Neighborhood Rehabilitation and Community Empowerment in a Vulnerable Area in Lebanon

[Karm El Zeitoun- Beirut]

Acknowledgments

Abstract

Poor, vulnerable, low income and disadvantages neighborhoods are the least tar-geted neighborhoods for any assessment, transformation or investment. The following paper, highlights the need of rehabilitation in a chosen neighborhood in the center of Beirut, entitled 'Karm el Zeitoun' that encounter limitation regarding social physi-cal cultural and economical aspects, which is known as a low-income and vulnerable neighborhood. Neighborhood rehabilitation should be implemented for the develop-ment of vulnerable communities as stated in the following paper. The most important element for neighborhood rehabilitation to succeed is taking into consideration the community, since the community plays a key role in the spatial evolution on any urban feature. Therefore, working with the community was a key factor in understanding and building an identity for the neighborhood.

The following contributed in showing how nowadays tools are beneficiary for any development or urban strategy that should be implemented in any neighborhood or area or even a space. It highlights the importance of integrating the community in

any decision, or even base your thoughts according to the analysis and the surveys acquired. These tools was first implemented by UN-Habitat, that shows the importance of the data analysis and field surveys that will transform the reality and the true image of the neighborhood, through visual field surveys, though interviews and discussions with the inhabitant. This strategy will translate the need of people their voices and their demands, based on analytical data, and visual assessment.

Based on the previous data collection tool, that is acquired by UN-Habitat, a neighborhood rehabilitation can be applied based on the data retrieved, based on demands and needs of the people. Taking into consideration all the people, from different background ethnicities cultures age and gender. And working on all the sectors that defines a neighborhood, from the built sector, to the infrastructure, and open spaces. An intervention was applied to attribute this data analysis to the possibilities and outcome of the neighborhood. These interventions are also based on tools and ideologies that highlight the importance of the community, the importance of a healthy and livable city. This strategy reflect that the community is the core to every development, and action in the neighborhood. Based on the community the interventions were applied, to provide them with the sense of belonging to the place, a place that they can call 'home'.

Table of Contents

List of Figures

*all maps or images taken on field are by the author only if indicated othewise.

PART I INTRODUCTION

Research Approach

PROBLEM STATEMENT

Informal settlements and poor neighborhood are a universal issue in urban studies, present all around the world, in different types, different typologies and different dimensions. Informal settlement opposes economic vulnerability, social marginalization.

From an informal slum to an informal settlement to a low-income neighborhood, an issue highlighted in the Lebanese territories all along the 10452km2 of land. An urban growth, increase poverty and inequality are major obstacles for the inhabitants. Since the 1920's Lebanon was and still is a refuge for several civilizations, slums kept on multiplying, displacement and establishment of camps or low-income housing for international refugees (The challenges of slums, 2003). With time, these slums turned into low-income neighborhoods. These informal neighborhoods developed on high levels of vulnerability, lack of basic urban services and low living condition compared to other section of the city. Un-habitat and UNICEF lunched the 'Neighborhood Profile' project, targeting the most vulnerable neighborhood along Lebanon, building a platform, collecting specific data to be studied and analyzed for further implementation.

Karm el Zeitoun, a low-income vulnerable neighborhood targeted by UN-Habitat and UNICEF in their neighborhood profile. A study on the neighborhood will be presented in the thesis, analyzed, and rehabilitated. This thesis will identify the importance of specific tools and strategies, that are the key element for a beneficial neighborhood analysis. It will also tackle the issue to improve livability and placemaking by upgrading the quality of shared spaces, open spaces, and the safety and security along the neighborhood.

Neighborhood rehabilitation involves different fields of knowledge. To be able to develop a neighborhood rehabilitation urban designer or the activist should understand the physical and technical layout of the neighborhood, tackle all the sectors of the neighborhood, from the social to the economic, and geographic issues. The ultimate and beneficial strategy is the community involvement, be present in the area, understand the dy-

namic and acquire concrete testimonies from the residents. This strategy is perceived by UN-Habitat and UNICEF, by being present on field and acquiring all the data needed. An urban rehabilitation only works by learning about the neighborhood.

UN-HABITAT'S GOAL

Un-Habitat, United Nations Program for Human Settlements, present around 90 countries in the world. Their aim is for a better urban future for all countries, cultures, and civilizations. By improving the urban future, they work on improving the living conditions of all people, not leaving anyone behind. The scope of work of Un-Habitat in Lebanon is basically divided into three major areas; (a) inclusive and sustainable urban development, (b) Improved planning systems and frameworks and (c) Effective urban crisis response. The main issues highlighted by Un-Habitat, is a malfunction of urban services. A lack of basic urban service, which includes basic infrastructure and services; water, wastewater, electricity, transportation and solid waste. Highlights also the urban poverty, poor neighborhoods that are continuously increasing with no adequate housing for all. Un-Habitat is working on benefiting all inhabitants with the aim of leaving no one behind, and the purpose of insuring all Basic urban services and needs to the inhabitants. Hence, not forgetting the sustainable goals (SDGs) also knows as the global goals adopted by all the united nations member states to limit poverty and develop peace by 2030. All 17 goals tackle all sectors, from poverty, hunger education, gender equality, clean water, sustainable cities, environment etc. They are mandated to the UN General Assembly to promote socially and environmentally sustainable towns and cities and adequate housing for all (UN – Habitat Mandate). Emergencies, humanitarian and post-crisis response are their main responsibilities.

Since 2006, Un-habitat has been present in Lebanon, following the destruction in southern Lebanon as well as the northern part, following conflicts and wars in these area, that were highly damaged, and initially aiming to improve the condition of the 43 Palestinian concentrations. Until 2013, their aim articulated to the shift responding the Syrian refuge crisis.

Figure 1. The 17 Sustainable Development Goals. Source: The United Nations.

Un-Habitat in Lebanon specifically works on the SDG 11 entitled Sustainable Cities and Communities, which works on making cities and human settlements inclusive, safe, resilient and sustainable, their purpose is to create business opportunities, safe and affordable housing and building resilient societies and economies, they invest in green public spaces, and improving urban planning, in participatory and inclusive way.

Regional Technical Offices

City Profiling

Neighborhood Profiling

Assessment

Participatory Approach

Engagement of the Community

Minecraft - Block by Block

Planning & Design

Upgrading & Implementation

Safe and friendly Cities - Neighborhoods in Beirut

Inclusive, Accessible and Safe Public Spaces - Beirut and Tripoli
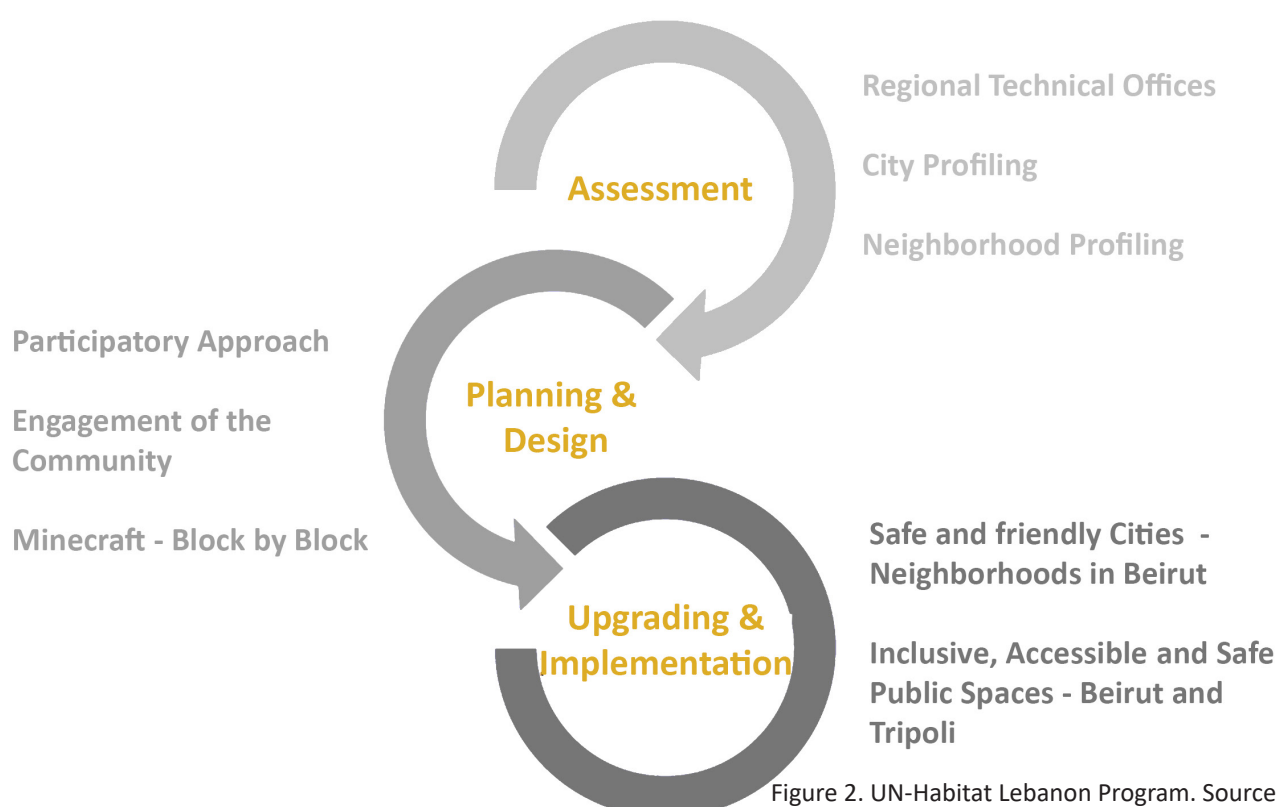
Figure 2. UN-Habitat Lebanon Program. Source: Un Habitat

Scope of work

NEIGHBORHOOD PROFILE

Un-habitat and UNICEF lunched the 'Neighborhood Profile' project, targeting the most vulnerable neighborhood along Lebanon, building a platform, collecting specific data to be studied and analyzed for further implementation.

A profile is a holistic and a multi-sectoral description and analysis of defined areas. UN-Habitat divided the study into two categories; the 'city profile' and the 'neighborhood profile'. The city profile is tackling on a metropolitan scale, with a strategic level, and oriented to a continuous analysis on a desk-based study. However, the neighborhood profile works on a smaller scale, a neighborhood or a sub-neighborhood scale, with the aim of an upgrade and oriented to action. This category is based on a field survey that will be defined in the following.

Karm el Zeitoun, a low-income vulnerable neighborhood targeted by UN-Habitat and UNICEF in their neighborhood profile. A study on the neighborhood will be presented in the thesis, analyzed, and rehabilitated. This thesis will identify the importance of specific tools and strategies, that are the key element for a beneficial neighborhood analysis. It will also tackle the issue to improve livability and placemaking by upgrading the quality of shared spaces, open spaces, and the safety and security along the neighborhood.

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data needed. An urban rehabilitation only works by learning about the neighborhood.

AREA IDENTIFICATION

The neighborhood profiles, conducted by the Un-habitat and UNICEF are reports that gathers data collection and analysis on specific neighborhoods across Lebanon. These studies were acquired according to classification of different vulnerable neighborhood across Lebanon, a specific study and classification was presented to classify them from the worst to the least vulnerable neighborhood relying on different criteria; extreme poverty, presence of refugee population, existence of slums, out of school/working children, violence, availability of public services, deficiency in urban services. These neighborhoods after assessment were ranked and scored using a scale from 1 (least vulnerable) to 3(most vulnerable) according to stakeholders present in each neighborhood. They were then assessed into the Multi-Section Vulnerability Index (MSVI) developed by UNICEF that helped to acquire a ranking list of the disadvantaged areas on a national level.

Finally, to select the top-ranking disadvantaged areas, boundaries were mapped in the field, some vulnerable areas were excluded due to the lack of accessibility and security issues. In the end they were able to define 30 neighborhoods across all Lebanon, that will be surveyed on field and specific publication regarding this analysis will be produced. Neighborhood profiling is a geographical and multi-sectorial analysis, combining all the data regarding every sector that can affect or define the structure of the area, defining it, and developing its identity, its layout its holistic image.

To start with the neighborhood profile, un-habitat's duty is to identify the boundaries of the neighborhood, were does the analysis take place.

•   Draw and delimit the boundary of the area, and take into consideration the wider background and context of the neighborhood, where it is located, what context they are in.

•   After defining the outer surface of the neighborhood, a top view satellite map is

handled by the office to the enumerators with a delimitation of the boundary. Enumerators once on field start working on the "Base Map", drawing the roads and stairs, the position and layout of the buildings, the open spaces that we can find. The aftermath of the base map, is a general map and specific layout of the neighborhood assigned.

•   After finishing the Base map, it will be handled back to the office, to finalize the layout according to what the enumerators draw and their 2D backup of the neighborhood. Following this step, the identification process begins, all the roads, buildings, open spaces, will get assigned with a ID code to be able to identify each assessment back to its geographical location.

Figure 3. Coded Map on a specific Neighborhood - Un-Habitat

The data analysis is composed of 13 sectors; context, governance, population, safety & security, health, education, buildings, water, sanitation and hygiene (WaSH), electricity, access and open spaces. The data gathered Is uploaded through survey123 into a geodatabase that is used to store georeferenced information, followed by the creation of maps and analyzed spatial information for the neighborhood. The combination of the qualitative and quantitative data help to build the profile of the multisectoral study

of the neighborhood.

The city profile strategy developed by the UN-Habitat is a strategy to build and define the identity and character of each neighborhood, specifically it is a way to define the positive and negative aspects of the neighborhood.

Context

Governance

Population

Safety & Security

Health

Education

Child Protection

Youth

Local Economy & Livelihoods

Buildings

WASH

Electricity

Solid Waste

Access & Open Spaces

Figure 4. Neighborhood Profile Sectors. Source: The UN-Habitat

DATA COLLECTION

The neighborhood profiling project consist of a mix method approach implementing quantitative and qualitative data, that is gathered into the geographic information system (GIS) based mapping. To acquire these data, field surveys, household surveys, focused group discussions and key informant interviews were the key element to develop this profiling survey on these neighborhoods.

FIELD SURVEY

The field survey consists on visual inspection according to specific guidelines and questionnaires that involves population count for each residential unit grouped by nationality and age. Regarding the building, an assessment on its external and structural condition and basic urban services, the infrastructure at all sectors, and the availability of open spaces. The household survey to have an exact number of population count, grouped according to their nationality (Lebanese, Syrians, Palestinians, others..)

Methodology

SURVEY 123

What is a geospatial cloud?

The strategy carried by the Un-habitat for data collection related directly to the Cloud platforms and geographic information systems (GIS) software, that gives the ability to study massive amount of information. This method allow to easy understand smart maps that can be used and analyzed by anyone. It also allows location intelligence data to be combined with artificial intelligence and predictive analytics to map out ways to drive productivity or adjust strategies before bigger problem occurs.

With a geospatial cloud it allow to create maps that represent thousands of relationship between hundreds of layer of data on all sectors.

Survey 123 for ArcGIS is a form centric solution for creating, sharing and analyzing surveys. It allows the consumer to collect data through an app via web or mobile devices, it analyzes results and upload data for any further analysis. Field collection is a critical part of GIS for many organizations. For our data to provide the answers we first need to ask the questions that make our data relevant objective and accurate. And now ArcGis have a new way to ask the questions, presenting Survey 123 for ArcGIS the best way to collect high-quality form based data in the field, it allows you to create a data collection workflow using smart forms, the company decide which questions to ask, it is easy to create these questionnaires in a spreadsheet by keeping it as simple or specific as it is needed.

The data entered through the app on mobile devices or desktop can be uploaded on the fly where it is immediately available back at the office for analysis feedback and response, the new data through survey123 I seamlessly integrates into ArcGIS. Survey123 for ArcGIS is a form-centric field data collection solution. The data once uploaded will be transferred as a Xsls file and analyzed by the office. Once it reached the office, the data analyzed will help to build the identity of the neighborhood.

Every profile on a specific neighborhood will have the context of the latter, that is developed through researches done in the office, but also can be altered following the field survey done and the data acquired on site. Combining the context and the different sectors seen previously a neighborhood profile is developed.

Following the field survey and then the data analysis in the office, everything will be inserted in GIS to create a platform that will combine all the data regarding the neighborhood.

Data collection	Data processing	Data Analysis & report production	Interactive Maps
Survey 123 app	GIS Team	Urban Analysis Team	Maps, online platform
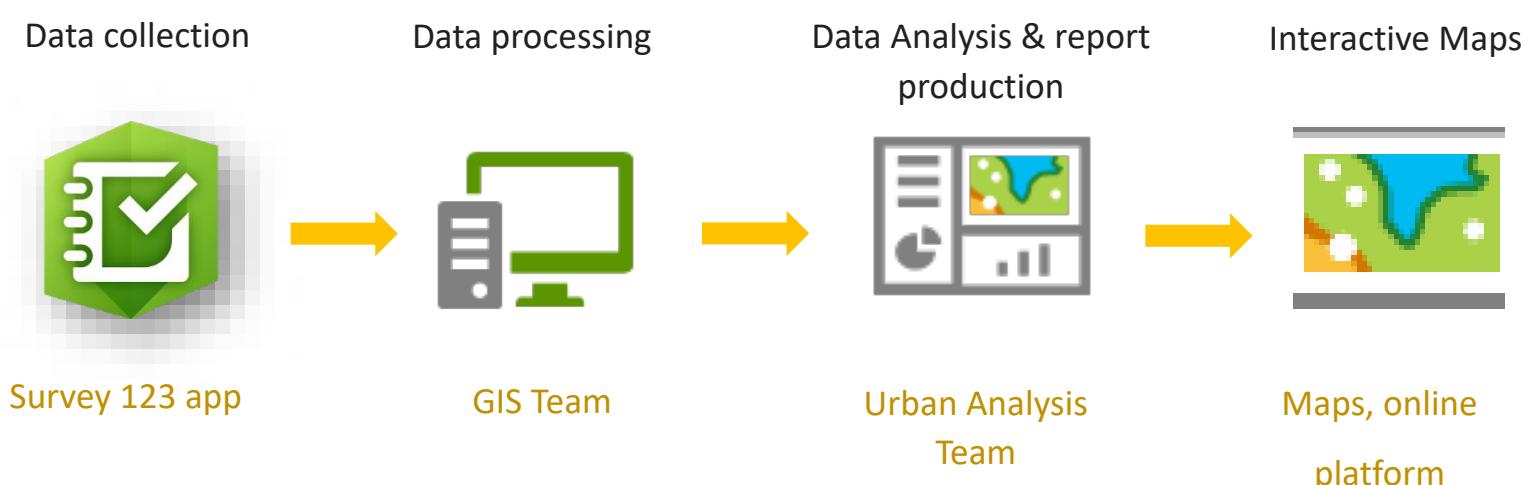
Figure 5. Data Collection Process. Un-Habitat

PROHABIT TOOL

Another tool is conducted in the neighborhood that can also be beneficial for any neighborhood analysis or any field surveys, that will help you to identify the needs and the situation of the neighborhood, by implementing the community as first actors.

The new strategy that was held, preparatory learning activities to become acquainted with the problematic of the area, and to study reference literature on urban theories. Student used the Web-based learning environment ARCLASS, developed by the research group ARC engineering and Architecture La Salle, to perform these preliminary activities. First inspection was a sociophysical analysis of the Karm El-Zeitoun area by applying the methodology developed PROHABIT project, co-funded by RecerCaixa. The results of the analysis can be accessed through a platform online in PROHABIT : MAPPER .

 Is a multidisciplinary and participative research project dedicated to analyzing the im-

pact that urban transformation have had on the inhabitants of three neighborhoods of barceclona : Plus Ultra, Vallcarca, and trinitat nova . It promotes the application of the right to the city.

The analysis is seen through a methodology that covers different fields of study of environmental psychology and those of urban planning and architecture. The study includes different dimensions (physical and social) and scales (space, public space and intermediate spaces) in each neighborhood.

The comparative analysis of study cases will allow to propose recommendations for public administrations and private entities organizations professionals and citizens.

The relationship between the transformation of the built environment and the adaptation and appropriation of spaces by its inhabitants is little studied. Urban transformations are carried out that do not anticipate the impact they will cause on a collective and individual level. The purpose of the research is to analyze and understand the processes of symbolization of the built spaces on the part of the citizens.

In order to study the habitat environment, it is necessary to analyze and represent the interactions between people and the spaces they inhabit. This study includes the multidimensional analysis of physical structures (spaces, buildings) and of individual and social behaviors (memory, identity, sense of place) that are related to them.
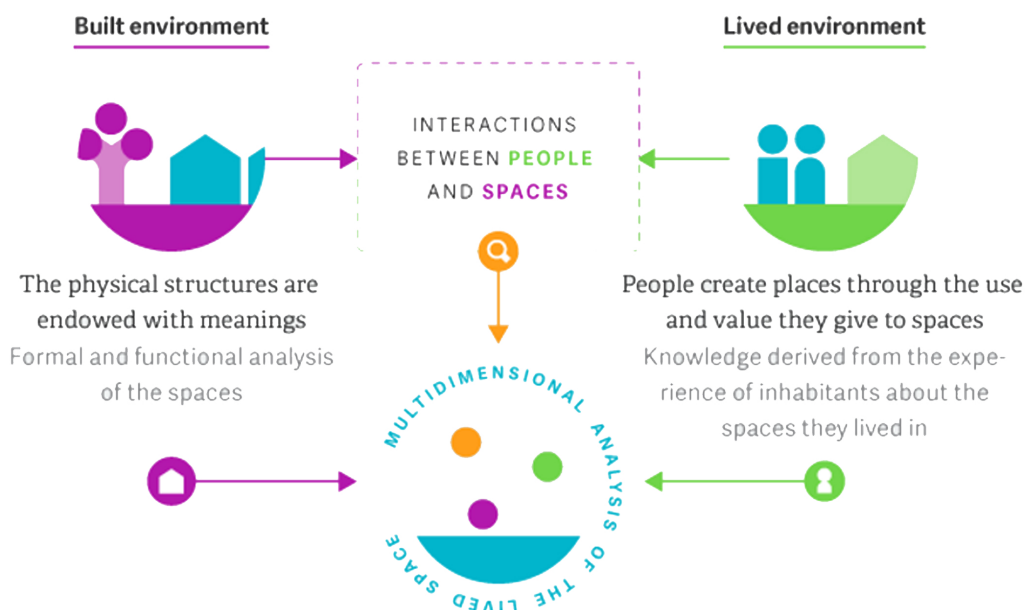
Figure 6. Prohabit Mapper Purpose. Source: Prohabit Mapper

This knowledge derived from the experience that citizens have about the environment they inhabit - after having been systematized, represented and analyzed - can be useful in defining future policies for public action.

PROHABIT MAPPER is an information system that allows you to share research work on the relationships between people and the spaces that live in the community. This application facilitates the access to the information collected from the Interviews to key actors, the Non-Public Observations in the public spaces, the References Documentation and the Participation of citizens by means of comments and reflections. All findings has been gathered into prohabit mapping(appendix 7). The study is dedicated to rethink the urban condition of karm el-zeitoun neighborhood In beirut by proposing specific interventions contemplated in a master plan, these interventions aim at revitalizing the urban and social fabric by creating new public space and activities which will reintegrate the area into the overall city.

The city of Beirut is composed of manifold autonomous urban areas which are a reflection of its economic and social diversity. In order to keep a balance between them, it is necessary to intervene in the most disadvantaged areas to promote their economic development. The challenge is to couple urban planning and building projects with economic growth and social cohesion. To do that, it is necessary to provide answers to the questions such as:

-Which are the social and economic needs within a particular community with regard to the rest of the city?

-Which buildings are more appropriate to foster the economic and social development within a specific urban area?

-How could new buildings activate the public spaces in which they are integrated?

-How to avoid the division between building and public space?

-How to foster the sense of place and identity in the community – with the refurbishment of existing structures, with the creation of new architectural landmarks?

-Which kind of public spaces would foster social interaction among the diverse commu-

nities?

Providing answers to these questions is a joint effort for architects and planners, social scientists and economists, politicians and citizens. The workshop's aim is to integrate all of the various layers (urban and architectural, social and economic) to develop architectural strategies which help to overcoming the current social and spatial fragmentation.

Figure 7. Prohabit Mapper Regarding the Case Study. Source: Prohabit Mapper

Thesis Outline

This paper is divided into five parts that are contributing in developing and understanding its purpose. The strategy or tool conducted by UN-Habitat throughout the study, from getting the data and developing it is seen in the first part considered a tool to develop the analysis of the thesis. A literature review is then applied to structure the main concepts of placemaking, livability and a healthy city around the studied neighborhood that is used as a transition methodology between the tool implied by UN-habitat and the intervention that is based on the community. The third part, is the case study where all the data and studied are applied, to understand Karm el Zeitoun; its context and its nowadays condition due to the use of the tools followed by UN-Habitat. Following this an outcome of several intervention is developed based on the data and analysis of the neighborhood reflected in the previous phases. And a conclusion in the end, reflecting upon the methodology, its advantages and limitation.
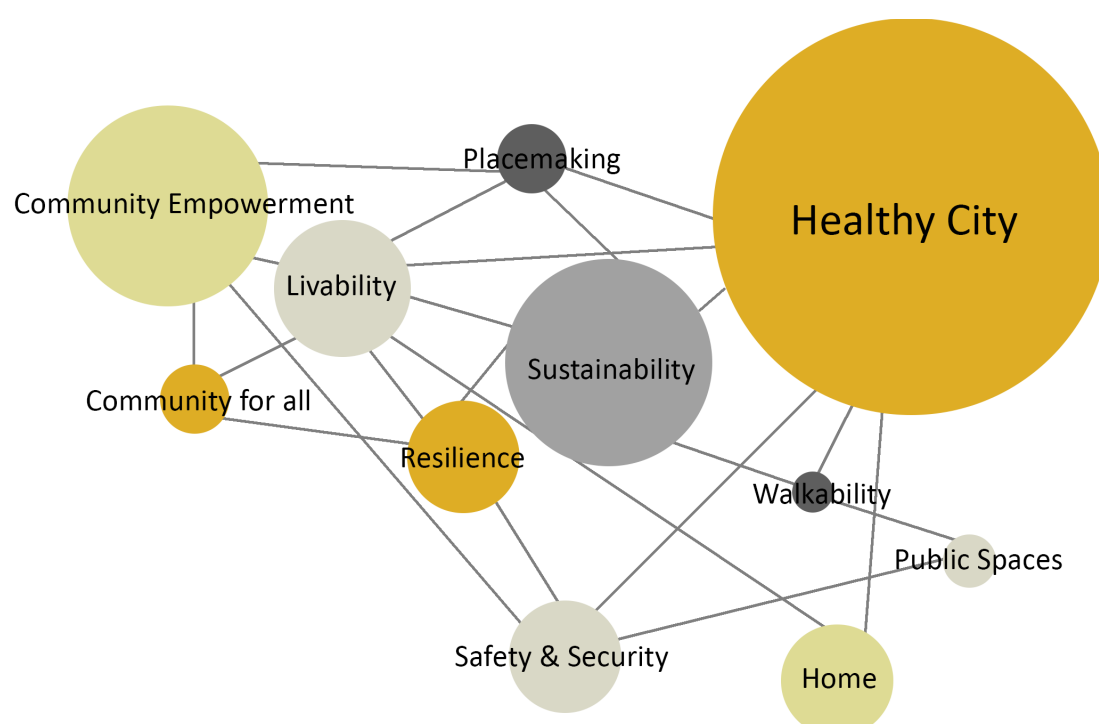
Figure 8. Thesis Strategy, Neighborhood Layout Composition - By the Author

The aim of the thesis is the importance of the tools that are used in the study in order to be able to develop all the pros and cons of the neighborhood. Due to the use of these tools, our analysis is built. This community involvement helped to define the situation they are living in. what is their current situation. This involvement is not only structured around the analysis part, however, in the first part the UN-Habitat's tool Is based upon the community and the following parts till the intervention show the importance of the community involvements. The purpose of the thesis is to focus on the main demands and needs of the people. A literature review is mentioned regarding the community empowerment and implement a healthy living through better wuality of life, its importance in analyzing anything regarding a neighborhood and its situation. The importance of placemaking and livability in a neighborhood is what evolves it, what keep the inhabitants related to their 'homes' to their neighborhoods. That is why community empowerment is a major element in transforming the neighborhood into a healthy living, and assessing a better living through approaches regarding safety, inclusivness, resilience and sustainibility.

