTEGRATIVE SPATIAL STRATEGY
DESIGN PROPOSAL
HIGO SANTOS DE CARVALHO

"Something I love most are the people in the community. I think this makes Paraisopolis have something different: a who that other communities don’t have."

Photo 28. New public space. Source: Author’s own.
A cohesive urban structure or network can provide a sustainable development for a community. The urbanization process of informal settlements should focus on a cohesive socio-morphological urban network for the area, because of the importance of a strong social infrastructure in informal areas and the atypical morphological structure. In developing countries formal systems are often weak and in their place the local social infrastructure and social ties minimize insecurities, provide access to services and goods, and facilitate transactions. A strong social infrastructure helps individuals to cope with failing formal systems, but also local trade and economic opportunities are often only available for those that are part of the local social network (Fehr, 2013). The term socio-morphological urban structure refers to the relation between the morphological characteristics of space to the social infrastructure of a community. In a cohesive socio-morphological urban structure the morphological and social conditions are in balance. Validating the existing urban network, transforming it into a cohesive socio-morphological urban structure through the improvement of public space will enhance the social infrastructure and the informal economy.

The strategy is mainly spatial because it focuses on the implementation of public spaces and streets to enhance social and economic activities. It is an integrative strategy because it integrates movement with activities and morphology, following the proposed model for an urban network: roads (movement), public spaces (morphology) and socio-economic activities (activities). The strategic goal is to place urban developments, such as the urban services, social housing, infrastructure and public facilities within the urban structure by evaluating their effect on the network, finally creating a cohesive socio-morphological urban network for the community and stimulating local economic and social development.

Vision and strategic goals
A structural vision is a strategic document about the future spatial and functional development of a site. Paraisópolis is already a vibrant and dynamic place, the urban development of this favela into a neighborhood should not lose this quality, the identity of the place. The informal economy and the strong social network of Paraisópolis are the local assets that the community developed over time without governance support. New urban interventions need to enhance the identity of the place and the local community assets, but also needs to improve the daily life of the inhabitants. To achieve this it is needed to place new urban interventions in a cohesive socio-morphological urban network.

The structural vision can propose a socio-morphological urban structure through the introduction of a hierarchy in streets in connection with public spaces and location for new development activities (public facilities and functions). The location of new urban facilities and functions should enhance development of the less integrated parts of the favela. The attraction of new urban developments in the less integrated areas can include them in the urban network which will provide more equal access and opportunities for the entire community.

The integration of less developed parts of the favela will increase with the implementation of new urban facilities and functions, but should be interconnected with the integration of infrastructure. Streets and alleys spatially connect parts of the favela. Mainly the alleys have an important role, because of the local scale and their location inside the blocks. The design of the streets, alleys and the public spaces are interconnected, movement and activity are both considered in the spatial design. The streets are an important aspect within the urban network and include alleys and pedestrianized-streets, which can also be understood as public spaces. The critical public space function that is minimal in Paraisópolis and can become "the river of life.“ "The street is the river of life of the city, the place where we come together, the pathway to the center." (Whyte, 1980).
Model urban network

The creation of the vision for Paraisópolis required a spatial model. This model is based on the grid structure of Paraisópolis and introduces the steps needed to create a cohesive urban structure: hierarchy of roads and alleys (movement), interconnected with public spaces (morphology) and the placement of functions in a network (activities). The spatial model starts with the grid and topography as urban structure, residential constructions are left out of the model. The first block represents the existing situation: regional roads and standard roads. In order to create a cohesive urban network distribution roads and public transport must be implemented within the favela. Large facilities often need to be accesible by car and are placed near distribution roads and near public transport stops. Within the first block streets with a function as public space are implemented, which are combined with social and economic activities. The last block represents the urban network of semi-public spaces.

The hierarchy of streets and alleys needs explanation which is shown in the tabel. There is a same tabel explaining the public spaces. Followed by an overall table that is explaining the multiple relations between the streets, alleys, public spaces and facilities. The spatial connections and mutual relations between these aspects are creating the urban network. When they are created in balance the aspects support each other, for example a public institution that is daily visited by multiple inhabitants increases the movement in the direct surroundings, but also generated activity and meetings. Public space connected to the facility can provide the needed space for the inhabitants to meet. When public space is connected with a facility or institution often the maintance and social safety is higher.

