

BEIRUT URBAN LAB - MAY 2022

# AN URBAN RECOVERY STRATEGY FOR POST-BLAST KARANTINA

## STRATEGIC DIAGNOSIS

### RESEARCH PROJECT TEAM

#### **Beirut Urban Lab Team:**

*Lead: Professor Howayda Al-Harithy*

*Coordinator: Batoul Yassine*

*Research Team: Mariam Bazzi, Abir Cheaitli, Mohamad El Chamaa, Ali Ghaddar, Wiaam Haddad*

*GIS Support Team: Chaza El-Jazzar, Sharif Tarhini*

*Research Interns: Cristina Gosen, Rami Shayya*

#### **Citizen Scientists:**

*Hasan Al-Aswad, Hala Al-Saeed, Wael Al-Saeed, Yehya Al-Ahmad Al-Saeed,  
Mohammad Al-Sattouf, Mohammad Amsha, Watfa El-Chehade, Carmen Jabboury,  
Danielle Khadra, Michelle Khadra, George Tatarian*

#### **Editor:**

*Abir El-Tayeb*



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بيروت



BEIRUT URBAN LAB 2020-2022

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# STRATEGIC DIAGNOSIS

The strategic diagnosis was the second step of the urban recovery strategy of Karantina. It focused on the comprehensive analysis of the five transversal issues that were identified in the descriptive memory phase. It included five sections, and each section was devoted to one of the transversal issue. The strategic diagnosis built on the descriptive memory phase with additional and more in-depth fieldwork and research. The strategic diagnosis, therefore, involved an exhaustive data collection and field mapping based on aerial photographs, field observations, questionnaires, as well as the thorough analysis of the identified issues to understand the main spatial, economic, and social trends in Karantina.

The study followed a cyclical process of collecting data and reworking and reformulating the analysis and the positions of the research team as new material becomes available. The profile of Karantina that was generated in the descriptive memory phase was also validated at consultation sessions with the different community groups in Karantina and substantiated with additional information. It addressed the concerns that the residents raised across the thematic focus group discussions, the town hall meetings, and in the answers to the questionnaires. As such, the initial findings and conclusions from the data were revisited and validated in this phase.

Part of this phase of the research required crafting the vision of the urban recovery with the community. The vision was continuously reformulated and adjusted through an interactive process of consulting the local community groups. Combined with the diagnosis, the vision intended to pave the way of the next phase of the development of the strategic framework.

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# METHODOLOGY

The data collection and analysis of the five transversal issues in Karantina required the triangulation of quantitative and qualitative methods. The preliminary analysis in the descriptive memory phase of the research identified a lack of an in-depth profile of the socio-economic and physical characteristics of Karantina. As such, the research involved the collection of primary data from: (1) household, business, and building questionnaires, (2) thematic focus group discussions, (3) one-on-one interviews, (4) town hall meetings, and (5) field observations and spatial mapping conducted between January and June 2021.

Secondary data were also collected on certain topics such as the militarization of lots in Karantina, proposed infrastructural projects, and urban planning regulations. They were further validated by one-on-one interviews and thematic focus group discussions. Secondary data were useful to understand the historical trajectory of the development of Karantina and the multiple traumas that it went through. They were also used to conduct a comparative analysis of important events across the history of Karantina before and after the port blast.

The research team at The Beirut Urban Lab trained 12 citizen scientists from Karantina to partner in the collection of the data. The research team and the citizen scientists adopted alternative methods of data collection and safety measures to mitigate the challenges and the risks that were posed by the COVID-19 pandemic.

## CRITERIA FOR THE SELECTION, TRAINING, AND ENGAGEMENT OF CITIZEN SCIENTISTS

The research team adopted the citizen scientist model to facilitate for a more participatory process. The citizen scientists were engaged in the process of knowledge transfer, capacity building, participation in the various steps of the study from data collection to coordinating with the community groups and co-designing the urban recovery strategy. The participatory engagement empowered the citizen scientists to understand and change their circumstances on the long term. The model for engagement was adapted to the values and objectives of the project that promotes a people-centered and participatory urban recovery that considers local needs, practices, and cultural values. Accordingly, the research team recruited and trained 12 citizen scientists on research methods, tools, and ethical practices.

### 1. Selection Criteria

The selected citizen scientists are current residents of Karantina. The research team aimed to ensure the formation of a diverse and inclusive group of citizen scientists that reflected the population diversity on the ground. Therefore, the 12 citizen scientists were selected across different age, gender, religion, nationality groups and levels of education. The group was composed of: (1) in terms of gender: 7 males and 5 females; (2) in terms of nationality: 10 Lebanese and 2 Syrians; (3) in terms of age: ranging between 18-46; and (4) in terms of education: 3 with primary to secondary education, 4 with vocational training, and 5 with university degrees.

### 2. Training and Engagement

The training of the citizen scientists included a two-day professional workshop that took place at the American University of Beirut on 14-15 December 2020. It was followed by a two-day field training on 21-22 December 2020 (Figure 1). The workshop covered the research project and its objectives, research methods, research ethics, and three tools for conducting research: field observations, semi-structured questionnaires, and mental mapping. The citizen scientists were also trained to use the digital software Survey123 and Collector. The training sessions were in the form of interactive seminars in which the trainer presented the research project and the methodology and engaged in discussion with the citizen scientists.



The citizen scientists were then coupled with the team of researchers from The Beirut Urban Lab for two days in Karantina to facilitate the process of fieldwork, data collection, and guarantee a precise implementation of the process (Figure 2). Weekly meetings were organized to follow up on the work of the citizen scientists, address challenges and difficulties, and discuss preliminary findings. As was mentioned earlier, the citizen scientists collected in-depth data on the socio-economic profiles of local businesses and households, aid and relief efforts after the port blast, individual and group perceptions of neighborhood belonging, and the future vision for Karantina.



**Figure 1.** Professor Howayda Al-Harithy leading the training of the citizen scientists at the American University of Beirut in December 2020. Source: Mohammad El-Chamaa, 2020.



**Figure 2.** Citizen scientists collecting geo-referenced observations in Karantina in December 2020. Source: Ali Ghaddar, 2020.

The citizen scientists were also involved in the development of the urban recovery strategy and in the subsequent phases of the study. They became a focal point for the research team in Karantina and played a major role in connecting the team with the different community groups. The aim was to build their capacities, strengthen the connections to the local communities, and maintain the progress and credibility of the study.

The citizen scientists also participated in organizing, preparing, and inviting people to: (1) the thematic focus group discussions on the five transversal issues; (2) the town hall meetings to discuss community concerns, major issues and challenges, priorities, and future visions for Karantina; and (3) the workshops for co-designing community spaces. They also played a major role in identifying and connecting the research team to key individuals and community groups. They also assisted the research team in disseminating information on the strategic framework for urban recovery and participatory approaches by inviting representatives of the community groups to the capacity building workshops.

## TYPES AND SOURCES OF DATA

As was mentioned earlier in the report, due to lack of in-depth data on the socio-economic composition of Karantina, the research team mainly relied on primary sources and used secondary sources to conduct some comparative analysis and construct historic narratives.

### 1. PRIMARY DATA

#### Semi-Structured Questionnaires

The research team designed three types of elaborate questionnaires - including household, business, and building questionnaires - to collect in-depth data using the geo-referencing digital software Survey123. The questions focus on the socio-economic profiles of individuals and families - including their age, gender, nationality, level of education, employment, health condition, and rent tenure. The questionnaires also included questions on damage assessment, aid and relief efforts after the port blast, public spaces and socio-spatial practices, neighborhood quality and belonging, social and political activities, and neighborhood composition. Drafting future visions for Karantina also required an understanding of the physical conditions of the buildings, including their height and use and if they are abandoned or occupied.

The questionnaires were used to survey 545 households out of a total of 579, 83 businesses out of a total of 113, and 260 buildings out of a total of 280. The citizen scientists administered the household questionnaire and The Beirut Urban Lab research team administered the building questionnaire. The business questionnaire was administered as follows:

1. The citizen scientists were able to contact 62 micro businesses from Al-Khodor, Al-Saydeh, and Al-Senegal sub-neighborhoods.
2. The Beirut Urban Lab research team was able to contact 21 micro, small, to medium-sized chain businesses in the Industrial Zone.

The citizen scientists and The Beirut Urban Lab research team administered the questionnaires in person or online depending on the status of COVID-19 limitations on social contact. The results were geo-referenced to generate statistical charts and graphs for comparative analysis.

## Thematic Focus Group Discussions

The research team organized five thematic focus group discussion sessions between April and May 2021 to discuss the identified transversal issues in partnership with the United Nations Development Program (UNDP). Each session invited between 8 to 10 people from different socio-economic backgrounds in the Industrial Zone and each of the sub-neighborhoods of Al-Khodor, Al-Senegal, and Al-Saydeh. The main objective of the sessions was to form an in-depth understanding of the trends regarding each of the transversal issues that were identified in the descriptive memory report. The findings that were generated from these discussions informed the strategic diagnosis. The discussions were also an opportunity for the attendees to share their stories in a group setting and further understand individual and common challenges and pressing needs.

## One-to-one Interviews

The research team conducted two one-to-one interviews for every transversal issue with the local mukhtars, business owners, lawyers, and other key community group members. The interviewees were selected based on the issues they raised during the thematic focus group discussions and required further exploration. Additionally, the research team conducted more than 70 interviews between October 2020 and June 2021 to generate additional thematic narratives.

## Town Hall Meetings

As part of its community engagement to develop a holistic, bottom-up, and long-term strategic framework for urban recovery in Karantina, the research team at The Beirut Urban Lab planned a series of community group meetings to craft the shared vision statement. The first community group meeting was held on 11 April 2021 in the Karantina Public Park. The meeting hosted around 130 people that the trained citizen scientists invited across different age, gender, and nationality groups and sub-communities. The meeting empowered members of local communities to communicate their priorities, share their visions, and have an input in the urban recovery process. A second town hall meeting was held on 30 June 2021 in the Karantina Public Park to craft a shared vision with the local communities. The meeting was conducted as a workshop session that hosted around 70 people who were divided into four groups. Each group had a mediator from The Beirut Urban Lab research team to facilitate the discussion. The vision statement was crafted, tested, and verified during the meeting.

## Field Mapping and Field Observations

Data was also collected through site visits, field observations, walk-through assessments, and informal conversations. Subsequently, the collected data was discussed with the research team to validate the findings. The research team mapped the physical elements of the built environment like buildings and the socio-spatial practices in Karantina. The mapping was supported by data that was extracted from the answers to the household questionnaire on the number of household members, the types of socio-spatial and leisure activities that they engage in, and their use and perceptions of public spaces.

## 2. SECONDARY DATA

The research also relied on the collection and analysis of secondary data such as: (1) maps that trace the historical development of Karantina, (2) articles, reports, and documents about the militarization of lots, and (3) the descriptive memory report on Karantina that The Beirut Urban Lab drafted after the port blast. The descriptive memory report provided a general profile of Karantina that guided and informed the preliminary findings of the research. It situated the impact of the port blast within the longer term urban trends that influenced the development of Karantina over the past three decades.

## APPROACH TO THE ANALYSIS

The research team used different methods to conduct an in-depth analysis of the five transversal issues based on the data collected and the nature of the studied issue. The team used spatial analysis, statistical analysis, comparative analysis, cross-referencing content analysis, and benchmarking. Additionally, the team relied on the digital analysis software ArcGIS. ArcGIS allowed the research team to geo-reference the data, map spatial patterns, and, as a result, generate statistical charts and graphs for analysis. The statistical data, in specific, allowed the research team to compare certain findings across the different sub-neighborhoods and pinpoint changes over time, mainly before and after the port blast.

## VISION

In parallel to conducting the strategic diagnosis, the research team crafted the vision for Karantina. A shared community-based vision was formulated after several consultations with the different community groups and finalized during the town hall meeting on 30 June 2021. The vision was intended to guide the strategic framework for urban recovery that the research team will develop in the next step.

### The approach to crafting the vision

The first phase of crafting the vision included a content analysis of the household and business questionnaires to identify keywords from the responses to the question of “*how do you envision Karantina in the future?*” (Figure 3). The responses were then filtered and classified into function, description, and requirements. The number and repetition of certain keywords were significant in identifying the priorities of the local community groups (Figure 4). Based on the keywords, a first draft of the vision was formulated. It was then edited and finalized in consultation with the local community groups in two stages during two town hall meetings on 11 April and 30 June 2021. The vision was drafted at the first instance in Arabic and then translated into English to maintain the original meanings and intentions of the words of the local community groups.

### Vision

“ Karantina is a strategic, developed, and economically prosperous area. Its people are empowered and interconnected, its urban fabric is easily accessible, well planned, and environmentally conscious. It has adequate services, decent housing, and public and shared spaces

الكرنتينا منطقة استراتيجية متطورة ومزدهرة اقتصادياً. إنها منطقة مجتمعها متمكن ومتربط تكون سهلة الوصول ومنظمة عمرانياً ونظيفة بيئياً. تتوفر فيها خدمات ملائمة، سكن لائق، ومساحات عامة ومشاركة



Visions of Karantina		Number of Respondents
Purpose of the area		
Industrial		50
Touristic		34
Economic		20
Commercial		9
Residential		2
Description of the area		
Modern		73
Urbanistically organized and developed		57
Social		44
Prosperous		39
Clean		27
Beautiful		27
Cultural Growth		18
Strategical		18
Open		12
Calm		12
Secured		7
The gate of Beirut		3
Qualification for the area		
Coexistence		68
Services (Hospital - School - Clinic - Nursing home)		50
Job opportunities		40
Public and green spaces		40
Clean and tidy streets		18
Entertainment locales		13
Affordable and decent housing		8
Return of appropriated land		8
Empowerments of women and youth		6
Infrastructure upgrading		5

**Figure 3.** Identifying and sorting keywords from the questionnaires for the vision statement. Source: The Beirut Urban Lab, 2021.





**Figure 4.** Town hall meetings in the public garden in Karantina on 11 April and 30 June 2021. Source: The Beirut Urban Lab, 2021.

A faint, light gray background map of the Karantina area in Mexico City. The map shows a network of streets, including a prominent diagonal road and several circular roundabouts. Labels such as 'Ministry of health at karantina', 'Marysol', 'Tavolna', and 'Zone' are visible on the map.

**Transversal issue I**

# Affordable and Inclusive Housing in Karantina



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# 1. INTRODUCTION

Housing in Lebanon, and more specifically in the capital city of Beirut, is characterized by rising unaffordability and high vacancy rates. This was caused to the financialization of property and has transformed the provision of housing into a commodity rather than an essential form of shelter and a human right as defined in Lebanese law (Fawaz, Salamé, and Serhan, 2017). The amendment of the 2004 Building Law, among other state interventions, contributed to the rent gap, thus causing an increase in the construction activity, which had already started in the post war period. This resulted in the demolition of many residential units that were replaced by high-rises causing the evictions of many households. High-rise buildings were meant to attract foreign capital as a form of direct foreign investment (Marot, 2018).

In the context of a stable Lebanese currency exchange rate, housing became a financial vehicle for real estate speculators. Prior to those catastrophic events, housing was also undergoing a series of changes relating to rental laws, which were themselves contributing to unaffordability and a lack of inclusivity. Rent in Beirut is characterized by two different legal forms of tenure: the old rent (pre-1992) and the new rent laws. Outside of this system, there are informal rental and rent-pooling agreements (whereby several individuals or families rent one property), which add a third dimension. This situation has been exacerbated by the twin effects of the Lebanese financial crisis, which began in 2019, and the port blast in 2020.

Housing in Beirut is also characterized by crippling infrastructure and scarce public spaces. A lack of vacancy tax which encourages owners to keep their apartments off the market contributes to high rents. Prior to the blast, Karantina was beginning to be a destination due for developers to the availability of affordable and vacant or abandoned lots.<sup>1</sup> Although informal squatter settlements are no longer part of the housing landscape of Karantina, they have since been turned into brownfield sites or have been covered with prefabricated hangars for storage.

This section examines housing in Karantina as it relates to affordability and inclusivity which are discussed using the shorthand term 'access'. Karantina, which is a product accumulation of idiosyncratic and historical trends, has been affected, by the civil war, massacres, neglect, the wider economic crisis, and the port blast, to varying degrees. In broad terms, access to housing is defined by several determinants including loans, informality of tenure, displacement, currency devaluation, social capital, as well as artificial unaffordability created as a result of lack of policies to decrease vacancy rates in the city. The following section of this report begins with a brief consideration of the methodology used and gives an overview of Karantina's population and the development of its housing stock. This supports the diagnosis and wider analysis of this report and delves into the determinants of housing insecurity in the aftermath of the port blast on August 4 2020. The section then moves to assess the affordability and inclusivity of housing in Karantina in the post-disaster phase and contextualizes its findings in relation to the trends that previously existed.

This section of the report finds that Karantina is, overall, affordable when examined in relation to the rest of Beirut. However, as oral testimony (qualitative data) and statistical and other quantitative data gathered for this report demonstrate, Karantina has become relatively unaffordable to many of its residents when additional economic burdens are taken into consideration. These include relative income and high unemployment rates, a series of 'hidden' costs (which weigh heavily on household resources), and a general lack of amenities. Additionally, Karantina has a diverse population, which may suggest inclusive access to housing. However, as discussed in this report, inclusivity is affected by a range of factors including kinship, informality, lack of development, and lack of physical accessibility.

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<sup>1</sup> For a more detailed discussion on affordability and the vacancy of land see the report on Transversal issue IV on Inclusive and Sustainable Development in Karantina.

## Position

The term affordability is typically defined in economic terms and measured by the amount of household income spent, in this case on housing. For Stone, Burke, and Ralston (2011: 11) housing affordability depends on consideration of three elements: to whom it is affordable, the standard of affordability, and for how long it is to be regarded as affordable. Thus, 'affordability' is an interaction between income, housing costs, and additional needs (as determined by household size. However, as Perera and Lee (2021) argue, the income-cost ratio must also be set in the context of available services and amenities, the prevailing vacancy rate, adaptive reuse of space, and other relational lenses such as "transportation costs, neighborhoods quality, and housing density." Therefore, this section expands on the traditional definition of affordability by including some of these additional factors.

Moreover, housing affordability must also be related to housing inclusivity, since this incorporates awareness of where households live and in what kind of housing. As Espino (2015) argues, inclusiveness taken from a spatial dimension means "the need to plan and design cities so that vulnerable social groups are not pushed out, isolated, and marginalized from important urban services, amenities, commercial flows, and jobs." In the Lebanese context, vulnerable social groups include refugees, the elderly, children, and the disabled, with potential threats, such as a lack of development, kinship, overcrowding, and lack of physical accessibility, contributing to a lack of inclusivity.

## Hypothesis

The disruptive actions by landlords after the port blast, such as evictions, rent hikes, and the conversion of residential units into commercial spaces, are a result of the post-disaster reality as well as the ongoing economic crisis. Therefore, there is a threat of losing the social diversity and the housing affordability in Karantina which has always hosted low-income groups who sought living and working in proximity to the city center. Tension between different nationalities, as well as different sectarian groups, threatens the diversity of Karantina's housing occupancy. Additionally, there is the threat of large-scale development and gentrification which might affect the availability of low-income housing stock.





## 2. METHODOLOGY AND DATA COLLECTION

This section of the report details the mixed-method approach (quantitative and qualitative) that is used to examine affordable and inclusive housing. In addition to data collected by the citizen scientists and in-depth interviews conducted with residents, this section has used historical maps and building permits to describe the constant evolution of housing in Karantina.

### SOURCES OF DATA COLLECTION

#### PRIMARY DATA

Our sample size was selected to be representative of the community, surveying 1980 residents out of a population estimate of 2500, or the equivalent of 545 households out of a total of 579.<sup>2</sup> The data was then segmented into the three residential sub-neighborhoods of Al-Saydeh, Al-Khodor, and Al-Senegal and evaluated as such. The reason for this approach was because each sub-neighborhood has its own trajectory, and predominant demographics, such as income, religious groups, tenure, and age.

The fieldwork data revealed certain trends. During the qualitative phase of the research these trends were then discussed with our stakeholders: at two town hall community meetings held on 11 April 2021 and 30 June 2021, and in five thematic focus groups (one per transversal issue). The focused thematic discussion on housing was held on 29 April 2021. It explored the future of housing security among the diverse residents who access housing using different modes of tenure. All the attendees at the town hall meetings and the focus groups were from the three sub-neighborhoods; Ali Jaber, a lawyer who specializes in housing disputes and related issues, was also present to respond to any raised concerns. To understand affordable and inclusive housing as a transversal issue, this section of the report extracted specific socio-economic answers to the questions posed in relation to the household questionnaire. These included tenure, income, expenses, family members, place of occupation, schooling, repairs being done, injuries, illnesses, and date of moving in. The answers reinforced the quantitative data that was gathered during the fieldwork.

Additional qualitative data was gathered through one-to-one interviews with locals from each sub-neighborhoods, these addressed questions about length of tenure, type of tenure, entertainment and leisure patterns, employment, education opportunities, and the impact of the Blast on their current standard of living and security of housing tenure in its wake.

#### SECONDARY DATA

To support the analysis of the primary data, the section drew on a range of scholarly literature (including articles, monographs, and relevant dissertations) about Karantina, its historical and contemporary situation, and the development of housing in the area, in Beirut, and in Lebanon more generally. Given the dynamic evolution of Karantina and of each sub-neighborhood, and to illustrate what has gone on historically, the section also uses a series of historical maps and photographs. These include British military maps from the 19th and early 20th centuries and French aerial photos from 1931, the latter were originally intended for cadastral use. Finally, where appropriate, the section draws on the field observations of the researchers - these were the result of engagement in fieldwork as well as volunteering in the post-blast reconstruction.

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<sup>2</sup> This corrects the number of WFP which estimates the population of Karantina to be around 6000 (WFP, 2020)

## METHODS OF ANALYSIS

This section uses comparative analysis to assess affordability and inclusivity. It does so by cross-referencing different variables (e.g., Rent hikes, evictions, informality, and adaptive reuse) against established benchmarks, and by using data analysis of factors of housing insecurity in the area.

The data gathered was located and spatialized through ArcGIS to showcase the correlation between variables, including those related to rent, nationality, evictions, and demographics. The resulting maps provide a further spatial demonstration of the data gathered in the quantitative research phase and confirmation of the observed trends. Statistical data was also classified using Excel and represented and analysed through bar graphs and pie charts.

## 3. IN-DEPTH PROFILE OF THE RESIDENTIAL LAYER OF KARANTINA

### 3.1 Development of Residential Settlements in Karantina

#### A. Al-Saydeh

The oldest built settlement of the sub-neighborhoods is Al-Saydeh, which is on the western edge of Karantina. It first started around 1850 - when Maronites from Mount Lebanon relocated to the area of the Quarantine, which was an extension of today's Mar Mikhael (Eddé, 1996). This increase in the population was demonstrated by the construction of the new Mar Mikhael Church in 1883<sup>3</sup> (1994, الدبس) (Figure 1) and the designation of a new parish. By the late 1870s, signs of a spillover began to show with buildings springing up in what is today Al-Saydeh (Figure 2). By the turn of the century, the Saydat Al Najat Church was built (2003, كبرج).