PART II LITERATURE REVIEW

Neighborhood Rehabilitation & Informal settlement

Ever since the world had cities, there have been poorer areas, vulnerable and margin-alized neighborhood, from here a slum, or an informal settlement has been developed. The idea of informal settlements was created according to several major factors all around the world, (a) rapid urbanization and influx of people into specific urban areas, (b) insufficient planning regulations and land administration, (c) wars and natural di-saster that led the people to flee their homes and live in specific areas, (d) and poverty and low-income communities. To define an informal settlement that once started as a slum, according to the global report on human settlement 2003, informal settlement is the most intolerable of housing conditions, lack of basic urban services, insecurity, unsafe building condition and structure, high density neighborhood. These informal settlements can be highly considered in these cases as a low-income neighborhood, poverty is a major affect causing their living condition worse. Not only a low-income neighborhood but a marginalization regarding the social aspect of the area, an eco-nomic and physical exclusion. The problem of informal settlement is also due to the neglection of social and urban development practices, their only solution is a self-or-ganization. Following this presence of inequality among the cities and neighborhoods, 191 UN member states agreed on developing the United Nations Millennium Develop-ment Goals composed of 8 goals, to establish a new series of goals for humanity in the 21st century. It was based on the series of major united nations conferences; Agenda 21 and the Habitat Agenda. The millennium development goals (MDG) is composed of 8 global goals with 18 targets against poverty, illiteracy, hunger, environmental deg-radation, disease and woman discrimination. The major issue seen in a slum or an informal low-income neighborhood is mainly the lack of basic urban service, which includes a connection to the water infrastructure, having a safe and clean water to the inhabitants, on the other hand lack of access to sanitation, but also to electricity, street

lighting and rainwater drainage.

The desirable future, is to see everyone with the basic needs of life, everyone has enough to eat, a decent home, a good infrastructure network, a safe a healthy living condition, access to safe water, clean environment.

This is where the concept of neighborhood rehabilitation should be implemented. The idea of providing the basic urban service and improve the living condition is the main actor for the new sustainable and resilient development. The goal is to develop sustainable communities, that will help the neighborhood to achieve all the goals that are better for their living conditions and daily lives. The concept of sustainable communities according to the World Bank; Social, Urban, Rural and Resilience (SURR) Global Practice includes four key dimensions: (a) environmentally sustainable in terms of cleanliness and efficiency, (b) resilient to social, economic, and natural shocks, (c) inclusive communities. They bring all dimensions of society and all groups of people and all cultures, (d) competitive communities that can stay productive and generate jobs for members of the community.

"*Informal Settlements are sustainable when they can cope with and recover from stresses and shocks. This concept can be achieved by maintaining or enhancing their capabilities and assets. This is for both now and in the future, while not undermining the natural resource base*". The ongoing study will establish ways to provide the good living condition in Karm el Zeitoun that is considered as a low-income vulnerable neighborhood. Managing it as an urban resilient neighborhood, that has the ability to withstand shocks and to adapt to the changing conditions (World Bank).

Placemaking Adapted Concept

PUBLIC OPEN SPACES

DEFINE A PLACE

Public spaces accommodate all types of users, all day long, for all purposes. Public spaces are the nodes to all urban fabric, to our houses, institutions, centers, etc. Every activity that we do on a daily basis, require a passage in a public space. Public spaces are were safety and security have a major importance. It is a place where economic trading happens, selling, buying, giving. A place for meetings, playing, socializing.

However, not all public spaces rise, some of them fail. According to Project for public spaces (PPS) to make a space successful, it needs to follow specific qualities; accessible, engagement of people, comfortable place and social place. Public spaces enrich people's lives with meaning, allow casual encounters permit individuals to get together and interact. Its definition implies accessibility by all with no direct cost to the user, and does not have any other purpose rather than the quality of urban life. As defined by the charter of public space, "Public spaces are all places publicly owned or of public use, accessible and enjoyable by all for free and without a profit motive".

As previously defined, public spaces are considered as all the un-built spaces for instance, streets pedestrian routes and urban squares that are available for public use. These areas can be delimited and enclosed by physical structures such as buildings, landmarks and natural elements. The combination of these elements, the urban spaces and the physical structures define the urban fabric of the city. The relationship between the culture and the environment is based upon the purpose of the people by creating socio-cultural contexts. To understand an urban place, we need to understand the contexts and cultures differences that shaped them (Carmona et al.) the diversity in community in a same neighborhood can have negative on the importance of the public spaces. The diversity leads to a limitation of access and usage pf public space, heterogeneity can

lead to a withdrawal to private spaces. one of the major aspects of the presence of people in public spaces is the feeling of safety and security in these spaces. The aim of public spaces is to make city safer, with lower rate of violence and crime. Community ownership and the design of public space with urban furniture and the consultation of inhabitants can contribute to designing and building safer urban areas especially with the hand of women, children and youth.
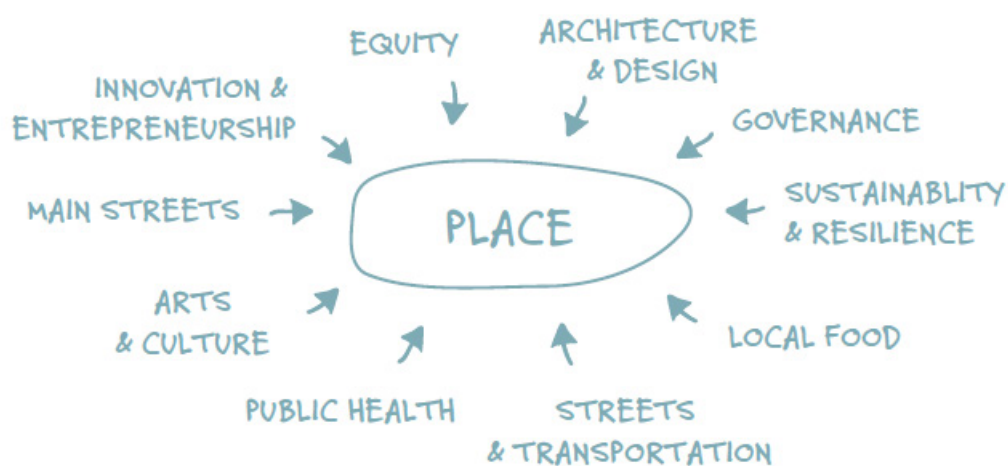
Figure 9. Defining a Public Place by PPS

STREET AS PUBLIC SPACE

Highlighted by UN-Habitat, streets should be reclaimed as public spaces. They are considered as livable and complete when they are recognized as public spaces. They will be planned and designed to serve communities and it will increase mobility ,economic productivity and social engagement. Streets became known when talking about sustainable communities, they were highlighted as 'livable' streets, 'complete' streets, 'streets for all', 'quality' streets, 'friendly' streets and 'healthy' streets. All these nouns show the importance of the individual and the wellbeing of the inhabitant. To have a livable and healthy street the main factors are safety, security and social interactions. In order to evolve the urban fabric of streets, the implementation of amenities like; seating, play areas, good sidewalks and trees are a major strategy to make the women, elderly children and youth feel safe and comfortable.

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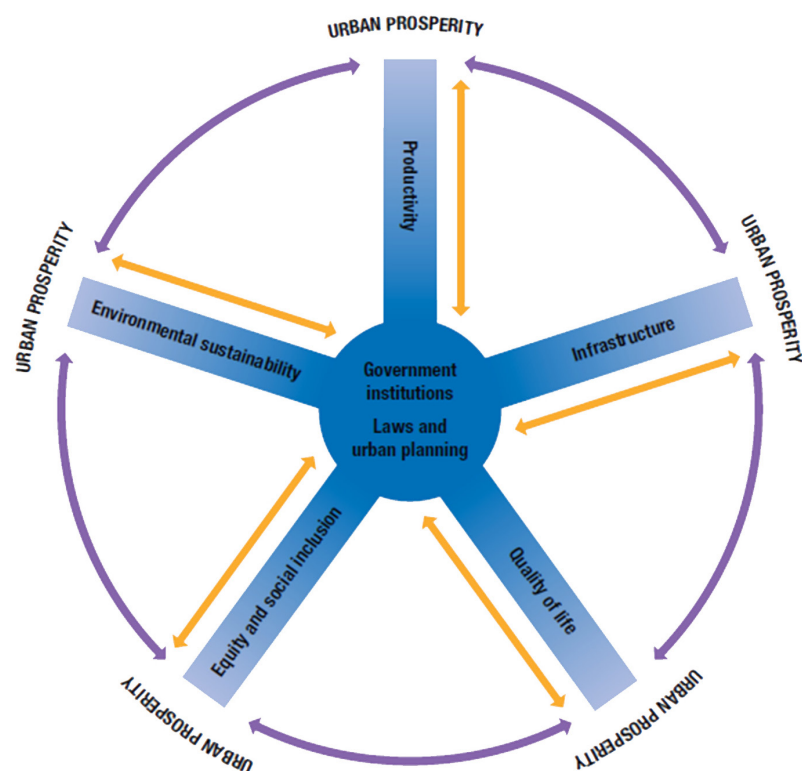
Figure 10. Streets as Public Spaces and Drivers of Urban Prosperity. Source: Streets as Public spaces pdf.

Urban commons: commons were traditionally defined as the elements of the environment - forest, atmosphere, rivers, fisheries or grazing land- that were shared used and enjoyed by all. Today the commons can also include public goods, such as public space, public education, health and the infrastructure that allows our society to function.

PLACEMAKING

Historically public spaces were always present when designing a city, the idea of creating it is not new, mentioning the agora in Greece, its role of market place and public speech arenas. Along human settlements, public space was always a strategy for communal meetings, culture binding. However, by the end of the 19th century this approach was lost, the industrial age took its place, the rise of the machines, railways, highways, cars destroyed the concept of urban place, public places. Following the industrial age, urban planners rises the importance of a 'place' rementioning the approach of public spaces and community empowerment. The *-raison d'être -* placemaking became a new followed approach reinterring the importance of public spaces.

The concept of placemaking is not a new vision, however it started to develop in the mid-1920s it gained the attention of urban designers and planners. Initiated by Jane Jacobs and William H. Whyte, the idea of building cities for the people. Placemaking gradually developed through the vision of these urban pioneers, by implementing the social and cultural importance and presence of public spaces in neighborhoods. Combining the famous idea of "eyes on the streets" - Jane Jacobs, defined as taking ownership of the streets, and developing vibrant social public spaces by Holly whyte. Placemaking is conceived as collective process, where a whole community has a say in shaping and producing the public realm in order to enhance social values. Placemaking is in fact, more than designing a space, or creating a plaza, it is a strategy or a 'process' rather than an end-product, it does not only shape a project, it instead shapes a whole strong community.

Historically the concept has risen, due to the urban development of 'placeless' cities, Jane Jacobs, William Whyte and Aldo Rossi wrote about the sense of place in urban design. Hence, nowadays this concept enlightens the idea of community nurturing, social values and economic regeneration. According to Schneekloth and Shibley, placemaking is not only the relation of people with their places but also the relationship created

between the people. "Placemaking shows people just how powerful their collective vision can be" (pps).

A lot of NGO's contributes to the approach of place-making, considering a community base strategy, paying attention to the social aspect, human's health, happiness and well-being. Project for public spaces (PPS) founded in 1970 by a disciple of Whyte, developed the approach of placemaking. Placemaking is in fact a process and a philosophy, it is a strategy of observing, asking questions, listening to the community who live there; what are their needs and what they perceive to see.

The concept according to PPS was gradually developed in a scheme that highlights 11 basic principles that define the underlying ideas, planning and outreach techniques, action tools and implementation, for transforming public spaces into vibrant community places.

11 Principles for Placemaking	
Underlying Ideas	The Community is the Expert
	Create a Place, Not a Design
	Look for Partners
	Community Activity on break obstacles
Techniques	Obervation
	Visioning
Translating Ideas into Action	Form Supports Function
	Triangulate
	Lighter, Quicker, Cheaper
Implementation	Money is Not the Issue
	Ongoing, Never Finished

Figure 11. the 11 Principles for Placemaking by PPS

Placemaking process is a philosophy and a process, it is basically observing, asking, watching and listening to the inhabitants, the ones they live work play in this place.

A strategy encountered by this tool is the idea of a lighter quicker cheaper (LQC) implementation. It is identified by being at a low cost, that has high impact for improving public spaces, ensuring the empowerment of the community by implementing their ideas.

Placemaking intervention range from painting an intersection to a district wide revitalization, they can include:

-space for arts, painting, festivals, public art program

-rehabilitation and old abandoned buildings

-Pedestrian Environment

-Open streets events

-greening and parks

-Markets

-Mobile Libraries

Figure 12. Placemaking Strategy

Figure 13. Open Public Space Developed through Placemaking. Source: Placmaking Boolit.

Placemaking is a tool and an approach to placing the community right at the front and center of changes to where they live. All these placemaking have in common is the love of the place The placemaking take scale of a sidewalk and it takes place across the whole of a city. Placemaking is a way to design public spaces that act like a magnet to bring people together, when designing public spaces, the community Is the expert.

Criterias were defined by jahn gehl and brigitte svarre for a pleasant public space quality;
1.   Protection against traffic accidents
2.   Protection against crime and violence
3.   Protection against unpleasant senseexperiences
4.   Possibilities for walking
5.   Possibilities for standing
6.   Possibilities for sitting

7.   Possibilities to see
8.   Possibilities for hearing/talking
9.   Possibilities for playing/unwinding
10.   Small-scale services
11.   Designing for enjoying positive climateelements
12.   Designing for positive sense experiences

Placemaking : refers to a collaborative process by which we can shape our public realm in order to maximize shared value. More than promoting better urban design, placemaking facilitates creative patterns of use, paying particular attention to the physical, cultural, and social identities that define a place and support its ongoing evolution. -----
Global public space toolkit - UN-habitat

Livability

DEFINING THE LIVABILITY

Livability is widely used in all fields. It has emerged specially in a wide range In the concept of planning. Within the field of planning, it is also used for several contexts; transportation, community development, resilience, etc. (Herrman, T. Lewis,R.). It initially emerged as a new ideology in the 1960s, during the Electors Action Movement (TEAM) of Vancouver politics. The purpose of this ideology was to focus on the people rather than the city's economy, to improve more 'humane, socially progressive and aesthetic" policy (kaal, H. 2011) . As developed by Ley (1980) it focuses of "participation, aesthetics, pollution control, more parks, neighborhood preservation and mixed land use". Since the 1970s livability has been a "dominant category of urban discourse" used by various groups with their own conception and understand for livability. AARP Livable communities, developed guidance on livability since their first community evaluation guide in 2000. In 2005 they defined livability as "A livable community is one that has affordable and appropriate housing, supportive community features and services, and adequate mobility options, which together facilitate personal independence and the engagement of residents in civic and social life" (AARP, 2005).
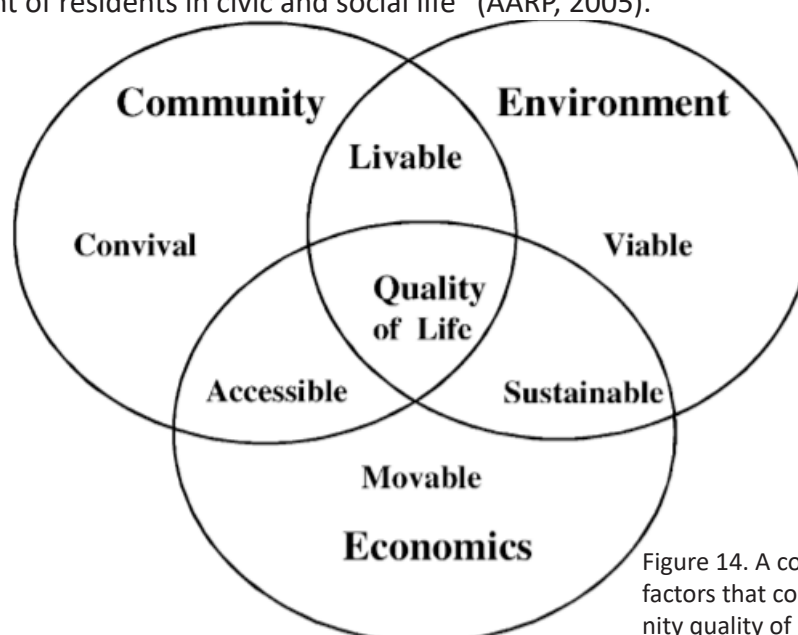
Figure 14. A conceptual model of factors that contribute to community quality of life from a human ecological perspective (Shafer et al.,2000).

26

LIVABILITY AND SHARED SPACES FOR A HEALTHY CITY

The idea of a neighborhood is to provide a good environment and quality to help the inhabitants to live in a satisfying way. Urban planners try to perceive and evaluate the perception of the residents in the neighborhood to rate the living condition of the neighborhood. To understand the livability issues of the place, four indicators were assigned; to which the rating of the neighborhood is perceived; the social aspect, physical, functional and safe. The livability as mentioned in one of the literature reviews, is considered a concept that results from the interaction between the community and the environment. Hence, the livability is perceived and defined in a subjective way by the residents towards their living environment. It not conceived on a small human scale, their homes or urban quality but in fact it is on wider level, contributing the quality of community life. A lot of urban planners tried to measure and produce indicators to help them identify a beneficial livable strategy to design a specific area. however livability is perceived differently from one to another. Some consider it as physical social cultural or economical. But a livable place can also be defined as affordable, accessible, well designed, green and serviced. It depends on the people what they are looking for, what is their interest and what they consider as adequate to their living. That is why livability is perceived as a subjective aspect depending on the people with different interpretations. Nowadays, the concepts of livability, sustainability, quality of life are considered as synonyms and are the main target of all urban planners (kamp 2003). According to Marsman and Leidelmeijer (2001) livability is perceived as the resident's evaluation of the living environment. An interesting approach was defined by Shafer et al (2004) on how these concept overlap and relate to each other. The livability is considered the outcome of the physical and social domain, sustainability comes from the interaction between physical and economical field, and the resultant of these three domains; physical social and economical is defined as sustainability and quality of life.

Hence, the livability can be approved when the physical economical and social domains are improved. In addition, a livable city can also be interpreted as a healthy city. The later has many interpretation seen from each field, for an economist, a healthy city is the one that imports creativity and innovation (Jane Jacobs), for an urban planner it is the one that has good physical characteristics for housing, transportation, green spaces, for an educator it is the one that helps the people to grow and develop. A lot of perception for the concept of a healthy city. WHO defined the concept as the one that promotes health for all, that will permit them to enable a socially and economically productive life. And maybe for the resident, a healthy city is the one that promote a safe living, provide a good life for their families, meet others. That is why a healthy city cannot be defined to specific elements. It is the combination of all these perceptions that will create and outcome the concept of a health city, that can be in other terms
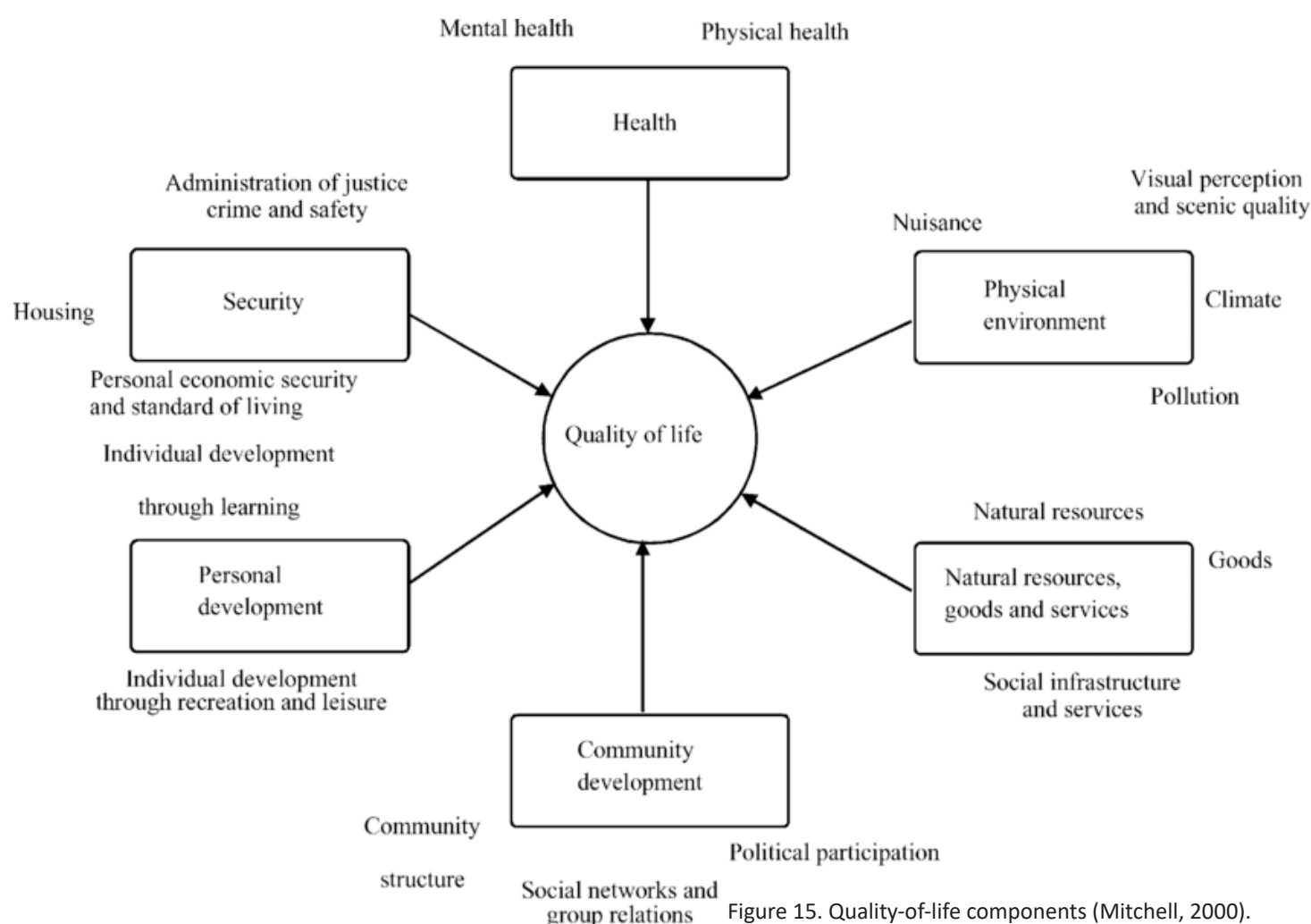
Figure 15. Quality-of-life components (Mitchell, 2000).

'livable' for all the people, thinkers, and habitants.

This is how the combination of placemaking and livability can be implemented in this new urban rehabilitation vision of the neighborhood. Public spaces are the key element to develop the concept of placemaking and livability. Were the inhabitants having a say in the production of the space. Interfering the "public" with the "shared", that are two opposite concepts but in this way they are a strategy to improve the quality of the area. this strategy will help the community to unify together and build according to their own needs and perception a better planned neighborhood. In this way, inhabitants will have a duty of developing a better place that is assigned as a livable place for the benefit of all the inhabitants.

A successful neighborhood is highlighted by its inhabitants, forgetting about the infrastructure and the housing condition. The latter can be fixed or replaced; however, a neighborhood is where the inhabitants find a place to reaffirm each other. The sense of connectivity and the sense of belonging accentuates when you have places to share, sidewalks, street, open spaces.

Figure 16. A Combination of Sketches Defining Public Space with the Importance of Placamaking and Livability. Source: UCLG Commitee on Urban Strategic Planning
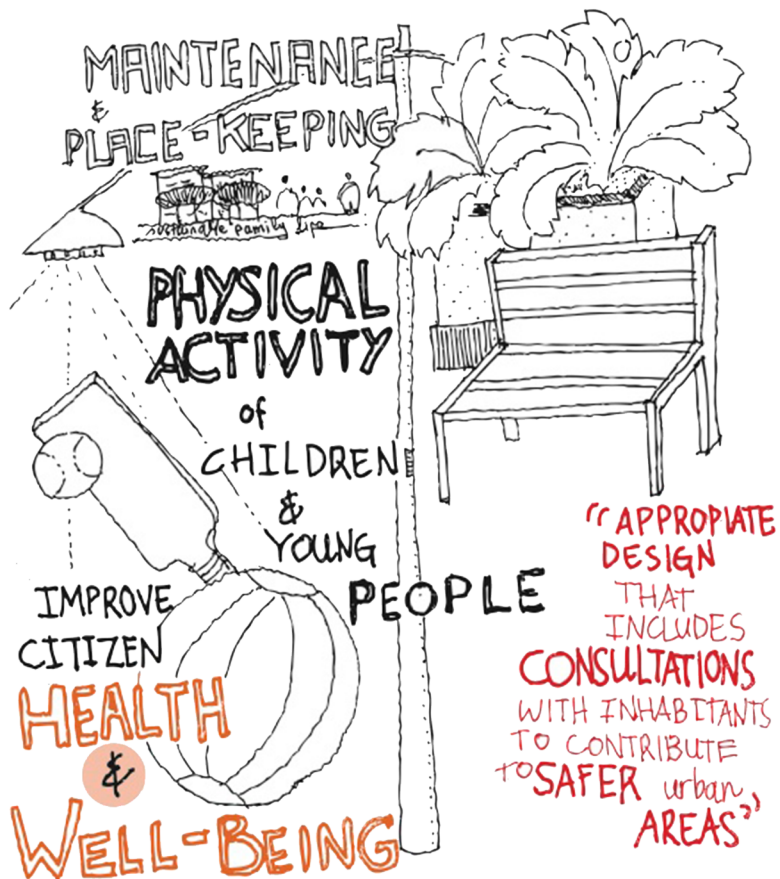
Public Space & Health, Well Being and Safer Cities

Public Space Food Security

Public Space Participation in Urban Life for all

Public Space & Culture and Identity

Case Studies

CASE STUDIES ON DIGITAL TOOLS

Case Study Map Kibera (Nairobi, Kenya)

Kibera is known as one of the biggest informal settlement in the world. Projects were implemented to this settlement in order to map these settlements, and making statistical data available. An independent team in Kibera started developing the map of Kibera with the double aim of '(a)mapping through a door by door survey, the physical and socio-demographic features of Kibera, (b) transferring to local young people the know-how on geographical mapping, digital data entry and analysis. The team had a main purpose to 'make the invisible visible'.