Vision

The structural vision is proposing a cohesive urban network on a large scale. The network within the blocks is not shown in the vision, but is shown in the specifically choosen location. The structural vision shows the location of new facilities or functions and the hierarchy of streets. The input for the vision is the analysis of the activities, urban structure and movement which concluded the following problems within the existing urban network:

(i) The grid is a planning tool that was already implemented before the occupation and influenced the occupation, however also the hilly topography influences the occupation mainly in difficult environmental areas creating different urban structures.

(ii) The Antonico waterstream is functioning as a border. The southwest part behind the Antonico waterstream is less integrated in the urban network.

(iii) The two favelas Paraisópolis and Jardim Colombo rely on their own local facilities, larger facilities are shared. The favela Porto Seguro is dependent of the other favelas for local facilities.

(iv) Mobility connections between the three favelas are weak.

(v) Pedestrians and cars are in conflict.

The location of new urban facilities and functions should enhance development of the less integrated parts of the favela. There a few less integrated parts in the existing urban network:

(i) The southwest part behind the Antonico waterstream is less integrated in the urban network.

(ii) The environmental risk areas are less integrated within the urban network.

(iii) The favela Porto Seguro is dependent of the other favelas for local facilities.

The attraction of new urban developments in the less integrated areas can include them in the urban network which will provide more equal acces and opportunities for the entire community.

The facilities are organized in categories and related to a specific scale and attraction, with this information new facilities can be planned within the urban network to strengten integration of the weaker urban parts. The integration of less developed parts of the favela will increase with the implementation of new urban facilities and functions, but should be interconnected with the integration of infrastructure. Streets and alleys spatially connect parts of the favela. The design of the streets, alleys and the public spaces are interconnect, movement and activity are both considered in the spatial design. The streets are an important aspect of the proposal, including alleys and pedestrianized-streets. Streets perform the role of...
Activities in categories

<table>
<thead>
<tr>
<th>Category</th>
<th>Type of activities</th>
<th>Rate Scale</th>
<th>Blocks</th>
<th>Large Public Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production and Commercial</td>
<td>Bancs, hardware stores, shops</td>
<td>4-6 lane</td>
<td>complex</td>
<td>regional roads</td>
</tr>
<tr>
<td>Social Services and Community</td>
<td>Health care, social services, labor unions</td>
<td>1-way</td>
<td>community</td>
<td>distribution roads</td>
</tr>
<tr>
<td>Sport and Recreation</td>
<td>Sportfields, parks, squares</td>
<td>1-way</td>
<td>neighborhood</td>
<td>1-way road</td>
</tr>
<tr>
<td>Education</td>
<td>Schools, daycare</td>
<td>1-way</td>
<td>neighborhood</td>
<td>1-way road</td>
</tr>
<tr>
<td>Culture and Religion</td>
<td>Culture, religion</td>
<td>1-way</td>
<td>local</td>
<td>alleys for housing</td>
</tr>
</tbody>
</table>

Scheme. Hierarchy of roads. Source: Authors own

Scheme. Mutual relations between streets, alleys, public spaces and facilities. Source: Authors

Design Proposal: A cohesive urban structure
A part of the design proposal are the physical interventions these show the proposed type of public spaces and the design of them in the local context. Local interventions or projects should not be treated as individual or trials, but as strategic interconnected interventions. These strategic interventions focus on the public space and are planned in relation to the location, the scale, the social, cultural and economic activities and the attraction of these activities.

A part of the vision is the future development of the favela, for this a block is designed as representative for future development. Based on the proposed cohesive socio-morphological urban structure the possible development of a new block, part of the grid, is shown in phases. The public spaces and the new houses are developed through alternatives.
PROCESS PROPOSAL
"The street is the river of life of the city, the place where we come together, the pathway to the center."

WILLIAM H. WHYTE