Figure 1: Mansell Map from 1862 showing early development and settlements in Karantina. Source: The National Archives, Kew.

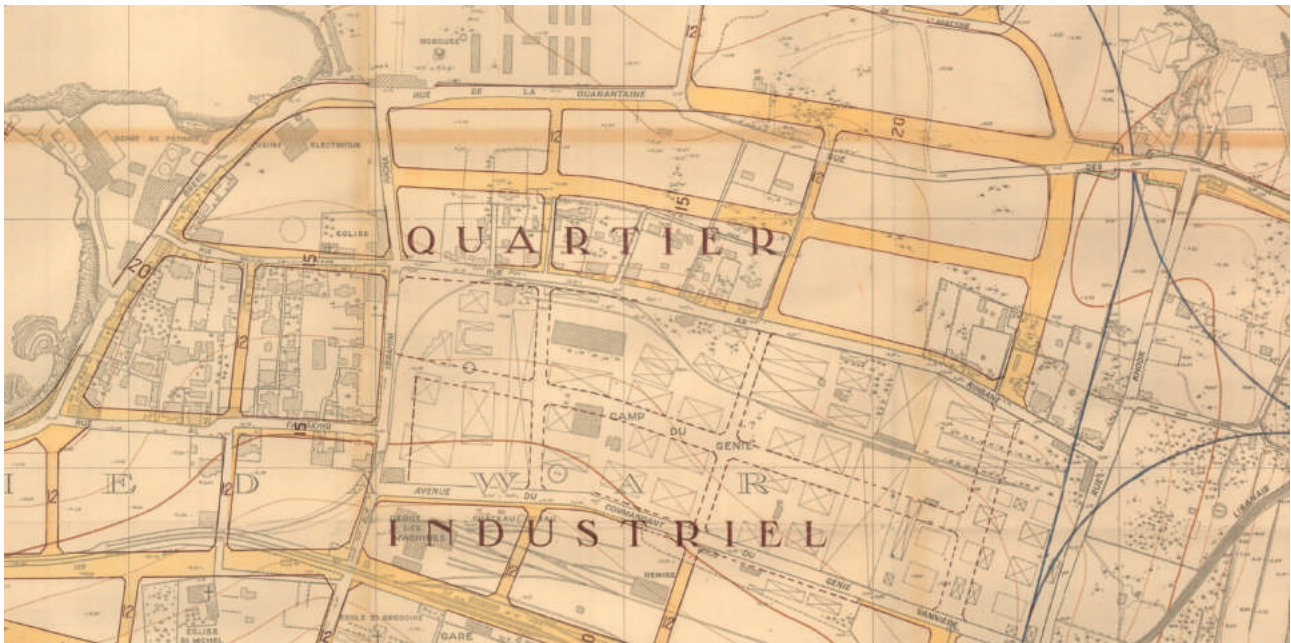
<sup>3</sup> An older structure existed in the same place. As reported by Debs, the older church was built during the 1930s, and was demolished on his order to make way for the new church.





**Figure 2:** Karantina from 1876 showing the growing cluster in Al-Saydeh. Source: Löytved, Julius.

This new church is where Al-Saydeh gets its name from. However, Al-Saydeh was later physically disconnected from Mar Mikhael first due to the construction of the railway in 1895 and later the Charles Helou Highway in 1958. According to one long-term resident, the boundary between Al-Saydeh and Mar Mikhael was called the Rail because “the railroad ran through it.”<sup>4</sup> The morphology of Al-Saydeh grew around the roads which connected the Lazzaret to the city including the coastal road linking it to the center of Beirut, and the Ibrahim Pasha Road which starts from the Old Tripoli Road (today known as Armenia Street) (Figure 2).



**Figure 3 :** The Danger Plan showing Al-Saydeh and Al-Senegal sub-neighborhoods. Source: Danger frères et fils. (1931-32). Plan d'aménagement, d'embellissement et d'extension de Beyrouth (Liban): plan partiel projeté (éch.1/2000e).

<sup>4</sup> E.C., (2020-October), (Mohamad El Chamaa- Interviewer).



One of the primary consequences of this sequence of developments, as can be seen from the maps in Figures 1 and 2, is that many of the buildings which exist in the sub-neighborhoods today were built between 1900 and 1940 (Figures 3 and 4). In the aftermath of the port blast, however, much of the surface plaster of the buildings were removed during the clean-up and renovation process which uncovered much of the historical layering. This showed that the bottom floors were built from sandstone and many of the top floors were made of bricks and mortar. Since concrete was first used in construction in Lebanon in the 1920s (Saliba, 1998), a lot of the vertical density did not exist until after the First World War.



**Figure 4.** Housing typologies in Al-Saydeh sub-neighborhood between 1900 and 1940. Source: Abir Cheaitli, 2021.

It allows us to deduce that at least some of the buildings in the original cluster were adapted and layered upwards with additional storeys, morphing into their current state. A 1942 building permit provided by one building owner corroborates this layering process, whereby a part of the original structure was knocked down to make way for a modern extension of the building. Whereas both the first and second floors of the original structure were made of sandstone, showing that they were likely to have been built before 1920, all four floors of the extension were built of concrete, and so after 1920, as confirmed by the 1942 permit. Most of the typologies are multi-storey walk-ups, where units have a central hall plan.

A final layer in this historical evolution of building typologies are apartments and offices dating from the 1980s onwards (Figure 5). These have larger footprints and modern finishes. Each street in the sub-neighborhoods, thus, has a mix of typologies from different eras, which can be easily observed. These include the central hall typologies from the 1880s to the 1920s, multi storey walk-ups from the 1930s to the 1950s, and the modern typologies. There are some hybrids, too, whereby some buildings started off as central halls built from sandstone and were expanded into multi stories or were retrofitted into single apartment walk ups.



**Figure 5.** Housing typologies in Al-Saydeh I sub-neighborhood from the 1980s onwards. Source: Abir Cheaitli, 2021.

## B. Al-Khodor

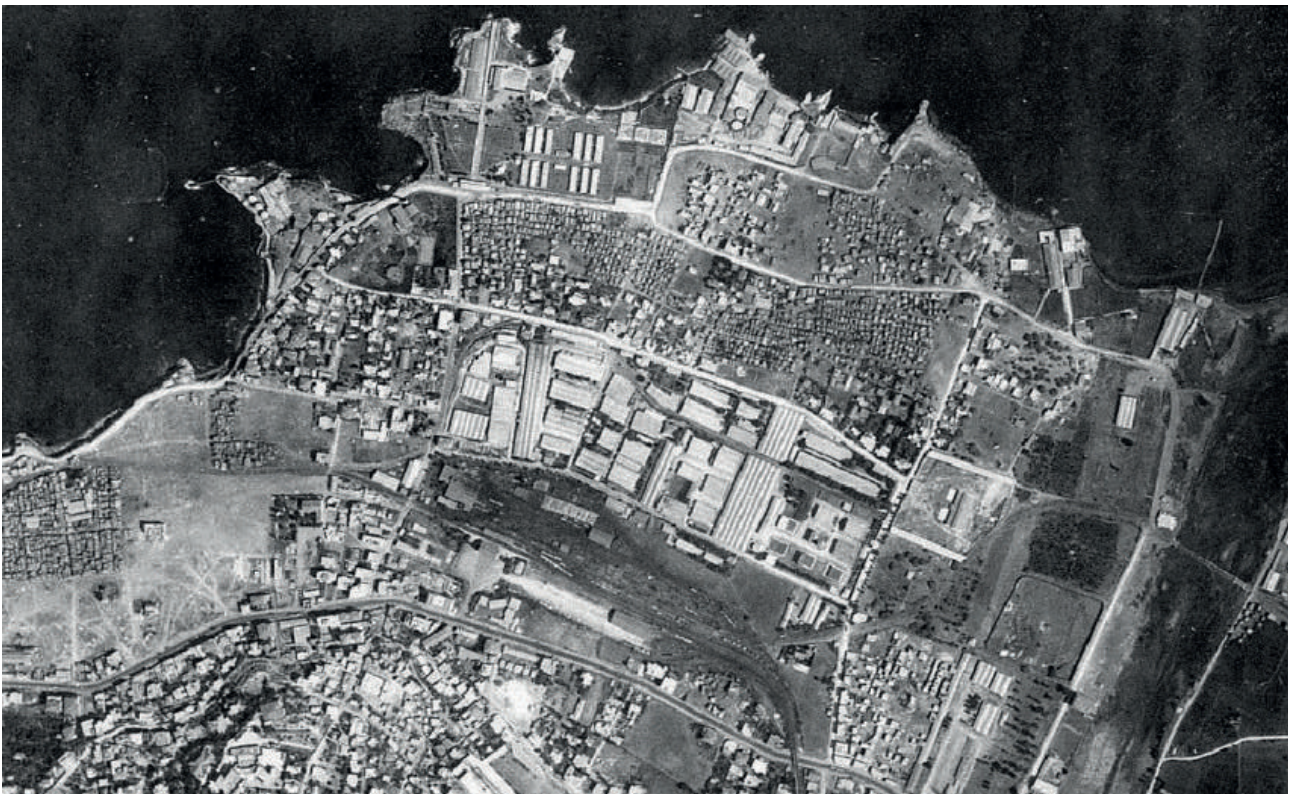
Al-Khodor sub-neighborhoods is one of the earliest settlements in Karantina. It takes its name from the eponymous Al-Khodor mosque<sup>5</sup> that is now separated from Karantina by the Charles Helou highway. It also lends its name to Al-Khodor administrative sector which extends from Armenia Street, past the highway into Karantina. The history of the sub-neighborhood is strongly associated with the arrival of Arab tribes around the 1850s and the building of the slaughterhouse. By 1862, a slaughterhouse appeared on the map originally west of Karantina (Figure 1). It was moved to its current location, east of the Quarantine, by 1910. This rooted the Arabs there, firstly in a tented community (Figure 6) and then in permanent constructions. Aerial photography, taken in 1931, shows the presence of bricks and mortar housing of at least one storey (Figure 7). According to Bourjy and Phares (1973), twenty cement buildings were built at this time, whose ground floor functions were intended initially as storefronts, but in fact housed cattle, and the floors above housed the families of the Arab tribes. Most of the typologies are single apartment walk-ups built on small lots. There was also a greater Al-Khodor area that consists of 130 informal dwellings, called Tanak, made of wooden planks and covered with a corrugated roof, 88 of concrete and galvanized metal sheets, and finally 81 formal buildings built with concrete.

<sup>5</sup> The mosque's architecture as well as other written sources point to the fact that the structure was originally a Byzantine era chapel.





**Figure 6:** Tents of the Arab tribe in Karantina. Source: The Postcard Collection of Issa Iskandar Maalouf. Beyrouth. Jafet Archives and Special Collections at the American University of Beirut.



**Figure 7:** Aerial Photo, taken in 1931, showing Armenian and refugee Tanke settlements. Source: Sandra Frem, 2009.

In 1976, during the civil war years, the tanak settlements and the concrete settlements were cleared by the Militias of the Lebanese Front, and the residents (Kurds, Arabs, Palestinian, and Lebanese Shiite) were displaced either to Jnah or Khaldeh. Additionally, an entire city block was destroyed along with the many tanakes that surrounded it. The surviving buildings were then occupied either by the Lebanese Forces Militia or by displaced Christians from the mountains. After the end of the civil war, many of the original residents were either unable to return due to the ongoing militarization of the sub-neighborhoods or were unable to rebuild their homes because of many factors. These are explored in a later section in this report.



Al-Khodor sub-neighborhood is mainly characterised by mixed use apartment walk-up typologies with store fronts on the ground floor and residential units above. Anchored around the slaughterhouse, most of the buildings are fenced on tertiary and secondary roads, and some of the corner lots are in the form of L-Shaped typologies. Many of the storefronts were originally used to house cattle in them. The period in which they were built varies, with some stretching back to the 1930s. Most of the buildings are three to four-story walk-up apartments, with the exception of one in-fill condo typology built in 2006. (Figure 8).



**Figure 8.** Street views and housing typologies in Al-Khodor sub-neighborhood from the 1980s onwards. Source: Abir Cheaitli, 2021.

## C. Al-Senegal

Al-Senegal sub-neighborhood is named after a west-east street connecting Al-Saydeh and Al-Khodor sub-neighborhoods, and is bounded by the quarantine to the north and the Rahben Road to the south (Figure 9). The land that makes up Al-Senegal today was originally a transit camp for Armenian refugees established by the French authorities in 1920 (Chantre, 2016). Hundreds of tents were set up next to those of the Arab tribes in Al-Khodor (Bourjy and Phares, 1973) but formed a separate community. Through these tents, the French authorities were better able to distribute food and medical aid to the Armenian refugees. The French authorities allowed converting the tents into the Tanak typology in 1926, thereby setting a precedent that remained until 1976 (ibid). This typology consisted of wooden walls covered by a correlated roof (hence the name Tanke). In the next few years, the number of “tanakes” grew from 10,500 in 1922 to 14,600 by 1925. The “tanakes” stretched to the eastern side of Karantina next to the river. However, the population of the sub-neighborhood never exceeded 15,000 people because of the limited amount of space and the mobility of the residents (Bourjy and Phares, 1973).



**Figure 9:** Map of Beirut, drawn in 1959, showing Karantina Park lot cleared out and the Senegal Street paved.

Source: Service Géographique. Rice University: Levant Iconography.

Armenian camps in Mar Mikhael began to be cleared in 1929, including the transit camp in today's Al-Senegal. Many of the residents were rehoused across the river in Bourj Hammoud (Bourgey and Phares, 1973). By the 1940s, enough space was thereby cleared to allow for the formal development of the Al-Senegal sub-neighborhood (see Figures 7 and 10 for comparison). Based on the visible differences between the 1931 aerial footage and the 1941 map, it appears that the western portion of the Armenian tanakes, which covered the area next to the quarantine, was removed, whilst leaving the eastern portion intact.

The original plans to carve out Senegal Street date back to the Danger Plan of 1931 (Figure 3) but was only constructed in the 1950s. After Senegal Street was carved out, the buildings behind those facing the Rahben road now bordered a new street (Figure 9) and new modern buildings were constructed on the other side of the road (Figure 11).





**Figure 10:** British map, drawn in 1941, showing the wiped out tanakes after the 1933 Karantina fire. Source: Great Britain. Army. Royal Engineers. Field Survey Company, 512th.

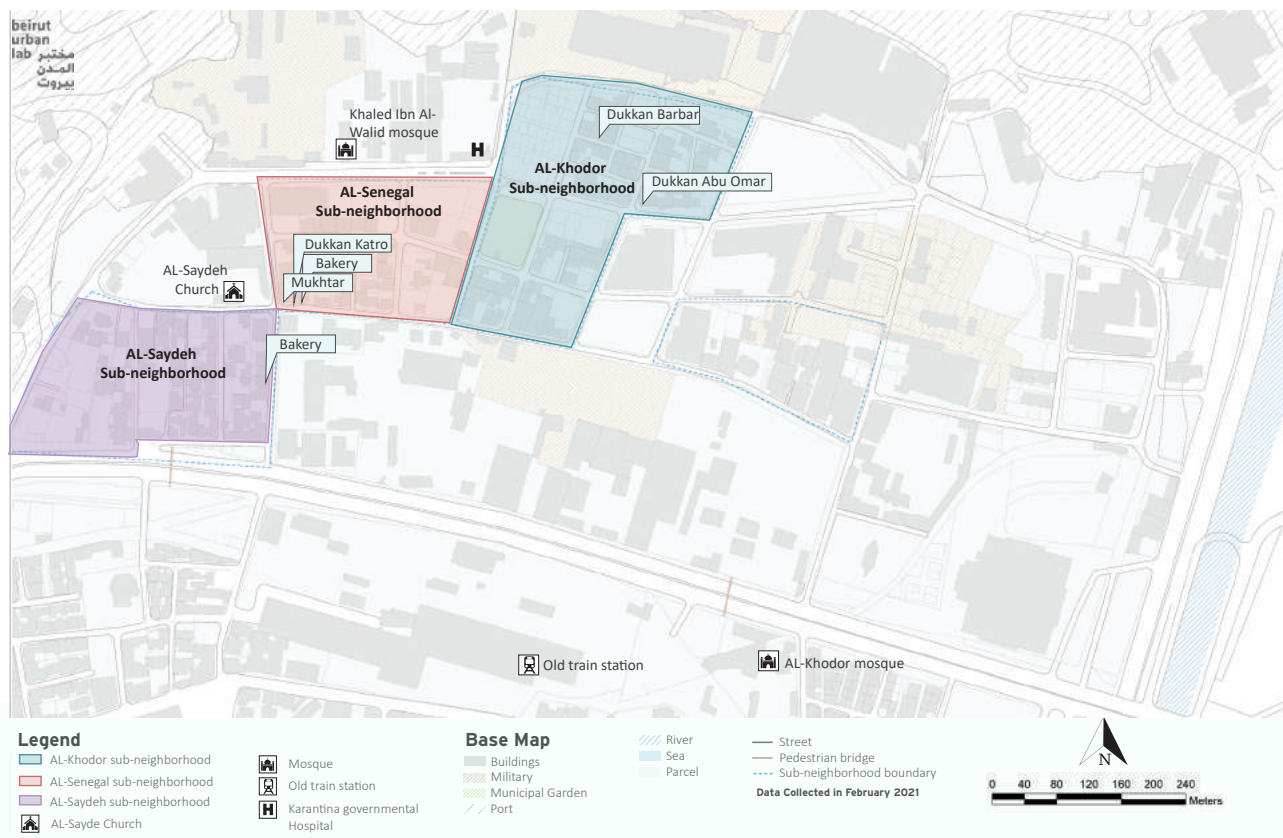


**Figure 11:** Al-Senegal Street housing typology. Source: Abir Cheaitli, 2021.

## 3.2 In-Depth Profile of the Population of Karantina

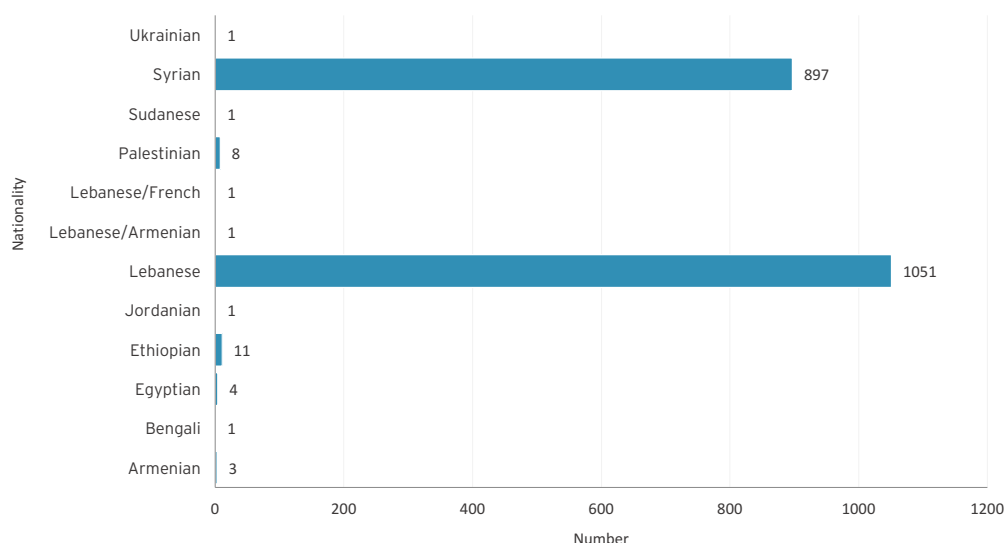
### A. Social makeup of the current residents

Karantina is made up of an area of 61.5 ha and a population of 2460, and a population density of 40 people/ha. This is much less dense than elsewhere in Municipal Beirut, where the figure is 207 people/ha (Council for Development and Reconstruction, 2013). The three sub-neighborhoods, Al-Saydeh, Al-Khodor, and Al-Senegal, which together make up the residential portions of Karantina, are home to a diverse population (Figure 12). The sample surveyed consists of 1980 residents, of which more than fifty per cent are Lebanese (Figure 13).

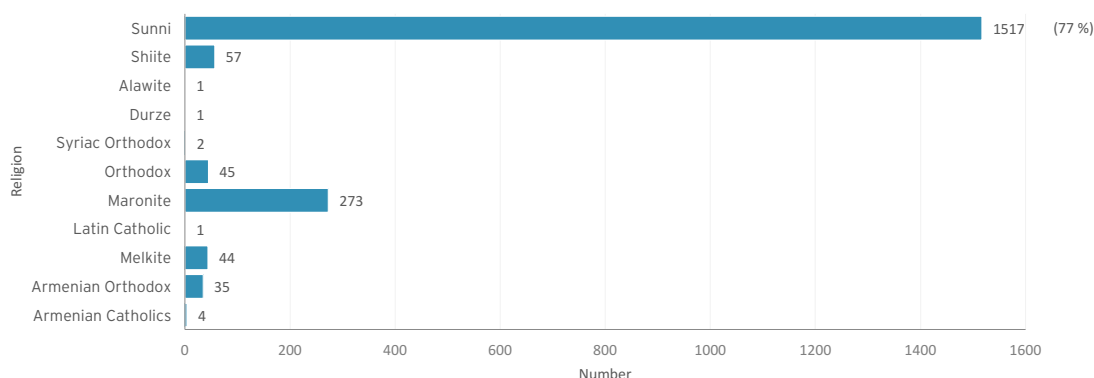


**Figure 12:** The three sub-neighborhoods in Karantina. Source: The Beirut Urban Lab, 2021.





**Figure 13:** Distribution of nationalities in Karantina. Source: The Beirut Urban Lab, 2021.

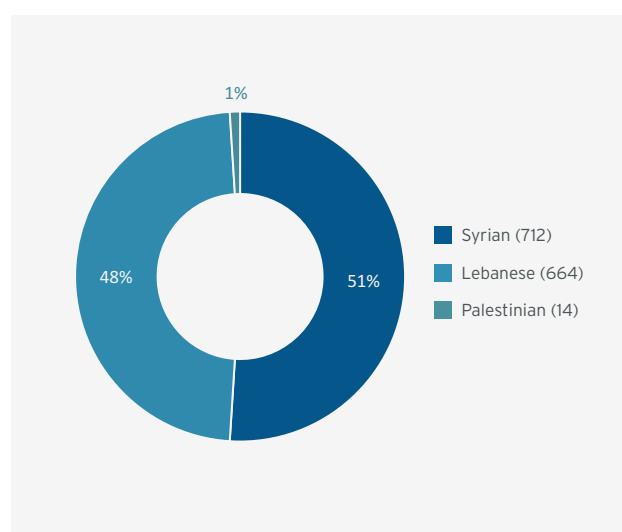


**Figure 14:** The distribution of religious affiliations in Karantina. Source: The Beirut Urban Lab, 2021.

The population is predominantly Muslim: there are 1576 Muslims in the sample compared with 404 Christians (for the denominational breakdown see (Figure 14).