"Kibera in Nairobi, Kenya, was a blank spot on the map until November 2009, when young Kiberans created the first free and open digital map of their own community. Map Kibera has now grown into a complete interactive community information project." (mapkiberia.org).

The digital form contributing in the development of an informal settlement. A community information project on mobile phones and through GIS was developed in Kibera.

Figure 17. Participants working on gathering data for the map of kibera in front of drawn map on a wall

Figure 18. Participants working on gathering data on digital and hard copy

A digital map of the neighborhood was developed to specify data collection, reporting and publication of information. Residents have access to this platform, a community involvement strategy to obtain missing data on the informal settlement of Kibera. The development of this project gave the inhabitants the possibility to interfere in the procedure, there were supposed to identify and locate the position of the market, schools, religious centers, hospitals toilets and water points. This helped to produce maps regarding the informal settlement. Moreover, this strategy improved the safety and security of residents, especially women and girls, due to the localization of dangerous, safe or unlit areas with no streetlights by the locals. The objective is to empower the community and improve their living conditions. The strategy is a team that works in each slum, reporting about the situation, what is relevant to the community, breaking news, issues. All the data wil be placed on openstreet map to have access to all the coitizens in need for any type of data.
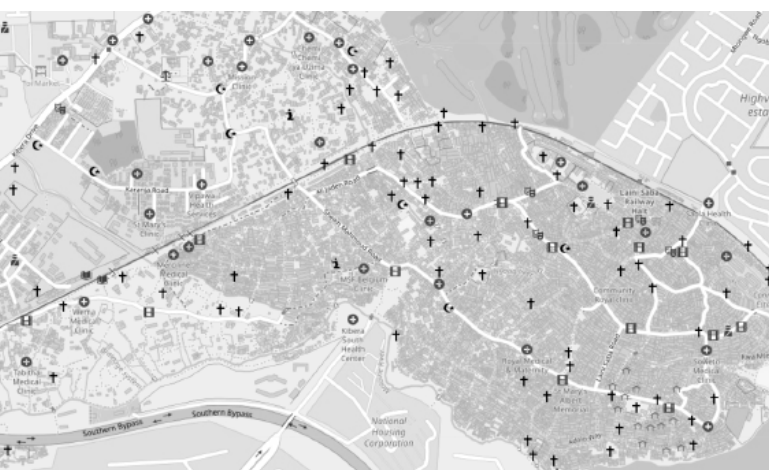
Figure 19. Map of Kibera on Open Street Map with all the locations.
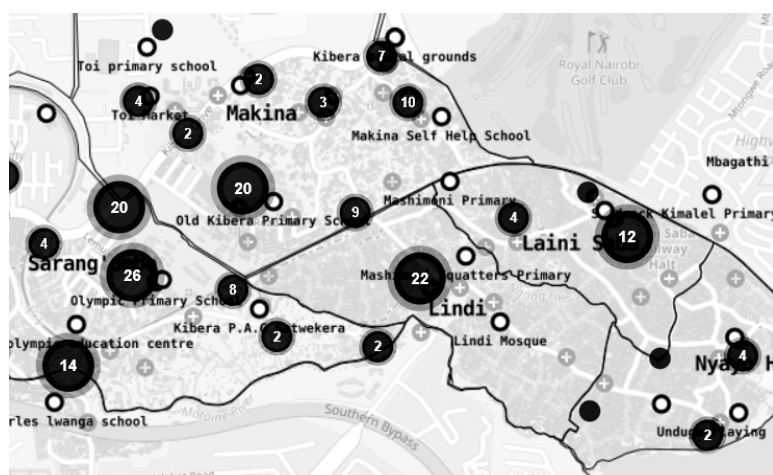
Figure 20. Map of Kibera reflecing the data regarding the emergencies.
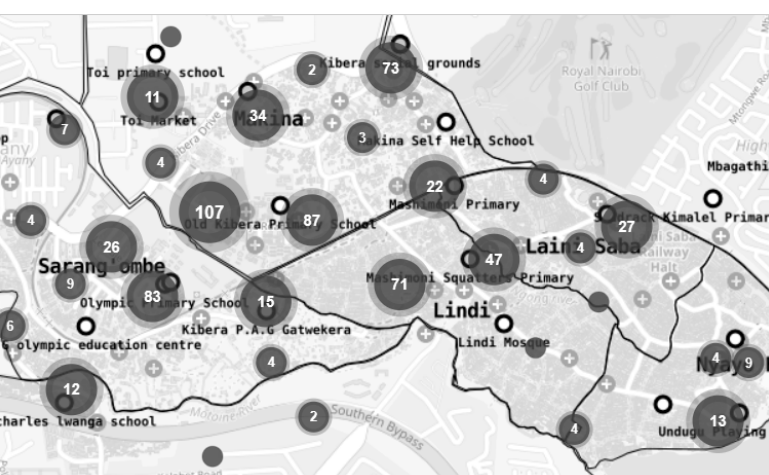
Figure 21. Map of Kibera reflecing data regarding the News
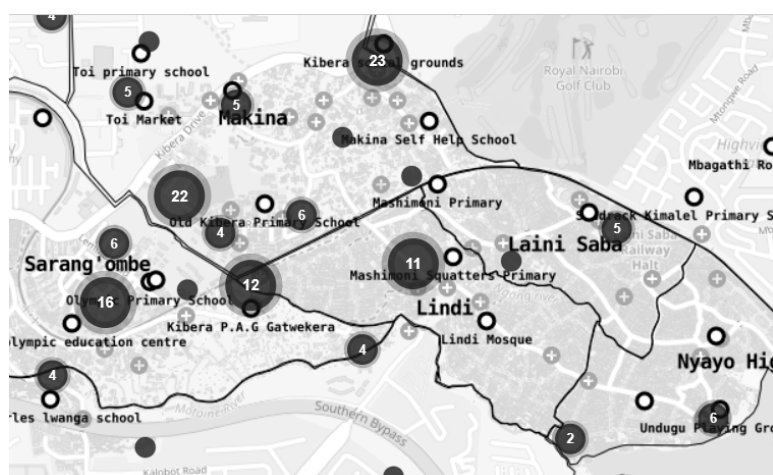
Figure 22. Map of Kibera reflecing data regarding Events.

Case Study for Placemaking, Participatory planning and design of shared spaces in Nairobi, Keny.

In nairobi, due to the dense informal neighborhoods, locals struggle from the absence of open spaces. A lot of organizations worked to improve the basic urban services, the living conditions and providing open spaces that are safe for the community. The Kilimanjaro Initiative and the Kounkuey Design initiative[1] work with the community to build environment that are adequate safe, and improve their living conditions.

The Kounkuey Design initiative (KDI) empowers the community by building the neighborhood according to their ideas, and providing them with the technical design and tools. Their purpose is to design and provide "productive public spaces" , integrating basic infrastructure, open spaces, and programming to meet social, economic and environmental needs.

Along the river in Kebera the flooded banks were transformed into a poultry farm, with improved drainage channel, a school, a health clinic, a community center housing, kiosks and a playground. This transformation is produced by the implementation based on the citizen's ideas, and specifically their needs, using local materials.

On the other hand, Kilimanjaro initiative worked on a nearby soccer field, known for its insecurity and crime attraction. They transformed the field into a well-drained system with leveling. It is now used as a communal space, where concerts and events take place there. PPS also had so design implementation to improve the quality of the space, by connecting it to other facilities, the river, the school, the playground the toilets.

This desertification in the public spaces and the expansion of these spaces all around the neighborhood will give a special identity and character to the inhabitants there, diversifying the spaces they can encounter.

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[1] KDI = community development and design nonprofit. They partner with under-resourced communities to advance equity and activate the unrealized potential in their neighborhoods and cities.

Figure 23. The Condition of Slums in Kibera

KPSP02 2011

KPSP04 2012

KPSP05 2013

KPSP01 2010

KPSP06 2013

KPSP03 2012

KPSP07 ONGQING

N
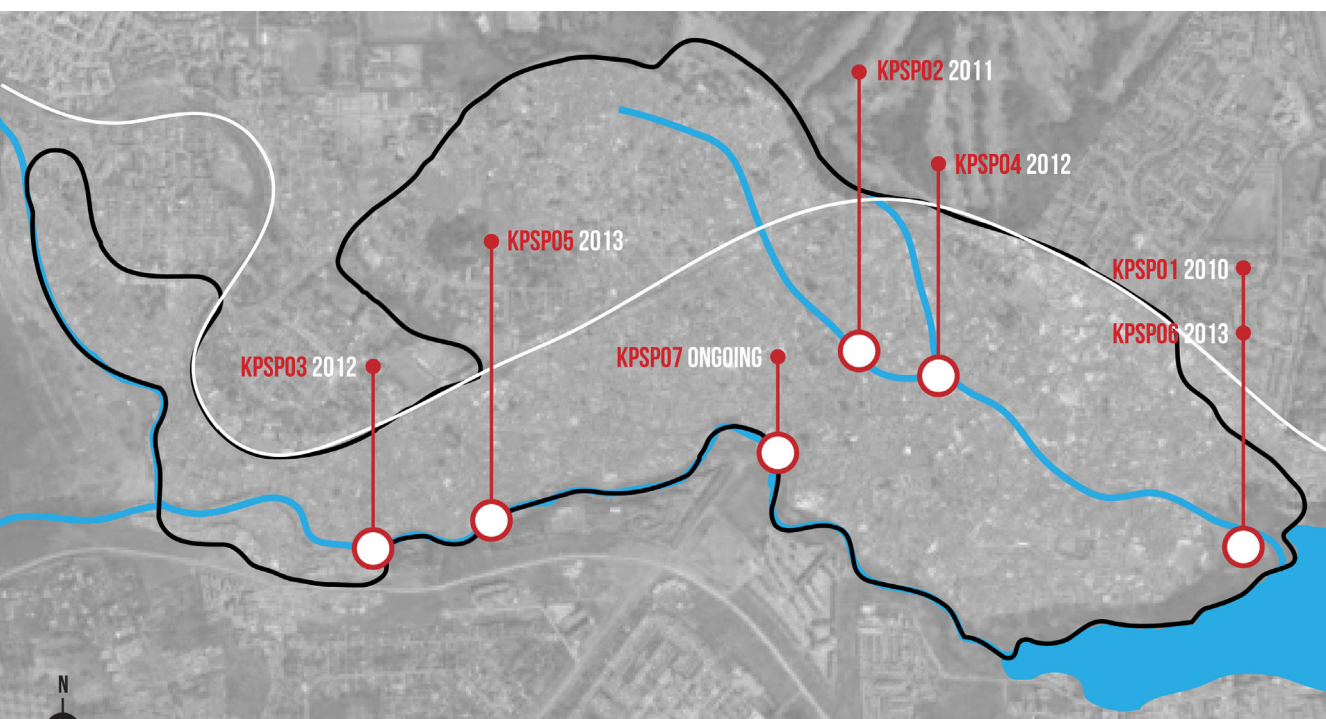
Figure 24. Kibera Public Space Network

Figure 24. KPSP02 Public space

Case Study, The Use of Minecraft

Since 2013, one of the strategies followed by Un-Habitat to promote community em-
powerment and creating shared and public space is the use of a new tool to let the
residents design their own public space, according to their own needs. Through the
partnership named block by block, UN-HABITAT uses Minecraft (Digital lego Game) as
a community participation and engagement tool in the design and implementation of
public space projects. The block by block foundation[2] helps communities to transform
all neglected urban spaces into a vibrant place that improves the quality of life. Mine-
craft initially a video game helps the community that doesn't have a say in producing
the shape of the city. Minecraft strategy has been used for community participation
on every continent and diferent countries around the world; Nigeria, Peru, Mexico,
Kosovo, and Nepal, Lebanon, etc.

Naba'a, a low-income neighborhood located in Bourj Hammoud in eastern Beirut that
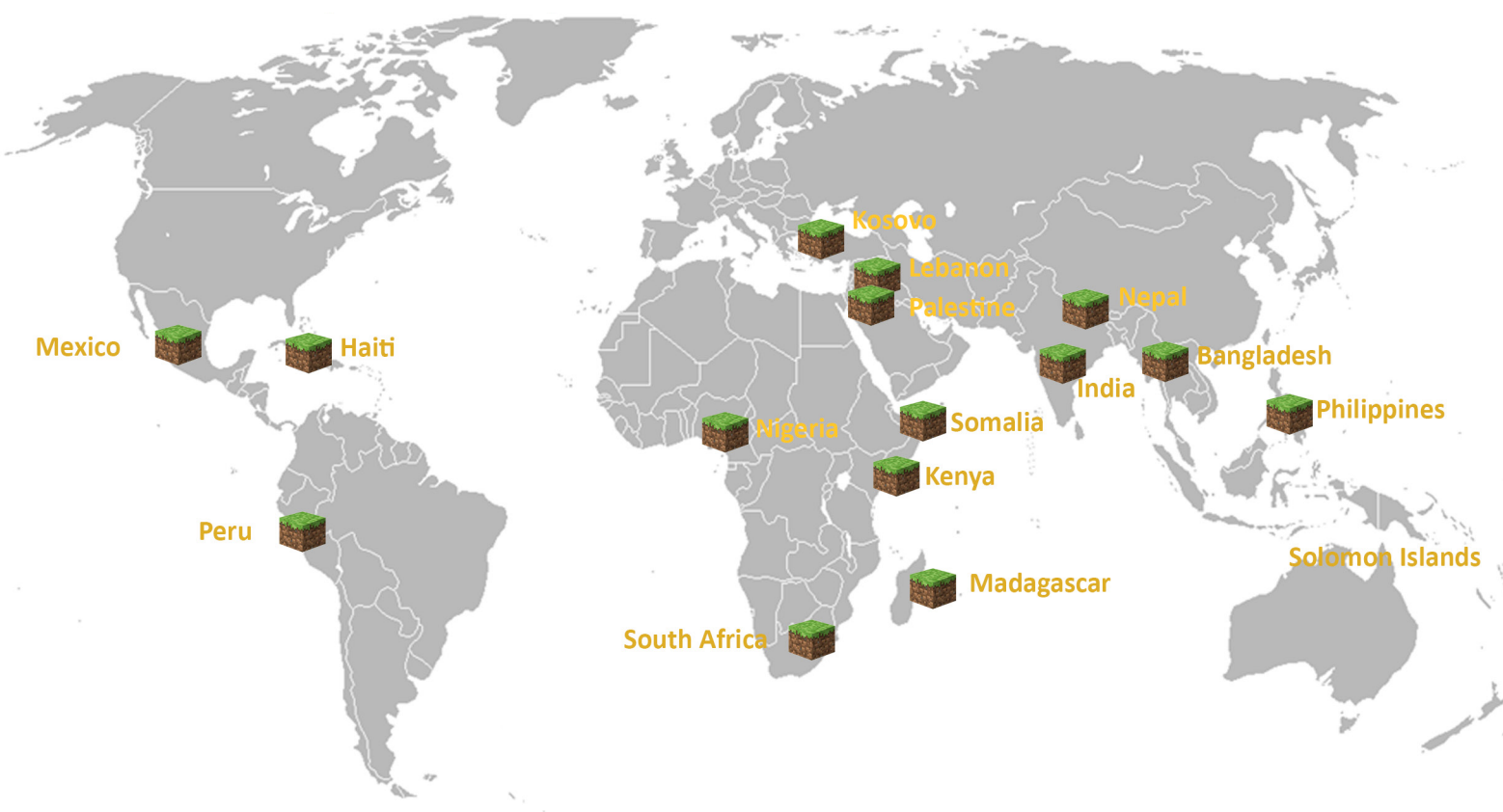
Figure 26. UN-Habitat: Public Space Minecraft Projects.

[2] Block by block is a joint program between mojang and UN-Habitat

accommodates Syrian Refugee. Bourj Hammoud, a condensed area has a main issue of a lack of sufficient public places. UN-Habitat following the city profile analysis, a public space project was lunched. Minecraft design tool was used to empower the community and design the public space. A feeling of insecurity and social conflict was the main aspect to limit the frequency to the space. This tool helped to develop the project, enhance its security ensure youth engagement and promote social cohesion between Syrians and Lebanese. A block by block workshop was held in Naba'a in order to improve public spaces, that included Lebanese and Syrian participants from mixed backgrounds including; housewives, cooks, students and social workers. The used Minecraft to design a public space, that included lighting, sanitation facilities, tree planting and game facilities. This strategy was an important tool for community empowerment, social cohesion between mixed groups. Nowadays, the space developed through this tool is perfectly alive, where gathering, performance, and activities were constantly present in this space.

Figure 27. Public Place In Naba'a designed and developed into Minecraft

Figure 28. The New Space Comes Alive with Community Events, Beirut

Case study, DAKAR - Senegal

Micro gardening, C40

Micro gardening program provides the city with green spaces, while fighting food insecurity and improving local incomes.

The city of Dakar faces an increase in population that lead to health and living vulnerabilities. The quality and living condition are decreasing, gardening is more and more hard. A new strategy was implemented that proves to be an alternative and sustainable way to improve their quality of living by improving their health. The micro-gardening strategy that is implemented in Dakar is a sustainable food system for population in need.

Micro-gardening technology permits soilless horticultural production in small urban spaces such as roof tops, yards and vacant area. This strategy is easy and cheap, it does not require a high need of materials and a lot of training. It provides the inhabitant of the neighborhood with fresh food and can improve the economic aspect of the neighborhood and can improve not only the economical part but also to the social part, a good relation between the people. After applying this strategy in Dakar, it worked on reducing poverty by helping the citizens to grow and consume fresh vegetables and increase their income. Another aspect that is implemented in this strategy is the recycling material and diversifying water management (the use of wooden pallets, tires, buckets, old vases and bottles).

Adding to this, the environmental aspect is also a positive issue when using the macro-gardening technique, they actually represent 'the green lungs' in a grey, concrete city with very little green spaces and reducing the greenhouse gases emission. The project targeted vulnerable groups, to be involved such as women, young people, the elderly and the disabled.

Figure 29. Women Gathered in front of their Production

Figure 30. Women preparing the soil for Gardening

Figure 31. Women taking care of the crops.

CASE STUDIES, REGARDING PLACEMAKING

Reclaiming public spaces, The Lebanese Revolution.

A current situation highlighted in Lebanon, following the nowadays the Lebanese revolution was the strategy of reclaiming public spaces. Public spaces as can be defined as open space, streets, piazzas, etc. following this revolution a special formation of the use of these spaces by the people, from different culture, backgrounds and ethnicities and sharing these spaces by giving it a special identity. Before that time, these places were not visited by anyone, following the revolution, people are now visiting and contributing their time within this space. This action was not assessed by any planner or designer, however it is done by the people themselves. It is important to mention that these reclaimed spaces are assigned as physical but also a virtual one, people are giving an identity to these places.

Reclaiming urban public space means reclaiming it in every sense as it is seen in the figures, reclaiming the right to talk, to walk, to stroll, to loaf, to sit. However, not only reclaiming open spaces but also reclaiming abandoned old and historical building that were neglected by the government. For instance and old theatre that was left and unused since the civil war, and nowadays people are reclaiming it by creating event and conferences for the public. This community engagement show the importance of the people to let a space succeed.

Figure 32.Reclaiming open spaces and abandoned buildings in Beirut

Case Study 'Malon urbano' chile

The power of reclaiming streets for meal and conversations.

Following the concept of placemaking, and the contribution of PPS a new strategy of community empowerment has evolved. The concept consists of a large Potluck, where all the citizens are invited to a large street gathering, setting tables and chairs on streets and share food, and discuss how to improve local conditions. Locals play games, create art, by enhancing the idea of the public space. Malon Urbano requires to close the streets, turning the road into a pedestrian street with no vehicular access. Every local in the area should bring a dish to share it with the neighbors. This strategy is based on the idea of LQC, it is not based on a costly event, every citizen or participant is the actor and producer of the event and can develop it to a better space. It can easily be developed in a quick event. A website was created to be able to socially expend the events that will take place in the area, and it is a platform to create and register an event.

Figure 33. Gatherings, Social Cohesion and Activities in Public Spaces in Chile.

Case study, Medellin, Colombia

Medellin Colombia was once considered on the world's most dangerous cities it was also one of the most unequal cities. The central city lay at the bottom of the valley, and the informal and poor settlement lays on the mountainside. This marginalization stopped to the integration of a new strategy, "integrated urban plans" (iup) that invested in the poorest part of the neighborhood. This strategy consisted of three elements; first the neighborhood is physically integrated with the rest of the city. Second, the integration of residents in social programming. And for last, creating a radical transformation for the neighborhood by reducing social stigma. New buildings, new open spaces, and better infrastructure was created but maintaining the buildings in the neighborhood. New transportation and accessibility measures were assigned to the neighborhood to link it with the surrounding; including the integrations of stairs, escalators, pathways and pedestrian bridges. Transportation timing was highly reduced between the neighborhood and its surroundings. Adding to the physical aspect of the city, they focused on the social aspect too; empowering the community, library-parks were created. Medellin enhance the idea of the importance of investing in an informal poor settlement to be able to change it to a positive matter.

Figure 34. Medelin City with its Clustered Houses

Figure 35. Construction of Covered Electric stairs from the Top of the Hill.

Figure 36. Gondola construction for transportantion.

Figure 37. Bridge construction to link areas together

PART III
URBAN ANALYSIS: KARM EL ZEITOUN

VISION

When entering Karm el Zeitoun an odd feeling penetrates you, as if you are entering an asocial neighborhood, you get a gaze from a window, a question from the old woman sitting on the landing of the steep stair with her cane in her hand (as if she is stuck on this landing and can't circulate). People look at you with a suspicious face and the questions begin; what are you doing here? Aren't you done yet? Are you here to help us? All these questions reflect their needs, their purpose, the long wait for help and the constant surveyors and planners with no outcome and solutions for their current situation.

Introduction to the neighborhood of Karm el Zeitoun

POSITIONING

Karm el Zeitoun, in other terms the "Olive Grove" named according to its land typology filled with olives before the presence of inhabitants, nowadays only three olive trees still stand. Karm el Zeitoun, was given to the Armenian fugitives after the Turkish genocide in the 1920's. Located on a very steep hill of Achrafieh, on the eastern side of municipal Beirut. Bounded from the east by the River of Beirut, the Ararat Street from the North that guides you to Sassine Square and by Cheikh el Ghabi and Patriach Douaihy Street from the west and the south. Which separates Karm el Zeitoun from the so called 'classy side' of Beirut where the rich live.

Karm el Zeitoun is a low-income neighborhood as an atypical case of the poor neighborhood it started in the 1920's as a two-story housing project and witnessed a lot of transformation regarding the political condition that effected the area, the community influx to the area, the infrastructure built around it. Karm el Zeitoun has a special story and identity that should be highlighted and will be developed in the upcoming study.
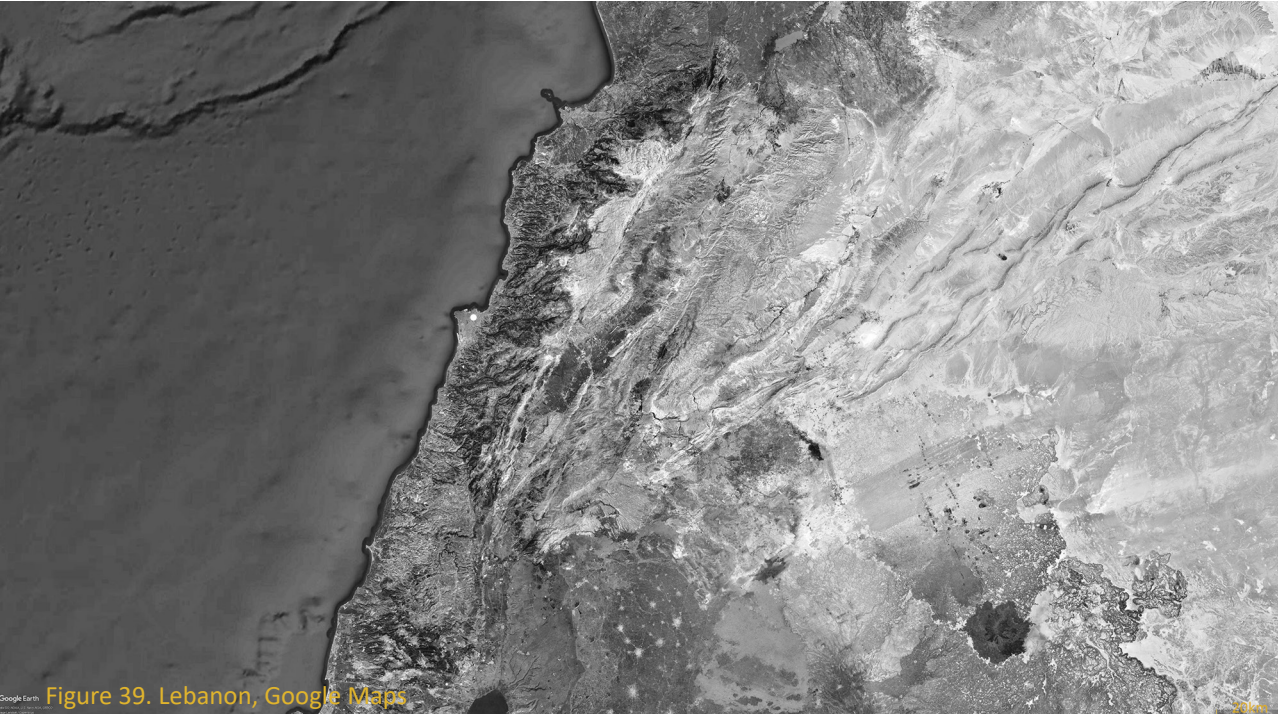
Figure 39. Lebanon, Google Maps

Lebanon

Figure 40. Beirut, Google Maps

Beirut

Figure 41. Karm El Zeitoun, Google Maps

Karm El Zeitoun

HISTORY AND CONTEXT

Armenian migration fled to Lebanon following the Turkish genocide in the beginning of the 1920s. They were assigned to live in two camps Saint-Michel (established in 1921) and Quarantine (established in 1923), in the North of Beirut. The situation in these camps faced miserable living conditions, residents lived in tents and temporary structure, they were opposed to constant diseases and poverty. The two location were considered under the sea level near the River of Beirut[3] which used to flood to the adjacent neighborhoods, they lived for around 10years in these conditions in Saint-Michel and Quarantine. Following this transition for the Armenian people, the Armenian association and the French mandate authorities[4] checked their living condition and searched for a better placement, which was located on a hill higher than the level of the water, avoiding flood and presenting permanent living conditions. The French granted the Lebanese citizenship to the Armenian refugees in Lebanon, and the latter changed their living condition and relocated to a new area.

The Two areas were assigned for a new permanent dwelling for the Armenians 'Bourj Hamound' and 'Karm el Zeitoun'. The later was a hill filled with olives entitled 'Karm el Zeitoun' - 'Karm' means plantations, and 'Zeitoun' means olives. The people that were relocating had to pay a small amount of money to buy a plot in this area which wasn't a big problem knowing that they were working in workshops all around Beirut. They built their own houses with materials provided to them by the committee.