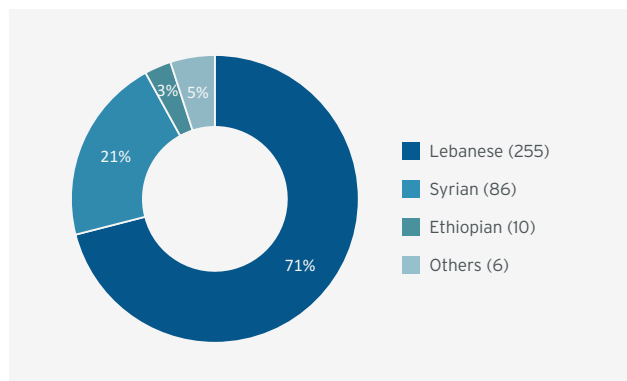
The average age of residents in Karantina is 30, with those surveyed ranging in age from a few months to 107 years old. The average annual income is 14,086,972 Lebanese Pounds, and ranges from 1,200,000 to 50,000,000 Lebanese Pounds per annum<sup>6</sup>. These statistics differ according to sub-neighborhoods. Each sub-neighborhoods evolved separately and during different periods of time, in some cases as part of other areas of the city and have been affected by historical disasters and different migration and displacement patterns.

The nationality distribution in each sub-neighborhoods were as follows: Al-Saydeh and Al-Senegal were predominantly Lebanese whereas Syrians represented the largest nationality in Al-Khodor owing to its status as a host community for refugees (Figures 15, 16, and 17).

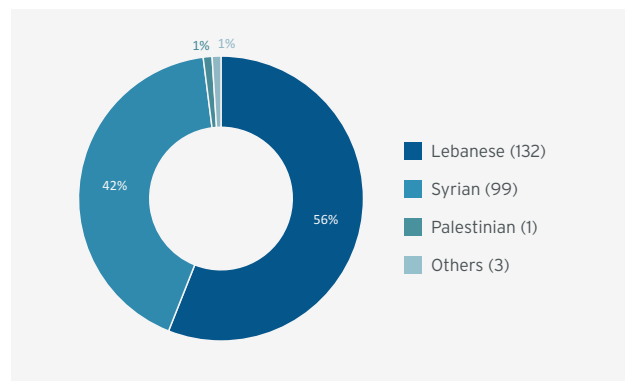


**Figure 15:** The distribution of nationalities in Al-Khodor. Source: The Beirut Urban Lab, 2021.

<sup>6</sup> The US dollar rate at the time of collecting the data was 1 USD = 1500 LBP

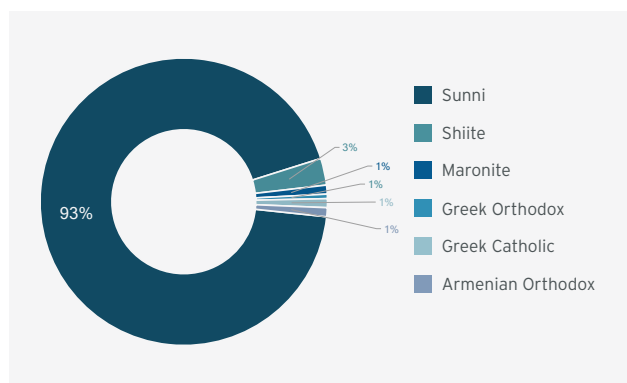


**Figure 16:** The distribution of nationalities in Al-Saydeh.  
Source: The Beirut Urban Lab, 2021.

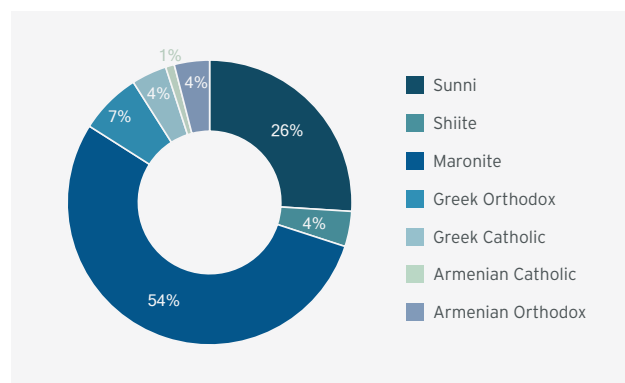


**Figure 17:** The distribution of nationalities in Al-Senegal.  
Source: The Beirut Urban Lab, 2021.

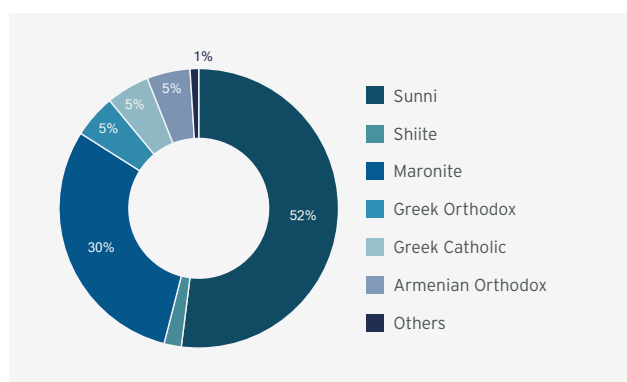
As for religious confessions, there was a polarity between Al-Khodor and Al-Saydeh, where the latter was predominantly Christian and the former Muslim. Whereas Al-Senegal was more mixed with Muslims, forming an overall majority at 56% and the rest were Christians. Unlike the Muslims, however there was a diversity of sects among the Christians (see Figures 18, 19, and 20).



**Figure 18:** The distribution of religious confessions in Al-Khodor.  
Source: The Beirut Urban Lab, 2021.

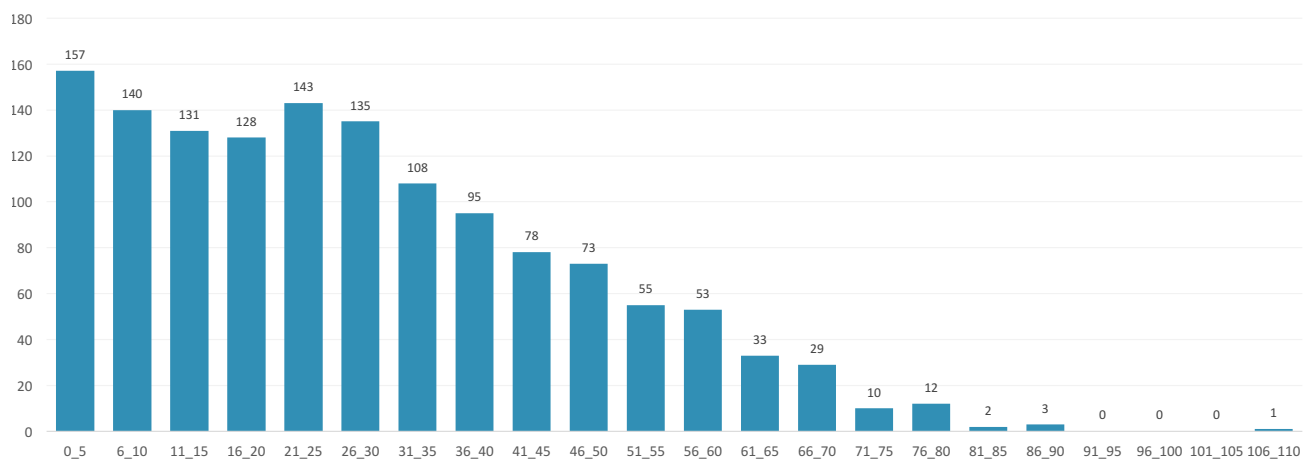


**Figure 19:** The distribution of religious confessions in Al-Saydeh.  
Source: The Beirut Urban Lab, 2021.

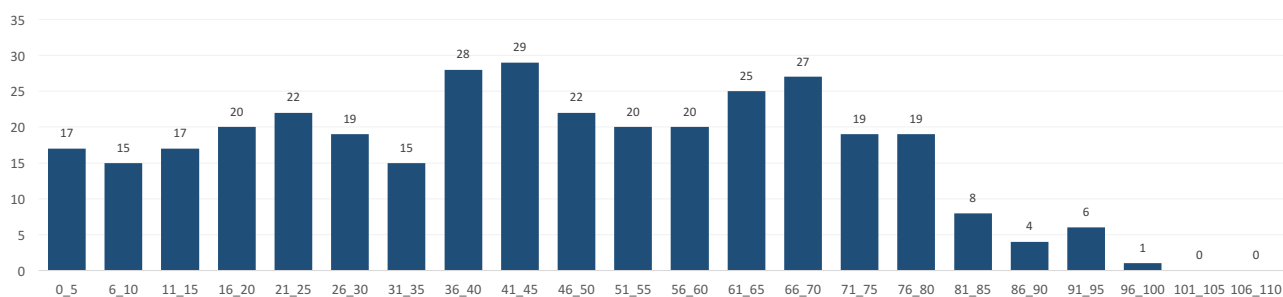


**Figure 20:** The distribution of religious confessions in Al-Senegal.  
Source: The Beirut Urban Lab, 2021.

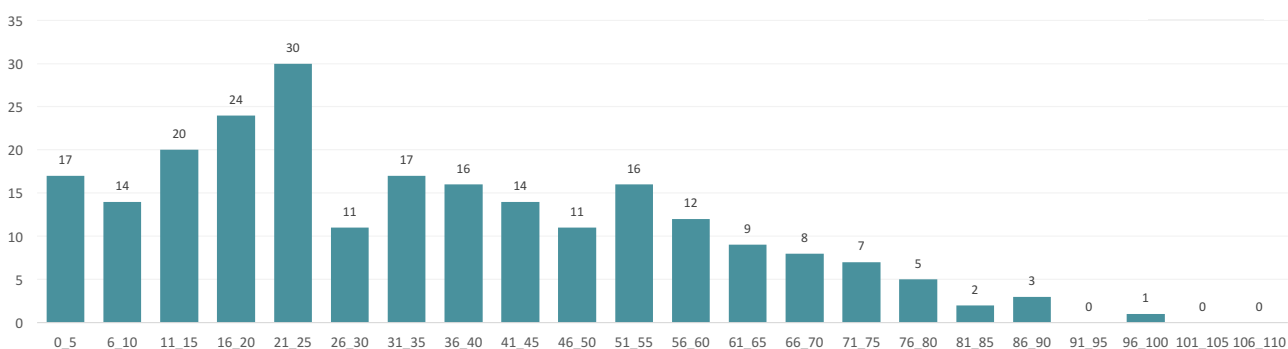
As for the breakdown of age groups, Al-Senegal and Al-Khodor tend to skew towards the younger generation, while in Al-Saydeh its spread is scattered across age groups and not completely weighted to the younger generation (Figures 21, 22,& 23).



**Figure 21:** The breakdown of age groups in Al-Khodor. Source: The Beirut Urban Lab, 2021.



**Figure 22:** The breakdown of age groups in Al-Saydeh. Source: The Beirut Urban Lab, 2021.



**Figure 23:** The breakdown of age groups in Al-Senegal. Source: The Beirut Urban Lab, 2021.

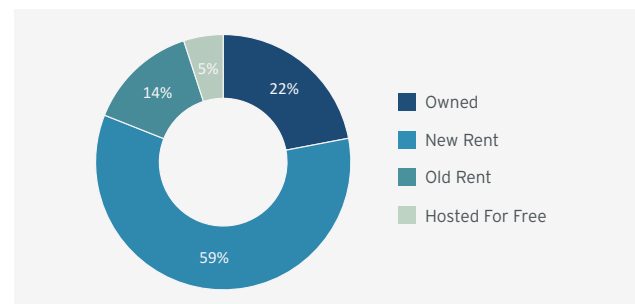
## B. Types of Tenure

In Lebanon, tenants live under either the “Old Rent” or the “New Rent” law. The former is covered by the successive extensions of strict rent control, the latest being in 2011. It guarantees “a strict rent control that has neither accounted for the progressive devaluation of the Lebanese currency in the 1980s-1990s period nor prices of inflation” (Khechen, 2015, p. 14). Until recently, rents were still fixed at the pre-hyperinflation rates. However, the lack of self-generating funds left landlords with no money to maintain the building or improve it. Therefore, many rent-controlled buildings became a burden to their owners: the only way out is to sell them to developers who, in turn, ultimately demolish the property to take advantage of the latest Building Law from 2004. In 2014, the old rent tenure was upended with a new law that stipulated gradual rent increases until 2026, at which point the house is returned to its owner.

The new rent law as of the 1992 legislation, whereby residents can either sign a one or three-year lease with no rent control or compensation in the face of eviction. New rent tenants also encompass those without a formal contract. Landlords claim that informal arrangements make rent cheaper. This arrangement happens for various reasons such as tax evasion, informality in the building structure, and illegal status of the tenant, etc. However, it facilitates for the landlords to evict tenants.

In Karantina as a whole, tenure of property is mixed where 22.4% of households own their own homes, 58.5% are new rent tenants, 14.3% are old rent tenants, and the remaining 4.8% (or 26 households) are hosted for free (Figure 24).

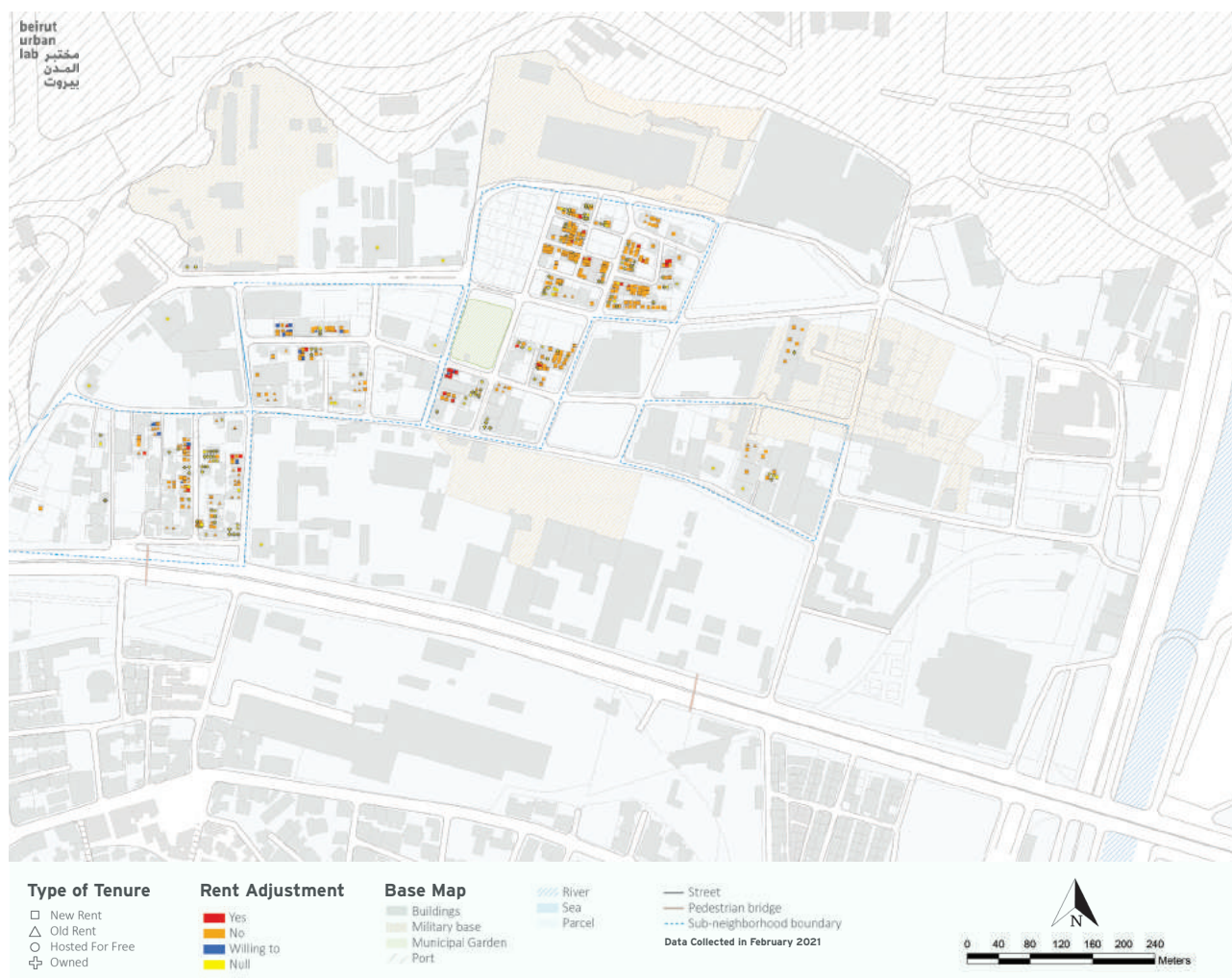
Of the households that are hosted for free: 14 are Lebanese, 6 are Syrians who arrived prior to 2011, 5 are Syrian refugees, and 1 is Ethiopian. The average income amongst households where tenants are housed for free is 830,000 Lebanese Pounds.



**Figure 24:** Property ownership and rent.  
Source: The Beirut Urban Lab, 2021.

Tenure according to each sub-neighborhoods, thus, reveals certain nuances. In Al-Saydeh, for example, the most common form of tenure comes under the old rent system, which is not the case in the other two sub-neighborhoods. By contrast, in Al-Khodor, most of the rental agreements are new but reflect situations where tenants do not have a formal rent contract (Figure 25). Al-Khodor sub-neighborhood is mostly new rent because it is a host community for refugees, including those who arrived after the outbreak of the Syrian war in 2011. Moreover, there is a sizable section of the population who rent in the sub-neighborhoods who were displaced during the Lebanese civil war and have not yet returned to their houses. The reasons for that displacement are discussed further below.





**Figure 25:** Type of tenure versus rent adjustment. Source: The Beirut Urban Lab, 2021.

## 4. PROBLEM DEFINITION

The provision of housing in Karantina is in a vulnerable state, and there is an urgent need to safeguard the tenure of its residents in the post blast phase. Housing insecurity threatens to displace the area's residents from the city, or increases their vulnerabilities. The area faces a challenging process of recovery.

Several key issues negatively affect the affordability and inclusivity of housing in the area, and they are identified as follows. The income-to-rent ratio in Karantina is high, with many paying more than 30% in rent. The vacancy rate contributes to this by ensuring there is less housing stock available and thus prices are driven up. Access to services such as education, leisure, and healthcare is limited, with the area further impacted by fading infrastructure and enclaving from the city.

Additionally, post-blast repairs are making housing less affordable, with renovations leading to increases in rent and rates of evictions, or threats thereof. The second issue related to inclusivity. Karantina is home to a diverse population in terms of religion and nationality. However, in terms of income and accessibility, this is not the case.



## 5. DIAGNOSIS TRACKS

### 5.1 Affordable Housing

This report defines affordability in relation to income, but also in relation to access to services, and availability of housing stock (vacancy rate). A series of localised indicators were also added to measure affordability. This section has investigated rent hikes and evictions in Karantina since the port blast and found a causal relation that was enabled and exacerbated by pre-blast conditions. The vacancy rate applies because supply and demand affect rent: a decrease in the supply of houses removes units from the market, which creates scarcity (The Beirut Urban Lab, 2019). Vice-versa, decreasing the vacancy rate can unleash a stock of housing into the market and open a window for affordability based on wider availability. This has historically played a role in migration patterns in Karantina. For example, in the 1940s many Lebanese-Armenians in Karantina moved to Soviet Armenia or to other neighborhoods, releasing a stock of affordable housing in Burj Hammoud and Karantina onto the market, which was quickly acquired by Shiites migrating from the South of Lebanon (Hovannisian, 1974).

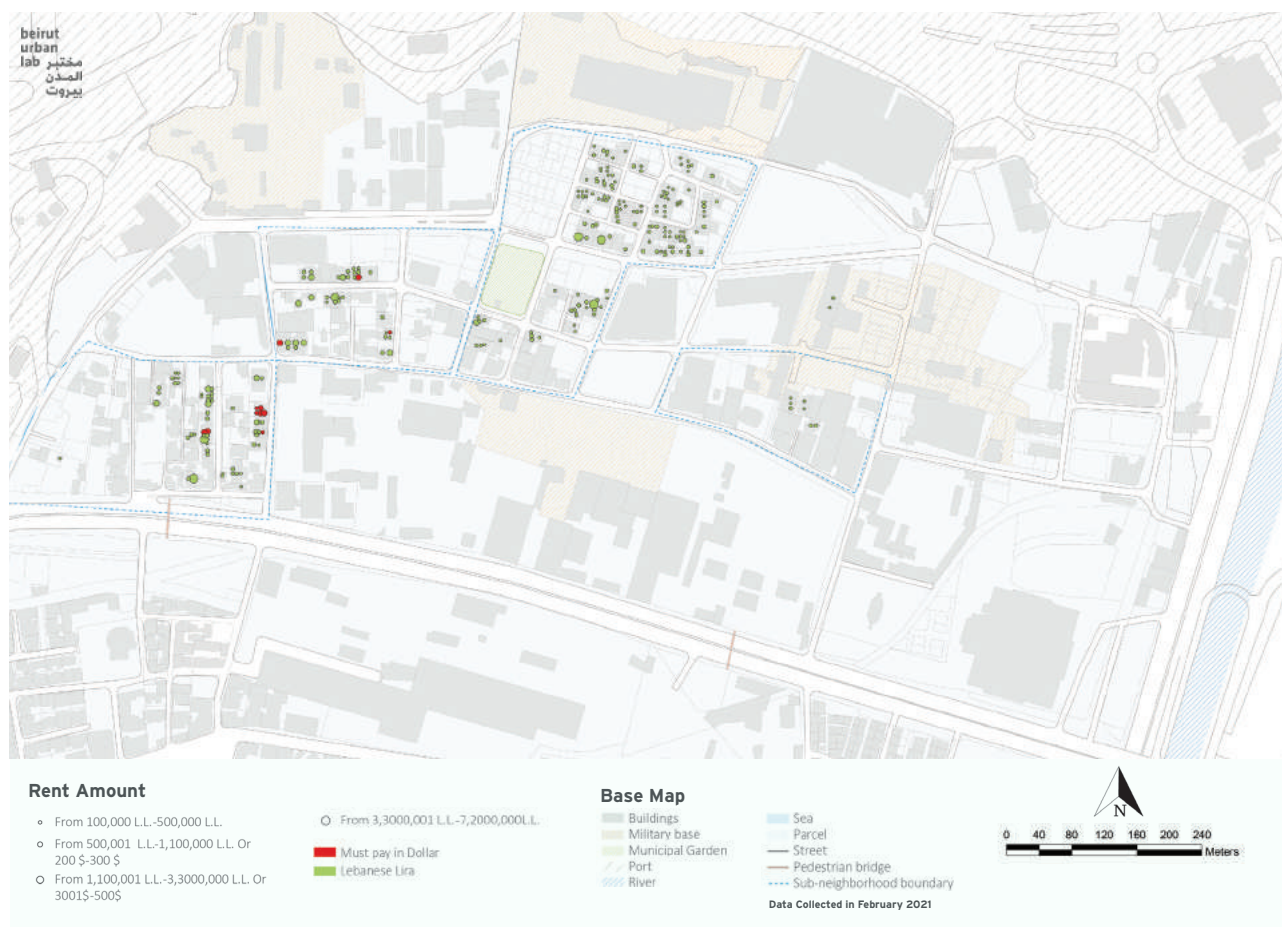
Additionally, this section uses the traditional 30% rent-to-income derived from the US Department of Housing and Urban Development definition of housing affordability. Meaning anything above 30% of a household's income paid in rent is considered relatively unaffordable (Esruq-Labin, 2014). This figure also works in a Lebanese context because the Central Bank of Lebanon mandates that monthly installments of subsidized housing loans be no more than 33% of a person's monthly salary. However, it is now increasingly recognized by researchers that affordability does not only encompass the percentage of a person's income paid in rent, but also the quality of services, and level of local development. Therefore, the local amenities in Karantina - which are also its affective characteristics - were factored into the measurement of affordability because their availability, or lack thereof, places an additional set of hidden costs and burdens on the residents. This expanded measurement can be expressed as affordability being equal to rent-to-income ratio added to the value of Karantina's amenities.