The Armenians came to the idea of a changing city, they were able to transform their refugee camp lives into fields that became vibrant parts of the city. Their gift and professionalism of craftsmanship and trading commerce artisanal work was a new economic strategy to rise in Lebanon that was characterized as a new economic

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[3] The River of Beirut; used to be filled with water, now it is dry and filled with waste
[4] French mandate; governed lebanon from 1920-1943 had various reasons to advocate a solution for a permanent settling of the Armenians in Beirut

development in the Lebanese society.

With their cultural habits, their skills, and their effort they were able to develop valuable quarters in Beirut.

However, the civil war in 1975 had a high impact on the neighborhood, a lot of damages encountered the area. Buildings were destroyed, other were only hit (we can still see some facades that were hit by the war) and a lot of people died.

 The Neighborhood considered as a definitive displacement for the Armenian people developed well in the early stages, however it started deteriorating with time, considered as a low-income neighborhood. The location of the area was the main trigger for its deterioration, enclosed and bounder by a small space due to its topography and by its growing density, in addition nowadays it is delimited by the highway and the river that prevent it from growing.

Figure 42. Karm eL Zeitoun 1930s

First refugee camp, continues
to grow over the years.
Dwelling consists of tents or
other temporary structures.
Bad living condition and
health deterioration.

Refugee's number keep rising
up. The armenians in Beirut
get granted the Lebanese
citizenship by the French
mendate authorities.
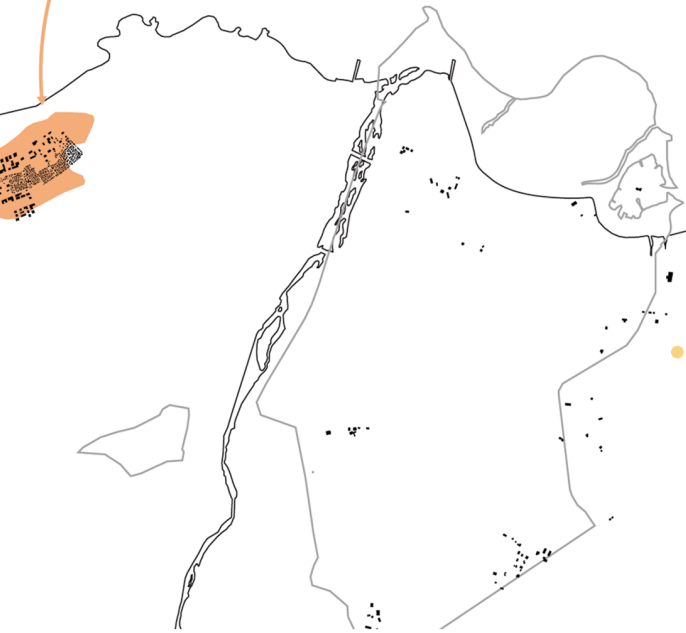
Grand Camp Saint Michel 1921
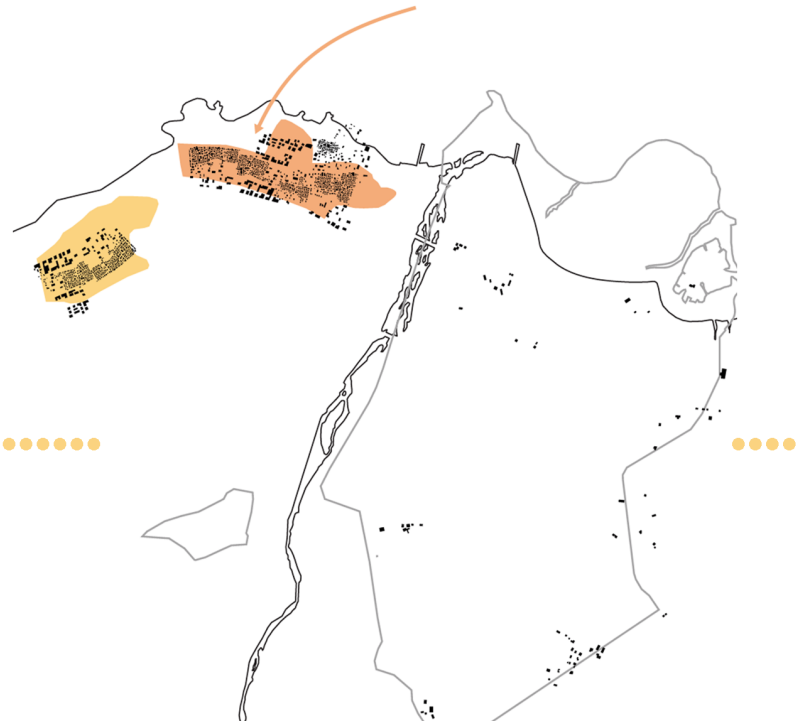
Camp Quarantina 1923

Figure 43. Timeline showing the Armenian Relocation Throughout Time

Setting of a program to build quarters for the Armenians from the camps. The commitee payed for the aquisition of the land, road network, and helped in the construction.

Armenians Associations started to but land in the new area to help the refugees of the camps move into better living coinditions. Bourj Hammoud and Karm el Zeitoun keep on growing.

Armenian Settlements in the Ashrafieh Hills 1927
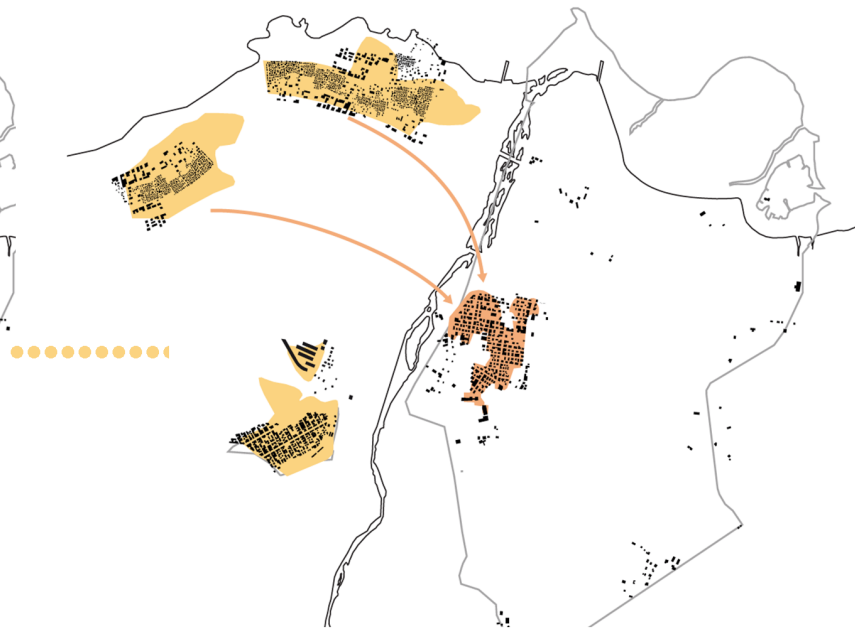
Settlement in Bourj Hammoud 1930
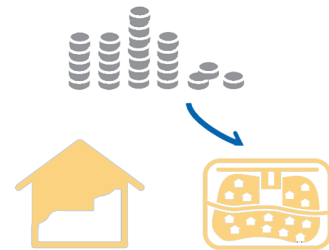
FROM THE MARGIN TO THE CENTER

Karm el Zeitoun given for the Armenians as a refuge, localized at that time on the edges of Beirut. The inhabitants of Karm el Zeitoun developed their own local culture, heritage, community. In 1975 the Lebanese civil war took place, Beirut was divided into two parts by the 'Green Line' into East Beirut and West Beirut. People started to flee to the periphery leaving the center due to the conflicts. Each side started to expend and accommodate refugees. After the war, due to this conflict expansion, and following the unifying of Beirut the so called margins of the city became the center parts of the city. Karm el Zeitoun became at the center of Beirut, surrounded by populated and well-established areas.

However, this centralization didn't last long, a new marginalization took place due to the aftermath of the civil war, new class of the rich Lebanese immigrant came back to Lebanon formulated a new boundary of social fabric. These social boundaries accentuated creating this gap between the neighborhoods inside of Beirut. This is typically the case of Karm el Zeitoun, which is again marginalized, surrounded by boundaries not physical but a complex of social, cultural, economical and political boundaries that are harder to overcome.

KARM EL− ZEITOUN

Fleuve de Beyrouth

KARM EL− ZEITOUN

PORT

ACHRAFIEH

Sassine Square

Figure 44. Karm El Zeitoun with its Surroundings

LAYOUT

As previously mentioned, Karm el Zeitoun is physically limited on all sides by the 'independence highway' from the north, on the west 'Cheick Ghabi Street' and the east the 'Beirut River' blocked by a highway entitled 'Pierre Gemayel road'. Karm el Zeitoun, has a grid layout divided into two main axes with minor parallel alleys on both sides, which reaches the steep edges transforming it into steep stairs. Karm el Zeitoun with its replicated pasted blocks has its own identity and layout according to its needs. The layout of the grid designed to create an orthogonal strong safe neighborhood was opposed by the topography of the Land, extreme sloping; distinctive topography. The sloping of Karm el Zeitoun descends on three sides, to the north and towards the adjacent sides. The orthogonal regular planning allows to create big rectangular blocks, in order to benefit from the positioning of strips of buildings, with the highest number of small plots. As mentioned the distinctive topography of the land transformed alleys into stairs .

●●●●●	Highway
●●●●●	Street
⋅⋅⋅⋅⋅⋅	Neighborhood axe
●●●●●	River
→	Sloping
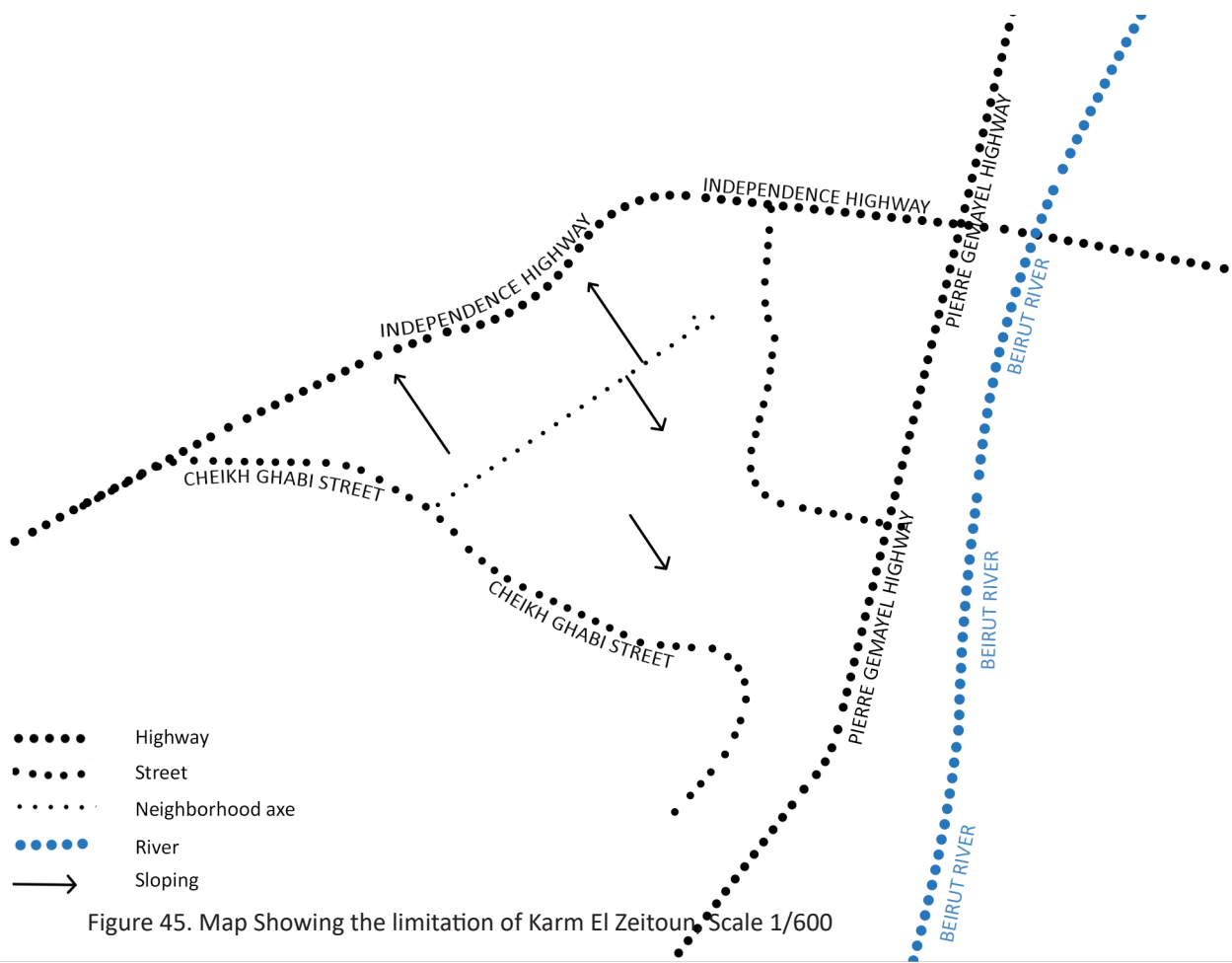
Figure 45. Map Showing the limitation of Karm El Zeitoun. Scale 1/600

As Previously mentioned, Karm el Zeitoun or The 'Olive grove' was filed with olive trees from all sides of the neighborhood as seen in the following diagram, with the river that used to be filled with water. However, through time, the neighborhood lost his identity, all the area is filed with concrete and stone, no more space for green areas, olive trees became abscent from the neighbohood. Adding to this, the implementation of the high-ways, and the river nowadays is filled with waste and there is no more water in it.

Visual Relation with the surroundings

Karm el Zeitoun with trees and limited number of buildings

Beirut River

The 'Olive Grove' filled with olive trees

Before the 1930s

Visual and physical Relation blocked by the Highway

Karm el Zeitoun filed with clustered buildings

Beirut River, dried out and filled with waste

The 'Olive Grove' filled with buildings

After the 1930s

Figure 46. Diagram Reflecting the Transformation of the Layout of the Neighborhood.

Following the quantitative and qualitative data gathering and analyzes acquired by the UN-Habitat, we are able to identify the demographic and physical identity of the neighborhood. According to the specific boundaries drawn by the UN-Habitat and the field surveys that we encountered, specific data is conceived. Nowadays Karm el Zeitoun has a total of 74,350 square meters with a total of 534 buildings. As perceived on the map, the orthogonal layout helps the positioning of the highest number of building adjacent to each other in a parallel way divided by alleys that are connected to the main axe dividing the neighborhood into two. Each block on both side of the main axe is approximately a 60m by 17m rectangular block composed by a two layered adjacent building with a count that ranges between 11 to 15 buildings a block, depending on each sector. The different plot sizes ranges between 50 and 150 square meters and the typical plot is composed of a two storey building.

The layout as defined is composed of a middle main axe which is the main 5m wide road, considered as the main vehicular access, from where derives paralleled alleys between the blocks buildings initially perceived as pedestrian alleys of a 3m wide, but nowadays all these alleys serves as a car parking for the inhabitant. Due to the typology of the land, on the three sides of the neighborhood, all roads transforms to a narrow stairs due to the steep typology of the land. The most significant character of Karm el Zeitoun is the layout of streets to stairs. The latter is defined between blocks and houses, depending of the edge of the building the stair is created. Sometimes the stair are the entrance to the house, sometimes it go above the house, inside their patios, their landing serves as an informal gathering or an entrance to the unit. The stairs gave a new meaning to the neighborhood.

Buildings on each side follows the typology of the land, creating a sense of terraces, some roof serves as patios to the adjacent building.

534 Building in 74,350 m²

33 Typical blocks in the center

Expended neighborhood
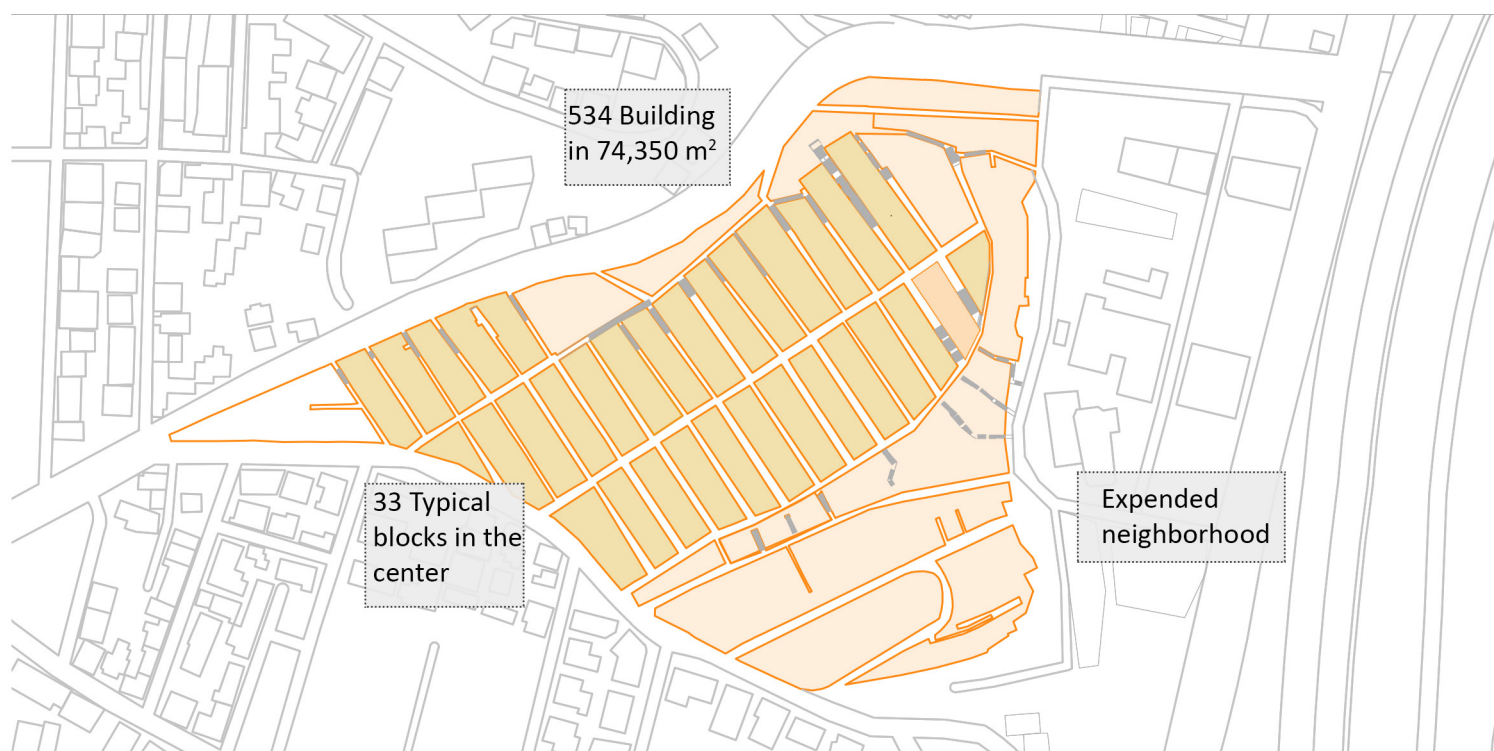
Figure 47. Map Showing the Layout Distribution of Blocks, Scale: 1/400

11 - 15 per

≈ 50 - 150m²

15m
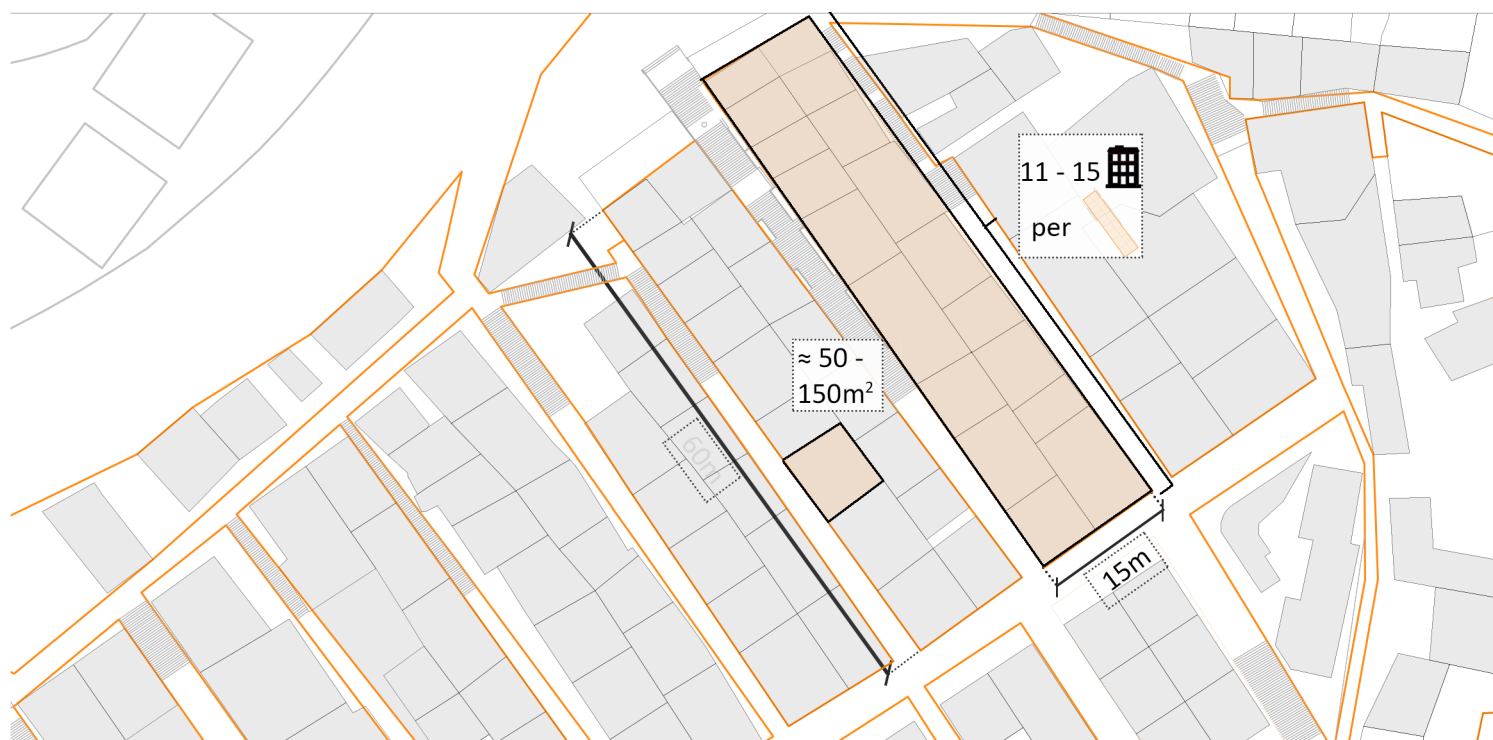
Figure 48. Map Showing a Typical Block Composition, Scale: 1/100

PROFILES OF THE COMUNITY

Karm el Zeitoun initially started as a refuge for the Armenian people, year after year it attracted all kind of ethnic, religious groups, different cultures. This is due to the fact of the low renting houses, and the low-income neighborhood. Syrians migrates to Beirut and found a low-cost rent in Karm el Zeitoun, families fled from the south during the war and head to Karm el Zeitoun. Low price of land, absence of control and the low-income families were a main factor that persuaded foreigners to come to the neighborhood. Foreigners defined as workers are the main commuter of the neighborhood due to economic situation of the area. Following the Karm el Zeitoun residential survey on field, it indicated an all-cohort resident count of 4081 for the 0.74km2 studied area. Lebanese population[5] count 59.7% of the population in Karm el Zeitoun (2438 people), moreover Syrians constitutes the largest the largest non-Lebanese cohort in the neighborhood with a percentage of 22.3% (908 people) and the 'others' defined by the inhabitants of the area, are the workers from different cultures; Ethiopians, Sri Lankans, Bangladesh, Filipinos, Sudanese counting a percentage of 18% (735 people). Most of the units in Karm el Zeitoun are inhabited by four to five people per unit, (check graph if possible) the number among the Lebanese cohort is lower than the non-Lebanese. Some units take up to 17 inhabitant. Most of the Lebanese inhabitants are from the old generation that stayed in their hometown, and the new generation has left the neighborhood due to its economic cultural and social situation. However, the non-Lebanese people are young generation, all the inhabitants are mainly workers sharing a house, or several households in one house with their families. Karm el Zeitoun attracted all kind of people and especially workers that go to work in the daytime and comeback to their houses at night due to the low rent and low-income neighborhood.

Due to the increase of population and the high dense area, a new strategy of expan-

---

[5] Originally they had the armenian nationality, the french mendate authorities gave them the lebanese nartionality.