#### A. The Proportion of Rent to Income

Despite the relatively low rents found in Karantina when compared with the rest of Beirut (Figure 26), according to the household questionnaire most residents in fact pay more than 30% of their income in rent. This is because many of the residents are from low-income households: the average household income in Karantina being 827,645 Lebanese Pounds. The residents who do pay 30% or less are either old rent as in the case of Al-Saydeh (27 out of 35 units) or share a home with multiple families as in Al-Khodor. Additionally, unaffordability is projected to increase by 2026, when rent control is set to be lifted, affecting 78 old rent households in Karantina, particularly the 35 households in Al-Saydeh. Therefore, Karantina is becoming less affordable to its current residents when income is factored into our understanding, and this relative unaffordability is set to get worse over time, despite Karantina being on paper less expensive than neighboring areas such as Gemmayze and Mar Mikhael, where rents can reach up to \$500 and \$800 respectively (McCarthy, 2021).

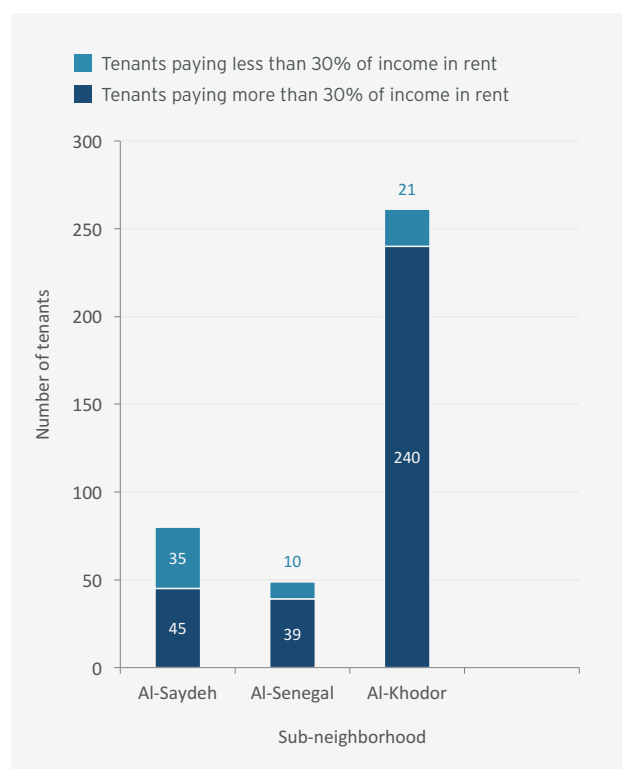






**Figure 26:** Rent amount paid either in Lebanese Pounds or Dollars, Karantina. Source: The Beirut Urban Lab, 2021.

Rent above the 30% threshold is unevenly distributed across each of the three sub-neighborhoods: in Al-Saydeh; it is evident that 56% of the surveyed households paid more than 30% of their income in rent, in Al-Senegal 80%, and in Al-Khodor 92% (Figure 27). The lowest relative rents are concentrated in Al-Khodor. This is due to its status as a host community, as well as reflecting the small footprint of its buildings compared to the other sub-neighborhoods. Moreover, as shown in Figure 27, Al-Khodor is dominated by rents paid in Lebanese pounds, which has been devalued by more than 94% since 2019. The dominance of rents paid in Lebanese pounds in Al-Khodor suggests that its population is impoverished and, as a host community for refugees, lacks access to dollars. The specialization of rental statistics for the district reveals those certain parts of Al-Khodor, nevertheless, attract higher rents: in general, these buildings have better views and are not as cramped as those that attract much lower rents. By contrast, the highest rents are concentrated in Al-Saydeh. Some houses there are rented out in dollars. Al-Saydeh also has the highest proportion of rent-controlled homes paid in Lebanese Pounds. Al-Senegal represents a mixture of these trends, which is itself a reflection of its 'in between' character.



**Figure 27:** Number of tenants paying more than 30% of their income in rent. Source: The Beirut Urban Lab, 2021.

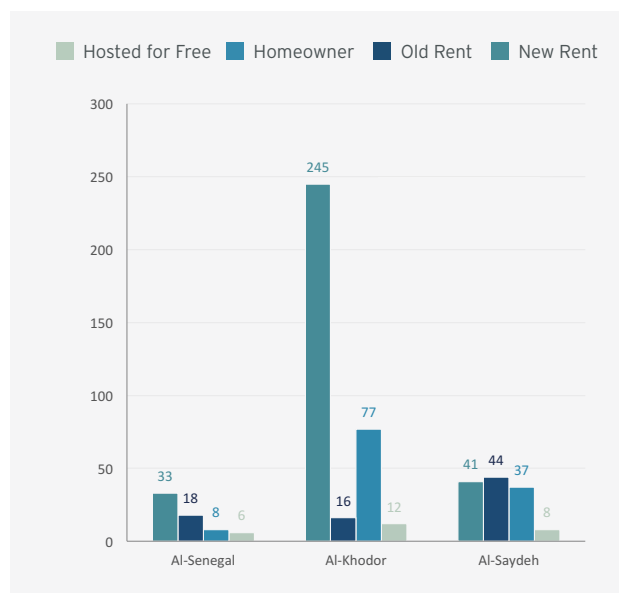
## Rent Adjustments

During the initial phase of this research, which involved informal discussions, many of the residents expressed concern over the future of housing in the aftermath of the port blast. A common anxiety was that a lot of the renovation in Karantina would lead to mass evictions as landlords would take advantage of their newly renovated apartments. J.N., an old rent tenant in Al-Saydeh, confided that he is afraid that the post-blast reconstruction will upscale the sub-neighborhoods and force out lower-income tenants. “What’s going to happen to us once everything is fixed up”, he asked, before adding that “I’m sure the landlords are going to take advantage of the new conditions of the homes.”<sup>7</sup> The residents also felt that this would change the character of Karantina which had developed in part because of its relative peripheral position in the city. Accordingly, this report looked at the data from the fieldwork to see if their concerns were taking shape empirically on the ground.

In the aftermath of the port blast, as renovations were taking place, it was noted that in Al-Saydeh, 14.1% of tenants either received a rent increase or were threatened by it. While 11.7% of the residents either received an eviction suit or eviction threats. This was also evident in Al-Senegal, where 23.5% of the tenants either received a rent increase or were threatened by it.

While 7.8% of the residents received an eviction threat. As for Al-Khodor, 9.9% of the tenants either received a rent increase or were threatened by it. While 6.1% of the residents received an eviction suit or eviction threats. These numbers varied considerably in terms of rental tenure (Figure 28), with it being more likely to happen to new rent than old rent residents because of the protections the latter arrangements provided the tenants and because many rental arrangements under new rent laws are informal.

Several factors explain the reasons behind the rent hikes and eviction trends in Karantina. The first being the repairs done in the aftermath of the blast. In Al-Saydeh, 10 out of 12 households who received a rent increase, or a threat of rental increase, were either fully repaired or undergoing some form of renovation. In Al-Senegal, it was also evident in 10 of the 12 households that were in the process of being fixed, and in Al-Khodor, in 21 of the 27 households (Figure 29).

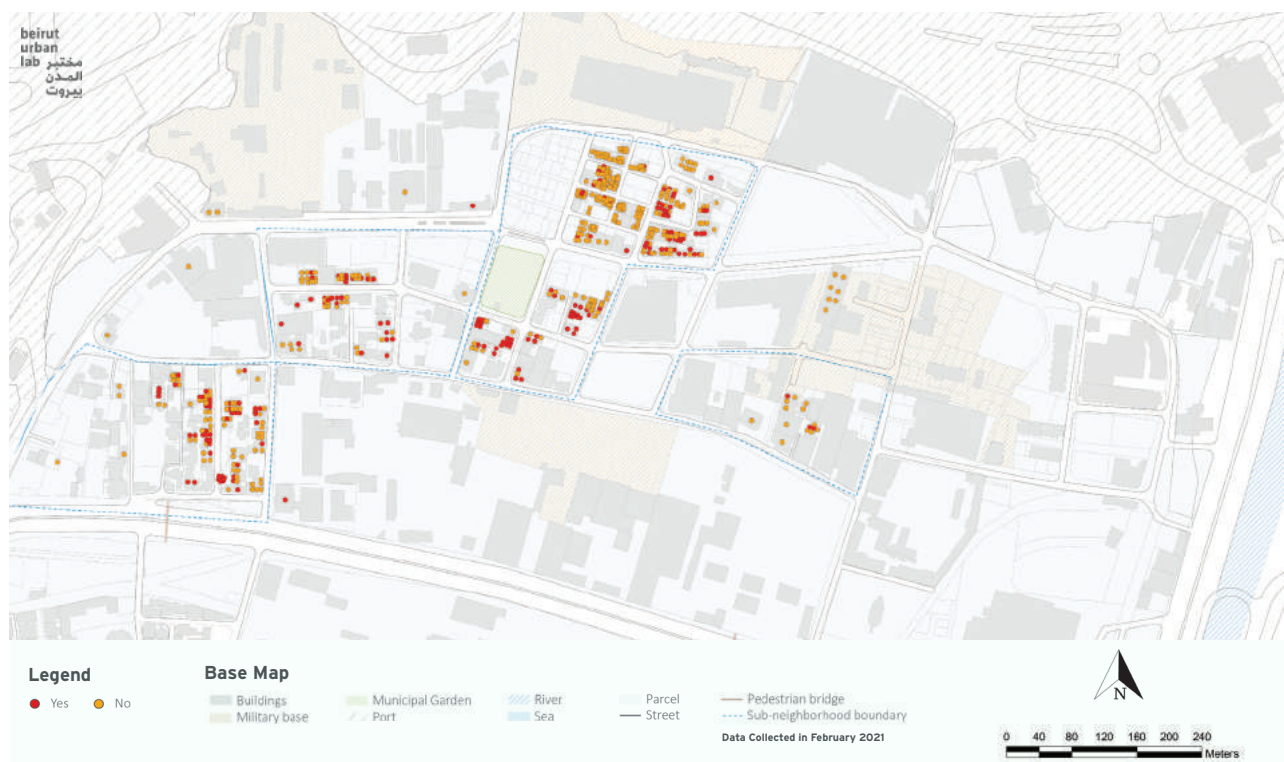


**Figure 28:** Breakdown of tenure per sub-neighborhood.  
Source: The Beirut Urban Lab, 2021.



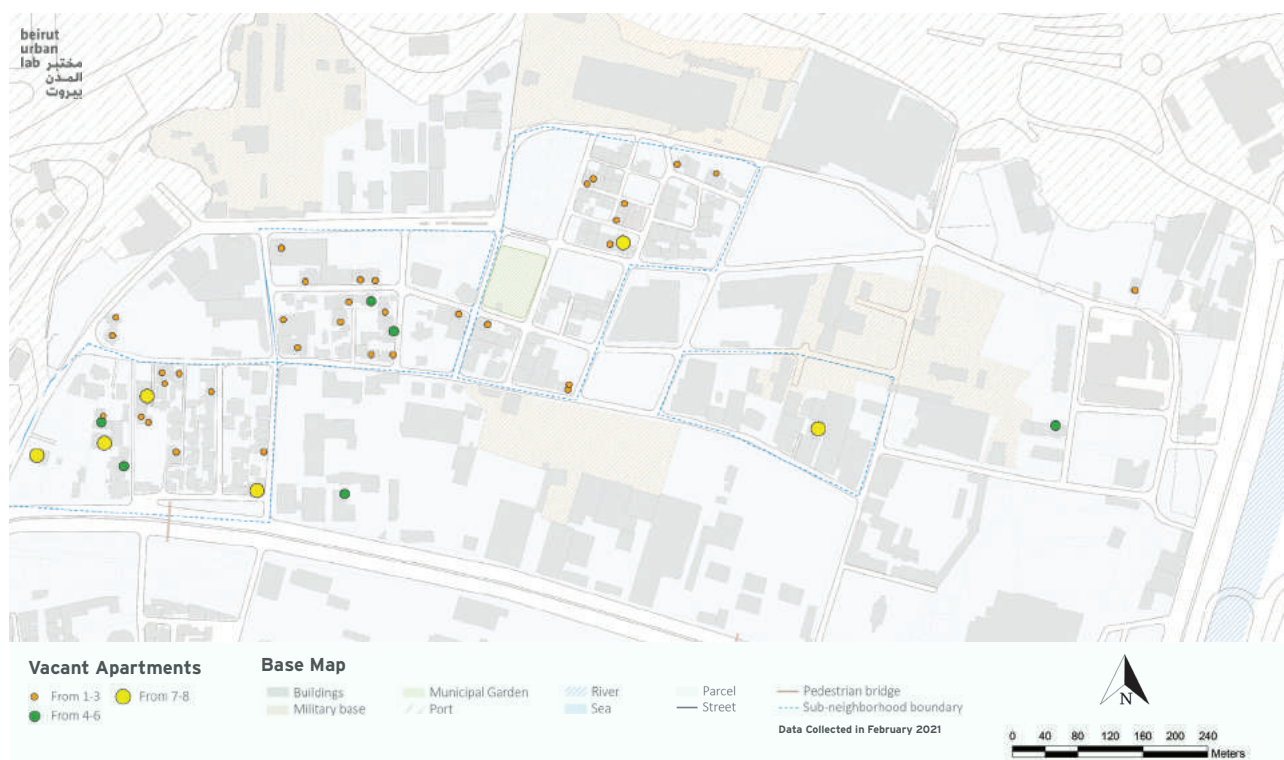
<sup>7</sup> J.N., (2020-November), (Mohamad El Chamaa- interviewer).





**Figure 29:** mapping of apartments that have finished repairs, Karantina. Source: The Beirut Urban Lab, 2021.

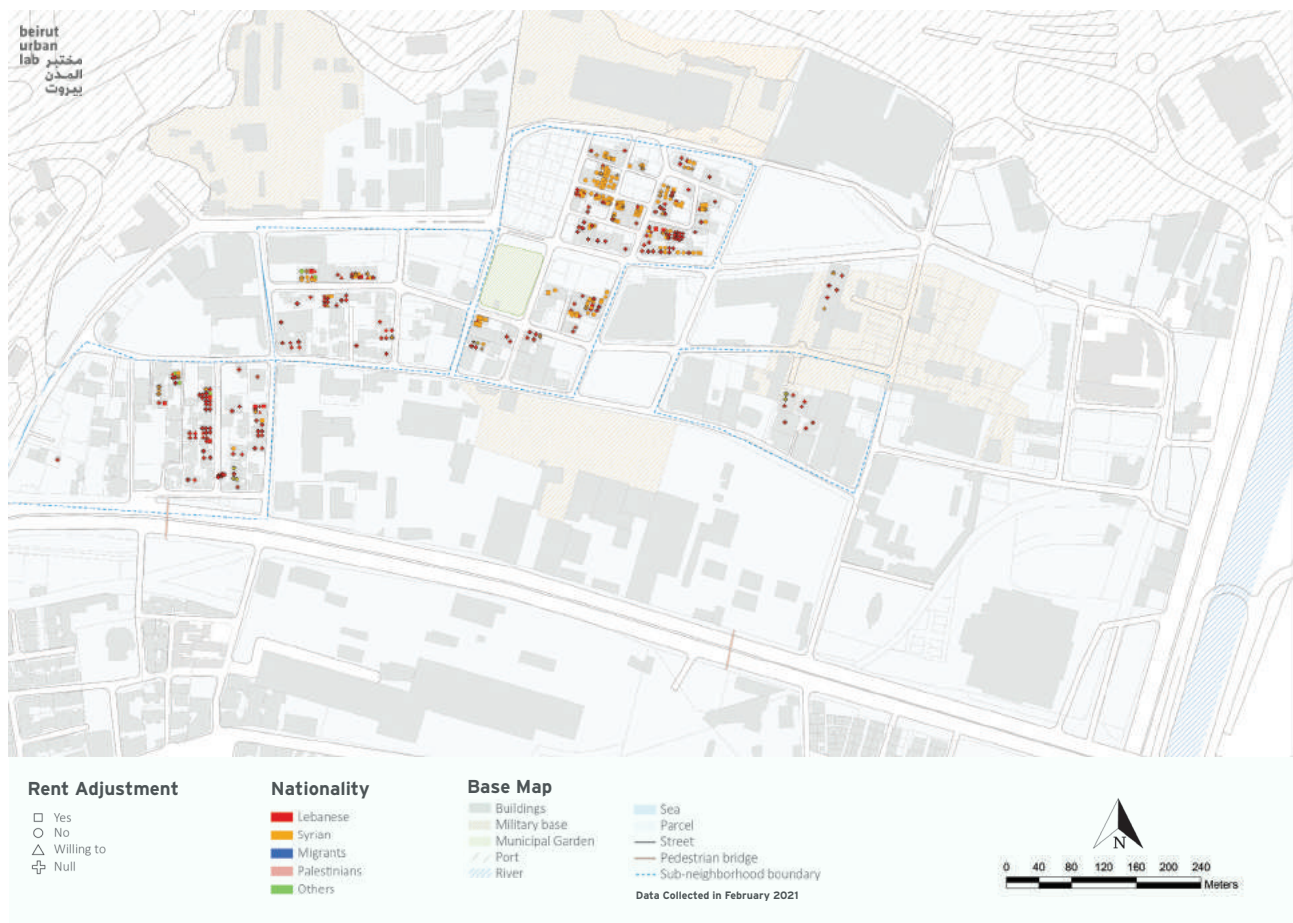
The same trend was noted in evictions; in Al-Saydeh 80% of households who received eviction suits or threats were undergoing repairs of some kind, this also applied to 100% of the cases in Al-Senegal, but only 31.2% of the cases in Al-Khodor (Figure 30). What is evident is that landlords in Al-Saydeh and Al-Senegal are taking advantage of the renovations for their financial benefit. Showing that the reconstruction process did not protect the residents despite some initiatives by NGOs such as the NRC and Offre Joie to ask landlords to sign a pledge not to raise rents in exchange for free renovation. Despite the commendable efforts by these NGOs, only long-term policy solutions and legal frameworks delivered and implemented by the government can truly alleviate these concerns.



**Figure 30:** Vacancy rates in Karantina. Source: The Beirut Urban Lab, 2021.

The need for a new law to prevent post-blast displacement was echoed at our community meeting: “Owners of buildings received substitutes for renovating their houses,” one person explained, “They are not threatening us as tenants to be evacuated now; however, we are afraid that when they are done with their renovations, they might kick us out of the apartments. We want a law that protects the disadvantaged tenant in the area, that when the landlord has received more than 100,000 US dollars to renovate his property, the tenant should be secured in it” he added.<sup>8</sup>

Additionally, geo-referenced maps that The Beirut Urban Lab produced showed that the increase in rent and evictions can be correlated to the nationality of the tenants (Figure 31). For example, in Al-Khodor sub-neighborhood, 24 of the 25 households that received a rent hike were Syrian. Moreover, of the 16 residents that faced eviction suits and threats, 15 were Syrian. In Al-Senegal sub-neighborhood, 4 of the 14 Syrian new rent tenants got hike threats, of which 1 faced an eviction suit. In Al-Saydeh sub-neighborhood, 3 of the 14 Syrian new rent tenants got hike threats, and 2 faced eviction threats, 1 faced a rent hike, and 1 faced an eviction suit. The reason for this correlation is because of informality of tenure; many tenants lack formal leases, so landlords have considerable room for manoeuvre. For example, in Al-Khodor, the reported cases are all under an informal agreement. This was also evident in the 16 Syrian tenants who faced eviction suits and threats.



**Figure 31:** Rent Adjustment versus nationality, Karantina. Source: The Beirut Urban Lab, 2021.

<sup>8</sup> First Town Hall Meeting, (2021- April- 11).

## B. Access to Services

At the first community meeting at the Karantina Park, the residents deplored the lack of amenities in the area, with one saying that “the area lacks everything, we need cultural, developmental, healthcare, and environmental projects.” This section investigated these issues through the household questionnaire in terms of healthcare, level of services, public and shared space, and schools to see to what extent the residents were getting value for their money, whether the relative affordability in rent is, in fact, worth the trouble. This leads to a taxonomy of needs, like that proposed by Abraham Maslow in his hierarchy of needs. All the sub-neighborhoods meet a basic level of needs: residents have food, water, shelter, and electricity. Albeit in the case of the latter, provision relies on a dual system with government provision supplemented by a backup generator. In terms of running water, this is a considerable improvement since the 1970s, when only 25% of residents in Karantina had access to water (Bourgey and Phares, 1973). It is at the higher levels of need, such as safety and security, transportation, internet, healthcare, education, and facilities for leisure, that the desires of the residents are not met. Figure 32 shows the availability of services across the three sub-neighborhoods.

SERVICE	SUB-NEIGHBORHOOD					
	Al-Khodor		Al-Senegal		Al-Saydeh	
EDL	346	98.85%	66	100.00%	128	98.46%
Water	317	90.57%	60	99.91%	127	97.69%
Unofficial EDL hook up	3	0.86%	0	0.00%	0	0.00%
Electricity subscription	146	41.71%	48	72.73%	122	93.85%
generators	12	3.43%	4	6.06%	3	2.31%
Private water subscription	4	1.14%	2	3.03%	4	3.08%
parking	8	2.29%	4	6.06%	9	6.92%
Internet Connection	262	74.86%	47	71.21%	107	82.31%
Total Respondents	350	–	66	–	130	–

**Figure 32:** The number and percentage of households with access to services and the percentage of sub-neighbourhood population.  
Source: The Beirut Urban Lab, 2021.

## Education

The lack of educational facilities is a major factor in the relatively poor standard of living in Karantina and contributes significantly to the broader sense of lack of affordability resulting from an absence of local amenities and services. One concerned resident said that “we want an English education school. We can’t afford school buses for outer areas and the schools here are closed, even the French ones. This is to us the most important issue, more important than roads.”<sup>9</sup> Before the civil war, Karantina had at least three schools (one Catholic School, one UNRWA School, and one public school) providing places for 2,097 students – chiefly boys.<sup>10</sup> The Catholic School closed during the civil war, while the public school shut its doors in 2014. This affected 14 households with school-aged children in Al-Saydeh, 20 households in Al-Senegal, and 135 households in Al-Khodor (Figure 33). The schools which attract the largest number of pupils are understandably ones that are closest to Karantina, such as the ones in Achrafieh and Burj Hammoud, but families also send their children to places which are farther away such as Ras Al-Nabaa owing to the presence of two public schools there. In any case, this all involves crossing the highway by vehicle or school bus and incurring extra costs. The unaffordability of commuting was noticeable in the words of one Syrian resident who explained: “The nearest school to us is in Achrafieh, and our children are passing the main street to reach it. Some people can afford bus transportation for their children, but not all of us can.”<sup>11</sup> The lack of schools shows that there are hidden costs which must be considered when assessing housing affordability.

<sup>9</sup> First Town Hall Meeting, (2021-April- 11).

<sup>10</sup> In 1972, 68.43% of boys attended school compared with 50% of girls. This has vastly improved over the past 50 years, particularly in relation to girls’ access to education (Bourjy and Phares, 1973).

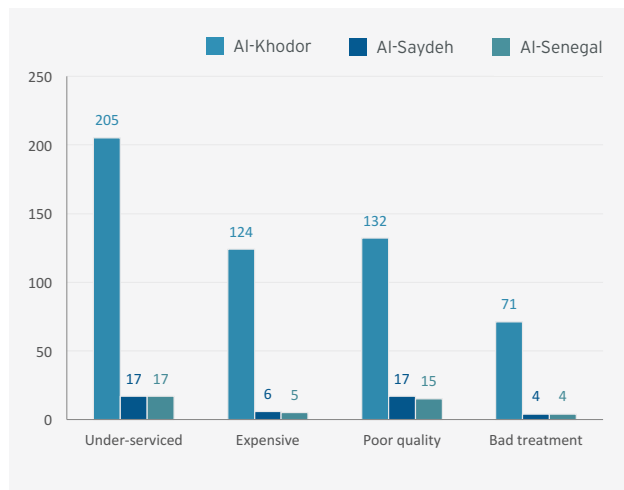
<sup>11</sup> First Town Hall Meeting, (2021- April- 11).



In addition to the lack of schools in Karantina, there are no places for after-school activities for the wider community. This lack of infrastructure was evident in the words of one resident in the community meeting who felt that educational reinforcement was needed “not everyone is able to learn online. We need institutes that offer academic aid, especially since many of the children need after-school lessons. Some parents are depending on private teachers in some courses, but they cannot afford English language lessons. No one has a good command of the English language to help them in their future work.”<sup>12</sup> Additionally, Khaled, a resident of Al-Khodor, lamented the lack of spaces for his children to study in: “I wish we had libraries in the area”, he said, “My children are studying on their phones in their bedrooms because we can’t afford computers. I wish there was an area with a computer lab or something.”<sup>13</sup>

## Healthcare

Despite the presence of Karantina Public Hospital in the area, most of the residents do not benefit from its services, instead, they complain that they are treated there as second-class citizens (Figures 34 and 35). Some also point to the fact that they are no longer given employment preference: before the civil war, Lebanese residents in Karantina were often hired preferentially at public institutions such as the hospital, the slaughterhouse, and the municipal garbage dump. For further discussion on our findings relating to the hospital.<sup>14</sup>



**Figure 34:** The main complaint that the residents had was regarding the Karantina Hospital. Source: The Beirut Urban Lab, 2021.



**Figure 35:** The interior of the Karantina Governmental Hospital. Source: Ali Ghaddar, 2021.

## Leisure Facilities

The cramped living conditions in Karantina increase the need for children to go outside for recreational activity and to play; however, safe environments for leisure and activity are not provided. Unlike access to schools, 41.1% of respondents said that their children seek leisure in Karantina only, compared to only 1.2% outside the area. A dearth of public space in Karantina makes this experience more difficult: because residents cannot afford to go elsewhere for leisure, they must make do with what they have. Data showed that half of the surveyed households in Karantina were unsatisfied with the quality of the public and shared spaces, and almost three-quarters avoided using them all together. As for the Karantina Park, access to it is restricted, as in the case of other parks in Beirut. Anecdotally, it was observed on countless occasions that the parking lot next to the park was filled with children playing and engaging in sporting activities on the hard asphalt surface, while the park with its greenery and play equipment was closed to them. Some children resorted to sneaking into the park by climbing the light pole and then jumping over the fence.

<sup>12</sup> First Town Hall Meeting, (2021– April– 11).

<sup>13</sup> First Town Hall Meeting, (2021– April– 11).

<sup>14</sup> Refer to transversal issue V: The quality of the Urban Environment.



Residents are also not able to benefit from Karantina's proximity to the sea, knowing that previously they had been able to access a beach. E.C. who grew up in the 1950s, lamented the port's encroachment in the 1960s, which cut Al-Saydeh off from the sea: "Whenever we went swimming, it was just a stone's throw away around the cliff. I used to walk to the beach from my house. It was here, I used to hike down the hill and I would reach it immediately."<sup>15</sup> This was echoed at the community meeting by one resident: "We have a beach next to us, and it is a very comfortable place that we can use; however, we are not able to benefit from it because it is closed by the public authorities."<sup>16</sup>

Shared space is a staple of Karantina's socio-spatial practice, as many residents congregate outside. This was observed during the preliminary phase of our research. Many residents sit outside on sidewalks or the street itself on plastic chairs for morning coffee and play checkers, explored in more depth later in Transversal Issue V. However, the infrastructure is dilapidated with ageing sidewalks or no sidewalks at all. Additionally, shared public spaces are threatened by the activity at the port, as trucks transporting goods to and from the port clog the streets. One Karantina resident complained that the "trucks working for the port are passing in the area causing traffic jam[s]. We are not able to get a taxi to our work in the morning."<sup>17</sup> In addition, this traffic poses danger to the safety of the residents: during fieldwork it was observed that many children who play in the streets were almost run over by the trucks. Legally speaking, trucks are not allowed to enter Karantina, but the lack of accountability encourages them to do it anyway.

## C. Vacancy Rate

In Beirut, the vacancy rate for housing was 23% in 2020 (Fawaz and Zaatari, 2020). However, it is generally agreed that a healthy vacancy rate for a city should be closer to 7% (McCartney, 2010). The figure for Beirut is therefore three times higher than it ought to be. It is worth noting that many of the vacant properties in the city are high market and in good condition, and therefore outside the realm of affordable housing stock. There are several contributory factors to the city's vacancy rate including the absence of vacancy taxes and the exemptions vacant apartments receive from municipality taxes, which encourage landlords not to place their units on the market. The absence of laws and taxation benefits keeps supply artificially low, thereby not affecting the supply and demand equilibrium.

This scenario does not apply to Karantina where many buildings are vacant because they are in a degraded condition. This situation is partly the result of the port blast but also reflects many years of neglect. Of the 932 apartment units in Karantina, 75 (8%) are vacant and in a habitable condition and 89 (9.5%) are in buildings that are in a degraded and unliveable state. Most of the latter units (67/89, or 75%) are concentrated in Al-Saydeh (Figure 30), which has the oldest housing stock and is closest to Warehouse 12 in the Port of Beirut where the blast occurred. Many of the other degraded buildings (18%) are located in Al-Khodor (Figure 36). Though the 8% vacancy rate is only marginally higher than the 7% benchmark, it can be improved upon if repairs are made to the uninhabitable buildings which would add new housing stock to Karantina.

A second reason for the vacancy rate in Karantina is that landlords are reluctant to rent out their property because of the current financial crisis. E.C., who is the majority shareholder in his family building, said that he is worried about renting out the vacant apartments in his building because he used to "rent these for 700 thousand before the crisis but now 700 thousand will get you nothing." He added that "People can't afford a higher price so I may just leave it empty or rent it out to an NGO."<sup>18</sup>

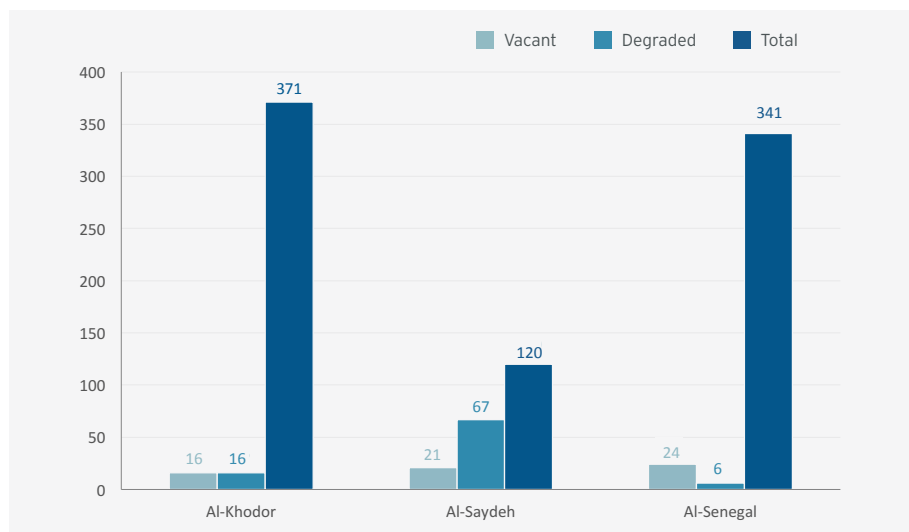
Keeping to his word, E.C. put up a for-rent sign outside the building with the following words written on it "for rent, office space available" (Figure 37).

<sup>15</sup> E.C., (2020-October), (Mohamad El Chamaa, Interviewer).

<sup>16</sup> First Town Hall Meeting, (2021- April-11).

<sup>17</sup> First Town Hall Meeting, (2021- April- 11).

<sup>18</sup> E.C., (2020-October), (Mohamad El Chamaa- Interviewer).

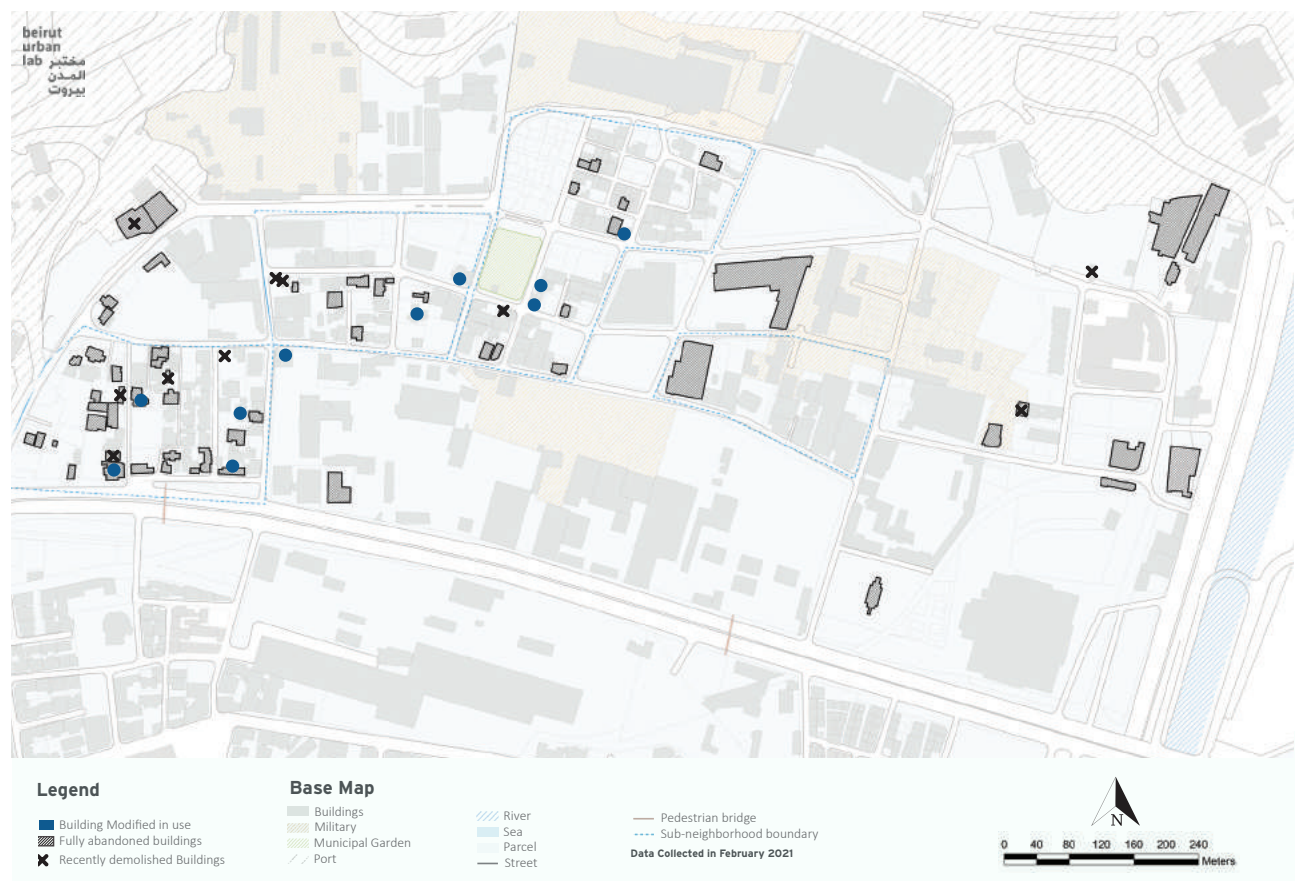


**Figure 36:** Number of vacant and abandoned apartments across Karantina.  
Source: The Beirut Urban Lab, 2021.



**Figure 37:** For rent sign displayed outside of renovated home targeting businesses in Al-Saydeh.  
Source: Mohamad El-Chamaa, 2021.

This reveals a third trend, that of converting residential units to office space, as was evident in a GIS map, showing that this is largely taking place in Al-Saydeh (Figure 38) with 9 buildings having their ground floor changed from residential to office space. So far, in Al-Senegal six buildings have seen their ground floor use changed, two of which also had this done to their upper floors. This trend was also noted in Al-Khodor, with five buildings changing their use, and two buildings having their upper floors converted. The landlords might also be doing this because businesses and NGOs can bring scarce dollars, but in the long run could cause housing scarcity in Karantina. This can only be exacerbated by the fact that there are no new developments in Karantina (refer to Section B), therefore, no new stock of housing to decrease the vacancy rate and make the area more diverse.



**Figure 38:** Modification in land-uses from residential to business facilities. Source: The Beirut Urban Lab, 2021.

## 5.2. Inclusive Housing

This section of the report draws on examples of less inclusive housing in Lebanon to identify a range of potential barriers to inclusivity. Moreover, it considers whether Karantina aligns with those barriers. We take inclusivity to refer to diversity and accessibility. By diversity we mean factors such as religion, income, and nationality as well as age. By access we mean physical accessibility. In the scholarly literature, definitions of inclusive housing vary, however. They may have to do with accessibility such as elderly care and physical disabilities whereby physical access is guaranteed (Peace and Holland, 2001), or diversity characteristics. In overall terms, Karantina has a diverse population, one mixed by religion and by nationality. However, it is not so diverse when income is taken into account and, in any case, there is an observable aggregation by sect and nationality across the three sub-neighborhoods of Karantina, which is analysed here.

### A. Religious Diversity

In Karantina there is religious diversity, however, there is also clustering within the sub-neighborhoods. Our survey shows that almost every sect, Christian and Muslim, is represented in the area. In terms of Christian denominations, 7 sects were documented for total of 404 persons, while in terms of Muslim denominations 4 with a total of 1576 persons (See Figure 14). Likewise, in terms of voter registrations, the majority of voters in the Medawar district are Armenian Orthodox at 54.2%, followed by Sunnis at 15.9%, which demonstrate the ongoing legacy of Karantina's Armenians, who mostly moved out of the area before the war.

It was also observed that the three sub-neighborhoods were divided along religious lines with Al-Saydeh majority Christian, Al-Khodor predominantly Sunni Muslim, and Al-Senegal being a mixed community (See Figures 18, 19, and 20). This suggests that, aside from Al-Senegal which is new and rapidly changing with no time for networks to develop, religious groups tend to aggregate in clusters. There are historical reasons for this clustering. In terms of ownership, the people who own their houses have inherited them from previous generations and have mostly been living there all their lives. In Al-Saydeh, for example, 64.6% of those surveyed renting from Christian landlords were Christian. The Christian character of Al-Saydeh is thus notable both from its affiliation with the Church and because the Maronite Waqf is a significant landowner and landlord in the area (Figure 39).



**Figure 39.** Al-Saydeh Church located in Al-Saydeh sub-neighbourhood. Source: Batoul Yassin, 2021.

This was illustrated through the Waqf houses, which were all rented to Lebanese Christians. Additionally, the data shows that members of the Arab tribe are the largest landlords and property owners in Al-Khodor: 97% of the landlords' tenants in the sub-neighborhood were Muslim, with a majority from the Arab tribe, while only 3% were Christians (Figure 40). This is due to tribal kinship which is explored further below. There was more mixity in Al-Senegal, with the equivalent rate being 45% for Christian landlords, and 50% for Muslim landlords.



S-N	Landlord	TENANTS				Total
		Leb. Christian	Leb. Muslim	Syrian	Migrants	
Al-Khodor	Wakf	0	0	0	0	254
	Christian	2	4	16	3	
	Muslim	7	85	137	0	
Al-Senegal	Wakf	5	0	0	0	50
	Christian	16	8	11	0	
	Muslim	2	5	3	0	
Al-Saydeh	Wakf	5	0	0	0	68
	Christian	42	6	11	3	
	Muslim	0	1	0	0	
Total		79	109	178	6	372

**Figure 40:** Relationship between the religious backgrounds of the landlords and the tenants. Source: The Beirut Urban Lab, 2021.

The strongest links in Al-Saydeh are, therefore, religious in character; however, in Al-Khodor, they are tribal and based on relations of kin – particularly within the Arab tribe who have lived there for over a hundred years (Figure 41). This form of kinship factors into and impacts religious diversity, especially through preferred access to housing. Despite the sub-neighborhoods being predominately Muslim, a discrepancy was noted between members of the Arab tribe (all Lebanese) and Syrians living in Al-Khodor, particularly in terms of access to housing. For instance, although overcrowding among households was most notable in Al-Khodor, this was not evenly distributed. The household survey revealed that 68 Arab households were single family households, (which together make up 80% of the Muslim Lebanese tenants). This compared with 64 Syrian households that share a home with one family or more. In this context, the Arab households received preferential treatment in terms of tenancy. Access to housing through kinship was also noted in the sample of residents that are housed for free. In Al-Khodor, 8 of the 11 households housed for free were from the Arab tribe. This contrasted with the three Syrian households who received housing for free in exchange for working as concierges.



**Figure 41:** Social gathering among residents of Al-Khodor residents. Source: Abir Cheaitli, 2021.

Moreover, in our housing focus group, the role of kinship was illustrated by R.A. who was displaced during the civil war and is unable to return to her home on the eastern edge of Al-Khodor because “the army still occupies my house after taking it over from the Lebanese Forces.” She currently rents an apartment from her aunt for 700,000 Lebanese Pounds, and mentioned that if this were not the case, “there would be no way for me to live in the area.”<sup>19</sup> R.A says that her aunt will not ask her to move out because it would be embarrassing in front of the Arab tribe. This shows that social capital is employed through kinship to access housing in Karantina and staves off eviction. This explains the concentration of low rent in Khodor as illustrated in Figure 40.

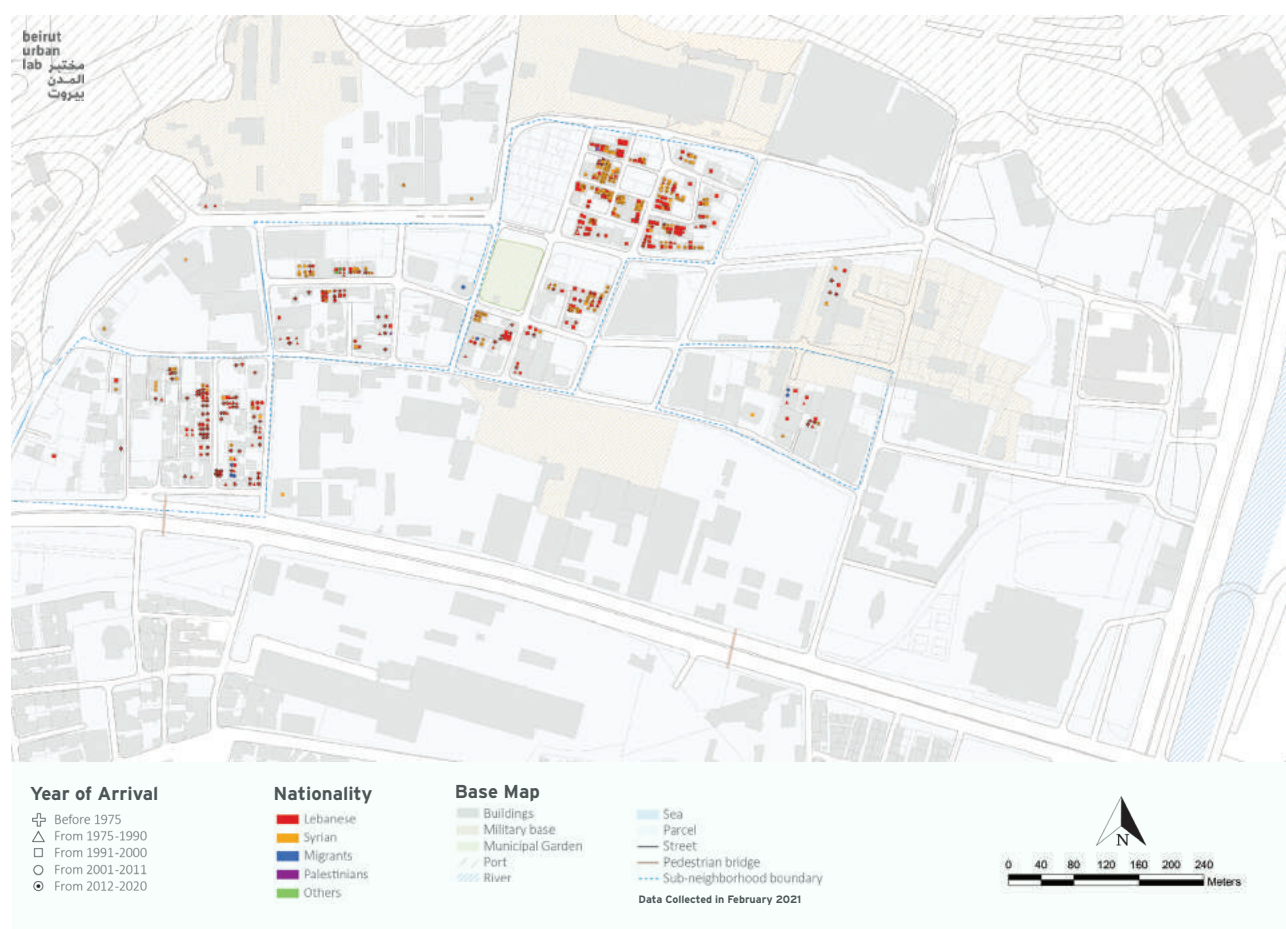
<sup>19</sup> Focus Group Discussion on Housing (2021- April- 29)

It was also noted that kinship has played a role in how evictions have been handled. K.S<sup>20</sup> said that, after the explosion, the rent of his store in Al-Khodor was raised and that he either had to pay the increase or leave. He left and was not compensated. When asked why he did not take legal action against his landlord, he said that it was because she was a member of the Arab tribe and that he did not want to cause any trouble with a member of his own community. Kinship (and a sense of kinship) facilitates smooth transition and prevents legal battles, even when there are legitimate concerns, thereby showing how strong the ties are amongst the tribe.