Figure 49. Electrical Meters with the Name of the Owner differing the 'outsider' with their nationality, as 'ethiopians'.

sion was their main purpose to earn money from renting to the people in need. The boundaries and typology of the land were the main obstacle of the expansion of the neighborhood. From the upper side we have the highway descending from Sassine square, no possible way to expend from the side, the east side was limited by the Beirut River. Hence, their only option was to expend vertically, one story house became a 3 to 4 stories building, one apartment is divided into several rooms that can be rented to different inhabitants. That led to and over dense and populated neighborhood, with a high number of buildings collided together from the top of the hill till the end of the steep slope.
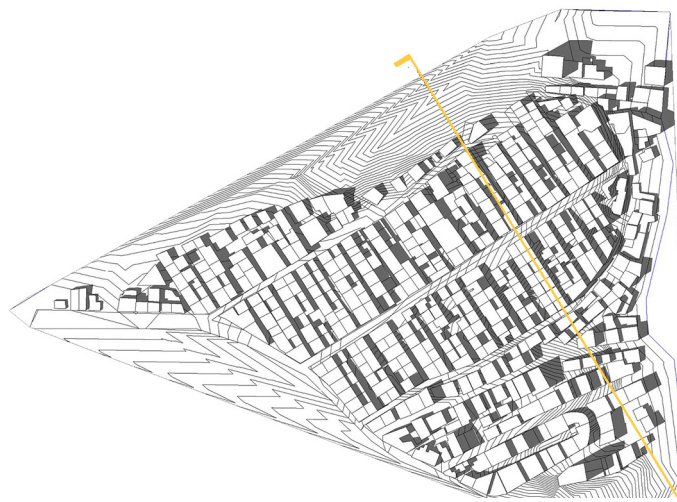
Figure 50. Karm el Zeitoun map with the section line
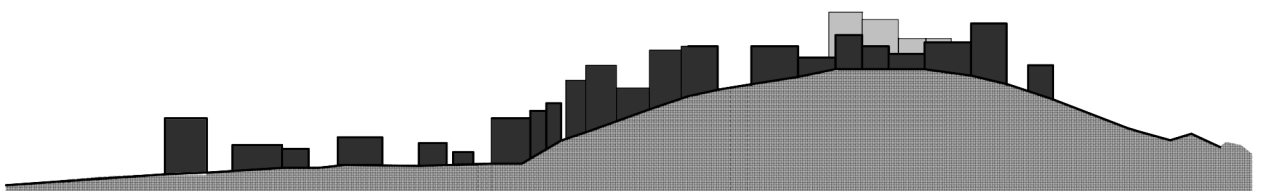
Figure 51. Section showing the typology of the land. Scale: 1/200
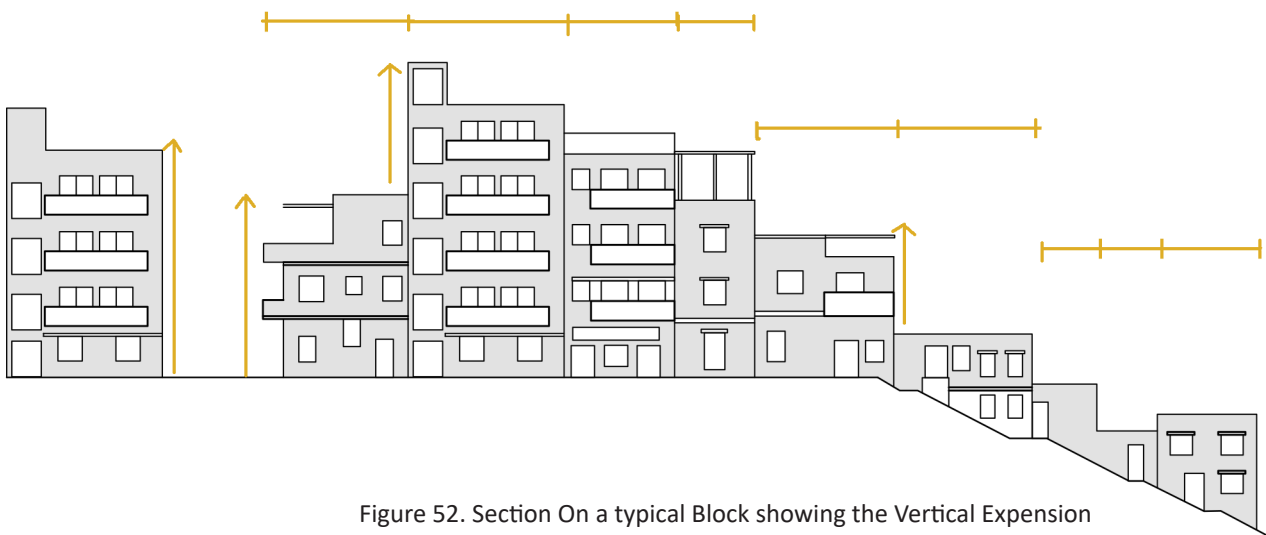
Figure 52. Section On a typical Block showing the Vertical Expension

Urban Data Analysis

The city profile produced by UN-Habitat, helps to gather concrete data and information on the neighborhood. Based on visual inspection, in-habitant comments. Which helps to establish the story of the neighborhood, enlighten the needs and the gap in a concrete way based on specific identified data.

Figure 53. Typical Block in Karm El Zeitoun

BUILT SECTOR ANALYSIS

534
Total number of buildings
Area of study = 0.74 km²

419   Low-rise
            1 to 3 storeys

108   Medium-rise
            4 to 6 storeys

7   High-rise
            7 or more storeys

534 buildings were surveyed, general information about the building was obtained regarding each and every building, specified with its building code, we identify the building use, occupancy, number of floors, number of units, rooftop use and construction year. In addition, we evaluate the building condition according to the scaling assigned (appendix 1) we evaluate the exterior condition, the communal spaces and the connection to the infrastructure.

The multistorey buildings in Karm el Zeitoun are built using mainly concrete, sand stone material and some steel addons. To evaluate the building condition involving the visual inspection of the following features:

-structural building condition

-exterior building conditions (the building envelope; wall, roof, window, doors and balconies)

-communal spaces (the shared spaces of the building; entrance, means of exit, lighting, provisions for people with disabilities)

-connection to infrastructure Networks (stormwater, wastewater network, public electricity)

Each feature mentioned above has a rating system from 1 to 4, Good, fair, substandard and critical respectively. This rating system helps to determine the building that in a critical need of intervention, causing danger to the inhabitants of the building and the surrounding.

Figure 54. Map showing the different composition of the neighborhood

Residential
Commercial
Mixed-Use
Education
Religious
Demolished / Abandoned
Dumping Area
Social Services
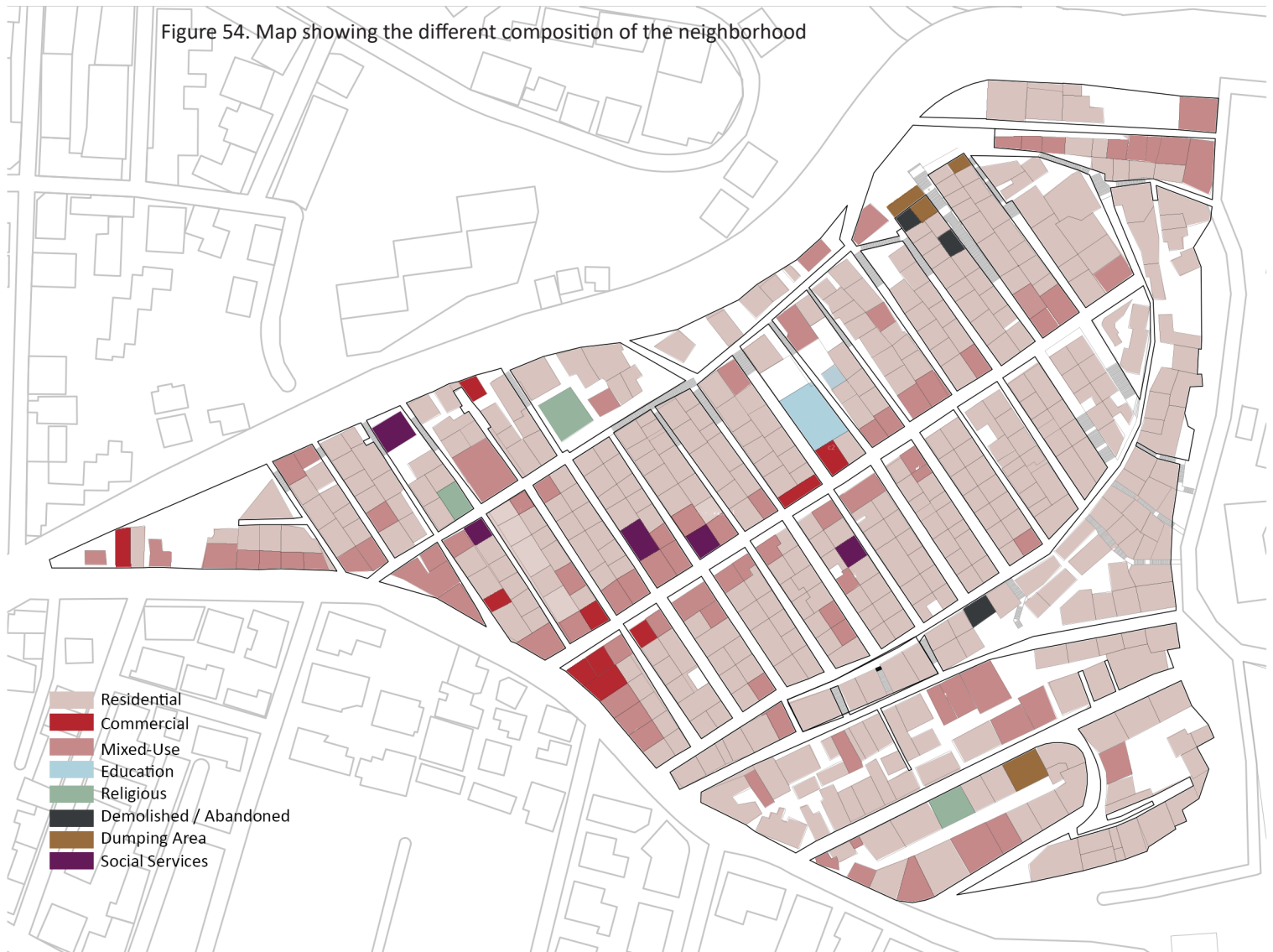
The previous map shows the composition of the neighborhood, just by seeing the map

we can understand the high number of residential buildings.

	0	1	2	3	4	5	6	8	10	Blank
Count	108	178	128	81	22	5	5	1	1	5

Number of Storeys
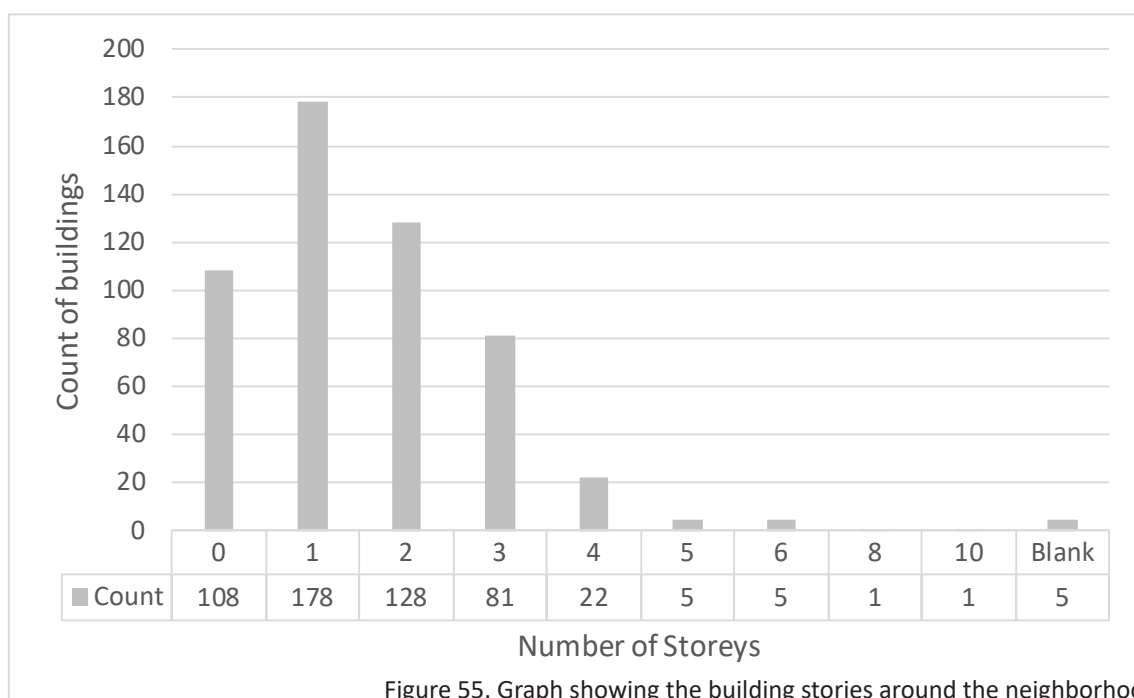
Figure 55. Graph showing the building stories around the neighborhood

STRUCTURAL BUILDING CONDITION
Structural supporting elements / Beams / Columns

9%

GOOD / Routine Maintenance
Buildings have no visible sign of distress or failure

54

60%

FAIR / Minor Repair
Buildings have minor shrinkage cracks in floors and/or walls with no intrusion back into buildings.
Continual monitoring is requried.

320

28%

SUBSTANDARD / Major Repair
Buildings show distinct signs of roof or wall leaks, water penetration, and visible rusted reinforcement.
Attention is needed to stop further damage.

148

3%

CRITICAL / Emergency Repair
Buildings show distinct signs of roof or wall leaks, water penetration, and visible rusted reinforcement.
Attention is needed to stop further damage.

12

Figure 56. Structural Building Condition. By the Author.

27 buildings in Karm el Zeitoun aren't residential buildings, considered as vacant unit, under demolition or a warehouse   and the 507 other buildings are residential buildings with 85 having a shop on the ground floor, mainly these buildings are localized on the main Cheikh el Ghabi street the main axis dividing Karm in two parts (appendice 4). According to our survey, from the structural point of view 12 buildings are in critical condition, in need of rapid intervention, holding around 108 residents. The condition of the building is highly deteriorating, structural wise, steel reinforcement are shown, protruding from the structure. Walls are in a bad condition, corrosion and deterioration.

In Karm el Zeitoun residents live in 1463 residential units. Lebanese people has the only ability to own their houses, where around 359 units are owned by a Lebanese household, 5 units were assigned as squatting and the rest is a low rent houses.

Dwellers in the neighborhood

As noted, before, Karm el Zeitoun accounts 4081 residents, with a culture diversity gender and age difference;

•   The Lebanese families, older people (initially armenians - armenian naturalization) lived in the neighborhood since the 1920's. they claim ownership or old rent unit that provide them with strong ties to the neighborhood.

•   Foreign migrant workers that include single male workers from Syria, egypt, Bangladesh Soudan and sri lanka as well as female migrants such as Ethiopians Bangladeshis, srilankese. Some of these workers shares apartments and rooms with each other. Karm el Zeitoun is there first option due to low rent houses.

•   Syrian refuges, after the 2011 Syrian war, refugees fled to Lebanon, and some found Karm el Zeitoun their getaway. A large percentage of residents in Karm el Zeitoun became Syrian refugees. They came with their families and reside there. An apartment in Karm el Zeitoun hosts more than 1 family.

Figure 57. Picture taken for a Building in Karm El Zeitoun

As previously stated, residential buildings are the most present in the neighborhood with an 84% of the toatal number, and then comes the mixed-use buidlings which are considered as residential and mainly commercial shops at the ground floor level. In figure (57) we can understand the building use in the neighborhood.

84%	12%	3%	1%
447	63	18	6
Residential	Mixed-Use	Commercial	Social Services
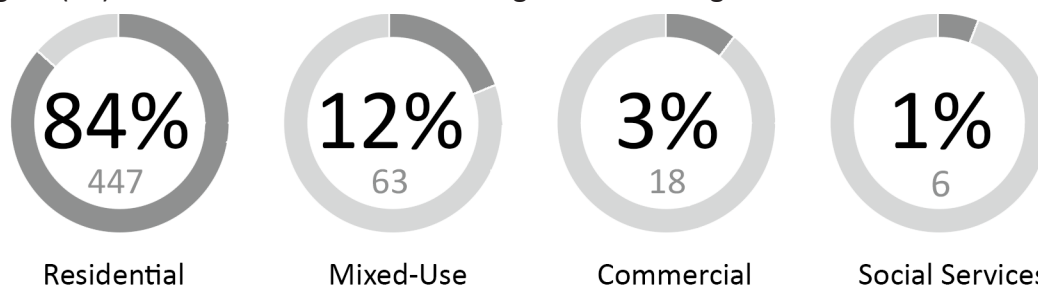
Figure 58. Graph showing the building Typology Across the Neighborhood

The following maps will show the typical layout and condition of the neighborhood in Karm el Zeitoun.
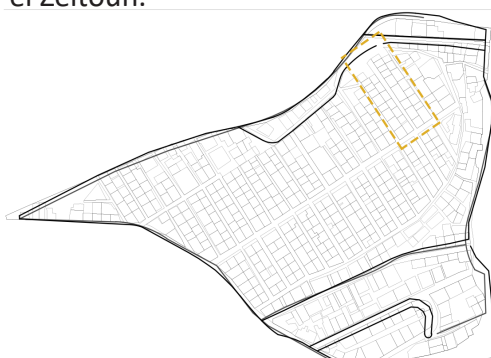
Figure 59. General map

Figure 60. Typical Block
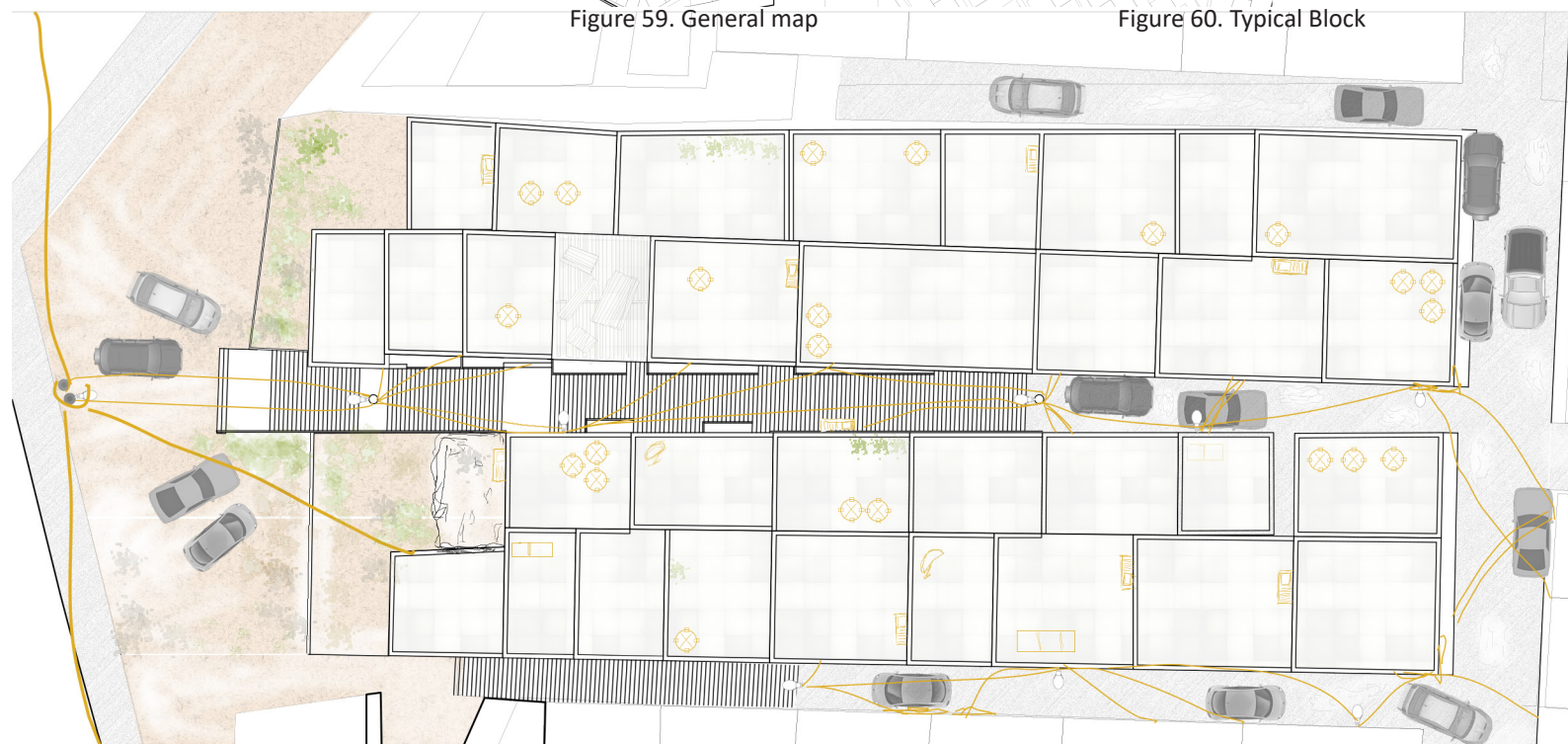
Figure 61. Typical Bloc on a Daily Basis 1/50

Figure 62. Facade of Building From the Site Survey

INFRASTRUCTURE

The data analysis captures also the basic urban services of the neighborhood (BUS); water, sewerage, solid waste, electricity and road network. This survey is perceived on an individual study, regarding the building itself how it is connected to the urban services and also on the urban level, studying the infrastructure on the neighborhood level. As perceived on the building survey, the infrastructure survey also require visual assessment, but also couple of questions to the resident in the specific location. Each street is coded by the GIS team to identify its geospatial location and attributing the exact information acquired during the on field survey.

The strategy of assessing the infrastructure of the neighborhood is aquired in the same way of the buildings. An ID code was given to the streets deviding every road and every corner in order to analyse in a detailed way the area studied.

Figure 63. Map with Coded streets

The typology of the land had a direct impact on the infrastructure of the neighborhood. Due to the lack of economic investment and low-income neighborhood, Karm el Zeitoun faces some problems regarding the networks in the area. The survey consists of assessing the condition of the road and if there's presence of a sidewalk, that are evaluated as - Good, Medium, and Bad- regarding the deterioration and typology of the road (appendix 2).

If there's presence of any water ponding or stormwater flooding or even wastewater flooding due to any blockage, broken or blocked drains. These information will allow us to understand where we have malfunctioning sewerage system.

All of this information is visually assessed and filled on the application. Adding to this, an assessment of the electrical network at building and street level shows the problem in each part of the neighborhood. The condition of the power grid is rated; Fair, Medium, Poor. Any electric hazard such as tangled overhead wires or deflected poles is mentioned on the base map. Functional street lights is fairly placed in the neighborhood, however the most place with lack of lighting is on the stair, where it is mostly needed due to its condition. Walking down the neighborhood, tangled wires is very common in this area,

Figure 64. Tangled Hazardous Wires

Figure 65. Tangled Wires from one building to Another.

in each steets we have electric hazard, inhabitants tangle their laundry on the wires.

As previously described, Karm el Zeitoun's typology is quite unique. Having steep slope on the sides of the neighborhood led to sewerage problem and water availability. Inhabitants mainly suffer from lack of water in summer, due to the sloping some people get advantage on others. Water supply is available on a daily basis for the residents living on the bottom of the hill, however the people residing on the top complain about water supply, especially in summer where it is available only twice a week.

Regarding the sewerage network, you feel the bed smell coming out of the drains. According to the inhabitants, Karm el Zeitoun does no longer support this densification that is why the sewerage system in the neighborhood is damaged. Practically wastewater overflow is aggravated by unmanaged solid waste blocking the gutters. The clogged wastewater channels are causing odors in the neighborhood streets, causing environmental distress and health problems.

The storm water is also an issue on different aspect in the neighborhood. Following the blocked drains on the roads, and some litter on the street, all the water of Karm el Zeitoun culminates on the end of the sloping causing distress to the inhabitants on this side of the neighborhood. Adding to this, the steep narrow stairs became an unsafe path during winter due to the slippery short and unsafe steps (appendix 5).

Figure 66. Blocked Drains and malfunctioning Sewage

Figure 67. Leakage of waste water in telecom manholes

Only roads with a sidewalk

Vehicular Roads

Stairs and Alleys

Blocked Road

Figure 68. Map regarding the circulation system based on the data and analysis from the site survey

Functional Lights

Non-Functional Lights

No Lights

Electric Hazard
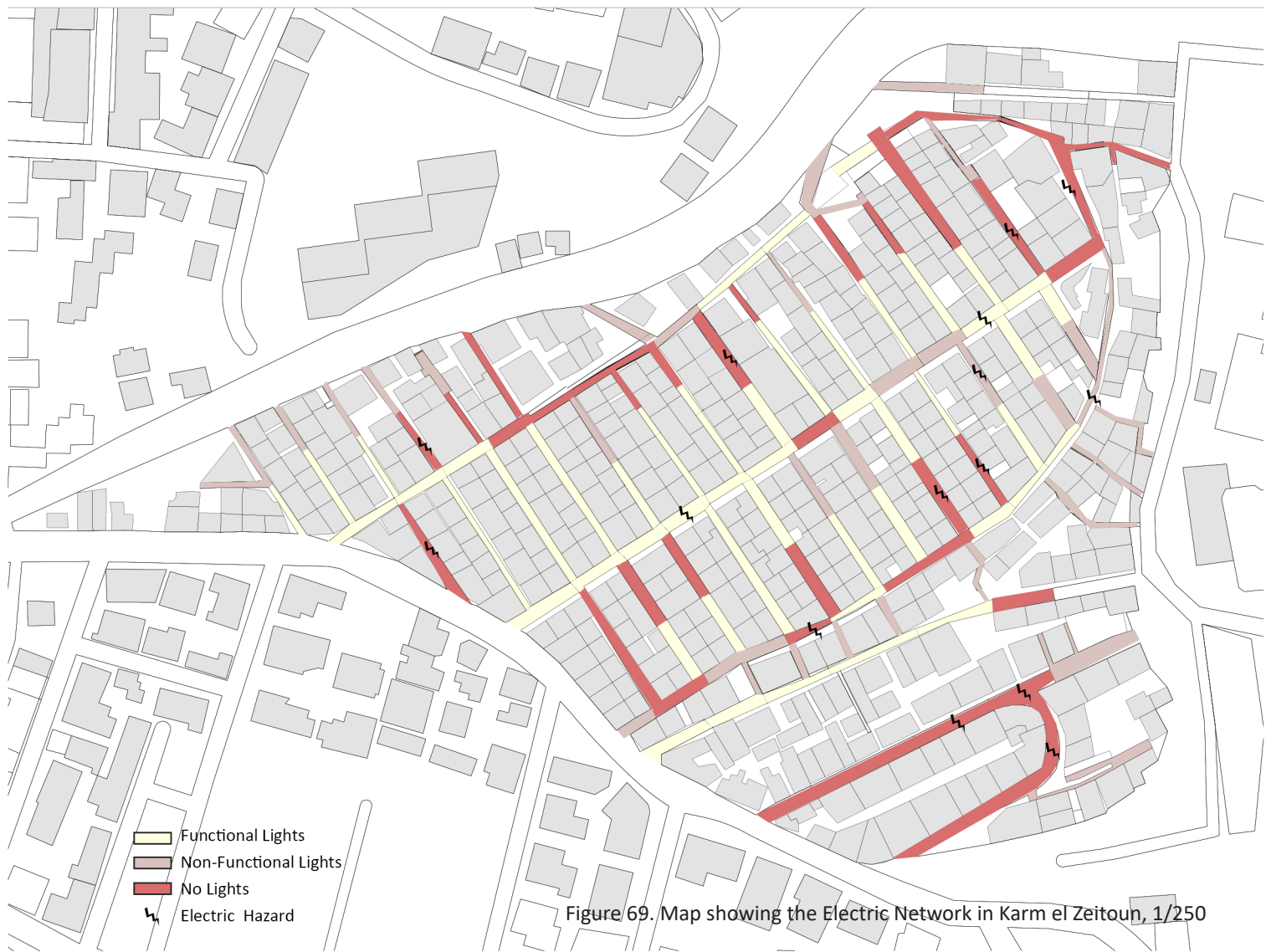
Figure 69. Map showing the Electric Network in Karm el Zeitoun, 1/250

OPEN SPACES

Accessibility in the neighborhood is defined by the main axis Cheikh el Ghabi street where all the commercial shops lay on the ground floor, this axis is a two direction vehicular road with a very narrow width. From this axe minor alleys emanate from both sides dividing the rectangular units in two. The blocked alley initially assigned as a pedestrian patio to access the buildings however the alley became a car parking were inhabitants can hardly get to their houses. The ending of the alley is transformed into steep stairs that lead down to the lower levels of the neighborhood. The accessibility to this part of the neighborhood is a bit tricky, especially for the elderly people, that got stuck in this side of the area, being harder to circulate from their houses to the lower part or even to the main road to get their goods. There's no direct access to the vehicular road network, the only access is a deteriorated pedestrian network of stairs.