## B. Nationality

In Karantina there is a diversity of nationalities. Our survey shows that the largest groups are Lebanese (53%), followed closely by Syrians (45%), with a minority of Ethiopians, Sudanese, and Palestinians (Figure 13). What has contributed to this diversity is informality. However, this has itself caused tensions. National groups tend to aggregate in clusters, which in housing terms causes significant overcrowding. Syrians tend to live in Khodor, whereas the Lebanese live in every sub-neighborhood. As for the other nationalities, they mostly are spread across Karantina. The area's national composition has shifted over time, as Karantina was home to Kurds and Armenians, as well as a more substantial Palestinian community. This change can be attributed to the wiping out of the tanak typology from the area during the Civil War. After the war ended, these informal settlements were not rebuilt, and instead, we can observe a shift towards new informal modes of tenure.

The new informal modes of tenure have brought a new population into the area, namely the Syrian refugees. This phenomenon is tied to geopolitical forces, namely the Syrian war of 2011. 183 of the 545 surveyed households moved to Karantina in the past 10 years, equivalent to 33.5% of the surveyed houses. 145 of these households, or around 80%, came from Syria after the war (Figure 42).



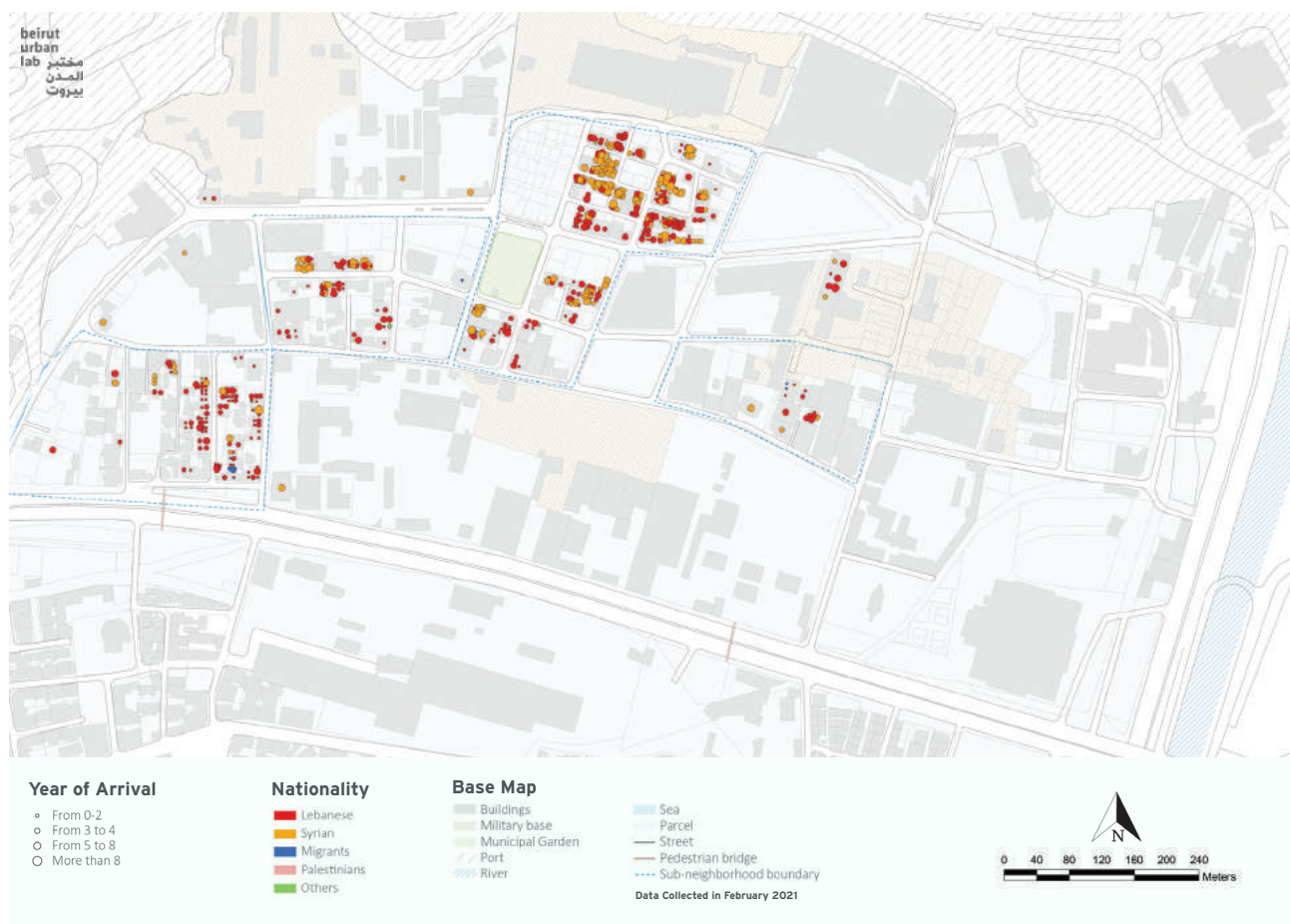
**Figure 42:** Nationalities of residents versus date of moving into Karantina. Source: The Beirut Urban Lab, 2021.

20 K.S., (2020-October), (Mohamad El Chamaa- Interviewer).



Our data shows, therefore, that Karantina has maintained its role as a host to transient communities. Most of the Syrian households have accessed housing informally and without a rental contract. The highest instance of informal new rent was in the Al-Khodor sub-neighborhood, where 234 households did not have a formal rental contract, while only 11 respondents had formal agreements. This was not significant in other sub-neighborhoods such as Al-Saydeh and Al-Senegal, with only 9 and 5 households respectively under informal rental contracts. The informality of this kind is a mode of inclusivity because, as Fawaz (2017) argues, exceptions can be inclusive if they “create opportunities for a minority to enjoy political accommodations and conditions.”

Informality facilitates rent pooling amongst communities with minimal resources. In our data, this pooling was noted more among Syrians than Lebanese. There was a discrepancy, for example, in the proportion of households that had to share a house with one other family, and sometimes several more. In Al-Saydeh, 35.7% of Syrian households reported sharing a house with at least one other family. In Al-Khodor this figure was higher again at 41.8% and higher still in Al-Senegal at 57.1%. This was not the case with Lebanese residents, with only 2.3% sharing their houses in Al-Saydeh, 6.4% in Al-Senegal, and 11.2% in Al-Khodor (Figure 43). Although informal rental agreements leave tenants susceptible to immediate evictions and rent hikes, according to a legal expert who attended the meeting, tenants without contracts can fight off eviction in courts if residency can be proven using an electricity receipt or water bill, or proof of residency from a Mokhtar.



**Figure 43:** Nationalities of residents versus the number of family members per household. Source: The Beirut Urban Lab, 2021.

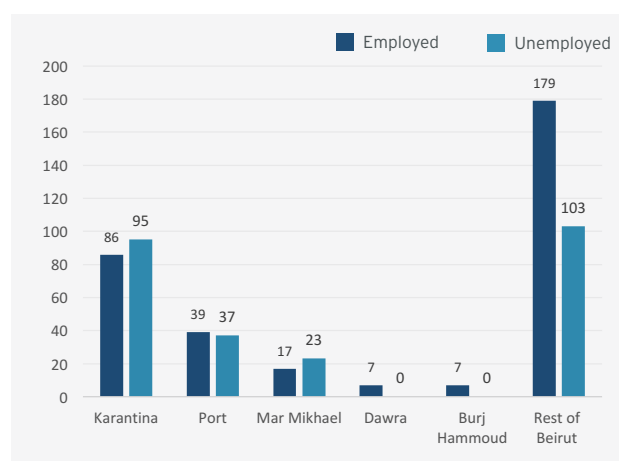
The high percentage of rent pooling amongst Syrians is the result of several factors. First, dividing up rent among several families enables Syrians to afford higher rents compared to single families. Second, landlords take advantage of the Syrians' vulnerability by driving up rent and engaging in preferential practices, in other words preferring to rent out to groups of families instead of single households.

This shows that landlords are exploiting the vulnerable situation of Syrian refugees to extract the most rent out of their properties. Rent pooling is leading to a new modality of housing, which increases diversity because Syrians are nevertheless able to access affordable housing. There are negative consequences, however, most notably overcrowding. According to Lebanon's Central Administration of Statistics, the median liveable space is 30 sq. m (Yacoub and Badre, 2011). In the case of Karantina, of the 113 homes that have more than one family per household, 88% (n=99) offer less than the 30 sq. m benchmark per person, with available space varying from 2.5 to 27 sq. m per person. These households are thus considered overcrowded.<sup>21</sup> This situation is especially true for the Al-Khodor sub-neighborhood, which is the densest of the three and hosts 82 of the 113 households that have one family or more in them.<sup>22</sup>

Rent pooling among Syrians – of the 99 overcrowded households in our sample, 74 are Syrian households – has in some cases created tension with older, Lebanese residents and in others hostility at the housing focus group, for example, a Lebanese resident of Al-Senegal said that “us Muslims and Christians love each other, but then there's the Syrians.”<sup>23</sup> Another Lebanese resident complained that landlords were “bringing in Syrians.”<sup>24</sup> One old rent resident said that her landlord is making life unbearable through water leaks. She said that he was doing this so that he could drive her away and rent out her apartment to a group of Syrians, which he had already done with the apartment above her. One Ethiopian woman, resident in Al-Saydeh, said “I'm afraid the madam is going to kick me out of the house because I am Ethiopian, and she is taking advantage of the fact that I do not have a rental contract even though I asked her multiple times for one.”<sup>25</sup> This was echoed by another who explained that she and her Ethiopian roommates could not get a lease from their landlord in Al-Senegal: “They're really taking advantage of the fact that we are not Lebanese to try to get us to move.”<sup>26</sup>

### C. Diversity of socio-economic profiles

Karantina is mostly home to lower-income residents. This relationship between income and housing reflects the area's wider economic circumstances, notably those types of employment and employment opportunities that are available. Our survey found that of the 300 residents who currently have a job, 28.6% of them work in Karantina itself and 13% at the Port of Beirut, making a total of 41.6%. Additionally, of the 258 workers who are currently unemployed and living in the area, 36.8% of them once worked in Karantina and 14.3% at the Port of Beirut (Figure 44). The area's proximity to the rest of the city, as opposed to the suburbs, thus makes it a strategic location for low-income workers to live in and for the businesses that employ them.



**Figure 44:** Where the residents of Karantina worked (or currently work). Source: The Beirut Urban Lab, 2021.

There is not a great deal of income diversity in the area, however. Around 95% of the surveyed households in Karantina make no more than 2,000,000 Lebanese Pounds per month, with the range being between 120,000 and 5,000,000. The average monthly income in the area is 1,065,385 Lebanese Pounds or 12,784,620 annually. This varies according to the sub-neighborhood. In Al-Khodor, the monthly average income is 899,999 Lebanese Pounds. While in Al-Saydeh, the average is much higher at 1,480,808 a month. And in Al-Senegal where income levels are closest to the Karantina average, the figure is 1,178,750 per calendar month. By comparison, the average monthly income in Mar Mikhael, measured around the same time period, is 3,936,350 or 47,236,200 annually (Pietrostefani et al, 2022). The Karantina figure is approximately 28% that of Mar Mikhael.

<sup>21</sup> With 8 people per home and the average size of the home being 87 sq. m it is apparent that this standard is not being met.

<sup>22</sup> Senegal (9) and Saydeh (8)

<sup>23</sup> Reference as above.

<sup>24</sup> Reference as above.

<sup>25</sup> C.B., (2020- October) (Mohamad El Chamaa-interviewer)

<sup>26</sup> Z.A., (2020- October) (Mohamad El Chamaa- interviewer)

The reason for this lack of income diversity is limited development, which prevents in-migration to Karantina from across a range of socio-economic backgrounds. Therefore, it is important to look at what has prevented new typologies from appearing in the area despite the availability of vacant parcels of land. There are several reasons why these parcels had not been developed prior to 2020. These include, for example, the continued militarization of the area and the restrictive zoning regulations covering Karantina (Zones 3 and 7).<sup>27</sup> The regulations stipulate a required setback of 4.5-10 meters, a minimum lot size of 100 to 120 sq. m, and an exploitation ratio of 60% (Zone 3) to 70% (Zone 7).

After the civil war ended, the army took over areas that the Lebanese Forces once occupied including privately owned parcels of land which they have not returned to their original owners. The army's presence thus acts as a significant barrier. One resident expressed his frustration at the town-hall meeting: "Until now I cannot enter my neighborhoods nor do anything inside because the Lebanese Army is residing in it. I appreciate the army, but this is a Lebanese area, and we should not be avoided from it and prevented from getting our properties back. We are displaced inside our country, and this issue is being dismissed under the fact that these are small properties."<sup>28</sup> Another added that "The army is appropriating the undeveloped lands 'أرض بور' owned by people. This is our army, and we know it is a security issue so we cannot say anything."<sup>29</sup>

Bureaucratic red tape is another hurdle, in addition to zoning regulations, as it is costly and time-consuming. According to Mneimneh (2019), access to development is primarily facilitated through nepotism, especially in the Municipality of Beirut. One concerned resident echoed this at the community meeting, saying: "You are talking about the development of the area, but how could it develop if we are not able to build on my own and my parents' property. A building permit here costs 3-4 times the price of an apartment outside the area. This is unacceptable."<sup>30</sup> Another resident agreed, stating that "people who own a one-two-story building cannot build extra floors for their sons or themselves. This is our property that we inherited from our parents, yet we cannot make use of them; we are not talking here about common land." He classified these properties as being of two types: "unused lands and built-up properties composed of two-three floors." Further stating that "we are not able to get a building license because it becomes too costly; the terms constitute building a 25 square-meters garage among a list of other demands. This means an apartment would cost 200-300 million Lebanese Pounds which no one can afford!"<sup>31</sup>

Additionally, there are concerns around transportation due to its enclaving, this is discussed further in Transversal Issue II. Here it is important to note that working-age residents emphasized that their commute was difficult, especially with gaps in transit coverage and provision. "We are suffering to reach out for our work," stated one resident, "we must walk all the way out to get transportation. There was a bus stop in the area before, and it should be reclaimed."<sup>32</sup> This further affects the relative affordability of Karantina and its attractiveness to a more diverse socio-economic profile.

## D. Physical Accessibility

It was also observed that there is a lack of inclusion when it comes to disabilities and the elderly (Figure 45). According to our data, 43 households reported at least one member living with a disability, while 181 respondents (or 9% of the total) were above the age of 64. In terms of physical accessibility, there are only seven buildings in Karantina with elevators, making the area less inclusive to wheelchair users and to the elderly. There was also a notable absence of wheelchair ramps in the entire area. Future development of Karantina therefore needs to incorporate inclusive design practice because, as Peace and Holland (2001) suggest, it is much easier and cheaper to "make new buildings barrier-free and to design in flexibility at the outset" (p. 240) rather than retrofitting.

<sup>27</sup> According to the answers to the questionnaires, 7 out of the 8 landowners in Al-Khodor were unable to build. Reasons preventing access include militarization (9), multiple heirs (6), restrictive building code (1), the former two combined (4), all three together (1), willing to rent land (1), and willing to sell (1).

<sup>28</sup> First Town Hall Meeting, (2021- April- 11).

<sup>29</sup> Reference as above.

<sup>30</sup> Reference as above.

<sup>31</sup> Reference as above.

<sup>32</sup> First Town Hall Meeting, (2021-April- 11).



Additionally, the overcrowded and dense character of housing in Karantina, as discussed earlier, adds specific limitations with regard to physical accessibility. Wheelchair users require more space to move around, for example, and the elderly also have adaptive requirements to improve the safety and comfort of their housing. Finally, the near-home environment is another factor affecting inclusivity, particularly for the elderly and the disabled. As Peace and Holland (2001: 243) further note, this can “affect their ability to get out [of their homes] as well as to stay in.” It was noted earlier, for example, that Karantina has limited services (e.g., public transport, education, healthcare, and public spaces), but in terms of physical accessibility, there are other identifiable needs to consider such as street crossings and the surface of the ground underfoot.



**Figure 45:** Elderly people in Karantina sitting on the sidewalk in front of their houses. Source: Batoul Yassine, 2021.

## 6. SYNTHESIS AND RECOMMENDATIONS

### FINDINGS

- 01** In terms of assessing whether Karantina is affordable or becoming less affordable to its current residents, the research team found that most of the tenants are paying more than the benchmark ratio of 30% of their income in rent. In Al-Saydeh, 56% of surveyed households paid more than 30% of their income in rent, in Al-Senegal 80%, and in Al-Khodor 92%.

This suggests that Karantina is becoming less affordable despite the average monthly rent being around 540,000 Lebanese Pounds. This is significant because 72.84 % of the residents are tenants, compared with 22.38 % being owner-occupiers. The data showed that there was some increase in rent and evictions in homes that were repaired after the port blast as well as threats thereof. But overall, this was not a significant trend in Karantina as rent hikes were only evident in 7.8% of the houses and while evictions in 4.5% of the houses. The reason for this is due to repairs being made, the nationality of the tenants, and informality. It is easier to evict or raise the rent because there is no lease that clearly defines the parameters of the agreement and is enforceable by law. Affordability is further affected by the vacancy rate which is at 8% and is being exacerbated by changes in land-uses. Landlords targeting businesses for their residential units create stiff competition with the residents.

- 02** In the aftermath of the port blast, only 11 households out of the 545 interviewed said they wanted to leave Karantina. Their reasons differ from household to household ranging from the economic situation, lack of safety, people's attitudes, bad treatment from the landlords, they feel threatened by their neighbors, or to find cheaper rent. However, the remaining 534 households did express a desire that they wanted to stay in Karantina. This shows that Karantina is still a place where people want to live and do not want to abandon easily. Karantina is within the city proper; it is low density and has reasonably cheap rents compared to the rest of Beirut.

- 03** When it comes to the amenities in Karantina, the limited access to the park and the lack of schools and proper healthcare facilities add to the level of unaffordability because residents incur costs to access these services. Households with school-aged children incur transport costs for the lack of schools in Karantina. This has forced children to commute outside to 22 different locations to get an education.

Therefore, despite living in Beirut, the residents of Karantina are not afforded the benefits of living in the city because they cannot access urban infrastructure owing to the lack of connectivity and the under-resourced facilities they have. This section of the report shows that Karantina was unique in that it offers housing to many of Beirut's key workers, and this provides a service to the city for its survival and functioning. This is nothing new as historically Karantina has always been outside the logic of the housing market and has provided refuge to the down-trodden (Arab Tribes, Armenians, Kurds, Shia and Syrians) who in return have given back to the city and contributed to its growth through the work they provide.

- 04** Affordability for the current residents of Karantina is threatened because of pre-existing conditions and has been exacerbated by the explosion and the financial crisis. However, Karantina remains much cheaper than the surrounding areas of Beirut and this presents an opportunity for creating new housing, new inhabitants, new economic possibilities, and new forms of diversity and inclusion. If better services are implemented throughout Karantina, then more people would flock to it and increase the housing stock.

For example, Karantina remains a low-density area compared to the rest of Beirut; therefore, air rights can be sold to build a stock of new, affordable housing on top of existing typologies and reap the consequent benefits of the 'density bonus'. Selling air rights in exchange for letting old rent tenants stay in their homes can create ways for landlords to make money from property that currently does not produce income because of rent controls. This would necessitate a change in the Building Law.

- 05** In Al-Khodor, most of the 80% Muslim Lebanese tenants from the Arab tribe do not have to share a home with another family, unlike the Syrians. Accordingly, although Al-Khodor is predominantly Muslim, there are clear discrepancies between the Lebanese and Syrians in accessing housing based on nationality and kinship. Because they share homes with several other families, Syrian refugees can afford higher rents which is often to the disadvantage of single families. This is causing tension in Karantina as landlords are driving away single-family tenants in favor of renting out to multiple families per house. This was brought up at the housing focus group where one resident with an old rent expressed frustration with being pressured to leave her home by the landlord.

## RECOMMENDATIONS

This section of the report proposes the following recommendations for affordable housing and inclusivity based on the evidence in the data discussed above. The recommendations are divided between local and national scales.

### LOCAL

Firstly, the study proposes amending the zoning regulation to allow construction work to take place on smaller lots and provide a density bonus to landlords and developers if they allocate 40% of their built-up area to affordable residential units. This approach is frequently used in the United States and is necessary in Karantina where the zoning regulation remains restrictive unlike in other parts of Beirut. Secondly, the study proposes a build-operate-transfer (BOT) mechanism in abandoned buildings in Karantina. In the BOT, an NGO or a charitable organization can renovate these abandoned buildings to accommodate vulnerable population groups. In return, the owner of the building can grant the NGO or charitable organization a 20-year lease. Thirdly, the lack of social infrastructure – including leisurely and educational services – can be countered with the opening of Game Lebanon and a Non-governmental Organization (NGO) from Bourj Hamoud. These actions will also allow residents to reclaim accessibility to municipal land and utilise its potential. Fourthly, reopening local schools so children do not have to commute outside of their neighborhoods. Local schools can also provide community space for non-school-based learning.

### NATIONAL

Firstly, there is a need to negotiate a transitional phase between old tenants and landlords as the 2026 deadline approaches. Old tenants have the priority and option to buy their apartments. Accordingly, the study proposes that a third-party purchases the apartment on behalf of the tenants at a reduced price. Secondly, it is important to introduce laws to remove dilapidated buildings and protect informal rental agreements with a layer of transparency. Thirdly, the study recommends the introduction of rail transport to reduce the frequency of trucks passing through Karantina. By connecting the Port to the Dora train station. In this case, trucks can directly pick up freight from the Port that will be connected to the Dora rail station. This will reduce road traffic which will improve the air quality and general pedestrian safety in Karantina and provide opportunities to enhance the local social infrastructure.



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Transversal issue II

# Spatial, Economic & Social Connectivity in Karantina



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# 1. INTRODUCTION

This report presents the strategic diagnosis of the qualities of spatial, economic, and social connectivity in Karantina. These qualities constitute one of the five transversal issues that were generated at the end of the descriptive memory report. The descriptive memory report provided a general understanding of the state of connectivity of Karantina to the rest of Beirut. This report aims to present a more focused understanding of the various levels and scales of connectivity through the in-depth profiling of spatial, economic, and social networks.

## Position

Cities are often described in terms of complex networks that “exist to provide access to people, goods, services, and information: the better and more efficient this access, the greater the social and economic benefits of urban living” (The Guardian, 2016). This quote suggests that the level of connectivity is based on physical proximity between the places where people live and work or on the availability of reliable infrastructure and transport networks between neighborhoods to overcome spatial separation. In the process, the city becomes resilient to adapt, restructure itself, and evolve through opportunities for connection and interaction.

However, in the context of this report, the qualities of connectivity and accessibility in Karantina are not only explored in terms of the spatial qualities or infrastructural services, but also in terms of the availability of connected economic and social networks. As a result, connectivity is enhanced through a multiplicity of networks and is defined as a process that shapes urban form in all its dimensions. It affects other spatial elements of Karantina such as sustainability, livability, and accessibility.