The major defect of the area is an evident problem of housing due to the typological division of the blocks and the overpopulation that led to an urban fabric forgetting about the getaways of the neighborhood (appendix 3). A lack of public or open spaces are the case of Karm el Zeitoun. According to the data analysis the open spaces form only 9% of the neighborhood area (6,993 square meters). As we can see in the following map, the open spaces are very limeted to the surrounding, and basically the open spaces are oly placed in the periphery, and in the middle part there is a high lack of open spaces (appendix 6).

9%
Open Space
6,990m²

91%
Built Area
67,360m²

Total Area
74,350 m²

Figure 72. Graph based upon the data extracted
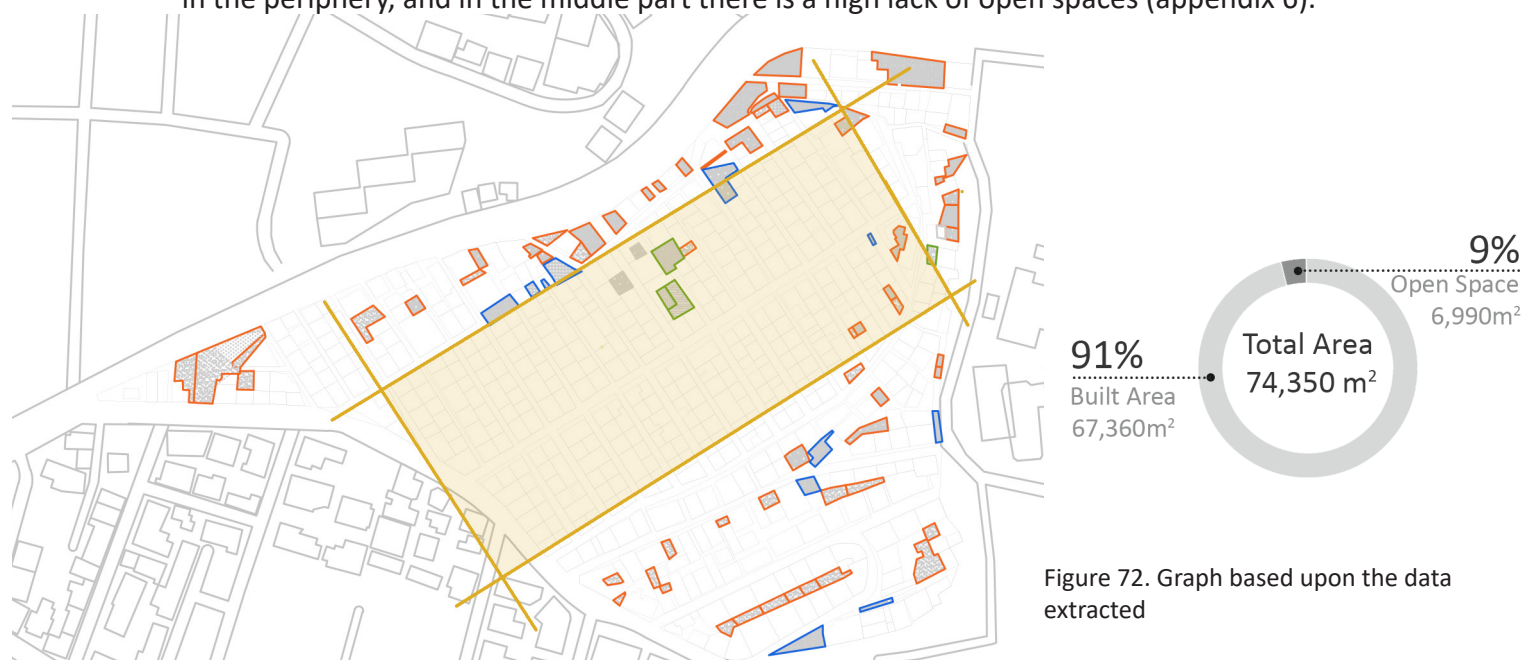
Figure 71. Map showing the open spaces on the periphery of the neighbotrhood

The composition of the open spaces accounted in Karm el Zeitoun are as follow:

- public empty lots owned by the municipality (6)

- semi public/private lots

- private lots
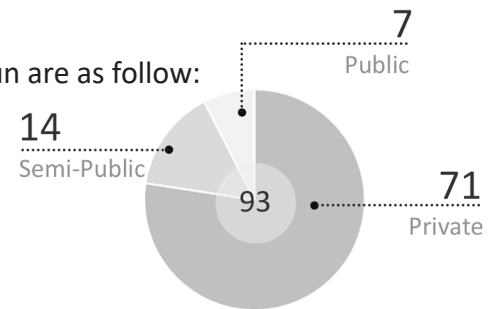
Figure 73. Graph based upon the data extracted

Garden and landscape area

Plaza

Abandoned empty lots

Parking

Utilities
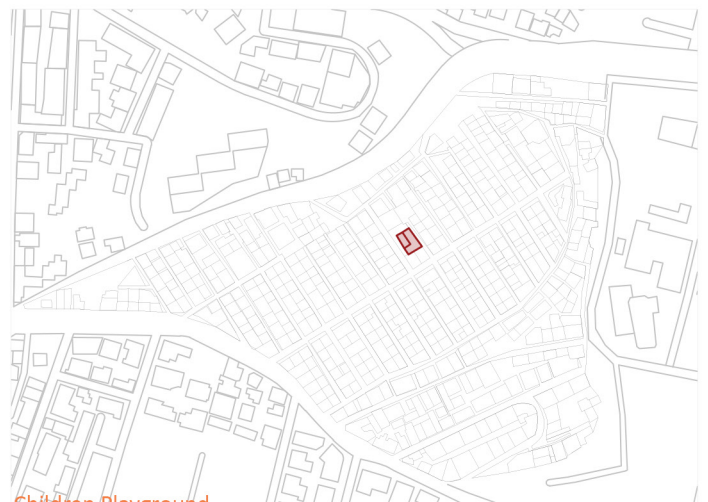
Children Playground

Figure 74. Maps showing the typology of the open spaces.

A total of 93 open spaces registered during the survey, only 14 of them are public, 7 are semi-public and the rest are private. The main public space conceived by the resident and an 'outsider' are basically the 'streets'. The latter is perceived as an informal gathering space, in front of every shop you notice a wooden or plastic chair waiting for the perfect gathering of the day. There's no public space for leisure, the streets as mentioned are the main actor for car parking, playground, and street gatherings.

As perceived on the map, the limited number of open spaces are basically located on the periphery of the neighborhood, leaving the dense filled plots in the center and marginalizing the open spaces. Open spaces conceived as abandoned land, stair passages, demolished building with a dump site around it. This non proportionality is highly sensed by the inhabitants; no public space, no serenity or getaways. Safety and security also play a major role in this lack of interest to these public spaces. Accessibility to these isolated open spaces are unsafe, unlit and not secured.

Their only getaway and outdoor confort is placing a chair in front of the shop and socializing with the commuters, or the elderly siting on the concrete landing in front of their houses. This strategy of the use of the streets is caused by the lack of urban fabric, no public confort is present in the neighborhood .

Figure 75. Gatherigs on the streets

Figure 76. Absence of urban fabric, and the use stair for resting

Figure 77. Gatherings in front of a Shop
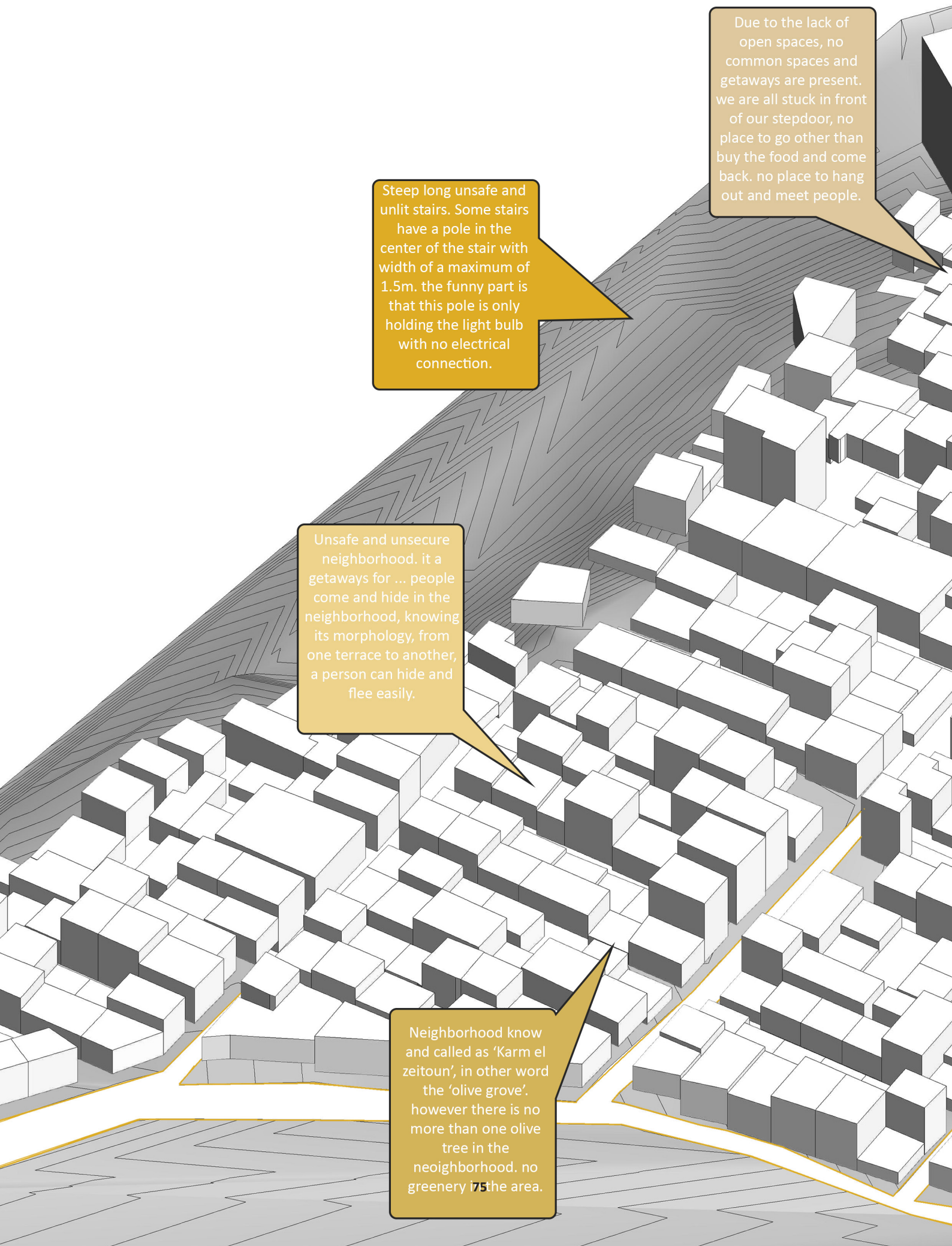
Due to the lack of open spaces, no common spaces and getaways are present. we are all stuck in front of our stepdoor, no place to go other than buy the food and come back. no place to hang out and meet people.

Steep long unsafe and unlit stairs. Some stairs have a pole in the center of the stair with width of a maximum of 1.5m. the funny part is that this pole is only holding the light bulb with no electrical connection.

Unsafe and unsecure neighborhood. it a getaways for ... people come and hide in the neighborhood, knowing its morphology, from one terrace to another, a person can hide and flee easily.

Neighborhood know and called as 'Karm el zeitoun', in other word the 'olive grove'. however there is no more than one olive tree in the neoighborhood. no greenery in the area.

75

Figure 78. A view of Karm el Zeitoun reflecting the needs of the people.

76

Constraints and Opportunities

As perceived in the data analysis, Karm el Zeitoun faces social, physical, cultural marginalization. This is perceived by tool that helped to acquire the data and to profile the neighborhood's identity, its limitation, its boundaries and its issues. All along this analysis, people are the center of the analysis, the data was developed through the eyes and testimonies of the people. Following the data mentioned above, a set of problems encounters Karm el Zeitoun, that can be beneficial in the eyes of any stakeholder, urban planners, municipalities, etc. that can have an impact on the neighborhood. However, following the literature review and the study I find quite interesting and beneficial to see an impact through the eyes of the inhabitants.Due to the data gathered through the surveys, we can highlight the densified neighborhood with lack of urban safety and security in all parts of the area. From the profiles of the community we can notice the absence of young generation, that fled the area due to lack of economic or adequate living in the neighborhood, the old generation is the only one standing in the area. The strategy that we can apply can be to attract families, or redevelop an economical local identity of the neighborhood.

The invasion of concrete fabric with a lack of open spaces and urban fabric for everyone. Each inhabitants claims his own land, his own private area (that is supposed to be for everyone), difficulty in transportation along the stairs limiting the periphery of the neighborhood, lack of electric supply and presence of electric hazard in the public space, streets and roads. This densified neighborhood, from a concrete way has negative affect on the community, adding to this, the presence of the vehicular network is invading the neighborhood, with no place for urban public realm, and pedestrian accessibility. This will encounter with the idea of an unhealthy city, not forgetting the environmental part, that was damaged through this densification, vehicular invasion and absence of green spaces. As entitled 'the olive grove', has lost its identity and now filled as a concrete grove with absence of a healthy air quality. These demands should

be taken into consideration in every intervention, to give back the inhabitants the neighbor-hood that was healthier livable sustainable and resilient.

As a small recap, Karm el Zeitoun, this low-income marginalized neighborhood needs an urban scale intervention, that encounter interventions on all the aspects reflected above, based on the data analysis surveyed and on the testimonies of the inhabitants. Taking into consideration the importance of the people, the key role of engaging the community in every decision and action for their neighborhood.

Figure 79. A view Between the Buildings

INTERVENTION

Neighborhood Rehabilitation

The neighborhood strategy implied by UN-Habitat is the outcome of the neighborhood profiles that is conducted at first on a specific neighborhood. The purpose of this publication is to present and allow authorities and parties to know the exact and beneficial ways to enhance the condition of the neighborhood. Knowing that it is a multi-sectorial strategy, UN-Habitat is not targeting only one specific aspect, but in the contrary, it is building all the identity of the neighborhood by specifying its optimum risks and needs. The strategies followed are related to improve the living condition of the inhabitants, through community stability, enhance the basic urban services and housing.

The rating system followed by UN-Habitat are phased in the groups that reflects the condition of the studied feature.

•   Immediate response; an intervention should be undertaken within 6months, due to its critical condition effecting negatively the inhabitants

•   Short-term response; intervention undertaken within a year, for no further deterioration.

•   Mid and long-term response; intervention must be undertaken between two to four years, depending on the issue and how much time it needs.

Following the data acquired due to the neighborhood profiling, some constraints and opportunities were detected, that allow the possibilities and strategies of interventions in the open spaces, in the abandoned and empty buildings that can be beneficial for the rise and development of the neighborhood. Following the survey done on field, regarding all the sectors regarding their needs and their demands several observations were defined. The aim of the project was to implement as the first actor the residents of the neighborhood, the people that use and live there. This community empowerment will be beneficial for the neighborhood rehabilitation as a first response to understand the need of this community. That is why the bottom up system is beneficial for this study.

Understand the issue from the ones that encounter it.

A neighborjood rehabilation stands on different aspect, by understanding the need of the people and their demands, a clearer vision of the neighborhood is acknowledged. To assess any transformation, it is important to acquire all the data needed to form-ulize the outcome and the intervention, who are the stakeolders, what is needed, is the community involved in the assessment.

Following the data, a clarified vision on the building was acquired, 9 buildings are in deep critical need of intervention, in terms of building condition, foundation and struc-ture, that can be considered a danger for the inhabitants. 4 buildings are abandonned and unoccupied, that can be transformed into a public service building, defined by the inhabitant. 12 Open spaces seen in the following are abadanoned plots unmannaged and filled with trash and waste that can be rehabilitated into a public safe place.
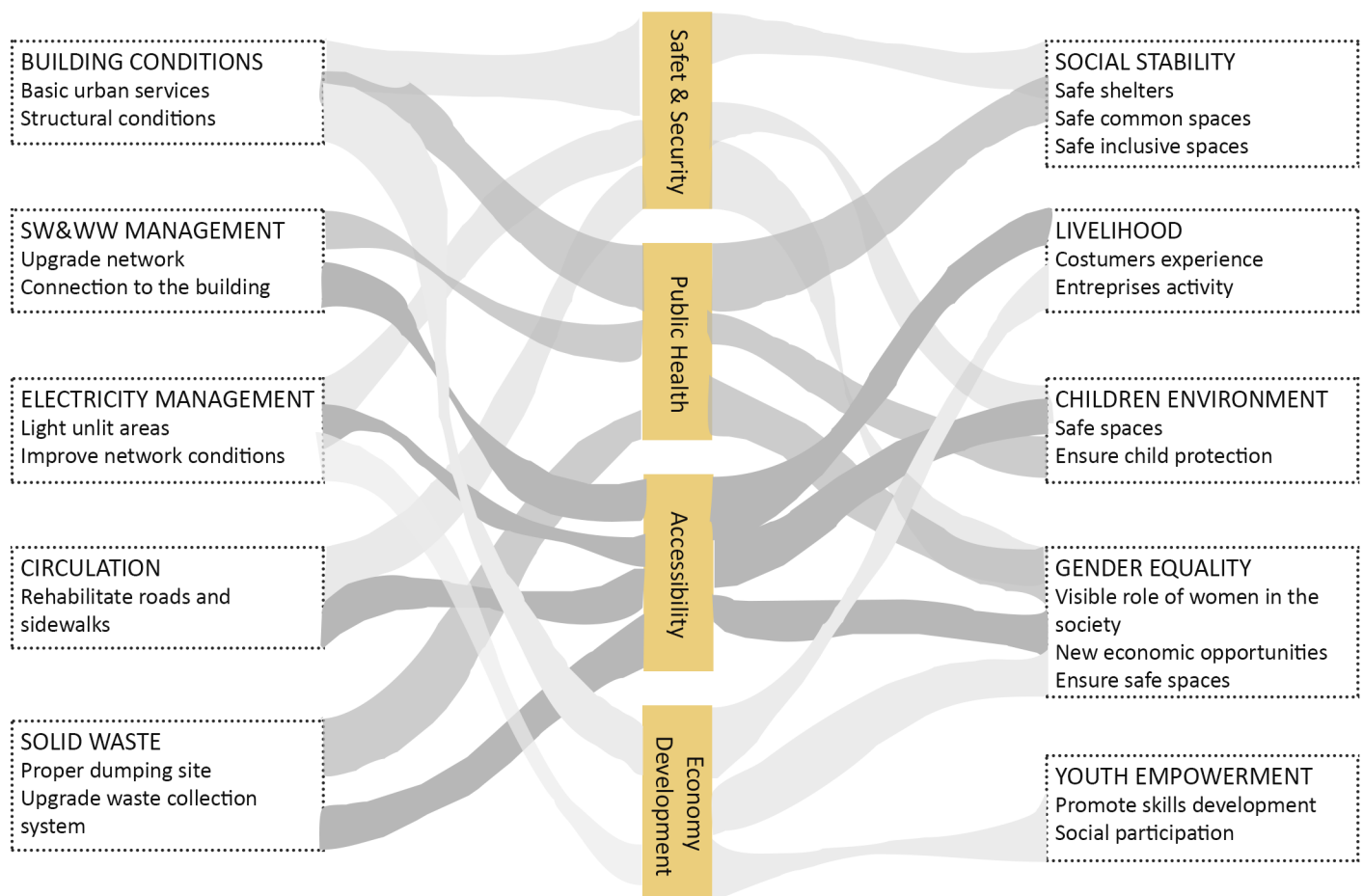
Figure 80. Neighborhood rehabilitation strategy

PHYSICAL INTERVENTION – CIRCULATION STRATEGY

On a global level of the neighborhood, due to the assessment of the area, a set of small intervention can be targeted in order to enhance in the living condition of the residents. As assessing the physical aspect, the vehicular network is invading all the public areas, from streets to abandoned lands. This limited orthogonal street division is daily and hourly blocked by cars, the small arteries protruded from the main access that were supposed to allow pedestrian access for the people to their houses, are blocked by cars, one behind the other making it hard for the residents to freely and easily access their houses. The vehicular circulation is blocked at each end of the neighborhood. A loop should be designed to allow good circulation and better access to the neighborhood, by reducing the co2 emission, reducing the densification of the city by limiting the vehicular access on the internal streets.

The small streets of the neighborhood do not allow this vehicular densification, the idea of this intervention is to implement a new strategy that will enhance the benefit of the neighborhood's situation,

The small streets turn into pedestrian roads, that will turn into a social public space, as seen through the literature review, showing how street are major aspect for public prosperity and urban development.

The vehicular circulation turns into a loop, with a one directional way, allowing a better network, less dense roads, and open public places. The entrance of the neighborhood in the commercial part of the area turns into a one directional road that connect the parallel road with a one-way loop that returns to the main adjacent road to the neighborhood.

However, this transformation of the small alleys to pedestrian arteries, will need an alternative strategy for parking, knowing that the residents park their cars in the small alleys between the blocks. But to enhance the livability and shared spaces this intervention of the use of these alleys for alternative purposes; open public spaces, shared
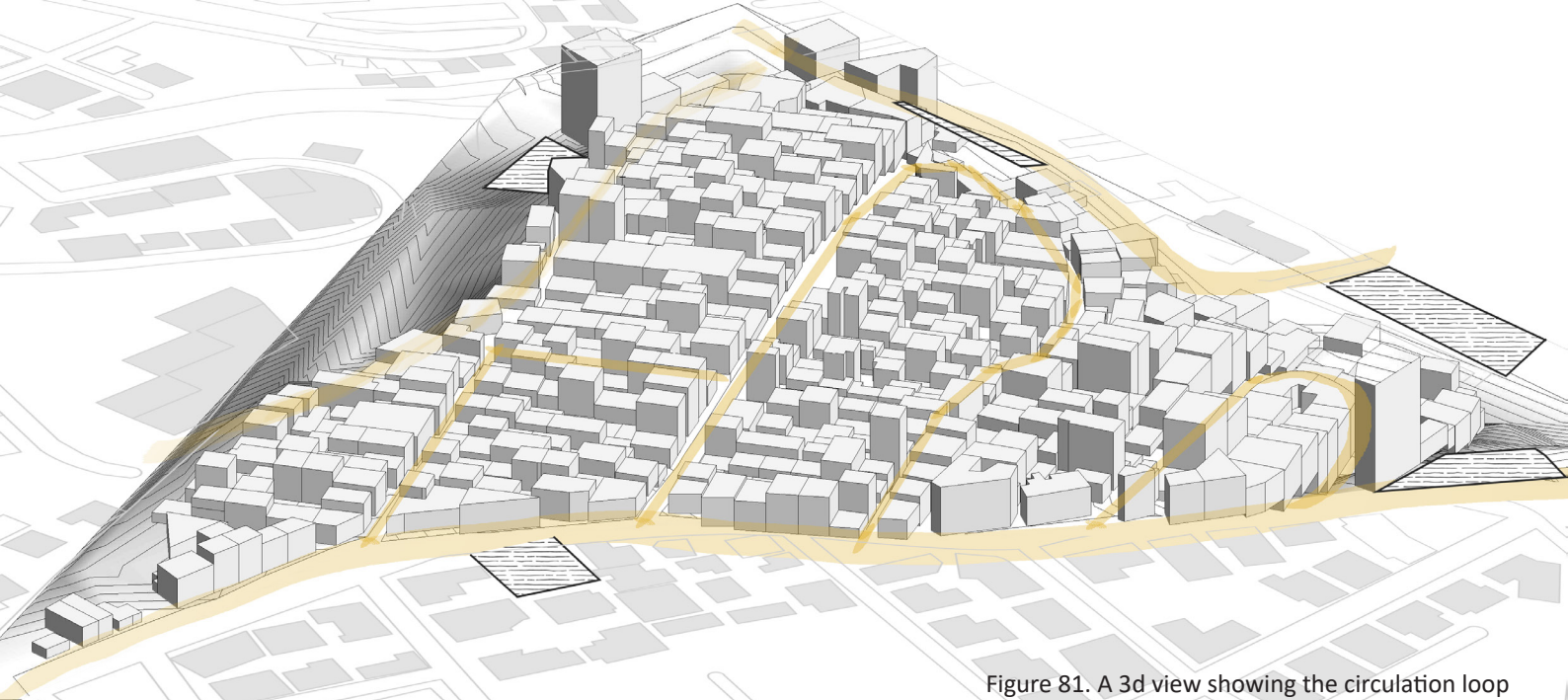
Figure 81. A 3d view showing the circulation loop

MAIN ROAD AROUND THE NEIGHBORHOOD

VEHICULAR ROAD

VEHICULAR DIRECTION

STAIR ACCESS TO THE NEIGHBORHOOD

PEDESTIAN ROADS

POSSIBLE PARKING POCKETS

SCALE 1/250

83
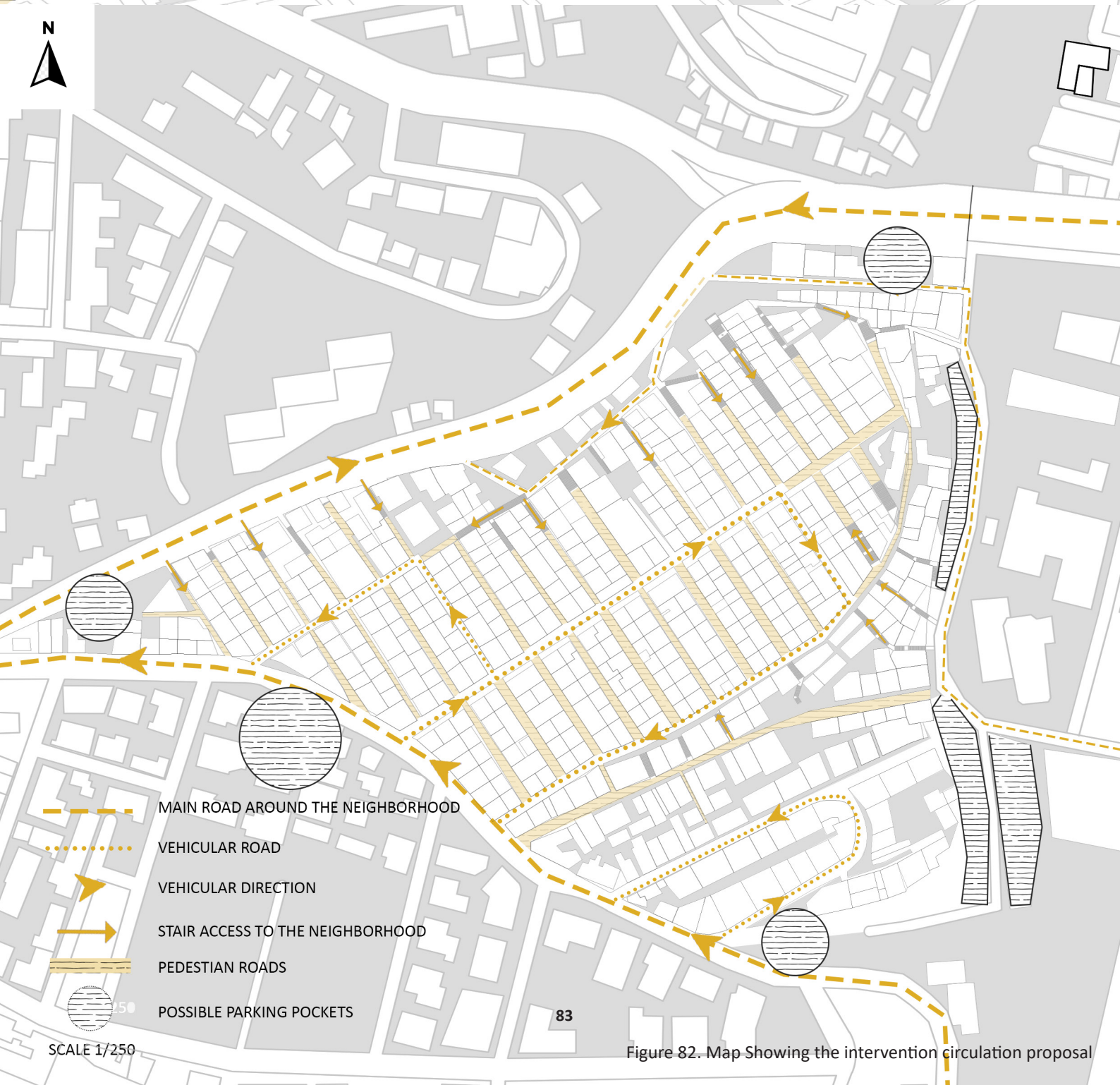
Figure 82. Map Showing the intervention circulation proposal

spaces… drive the need of parking lots. The latter should be extracted from the internal part of the city, placed on the perimeter of the neighborhood, allowing the walkability and pedestrianization of the streets. The parking lots will be placed on all sides of the neighborhood, in order to allow easy access for all the residents from all parts of the neighborhood. Parking pockets will be placed on the periphery and the open spaces will take place inside the neighborhood, opposing the nowadays situation of the area, were the condensed buildings filling the internal part and no spots for open spaces.

Figure 83. Small Alleys Blocked By Cars

Figure 84. Main Access with excess of cars on the sides and in the middle.

SAFETY AND SECURITY

An important issue highlighted by the inhabitants of Karm el Zeitoun, is the lack of safety and security. Safety and security are the major factors that affect the presence of people in space. The vehicular presence all around the neighborhood has a direct safety issue on the inhabitants, old people, children, etc. The alternation of this issue will enhance a part of the safety issue for the people.

Following the typology of the land, and the layout positioning of the buildings, it enhances this feeling of insecurity and fear. The feeling perceived by the pedestrian walking down the streets, lacks of control of the space. The person does not feel secure when the space is not, he doesn't have a visual and physical connection and openness. The arteries from both sides of the main line, lack the feeling of safety. The high buildings on the main street with the cornered angle on each side increase the insecurity. Adding to this, this lack is especially captured on the stairs that encircle the neighborhood. The unsafe long steep stairs have no adequate safety measures, with no lighting, not accessible to the disable and old people. These stairs can have a major interpretation for the enhancement of the condition of the neighborhood. Allowing a good access from all sides of the neighborhood. The intervention proposal requires to have an adequate maintenance of the streets, fix the tiling in case of rain not to have a slippery stair. Addition of led lighting system in this part of the area for increase lighting in the unpopulated and forgotten stairs. This strategy will enhance the possibility of using these stairs, and feel safe when going to this part of the neighborhood. Addition to this, in specific areas an electric chair should be applied that can help to transport the residents in need to access their houses and move around. To perceive safety for public spaces, (knowing that streets are defined as public spaces) several indicators should be highlighted to enhance this safety feeling. (a) to perceive control of the space (visual and physical connection and openness. (b) presence of lighting system to allow visibility during night time. (c) natural surveillance, that is highly present during the day In Karm el Zeitoun, however absent during the night. (d) perceived safety from traffic.

Current Main Axe Condition

1m   6m   1m
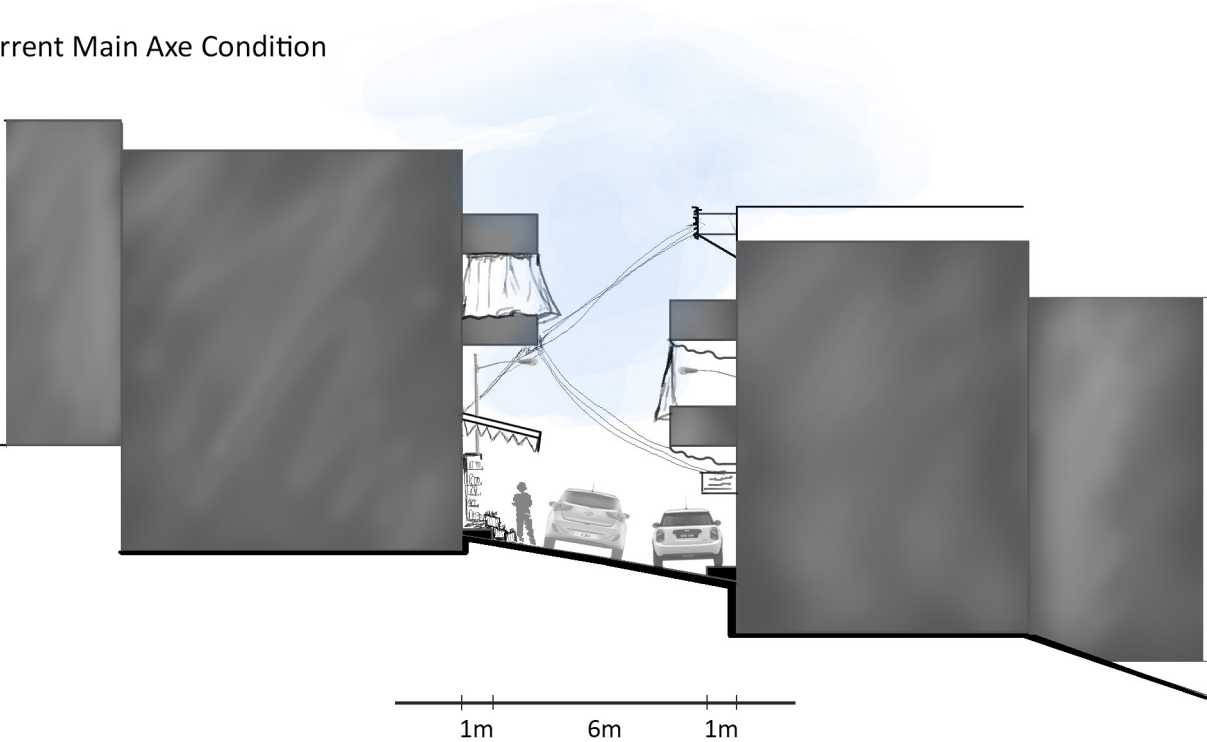
Figure 85. Section Showing the current situation of the main axe

1/25

Main Axe Condition after the Intervention

2m   4m   2m

1/25
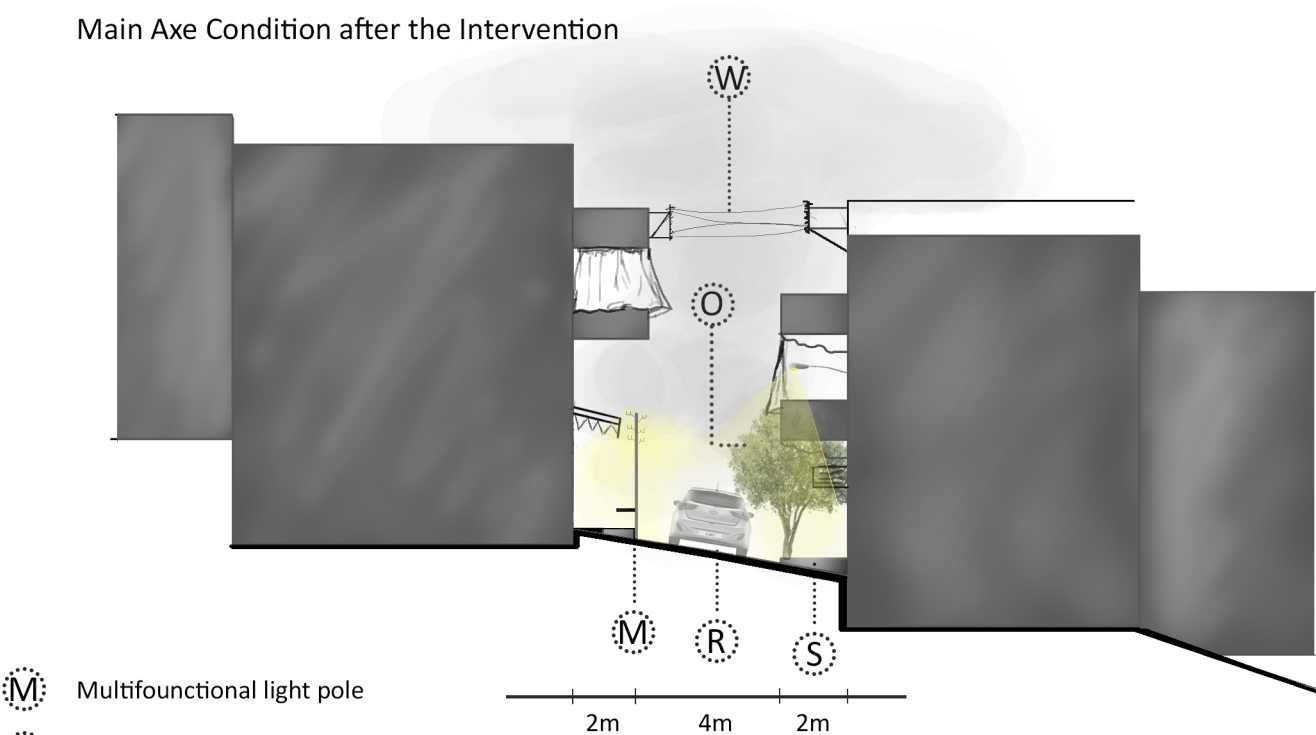
Ⓜ   Multifounctional light pole

Ⓢ   Extended Sidewalk

Ⓦ   Fixed tangled Wires

Ⓞ   Reimplement Olive Trees

Ⓡ   One Way Road

FIGURE 86. SECTION SHOWING THE PROPOSED DESIGN FOR THE MAIN AXIS.

Small Alleys Transformation
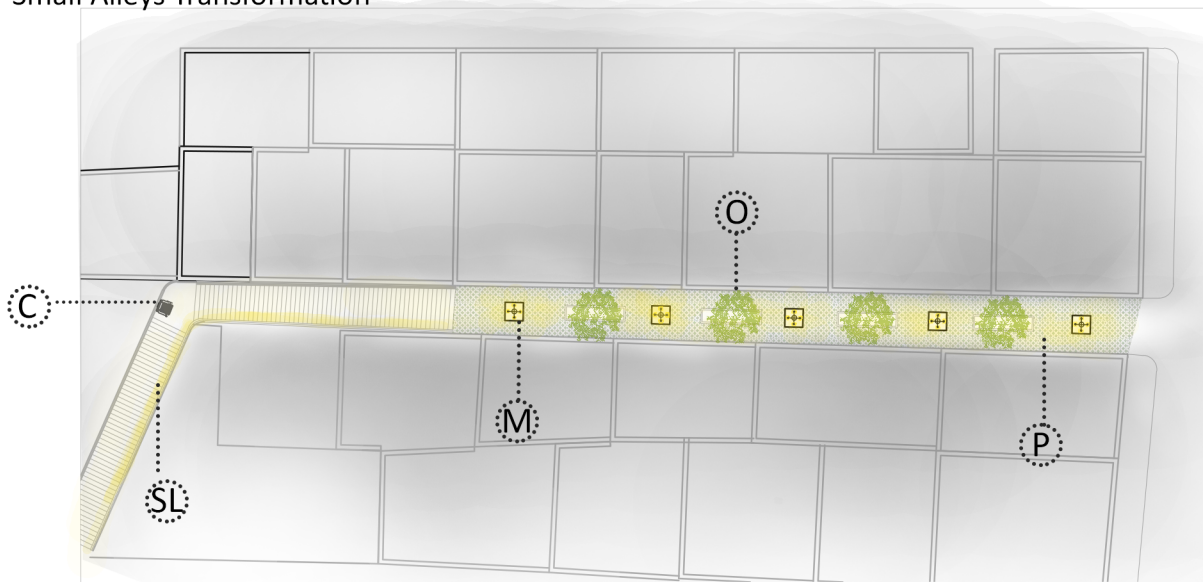
O   OLIVE TREES REPLENTED

P   PERMEABLE PAVEMENT

M   MULTIFUNCTIONAL POLES

L   LED LIGHTING

S   STRIP LIGHTING ON THE STAIRS

SL STAIR CHAIR LIFT

Figure 87. Plan view of the the proposed intervention 1/200
for the small alleys.

Possible Interventions for the Alleys between the Buildings
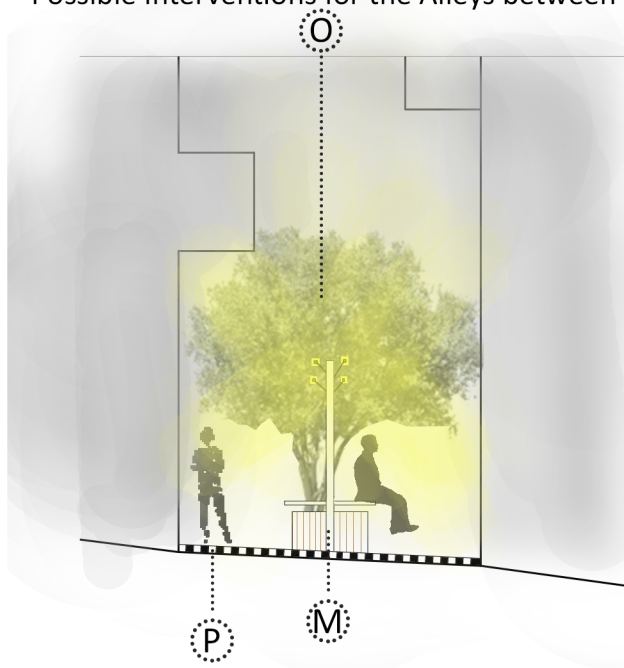
O   OLIVE TREES REPLENTED

P   PERMEABLE PAVEMENT

M   MULTIFUNCTIONAL POLES

L   LED LIGHTING

S   URBAN FABRIC FOR SEATING

1/10

Figure 88. Sections showing the possible intervention
in the small alleys.

Open Spaces Intervention

STREETS AS PUBLIC SPACES

The streets are a major element in any city. 'Without a street there's no city' (Kostof) it is in fact an urban area that allow social and physical connection within it. As a major aim, streets help to structure the community and help to facilitate the movement of people, vehicles, goods and communication. Defining it as a public space, means that it should accommodate everyone at any time and accessible for all. In Karm el Zeitoun's case, streets are basically blocked vehicular roads as mentioned above, with a dense presence of cars in small pathways. Pedestrians are continuously present on the streets despite the presence of cars. Following the intervention of a loop circulation and the possible limitation of the cars, pedestrian can be freely present on the streets, allowing more security and liberty in using the public streets between the physical *structures. The intervention is not limited to the small streets, but the special thing present in Karm el Zeitoun is the presence of these steep stairs that has limited access due to their condition, the only ones that access these stairs are the inhabitants living at this side of the neighborhood. The public streets limited by the stair will unite together to form a public realm all along the gaps between the blocks. Creating a combination of physical structure and urban fabric that is highly attended by the people. Improving the urban morphology by improving the living condition, the social and physical aspects of the neighborhoods.

The pedestrian network created in Karm el Zeitoun will be a catalyst for walkability at the neighborhood scale. This intervention will allow and develop the concept of shared spaces, that generates social and activities that invites people to meet. This pedestrianization strategy can decongest the neighborhood and improve the quality of open spaces. As defined by Project for Public Spaces (PPS) the first rule is to "think of streets as public spaces" Placemaking is a tool that will be a strategy to enhance the

cultural and social aspect of the neighborhood. This will lead to a more livable city and a healthier city. This strategy will be enhanced by the adaptation on the concept of LQC (Lighter, Quicker and cheaper) interventions that Is built along participation and sense of belonging. LQC projects will allow reiteration and assessment before reaching permanent interventions.

Not only on a personal level, however it is a way to unify the neighborhood, lower the diversity and marginalization within its area.

Figure 89. Kids Reclaiming The streets as public spaces

Figure 90. Chairs on the sidewalk for social gatherings

PUBLIC GREEN TRAIL

This pedestrian strategy will create pathways and connection that the inhabitants did not have the ability or the pleasure to cross due to lack of pedestrian access, lack of safety and security and lack of urban fabric. The placemaking intervention shows according to the case studies stated above, that it can tackle diverse contexts, it can start from a low-cost flexible, and participatory and can eventually influence public policies. The purpose of placemaking in Karm el Zeitoun would be to connect and integrate the inhabitants to the neighborhood, to have a feeling of connection to the area, through upgrading the open spaces in a way that can respond better to the needs

of the dwellers. Due to the densified neighborhood, and the clustered buildings, no possible intervention on a ground open space is possible, the only solution to benefit from this special character of the neighborhood is to use the roofs of the buildings to create a getaway for the people. Considered as a semi private area, in some cases this part of the building is nowadays squatted by the dwellers of the higher building, a low percentage of roofs are used according to the data acquired on site. This intervention will enhance the cultural and social relationship between the residents, by sharing a common space with no specific ownership.

This strategy does not only have an individual benefit, but also it can influence on an environmental aspect. This public realm is the integration of greenery in the neighborhood, not only by trees, but by reducing the greenhouse gases emitted by cars. This emission is limited through this intervention and the implementation or in other words the rebirth of the 'olive trees' in public spaces, streets, roofs, buffer zones. That will benefit in improving the o2 emission and lower the greenhouses gases.

Due to the densification in the neighborhood, and a vertical expansion and small alleys between the blocks, a feeling of congestion is sensed when walking between the buildings. Residents encountered gives the feeling of being trapped between the buildings, no possible getaways. Their main demand was public spaces that are a way to leave their houses and their private places and invest and use a public space. Dwellers trapped in their small houses, small balconies or small streets, need a sense of escape. The only possible escape is a vertical getaway, the idea is to use a specific empty lot between the buildings and create vertical installations across the neighborhood, to provide the dwellers with a vertical getaway across their neighborhood. Adding to this as specified the use of the roof is also a strategy to create a getaway for the inhabitants.

PLACEMAKING IN KARM EL ZEITOUN

The importance of the intervention is the community involvement in shaping public spaces that creates shared values and sense of belonging., the placemaking concept is the only tool in rehabilitating Karm el Zeitoun. The concept of placemaking incorporating flexibility and participation will accommodate all type of users in a space through rethinking physical structures of the streets and spaces. Spaces become a meeting points where gaps between people of different age, economic, social and cultural backgrounds are bridged and a sense of communal stewardship is created. Interventions will be a way to allow communities to be part of the design and intervention, it is a way to engage the dwellers and encourage them to negotiate together their shared environment. In fact, Karm el Zeitoun's dwellers are in fact place makers, in the ways that they appropriate spaces weather in public or in private space, the way they use the sidewalk, the way they meet with each other, the way they define a gathering, and the way they sit, play and socialize.

Hence, placemaking in Karm el Zeitoun can be implied to improve the neighborhood, by creating organized public spaces that promote health and wellbeing. As quoted by Jane Jacobs "Cities have the capability of providing something for everybody, only because, and only when, they are created by everybody." this participation tool one unity and diversity at the same time Is what differ this tool from other strategies and tools in developing a place.

Abandoned Emty lot
Sloped land

Fix land
Step form

Sloped Fixed Design

91

Due to the topography of the land, steep sloping is present all around the neighborhood. To benefit from this unique character, we need to benefit from the abadoned lots and transform them into a sloping public space.
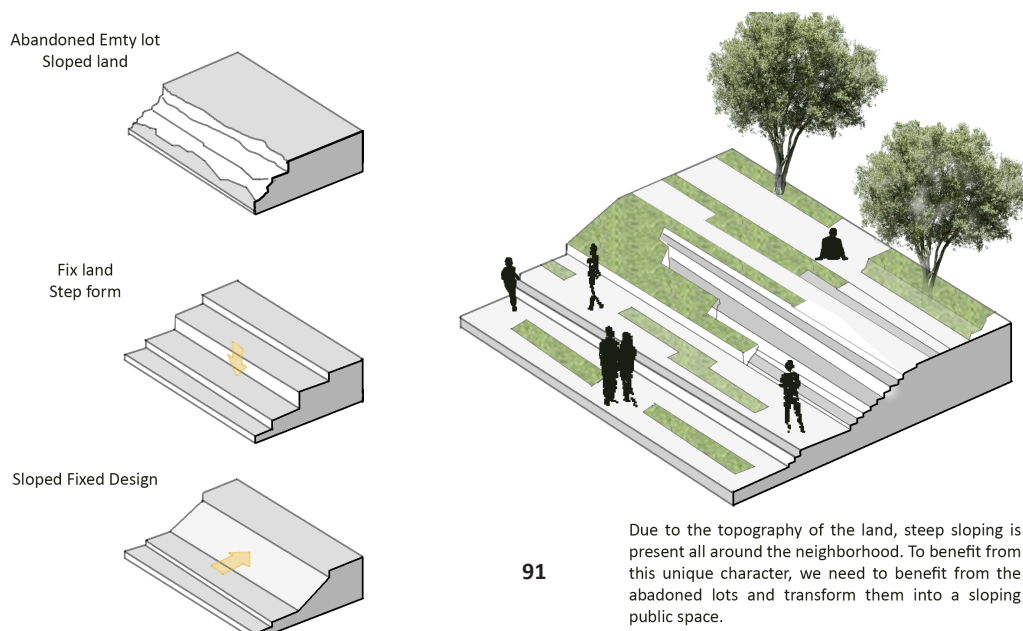
Figure 91. Topography Alteration seen in the previous exemple

Figure 92. Abandoned Building with abandoned open space.

Figure 93. Transformed Building with a surrouding based on the concept of LQC and placemaking

Figure 94. Abandoned Plot between the Buildings

Figure 95. Transformed spot into a livable social place

Figure 96. Secondary Street used as a parking lot.

Figure 97. Secondary Streets reclaimed as public pedestrian streets

Figure 98. Steep Stairs. with poles and unfunctional lighting

Figure 99. Reclaimed fixed stairs.

RESILIENCE AND SUSTAINABILITY

In addition to the public green trail, the environment is a major aspect to contribute in this neighborhood rehabilitation. To talk about a rehabilitation, the sustainable and resilient part is a major element to develop a neighborhood. The green aspect should be taken into consideration. As previously intervened, the decrease of cars and increase of walkability will enhance this idea of sustainable rehabilitation.

Due to the increase of walkability the greenhouses emitted by cars will be highly lowered, the emission of O2 will be proportionally saved.

This action is contributed and enhanced by the plantation and addition of the olive trees that left the neighborhood due to the urban concrete densification. In the small alleys, olive trees with an urban fabric for public use will be inserted in the area. the main axe with a one directional loop for cars will also have a plantation of green trees. However, knowing the high densification of the buildings and the special identity that the neighborhood has, a special topography, one way of intervention is the use of the roof as previously said, this use will enhance the green aspect of the neighborhood. The plantation of greenery on top of the roofs will also benefit the o2 emission that will clean the environment in the area. Adding to this, speaking about the environment, Karm el Zeitoun as known is limited by the highway from one side and the river of Beirut from the other side. The two blocked sides will hava negative effect of the neighborhood, noise and waste pollution is interfering in the situation. The highway contribute in a visual blockage to the residents as seen in the graph, and a noise pollution due to the excess of cars using the highway. From the other side, the river used to be filed with water, but sadly nowadays, the rived is dry and filled with waste. This situation has negative effect on the neighborhood, visual noise and waste pollution is interfering.

Therefore, a new implementation should be applied in order to improve the quality of living in the neighborhood. As seen in the following diagram a strategy is applied to

fix this scarcity. A green wall should be created on the sides of the highway, to decrease the greenhouses emission but improve the emission of O2 due to the green wall. A buffer zone should be applied between the two elements, between the neighborhood and the highway. On the other hand the river should be repeatedly clean, specific measures should be taken to fix the waste and litter disposal in the river. This contribution will help to create a healthy and sustainable city.

To talk about a sustainable neighborhood and a resilient one, we need to focus also on the idea of developing economic strategies to improve their condition, that will also work on the social aspect of the neighborhood. As perceived in the case studies, the development of Micro-Gardening in Dakar, were this technique is to develop plantation on an individual level, giving the opportunity of all the users, women, elderly etc can be part of this technique. Micro-gardening will help to improve the environmental aspect but also improve the economic part, be able to buy and sell on the neighborhood scale, improving the social aspect between the diverse cultures. The roofs are a major platform to be able to develop this technique, with the use of sustainable materials for the gardening.