## Hypothesis

Karantina is confined by clear road infrastructure and natural boundaries (the Beirut River and the Mediterranean Sea). It is characterized by specific types of businesses (the Port of Beirut, the waste management facilities, and the slaughterhouse), and the diverse communities that it hosts. Those factors played a role in fragmenting Karantina internally and isolating it from its surroundings. This isolation safeguarded Karantina from the negative impacts of ongoing gentrification in Beirut that could have led to the displacement of residents.



## 2. METHODOLOGY AND DATA COLLECTION

This section of the report examines connectivity as a multilayered concept and considers three key dimensions: the spatial, the economic, and the social dimensions. Accordingly, the data collection for the report required both qualitative and quantitative methods and objective and subjective measures for the study of connectivity. In addition to analyzing the findings from the data that the citizen scientists collected, and analyzing the physical characteristics of the urban fabric, this section of the report looked at the historical urban transformations that led to the various spatial, economic, and social fragmentations. It did so through typo-morphological analysis that is inspired by Kevin Lynch's notion of edges and nodes. The edges that were examined in the research were either physical or perceived by the residents and the users of Karantina.

### SOURCES OF DATA COLLECTION PRIMARY DATA

The analysis of the quality of the urban environment is based on the analysis of the primary data from the household questionnaires, the one-to-one interviews, the town hall meetings, the thematic focus group discussions, and mapping that was carried out between January and April 2021.

#### 1. Thematic Focus Group discussions:

The research team at The Beirut Urban Lab organised two town-hall meetings on 11 April and 30 June and a thematic-focused group discussion on connectivity on 27 April (Figure 1). The meetings discussed some of the critical issues that emerged from the descriptive memory report, such as the perception of Karantina in isolation from the rest of Beirut. They also examined how the border conditions of Karantina contributed to its spatial and social isolation, how the local economic activities and practices further stigmatized Karantina from its surroundings, and the social divisions between the three sub-neighborhoods.

#### 2. Field mapping and field observations:

The citizen scientists collected the relevant data at site visits using field observations, photographs, walk-through assessments, and informal conversations. In addition to the spatial mapping, socio-spatial practices were mapped to explore patterns of connections or disconnections between the three sub-neighborhoods and their users and networks. Subsequently, the citizen scientists discussed the collected data with the research team to validate the findings. The mapping was cross-referenced with the findings from the household and business questionnaires.



**Figure 1.** The thematic group discussion on 27 May that focused on spatial, economic, and social connectivity in Karantina. Source: Abir Cheaitli, 2021.



## SECONDARY DATA

**The analysis of the primary data also relied on secondary sources such as:**

- (1) maps that show the historical development of the street networks and the urbanization of Karantina;
- (2) online databases and literature reviews of relevant scholarly articles, dissertations, and books; and
- (3) the Urban Snapshot Report (descriptive memory) of Karantina that The Beirut Urban Lab produced after the port blast.

## METHODS OF ANALYSIS

This section of the report relied on statistical analysis to inform the research on transport systems and commuting habits, employment rates, access to services and facilities, and the needs of the different community groups in Karantina. The research for the report further used comparative analysis to explore social connectivity, people's sense of belonging, and feeling of safety in the three sub-neighborhoods in Karantina. Spatial analysis was also crucial to understanding spatial connectivity and accessibility in the three sub-neighborhoods.

The research team also conducted a content analysis of narratives from the residents and business owners and employees on how they perceive their sub-neighborhood in Karantina and define its boundaries. The data was located and spatialized using the mapping software ArcGIS and the drafting tool AutoCAD. Excel was also used to tabulate statistical data and generate relevant graphs.

# 3. PRELIMINARY FINDINGS FROM THE DESCRIPTIVE MEMORY REPORT



### Edges

Karantina is bounded by hard and impermeable edges. These include natural edges (the Beirut River) and physical infrastructure (the Port of Beirut and the Charles Helou Highway). The latter separates Karantina from the rest of Beirut.



### External division

The construction of the Charles Helou Highway in 1958 disconnected Karantina from the surrounding neighborhoods. The highway not only caused a physical division but also a socio-cultural rupture; for example, the residents of the Al-Saydeh sub-neighborhood still perceive themselves as part of the Mar Mikhael neighborhood.



### Internal division

Karantina is composed of three residential sub-neighborhoods: Al-Khodor, Al-Saydeh, and Al-Senegal. The spatial and social composition of the three sub-neighborhoods is characterized by religious and political fragmentation due to a number of historical events in Lebanon like the waves of incoming refugees and the civil war from 1975 to 1990. This was evident in the narratives of the residents who described living with socio-cultural boundaries that are not necessarily physical.



## Undesirable practices

Land-use practices such as the old slaughterhouse and the waste management facility stigmatized Karantina. These economic activities made Karantina largely undesirable for residential developments but attractive to small and medium-sized industries. The combination of services and industries created an economic connection between Karantina and Greater Beirut but did not contribute to enhancing the financial conditions of the residents of Karantina.



## Business network

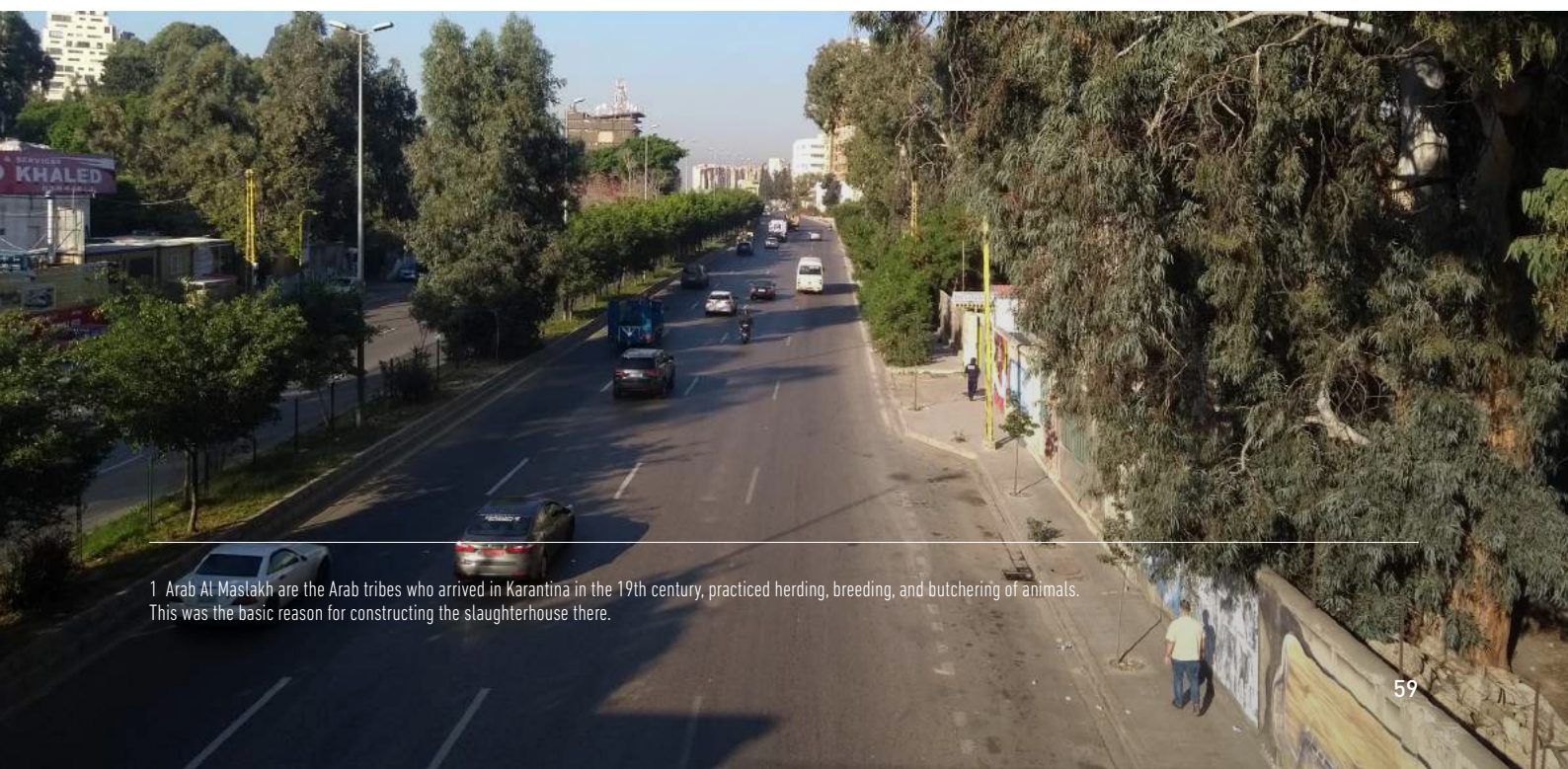
There is a strong connection between some of the economic activities and socio-cultural practices of the communities in Karantina; for example, the one between Arab Al Maslakh<sup>1</sup> and the slaughterhouse. Another strong connection is noticed between freight companies and the port. These important connections were under threat since the closure of the slaughterhouse and because of the uncertain future of the port after the blast.

# 4. PROBLEM DEFINITION

Karantina is located within the boundaries of municipal Beirut at its western edge and has an area of approximately 645,126 square meters. The historical development of Karantina from a quarantine site to a collection of sub-neighborhoods is closely intertwined with the evolution of the port.

Karantina is currently considered one of the least expensive areas in Beirut and is relatively affordable and attractive to multi-scale businesses. This is due to multiple reasons from the urban planning regulations to infrastructural ruptures (the Charles Helou Highway and the port), historical tragedies ranging from destructive fires (1933 and in the 1960s), the civil war (1976-1990), and recently the port blast (2020), unregulated economic activities and public services (the waste management facility and the slaughterhouse), and its degraded and polluted urban environment.

As a result, rupture of religious and political divisions, severe disconnection from the rest of Beirut, and internal fragmentation within Karantina are central problems. Its isolation, stigmatization, and inaccessibility are the result of interconnected processes of spatial, economic, and social disconnection. Karantina also does not have any sustainable development projects.



<sup>1</sup> Arab Al Maslakh are the Arab tribes who arrived in Karantina in the 19th century, practiced herding, breeding, and butchering of animals. This was the basic reason for constructing the slaughterhouse there.

## 5. DIAGNOSIS TRACKS

### 5.1. Spatial Connectivity

In general, spatial connectivity is studied at multiple scales. It is evident in the operation of street networks, the nature of the edges, and mobility; they determine the degree of accessibility in a particular area and its connection with its surroundings. The street web is “determined by the functions the network serves for as well as the physical geographical context. In most cases, the road network has a fixed form because of the nature of the area that it serves; the density and pattern of a network of street blocks are usually determined by location and history” (Han et al., 2020, p.1). As is mentioned in the descriptive memory report, Karantina was a quarantine site due to its strategic location across the Mediterranean Sea and its proximity to the port. The Medawar/Karantina road network was also developed to connect the quarantine site to its surroundings. There were no urban plans in place to connect Karantina to the rest of Beirut despite the settlement of different communities from the 1850s because of its strategic location, affordability of housing, and availability of economic opportunities. Karantina which was stigmatized for a long period because of the quarantine site, the influx of refugees, and the industrial land uses, was further disconnected from the rest of Beirut with the implementation of the Charles Helou Highway in 1958. Karantina remains marginalized due to challenging spatial conditions such as infrastructural breaks, block-typologies, the ongoing militarization of land, and the absence of a public transport system.

It is worth mentioning that the communities in Karantina frequently mentioned to the citizen scientists their need for greater spatial connectivity. This need was also discussed during a town hall meeting on 30 June 2021. Many of the attendees insisted that the research team needs to include principles for spatial connectivity in the vision for urban recovery.

#### A. Infrastructure

“ We live in an area that is isolated from Beirut<sup>2</sup>  
نحن عايشين بمنطقة معزولة عن بيروت

The Charles Helou Highway connected the north of Lebanon with Beirut through Medawar. As a result, it isolated Karantina from Mar Mikhael and created a harsh edge along its southern periphery. Also, the Beirut River to the east and the Port of Beirut to the north and west are infrastructural edges that define Karantina's boundaries, and confine it.

#### HISTORICAL OVERVIEW

##### THE URBAN EVOLUTION OF THE STREET NETWORKS OF MEDAWAR/KARANTINA

Before the 1950s, the street network was mostly designed to ease access to the city center and the Port of Beirut. Beirut and its port were important economic hubs that required adequate public transport systems such as a train railway and a tramway. The railway and the tramway passed through the Medawar district. With the increased urbanization of Beirut, cars became a priority, and the train and railway were replaced with urban highways as in the Ecochard transport plan for Greater Beirut in the 1940s. As a result, the connections between Karantina and the rest of Beirut were compromised.

A number of notable urban planners from Europe, like Ernst Egli (1951), Constantinos Doxiadis (1958), Father Lebreton and the IRFED's Team (1959-64), Michel Ecochard (1961-64), the Atelier Parisien d'Urbanisme (1977), and the Institut d'Aménagement et d'Urbanisme de la Région Ile de France (1983-86 and 1991-onwards), proposed various plans for Beirut. Ecochard proposed a transport plan for urban highways in Greater Beirut. (Verdeil, 2005)

<sup>2</sup> A resident from Al-Khodor sub-neighborhood during the thematic group discussion on connectivity.



The highway grid included the Charles Malek Highway, the Alfred Naccache Highway, the Independence Highway, the Bechara El-Khoury Highway, the Ring Road, and the Charles Helou Highway among others. The Lebanese government gradually implemented the highways between the 1950s and early 1970s (Figure 2).

Most of these highways “did cut through entire pre-existing neighborhoods, causing immense damage to the historic city fabric, and contributed to the fragmentation of the city by separating areas from each other and cutting neighborhoods in pieces” (stopthehighway.WordPress, 2016) (Figure 3).



Figure 2: The Michel Ecochard masterplan for Beirut with the proposed highway network. Source: C.E.G.P.V.B, Eric Verdeil, 2010.

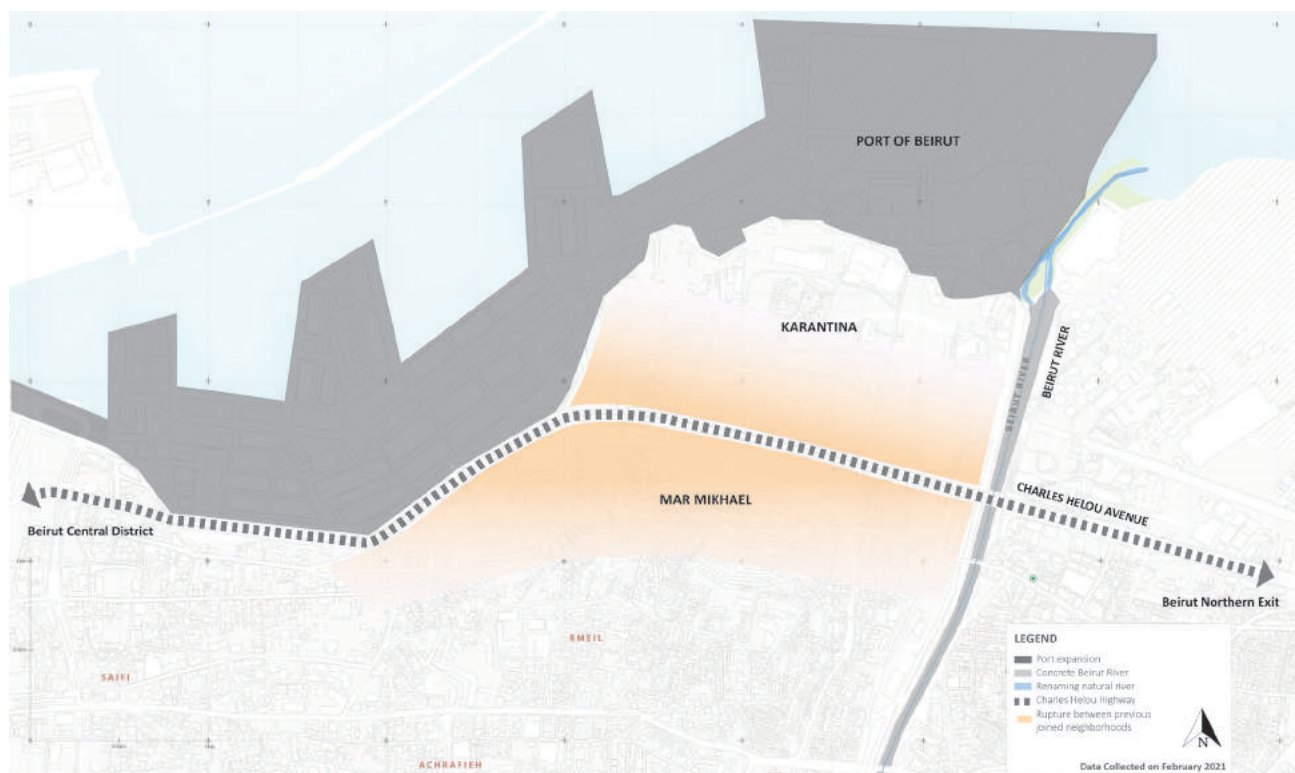


Figure 3: The urban stretch of the Charles Helou Highway caused rupture of the neighborhoods in Medawar. Source: The Beirut Urban Lab, 2021.



Before the construction of the highway in 1958, the district of Medawar was one entity that was bordered by Tripoli Street to the south, known today as Gouraud and Armenia Streets. Armenia Street was the main route that connects the northern areas of Lebanon to the Port of Beirut and the city center (Figure 4). It also provided access to the quarantine through Al-Khodor and Ibrahim Pasha Street which dates to the 1840s (Figure 4). During the French mandate from 1923 to 1943, Beirut and its port became important commercial hubs along the Mediterranean Sea. The strategic location of the port and its importance as a primary center for government activities also attracted people from various locations in Lebanon to move to Beirut. As a result, Beirut witnessed economic and demographic growth and an increase in vehicular mobility and car dependency. This increase required the implementation of the modern urban highways in Ecochard's transport plan for Greater Beirut; as a result, the implementation of the Charles Helou Highway prioritized vehicular circulation in Medawar over pedestrian movement.

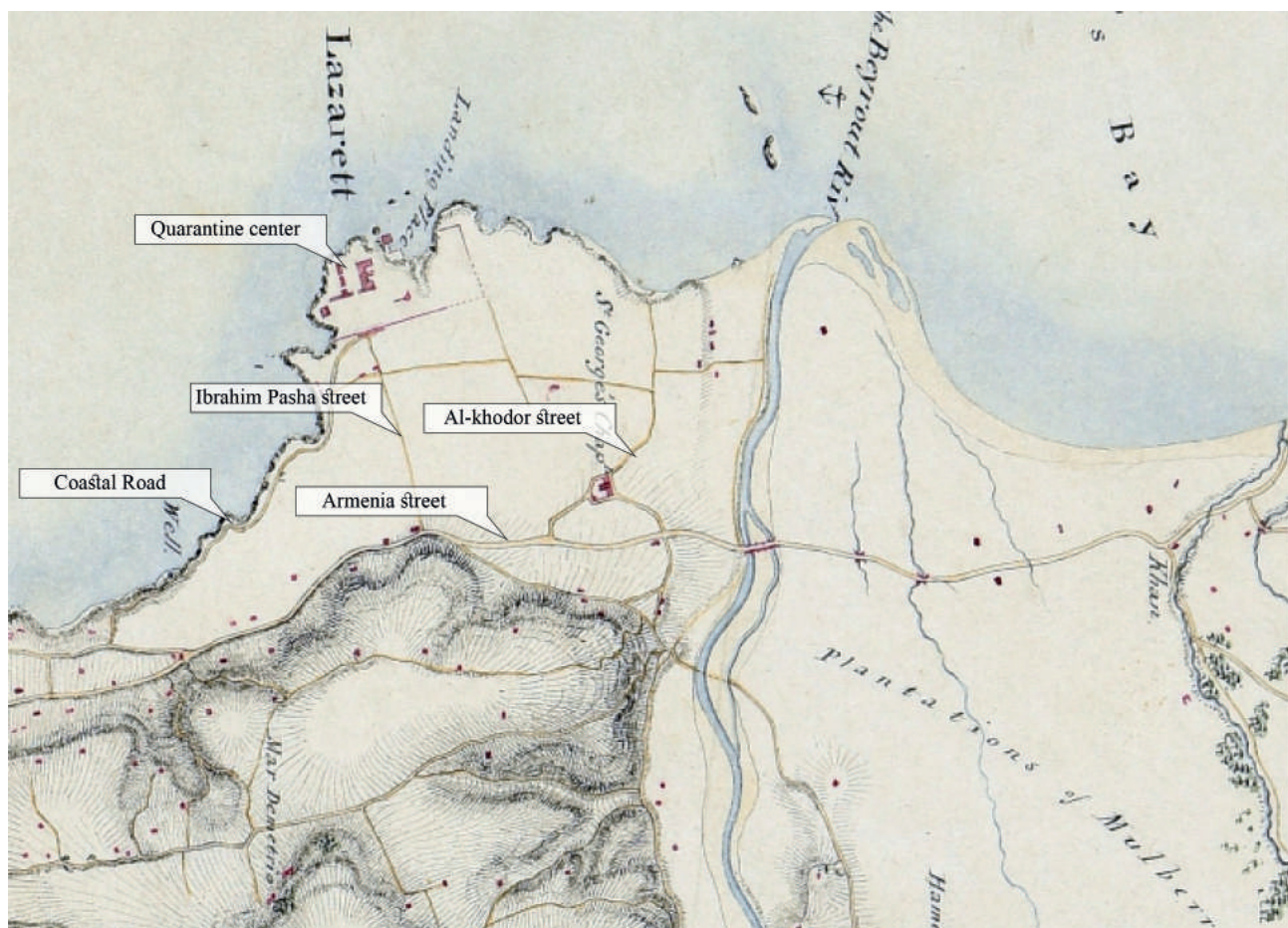
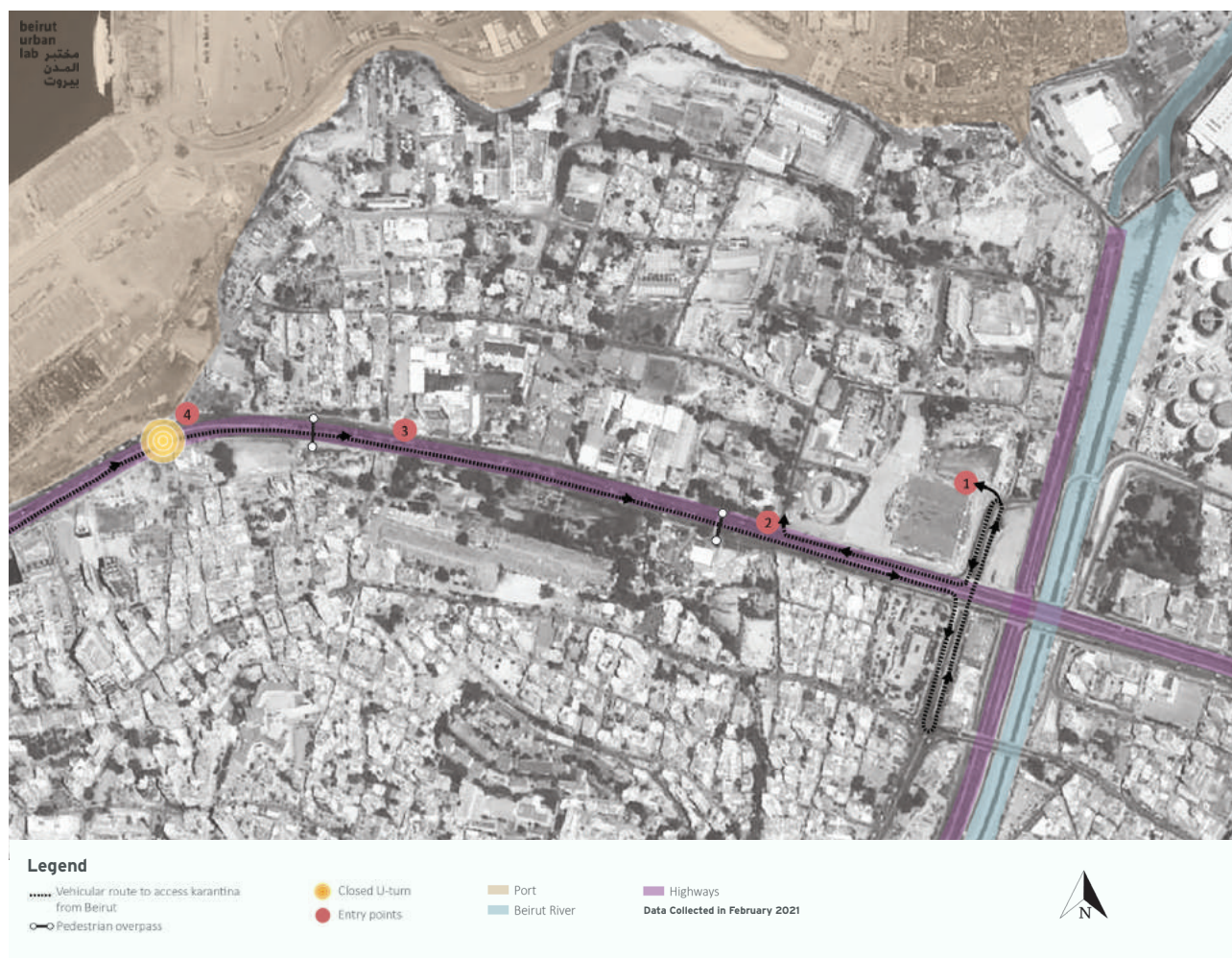


Figure 4: The early development of the street network around Medawar in 1841. Source: Scott, 1841 (Edited).