Noise Pollution and Greenhouse gases emited by vehicular transportation

CO2

Filled with buildings no place for greeery. Absence of trees that can stabilize the air pollution

Waste in the water. Bad smell from the river
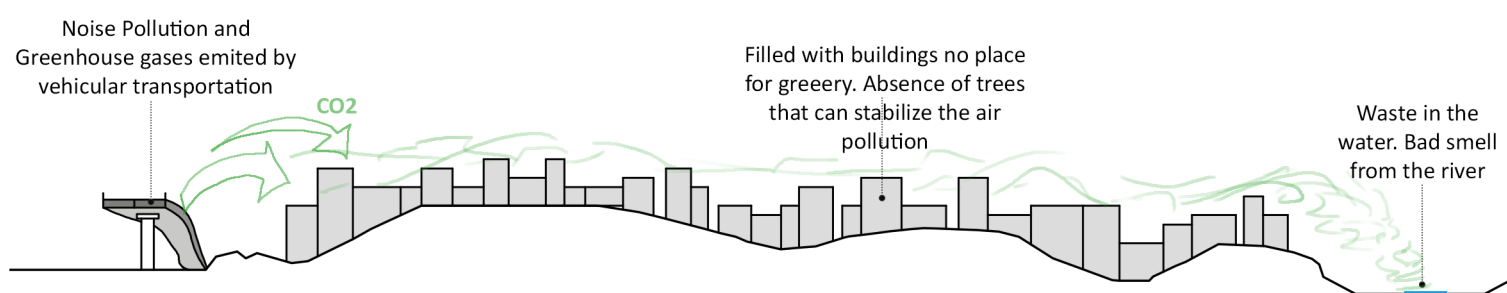
The 'Olive Grove' filled with buildings

Figure 100. A study showing the environmental aspect in Karm el zeitoun

Today

Create a green wall on the highway to divert the sound and minimise the gases emission

Create a green buffer zone between the highway and the neighborhood

Addition of Olive trees, that can be a strategy to purify the air

Clean the river, stop the waste disposal in the river
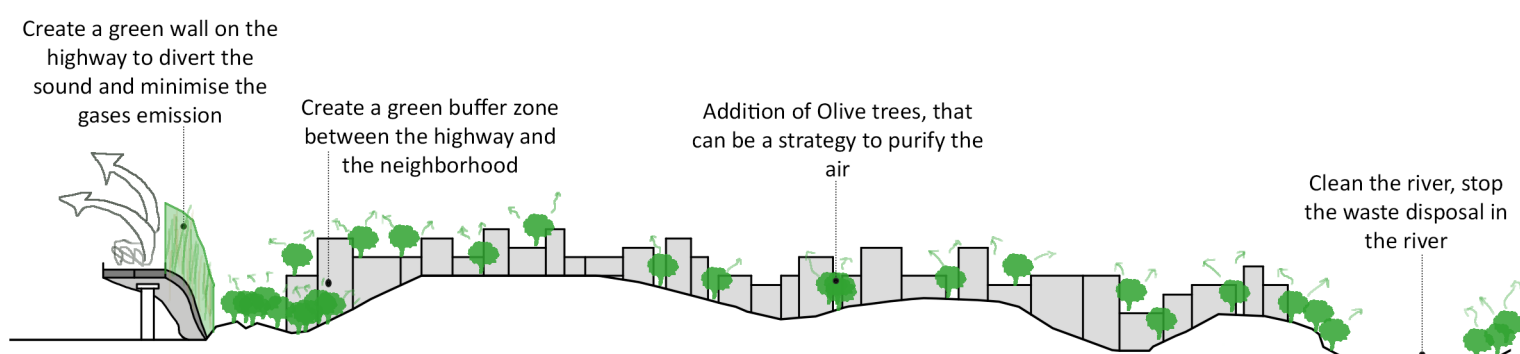
The Olive Grove reappeared

Figure 101. A study showing how can we interefere in the improvment of the environment

Post-Intervention
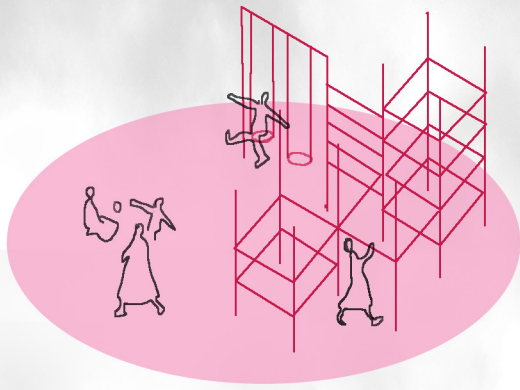
Children Fabric.
Placement of small playgrounds for kids, with a safe environment, the floor will be treated with rubber for children safety

Public space for all.
Families, individuals and all people from different ages can use this spaces

97
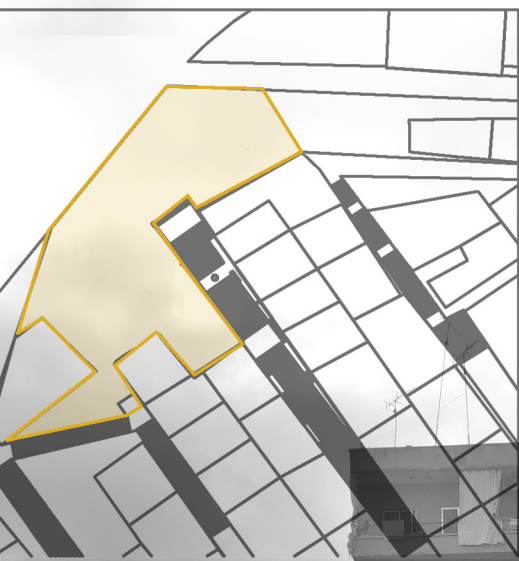
Small Public sports fields, available for everyone, and can be placed in a small area.

Implementation of greenery. Addition of Olive trees to the 'Olive Garden'. Spaces to take shelter

98

Figure 102. Collage showing the implementation of placemaking and livability in Karm el Zeitoun

N

Scale 1/150

Figure 103. Map of Karm El Zeitoun following the intervention procedure

Lighting typology in the small alleyways
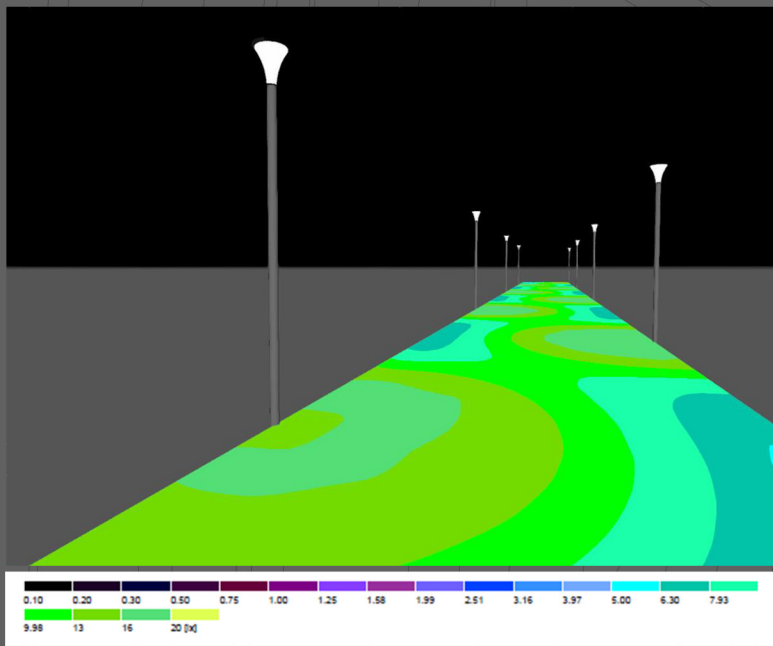
Possible Led Solar Lighting that can be used.
= 20watt/Led
A minimum of 10m between fixtures.

Scale 1/150
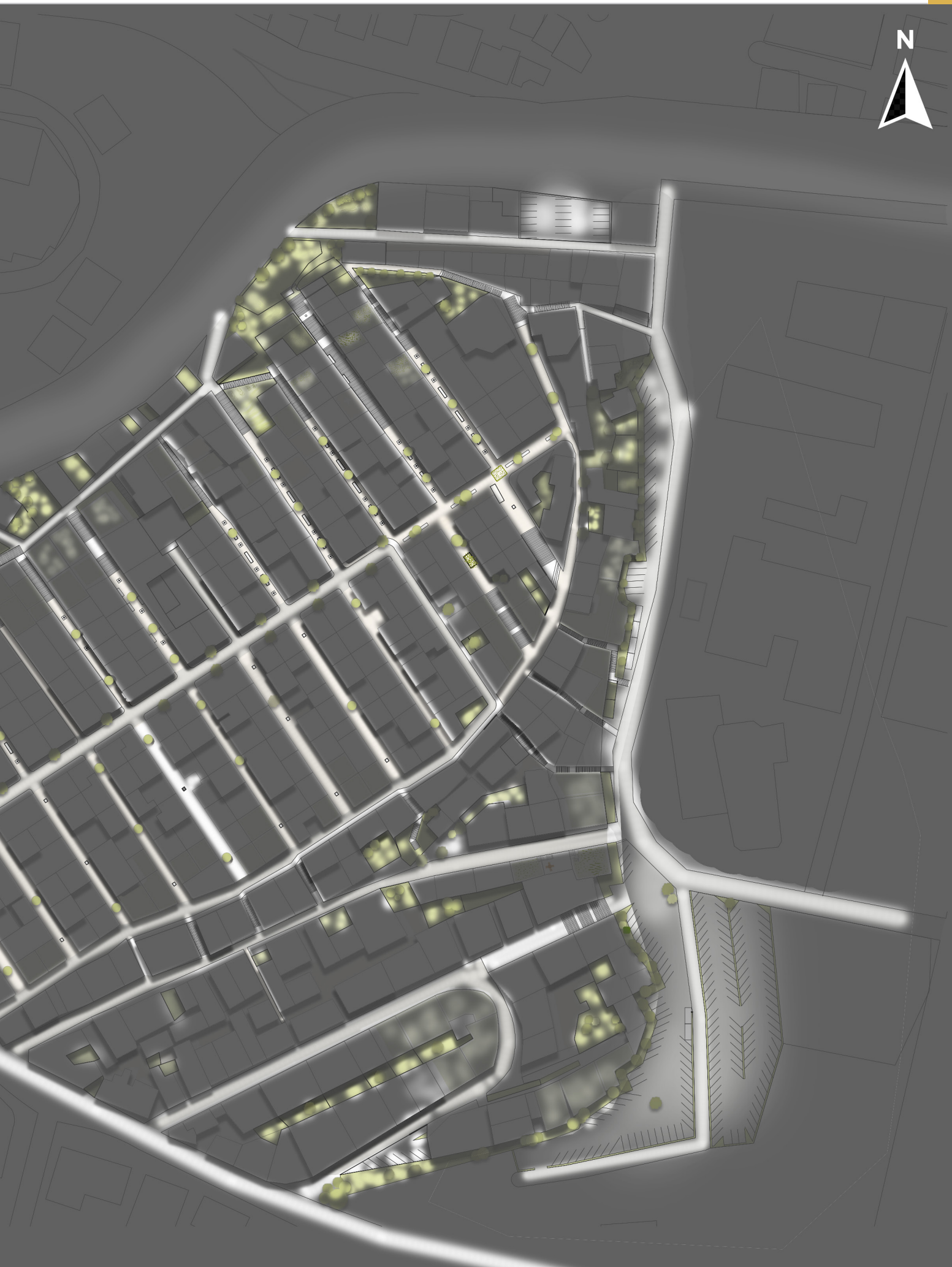
Figure 105. A top View of one of the buildings in the
Neighborhood

CONCLUSION

Conclusion

REFLECTION ON THE TOOLS AND METHODOLOGIES

Vulnerable neighborhoods are highly omnipresent across Lebanon, across its territory, areas are exposed to physical, social, cultural deterioration caused by its condition, its location and its diversity. How these threats can be used in the benefit of the neighborhood, this is what the aim of the thesis relied on. All Humans as stated and trailed by the united states of human settlements is leaving no one behind, every human being has the right to access basic urban needs, acquire a feeling of belonging to the 'place' that he can call 'home'. These vulnerable neighborhood are marginalized, mainly defined as low-income neighborhoods.

As per instance, Karm el Zeitoun, as studied above, is considered as a vulnerable, marginalized, low-income neighborhood, that encounter physical problems; related to the condition of the neighborhood; limited basic urban services, deterioration in the infrastructure, condensed buildings. Adding to this; the cultural and social diversity; that creates a limitation and blockage between the neighbors, no relationship between the residents. The absence of urban prosperity, no public spaces, no possible getaways for the residents. This adds up to an unhealthy and an unsafe livable conditions.

The aim of the thesis was to show the importance of the tools, methodologies and approaches that can be implemented in any urban scale study. The importance of these tools is to empower the community, engage them in every decision, development or strategic contribution for a neighborhood. As appointed by UN-Habitat Lebanon, an assistance was required to improve and highlight the critical conditions of the neighborhood, by applying a data analysis seen above, that gathers all the negative impacts on the neighborhoods, what are their needs, their demands, what are the critical conditions in the area by engaging the people in the analysis stage.

To understand the problem and the issues we need to heal and cure the symptoms. And to know the symptoms we should be present within the community to translate the

reality of the situation not far from it. Following this gathering of data, the latter will be used in order to improve the condition of the neighborhood, by implementing new strategies for the neighborhood's benefit. This strategy creates a sense of empowerment and identify the situation that was forgotten and unprioritized. When speaking about a neighborhood, a healthy, sustainable, livable and resilient city is the aim of every urban development. Starting through the analysis of UN-Habitat, planners will be able to proceed with the tool defined by the latter and present strategies to develop the marginalized and vulnerable neighborhood to a resilient sustainable and healthy neighborhood.

REFLECTION ON THE COMMUNITY PARTICIPATION

The importance of surveyed analysis and on field data analysis will create a concrete and reliable relationship with the inhabitants. This will help to identify and present the needed and prioritized actions for the benefit of the inhabitants and the neighborhood. Adding to this, the implementation of the concept of livability and placemaking will empower the community, by allowing the inhabitants and the residents to be part of the innovation of their city, creating a sense of belonging to their surroundings, strengthening the social bond amongst the inhabitants, by sharing their cultural background, setting of activities in the neighborhoods for an individual benefit or a global one. These strategies will have a positive impact on the social, physical, economical and cultural aspects of the neighborhood.

The interesting part of this process is that we can see that the community is interfering in all the steps of the study; from the analysis to the data collection and arriving to the intervention. The tool by UN-Habitat for gathering data was in direct contact with the inhabitant, this will break the ice with the community and then based on this study an intervention can be applied following comments and testimonies of the people. The community has also a say in the intervention part, due to the approaches seen as placemaking and livability, the community is the main actor and influencer in the intervention and rehabilitation of their own neighborhood.

LIMITATION OR FURTHER BENEFITS

Community participation has its advantages but has also a sort of limitation. Using it as a tool for examining physical and social studies will help the planners to develop a more realistic future design approach. However, these strategies can have a limitation, due to the diversity of the culture and background in the same neighborhood, it is possible that some inhabitants will feel marginalized and out of the equation. Adding to this, the tool established by UN-Habitat can be judged if there's no outcome and help on their behalf, residents will lose 'faith' in these strategies, and will have a negative reaction to any proposal for their neighborhood. The UN-Habitat won't be welcomed in all the neighborhoods or areas if the outcome of this tool is not present and concrete for the inhabitants. And on another aspect, this tool cannot be acceptable for all, asking questions and intruding in their personal space.

However, these tools and methods by intruding the community in every decision and in evert part of the process can be beneficial to translate concrete urban impacts on the neighborhood, based on the concrete data acquired and testimonies from the community. Is this strategy can be a tool to be applied on all neighborhoods, not only vulnerable and marginalized? Will it be acceptable from all the communities? And will it be beneficial on all scales not only a neighborhood urban scale? In order to inform loner-term plans for sustainable development.

APPENDIX 1: BUILDINGS SURVEY

A) Building Code: xx

Occupancy:
☐ Occupied　　　☐ Unoccupied　　☐ Under construction
☐ Under renovation　　　　　☐ Under demolition

Number of Floors

Building Use

☐ Residential　　　☐ Commercial　　　☐ Touristic
☐ Social service　　☐ Governmental

B)Basic Information

• Construction type:

☐ Concrete　　☐ Concrete and steel addition　　☐ Concrete and stone
☐ Stone　　　☐ Stone and wood addition　　　☐ Steel

• Ground floor and basement use:

☐ Residential　　　☐ Shop　　☐ Workshop
☐ Vacant　　　　　☐ Parking　☐ Social service
☐ Governmental facility　　　☐ Other

• Shop type:

☐ Food grocery　☐ Bakery　☐ Meat/Butcher shop ☐ Restaurant/Café　☐ Mobile and phones shop
☐ Electrical household appliances ☐ Furniture　☐ Boutique　　　☐ Salon
☐ Storage　　　☐ Pharmacy　☐ Bank　☐ Financial services　☐ Gym
☐ Office　　　　☐ Laundry　☐ Tools　☐ Gaming and internet ☐ Jewelry
☐ Carpets, rugs and floor covering　　　☐ Music store　　　☐ Library/Bookstore

• Count of the selected shop:

• Rooftop use:

☐ Water tanks and/or satellites　　☐ Urban agriculture
☐ Dove raising　　　　　　　　☐ Residential
☐ Solar panel　　　　　　　　☐ Other

• Select elements that exist in the building:

☐ Basement　　　☐ Backyard
☐ Rooftop add on　☐ None of the above

• Period of construction:

☐ pre 1920　　　☐ 1920-1943　　☐ 1943-1975
☐ 1976-2000　　☐ post 2000

• Elevator shaft:　☐ Yes　　☐ No

• Access ramp:　☐ Yes　☐ No

C)Building Evaluation

1)Exterior Building Condition
　　　• Foundation/Structure:　☐ 1 ☐ 2 ☐ 3 ☐ 4
　　　• Walls:　☐ 1 ☐ 2 ☐ 3 ☐ 4
　　　• Roof:　☐ 1 ☐ 2 ☐ 3 ☐ 4
　　　• Windows/Doors:　☐ 1 ☐ 2 ☐ 3 ☐ 4
　　　• Balconies: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ Not Applicable

2) Communal Spaces

- Means of exit: ☐ 1   ☐ 2 ☐ 3   ☐4   ☐ Not Applicable
- Entrances: ☐ 1 ☐ 2☐ 3 ☐ 4 ☐ Not Applicable
- Lighting: ☐ 1 ☐ 2☐ 3 ☐ 4 ☐ Not Applicable
- Provisions for people with disabilities: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ Not Applicable

3) Connection to Infrastructure Networks
- Connection to storm water network: ☐ 1 ☐ 2 ☐ 3 ☐ 4
- Connection to waste water network: ☐ 1 ☐ 2 ☐ 3 ☐ 4
- Connection to domestic water: ☐ 1 ☐ 2 ☐ 3 ☐ 4
- Connection to public electricity: ☐ 1 ☐ 2 ☐ 3 ☐ 4
- Private electrical telecom: ☐ 1 ☐ 2 ☐ 3 ☐ 4

APPENDIX 2: INFRASTRUCTURE SURVEY

Stormwater

- Water ponding: ☐ Yes   ☐   No

- Stormwater drains: ☐ No drains   ☐ Blocked drains   ☐ Functional drains

Wastewater

- Sewer flooding: ☐ Yes   ☐ No

- Sewage network: ☐ Malfunctioning (bad smell, flooding, recurrent clogged pipes)
  ☐ Functioning

Potable water

- Water supply: ☐ Available   ☐ Not available

Public and private electricity

- Public power grid condition: ☐ Poor   ☐ Medium   ☐ Fair

- Public electricity power per day (insert number per 24 hours): ☐☐☐☐☐

Street lighting

- Street electrical lights: ☐ No lights   ☐ Exist and non-functional   ☐ Exist and functional

- Solar lights: ☐ Yes   ☐ No

Roads and Sidewalks

- Roads condition:
☐ Bad (Major signs of deterioration, dilapidated surface, potholes, water ponding)
☐ Medium (Minor signs of deterioration, fair surface)
☐ Good (no signs of deterioration)

- Road type: ☐ Pedestrian   ☐ Vehicular

- Sidewalks:
☐ Missing   ☐ Narrow and blocked
☐ Wide but blocked   ☐ Functional

- If blocked, blocked by:

☐ Cars or bikes   ☐ Benches   ☐ Shops displays
☐ Utilities   ☐ v Planted features

• Inclusive/sloping sidewalk: ☐ Yes   ☐ No

• Sidewalk surface condition: ☐ Bad   ☐ Medium ☐ Good

Solid waste

• Litter on street: ☐ Yes   ☐ No

• Garbage collection system: ☐ v Yes   ☐ No

• Collection system type if founded: ☐ Municipal ☐ Private ☐ Other

• Collection frequency:
☐   Daily   ☐ Bidaily
☐ Weekly   ☐ Other

APPENDIX 3: OPEN SPACES

Space Code: XX

Space Name: XX

A) Type:

☐ Garden Plaza   ☐ Abandoned/empty lot   ☐ Children's playground ☐ Landscape area
☐ Agriculture land ☐ Cemetery   ☐ Sport field   Parking
☐ Indoor gathering space   ☐ informal/street gathering
☐ Other type

B) General Information

1)Ownership:

☐ Public (municipal, governmental, institutional)
☐ Semipublic(public but accessible public – i.e. Museum, school, playground, sport field)
☐ Private

2)If private, is there any other temporary or alternative use of this space?
☐ Yes
☐ No
3)If public or semipublic, the management is:

☐ Municipal   ☐ Neighborhood community   ☐   Religious Organization ☐ Local committee
☐ Unmanaged or abandoned   ☐   Unknown   ☐ Other

C) Nationalities and age groups

1)Users' age group:

☐ Children   ☐   Youth male   ☐ Youth female
☐ Elderly-adults male   ☐ Elderly-adults female

2)Main cohorts using the space:

☐ Lebanese   ☐ Syrians   ☐ Palestinian refugees from Lebanon
☐ Palestinian refugees from Syria ☐   Others

D)Access

1)Approximate area m2 ☐

2)Public accessibility

☐ At all times   ☐ Part time (Specify part-time schedule pays per week/hours per day:)
☐ Not at all   ☐ Other access restrictions

3)Fenced perimeter: ☐ Yes   ☐ No

4)Accessible for people with disabilities: ☐ Yes   ☐ No

5)Entrance policy

  ☐ Free entrance   ☐ Payed entrance

E)Safety and Security

1)   Armed actors and circulate around the space: ☐ Yes   ☐ No

2)   The space perceived as:

  ☐ Secure   ☐ Insecure

3)Pedestrian walkability within the space:

☐ Safe and easy to circulate
☐ Not safe and hard to circulate

4)Vehicular circulation within the space:

☐ No vehicular access   ☐ Low traffic
☐ Medium traffic   ☐ High traffic

5)Are there any signs of substance abuse? (Needles or any other):   ☐ Yes   ☐ No

6)Space overcrowded: ☐ Yes   ☐ No

7)Are there groups effecting children and/or women security: ☐ Yes   ☐ No

F)Physical Facilities

1)Sufficient lighting: ☐ Yes   ☐ No

2)Garbage in and around the space: ☐ Yes   ☐ No

3)Litter bins exist within the space: ☐ Yes   ☐ No

4)Space offers shelter or shade: ☐ Yes   ☐ No

5)Is the space furnished with seats? : ☐ Yes   ☐   No

6)Play equipment (swings, slides etc.): ☐ Yes   ☐   No

7)Is there any other temporary alternative use of this space? : ☐ Yes   ☐ No

APPENDIX 4: RESULTS OF INSTRUCTURE SURVEY

# of Floors	Count	Distribution
0	113	21%
1	178	33%
2	128	24%
3	81	15%
4	22	4%
5	5	1%
6	5	1%
8	1	0%
10	1	0%
Total	534	100%

Construction Type	Count	Distribution
Concrete	438	82%
concrete and steel addition	91	17%
concrete and stone	5	1%
Total	534	100%

Building Use	Count	Distribution
Commercial	16	3%
Mixed Use	62	12%
Governmental	1	0%
Residential	449	84%
Social Service	6	1%
Total	534	100%

Building structural Condition

EBS Class	Count of Building Code	Distribution
Fair	320	60%
Substandard	148	28%
Good	54	10%
Critical	12	2%
Grand Total	534	100%

Building Amenities

CMS Class	Count of Building Code	Distribution
Fair	231	43%
Good	175	33%
Substandard	105	20%
Critical	23	4%
Grand Total	534	100%

APPENDIX 5: RESULTS OF INSTRUCTURE SURVEY

Power Grid	% of count	Count	% of total Length	Length	% of total Area	Area
fair	24%	35	22%	851	20%	2,697
medium	57%	83	55%	2,162	54%	7,226
poor	19%	28	23%	921	4%	3,388
Grand Total	100%	146	100%	3,934	78%	13,311

Street lighting	% of count	Count	% of total Length	Length	% of total Area	Area
functional	53%	77	56%	2,197	57%	7,523
no_lights	24%	35	19%	757	17%	2,296
notFunctionig_lights	23%	34	25%	980	26%	3,492
Grand Total	100%	146	100%	3,934	100%	13,311

Road type	% of count	Count	% of total Length	Length	% of total Area	Area
pedestrian	34%	48	29%	1,083	24%	3,031
vehicular	66%	93	71%	2,683	76%	9,692
Grand Total	100%	141	100%	3,766	100%	12,723

Road condition	% of count	Count	% of total Length	Length	% of total Area	Area
Bad	13%	18	9%	365	8%	1,108
Medium	28%	41	31%	1,204	33%	4,365
Good	59%	85	60%	2,318	58%	7,693
Grand Total	100%	144	100%	3,888	100%	13,166

Sidewalks surface condition	% of count	Count	% of total Length	Length	% of total Area	Area
bad	9%	2	11%	55	9%	205
medium	27%	6	25%	125	28%	641
good	64%	14	64%	319	63%	1,441
Grand Total	100%	22	100%	499	100%	2,287

Sidewalks	% of count	Count	% of total Length	Length	% of total Area	Area
functional	2%	3	2%	79	2%	312
missing	84%	123	87%	3,403	82%	10,905
wide_blocked	1%	2	1%	47	1%	159
narrow_blocked	12%	18	10%	405	15%	1,935
Grand Total	100%	146	100%	3,934	100%	13,311

Litter on street	% of count	Count	% of total Length	Length	% of total Area	Area
no	63%	92	60%	2,353	60%	7,984
yes	37%	54	40%	1,581	40%	5,326
Grand Total	100%	146	100%	3,934	100%	13,311

APPENDIX 6: RESULTS OF OPEN SPACES

Total neighborhood area	74,348

Total Open Spaces area	6,993

% of Neighborhood area	9%

Ownership	Count of Spaces	% of Count of Spaces	Sum of Areas	% Sum of Areas
private	72	77%	5,561	80%
public	14	15%	916	13%
semi_public	7	8%	516	7%
Grand Total	93	100%	6,993	100%

Ownership Public and Semi-Public

Management	Count of Spaces	% of Count of Spaces	Sum of Areas	% Sum of Areas
munipal	10	48%	559	39%
other	5	24%	459	32%
religious_organisation	2	10%	167	12%
unmanaged_abandoned	4	19%	248	17%
Grand Total	21	100%	1,433	100%

Type	Total Count of Spaces	Total % of Count of Spaces	Total Sum of Areas	Total % Sum of Areas
abandoned_emptyLot	17	18%	1,070	15%
children_playground	1	1%	150	2%
garden	34	37%	2,347	34%
infdoor_gathering_space	3	3%	68	1%
landscape_area	6	6%	569	8%
other	5	5%	359	5%
parking	16	17%	2,053	29%
plaza	11	12%	378	5%
Grand Total	93	100%	6,993	100%

Type	private		public		semi_public	
	Count of Spaces	Sum of Areas	Count of Space	Sum of Areas	Count of Spaces	Sum of Areas
abandoned_emptyLot	11	742	4	238	2	90
children_playground					1	150
garden	33	2,300			1	46
infdoor_gathering_space	1	8	1	1	1	59
landscape_area	3	376	3	193		
other	4	357	1	2		
parking	11	1,420	4	472	1	160
plaza	9	357	1	11	1	11
Grand Total	72	5,561	14	916	7	516

APPENDIX 7: PROHABIT MAPPER

•Residents take ownership of the public space

•Public spaces are not accessible for all

•There is a need to create filters between private and public realms

•Stairs, alleyways, and paths contribute to creating a strong network of connections

•Residents claim that the municipality is not taking care of the neighborhood

•Diversity of ethnic groups leads to social tensions

•Streets and stairways need to be renovated

•Physical elements are used to provide privacy to the different neighbors

•People use their roof as private areas rather than as communal spaces

•There is lack of social cohesion

•There is a demand for green spaces in the neighborhood

•Older residents tend to think that the new migrants are the responsible for the prob-
lems of the neighborhood

•Cars and motorcycle take much of the available public space

•The inhabitants use religious iconography to express their belief and identity in the
public space

•Some residents remember their living experience in the neighborhood as positive

•Neighbors provide support to each other

•There is need for social rehabilitation programs for certain groups

•Housing do not fulfill the minimum living conditions

•Language is one of the main factors that unify people in the neighborhood

•The first generation of inhabitants have left the neighborhood, and then rented their
houses to new migrants

•Social diversity is a valuable asset for the future of the neighborhood

•There is garbage in public spaces

•There is sound pollution stemming from the elevated highway

•Strong bonds are created between people from similar ethnicity

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