## CURRENT CONDITION

The Medawar district and its neighborhoods are examples of how masterplans, several urban planning tools, and regulations can negatively impact the development of an area. In the interviews, the residents of Karantina expressed their frustration with the Charles Helou Highway. The highway operates as an infrastructural obstacle for people living in Karantina. During the town hall meetings on 11 April and 30 June 2021, many of the residents mentioned how the highway intensified the spatial segregation of Karantina. They mentioned how many people were killed or injured trying to cross the highway. They were used to walking to Mar Mikhael either to visit the Saint Therese Church, for leisure activities, or shopping, but this was no longer possible after the highway was built. After 30 years of isolation and hundreds of death incidents, two pedestrian bridges were built between Karantina and Mar Mikhael (Figure 5).





**Figure 5:** Mapping of the accessibility and connectivity conditions of the Charles Helou Highway in relation to Karantina. Source: The Beirut Urban Lab, 2021 (base map: google maps).

During a thematic group discussion on connectivity on 27 May 2021, the residents of Karantina mentioned that although the pedestrian overpasses provided a connection to the other side over the highway, they were not safe (Figures 6 and 7). A woman expressed her fear of walking on the overpasses and stated, “I feel scared to use the overpasses at night because it is not well lit. I heard that many people were robbed while walking on the overpasses”. She continued: “during the day, the overpasses are occupied by beggars and during the night by burglars”. The Urban Lab Team saw beggars sitting on the overpasses during the day when they were conducting the fieldwork. The overpasses are not accessible to people who need them the most, they are unmaintained and unclean, and are not shaded (Figure 8).



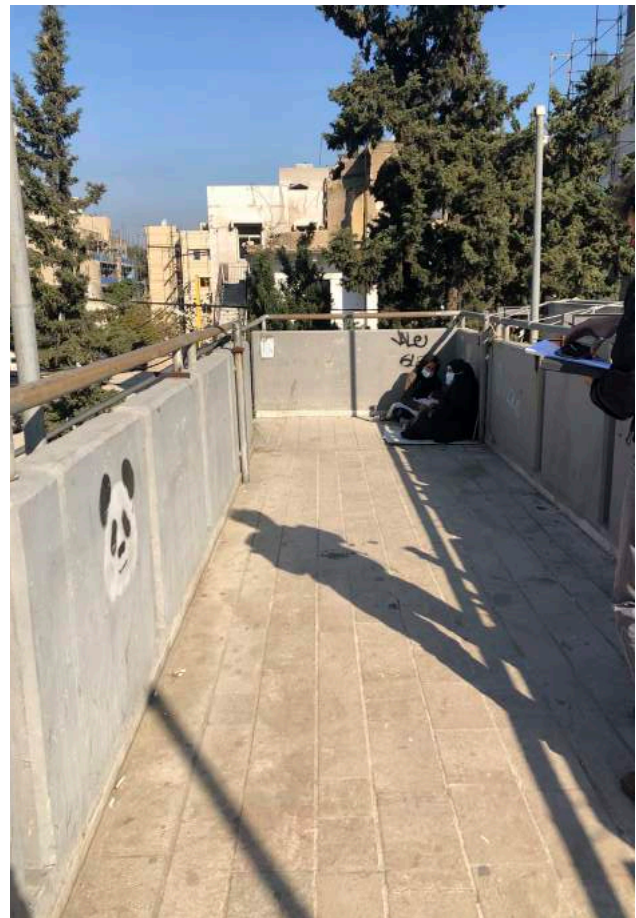
**Figure 6.** A pedestrian overpass that links Karantina to Mar Mikhael. Source: Ali Ghaddar, 2021.





**Figure 7.** The physical quality of the pedestrian overpass from Karantina to Mar Mikhael: the structure of the overpass does not include a shaded roof and the handrail is damaged. Source: Ali Ghaddar, 2021.

Accessibility was further compromised after the removal of a U-turn at the entrance of Karantina from the highway (Figure 5). A resident mentioned during the thematic focus group discussion that “before, we used to access the area from the highway through a U-turn. After they closed it a few years ago, we were obliged to go to Dawra to make a U-turn and enter the area. So, now the nearest entrance to the area is 4 to 5 kilometers away”. The U-turn was closed because of a number of reported accidents. However, the residents felt that Karantina was further isolated from its surroundings after they felt the U-turn was closed and they no longer had direct access to their houses.



**Figure 8.** Street Beggars appropriating the pedestrian overpass in front of Karantina. Source: Abir Cheaitli, 2021.

Thus, the highway broke the continuous spatial connection that Karantina had with the rest of Beirut, enforcing its existing marginalization, rupture, and isolation due to the militarization of some of its lots, heavy industrial land-use, the lack of adequate urban planning regulations, and high levels of pollution. However, disintegration and isolation were also due to the lack of a public transportation system that can connect the inner areas of Karantina to the rest of Beirut.

## B. Public Transportation

“ We need public transportation that reaches the area inside<sup>3</sup>  
 نحن بحاجة لوسائل نقل عام يللي بتوصل لجوّات المنطقة

During the thematic group discussion on connectivity, and the two Town Hall meetings on 11 April and 30 June 2021, many of the residents mentioned that Karantina is not connected to any transport system. Public transport can contribute to creating more livable cities in a variety of ways (Bai, 2015). The residents said that the available transportation services in Beirut like taxis and informal bus routes do not pass through Karantina and that they must walk to the Charles Helou Highway to use these services.

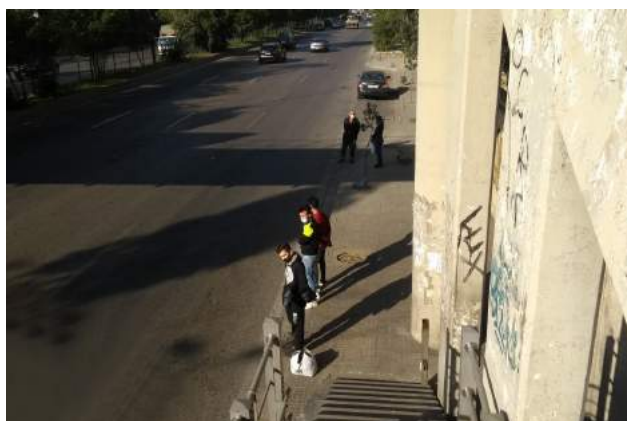
<sup>3</sup> A resident of Karantina during the second town hall meeting on 30 June 2021.

<sup>4</sup> A quote from a resident of Al-Khodor sub-neighborhood during the thematic group discussion on connectivity on 27 April 2021.

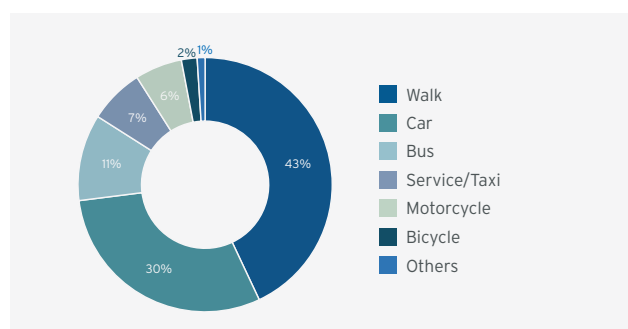
“ We are suffering to reach our work. We must walk all the way out to get transportation. There was a bus stop in the area before, and it should be reinstated<sup>4</sup>  
 نحننا منعاني للوصول إلى أشغالنا، لازم نمشي  
 للأوتوستراد كرمال ناخذ الباص. كان في  
 محطة للباصات بالمنطقة من قبل، ولازم ترجع

As some residents mentioned during the thematic group discussion, there used to be a bus stop inside Karantina. This bus stop used to be part of an old transportation system that connected several areas in Beirut. However, the transport system was gradually discontinued after the civil war. It was replaced by an informal transportation system that runs across several areas in and around municipal Beirut. As a result, Karantina was further marginalized since the taxis and informal buses do not access Karantina but rather operate along its edges (Figure 9).

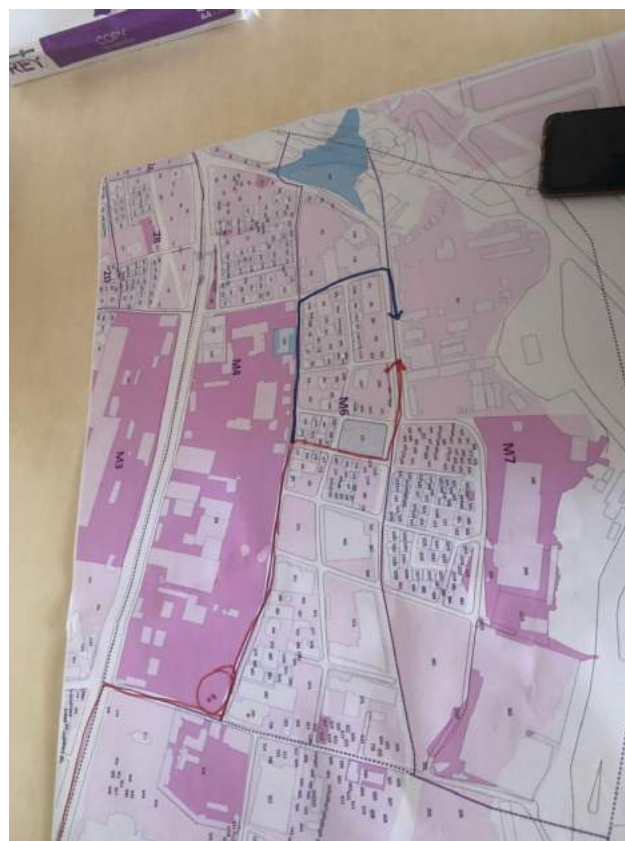
Figure 10 shows the old bus route and the structure of the bus stop in Karantina, also sketched by a resident during the thematic group discussion. Furthermore, the findings from the household questionnaire showed that out of the 401 people who currently work outside of Karantina, 11% only use the informal bus service while 30 % rely on private cars and taxis (Figure 11). This is partially due to their choice or inability to walk to the highway; some of the residents also mentioned that they do not find the informal buses reliable.



**Figure 9.** Residents of Karantina waiting for the bus along the Charles Helou Highway. Source: Ali Ghaddar, 2021.



**Figure 11:** The various transportation modes that residents use to commute to work. Source: The Beirut Urban Lab, 2021.



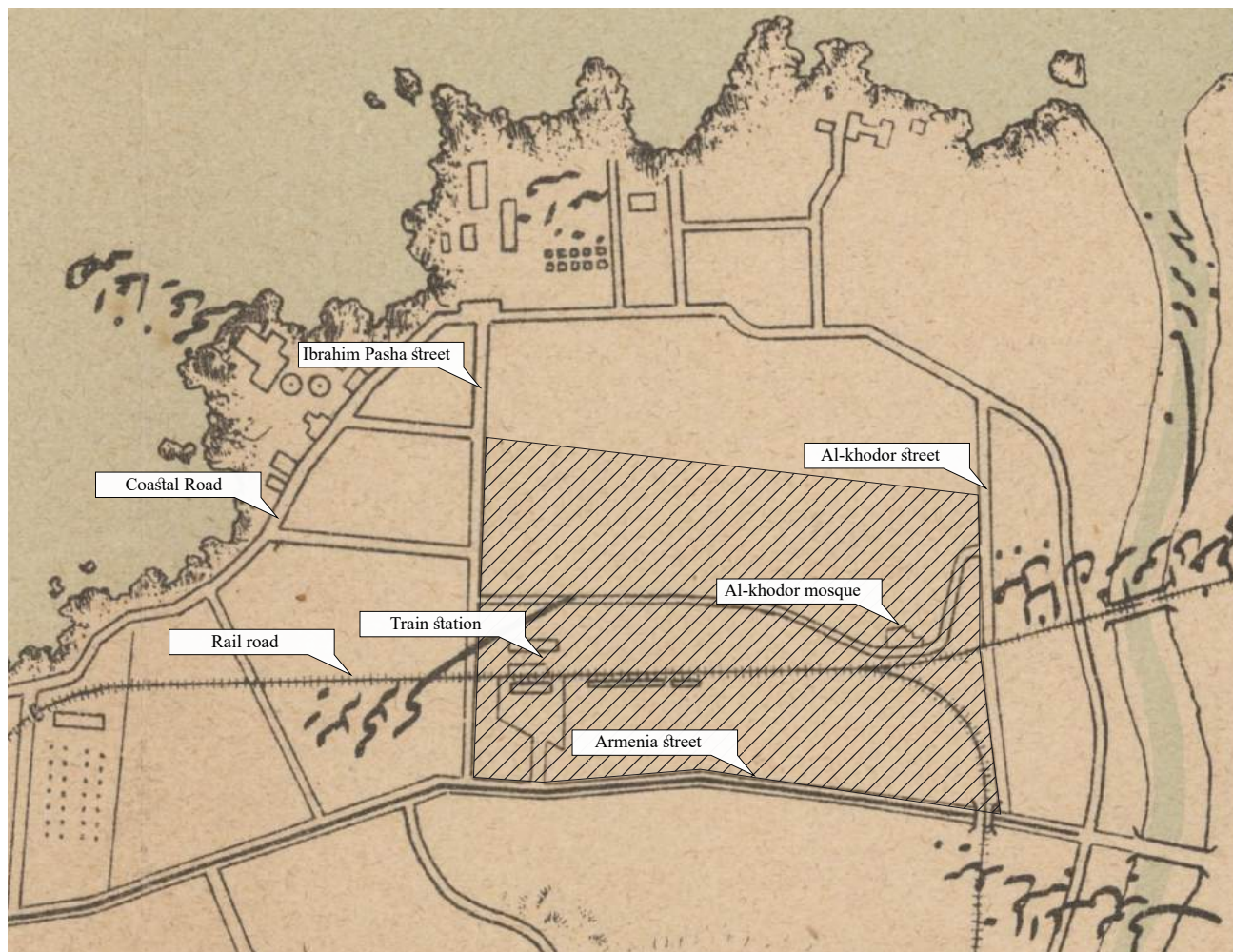
**Figure 10.** The discontinued bus route and the old bus stop that the residents drew at the thematic focus group discussion on connectivity. Source: Abir Cheaitli, 2021.



## C. Entry Points

Spatial disconnection is also present at the entry points to Karantina in the existing street layout and block typologies. Karantina has four entry points and, according to the field observations and interviews, each entry point is used by a different group of people.

The entry points emerged with historical events that date back to the 19th century. As was mentioned earlier in the report, the quarantine site in Karantina required connections with the rest of Beirut. Accordingly, Figure 12 shows that accessibility to Karantina was shaped by the early street network of coastal roads and the current Ibrahim Pasha Street that connected the quarantine site to the Port of Beirut. As a result, the coastal roads and Ibrahim Pasha Street provided two entry points to Karantina from the west. While, from the eastern side, Al-Khodor Street was implemented to connect Al-Khodor Mosque to Armenia Street (Figure 12).



**Figure 12:** The early development of the street networks around Medawar in 1911. Source: Cressot, 1911 (Edited).

The entry points were used according to the typology of urban development in Karantina into residential sub-neighborhoods, the presence of military bases, industrial zones, and municipal facilities (Figure 13). Four main entry points to Karantina are illustrated in Figure 5. For example, entrance number three is mainly used by the residents of Al-Saydeh sub-neighborhood while entrance number two is used by the residents of Al-Khodor sub-neighborhood along with the military vehicles. Entrance number two leads directly to the military base that is located at the northeastern edge of Karantina. Entrance number one is close to the industrial zone and is mainly used by truck drivers. Similarly, entrance number four, which is the main entrance to the port, is congested with trucks and military vehicles.





**Figure 13.** Several entry points to Karantina. Source: Abir Cheaitli, 2021.

## D. Block Typology and Edge Condition

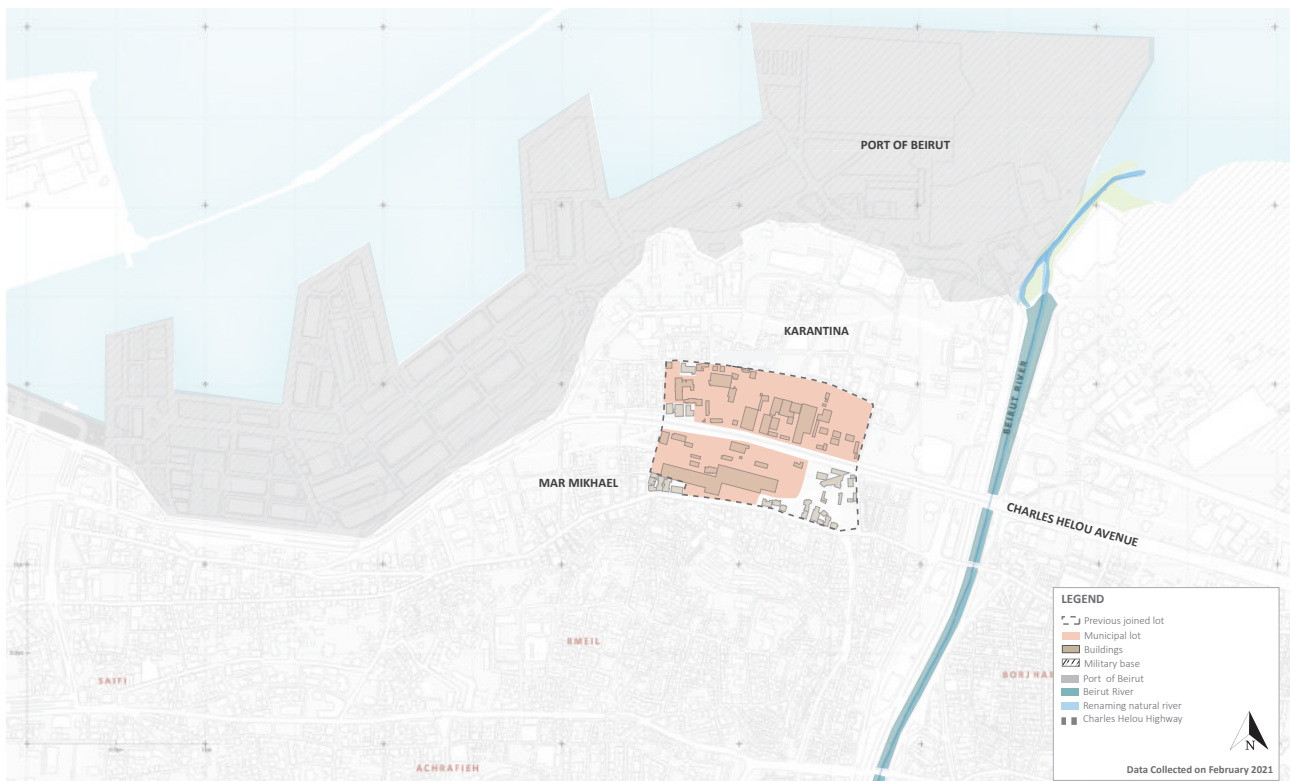
Harsh borders (the Beirut River, the Charles Helou Highway, and the Port of Beirut) define the edge condition of Karantina. The implementation of the Charles Helou Highway created another impermeable edge along the southern edge of Karantina and cut across a large municipal lot.

The large municipal lot has a total area of approximately 200,000 square meters (Figure 14) and was split into two sections (Figure 15). One section of the lot is in Mar Mikhael and includes the remains of the train station while the other section is in Karantina. As a result, the edge condition of Karantina to the south is defined by the development of the large municipal lot, further compromising the porosity and accessibility to Karantina. It extends over 600 meters and blocks pedestrian and vehicles accessibility (Figure 10).



**Figure 14:** Aerial photo of Karantina in 1931 showing the municipal lot before it was dissected by the Charles Helou Highway. Source: The Lebanese Army, 2009.





**Figure 15:** The municipal lot split into two sections after the implementation of the Charles Helou Highway in 1958. Source: The Beirut Urban Lab, 2021.

This lot was a base for the French army during the French mandate period between 1923 and 1943 and included the late 19<sup>th</sup> century train station (Figure 16). It currently hosts a combination of economic and municipal services such as the fire station, a local department of the Municipality of Beirut, the center for the internal security forces, a parking space for the municipality, private institutions, and a military base. Around 15% of the area of the lot is occupied by the military. Thus, the inner edge of the lot has restricted accessibility from Al-Rehban Street and is marked by several checkpoints and security elements on the sidewalks (cement blocks and metal obstacles) (Figure 17).



**Figure 16:** The Mar Mikhael Railway Station and its rail routes in 1941. Source: the British Army, 1941.





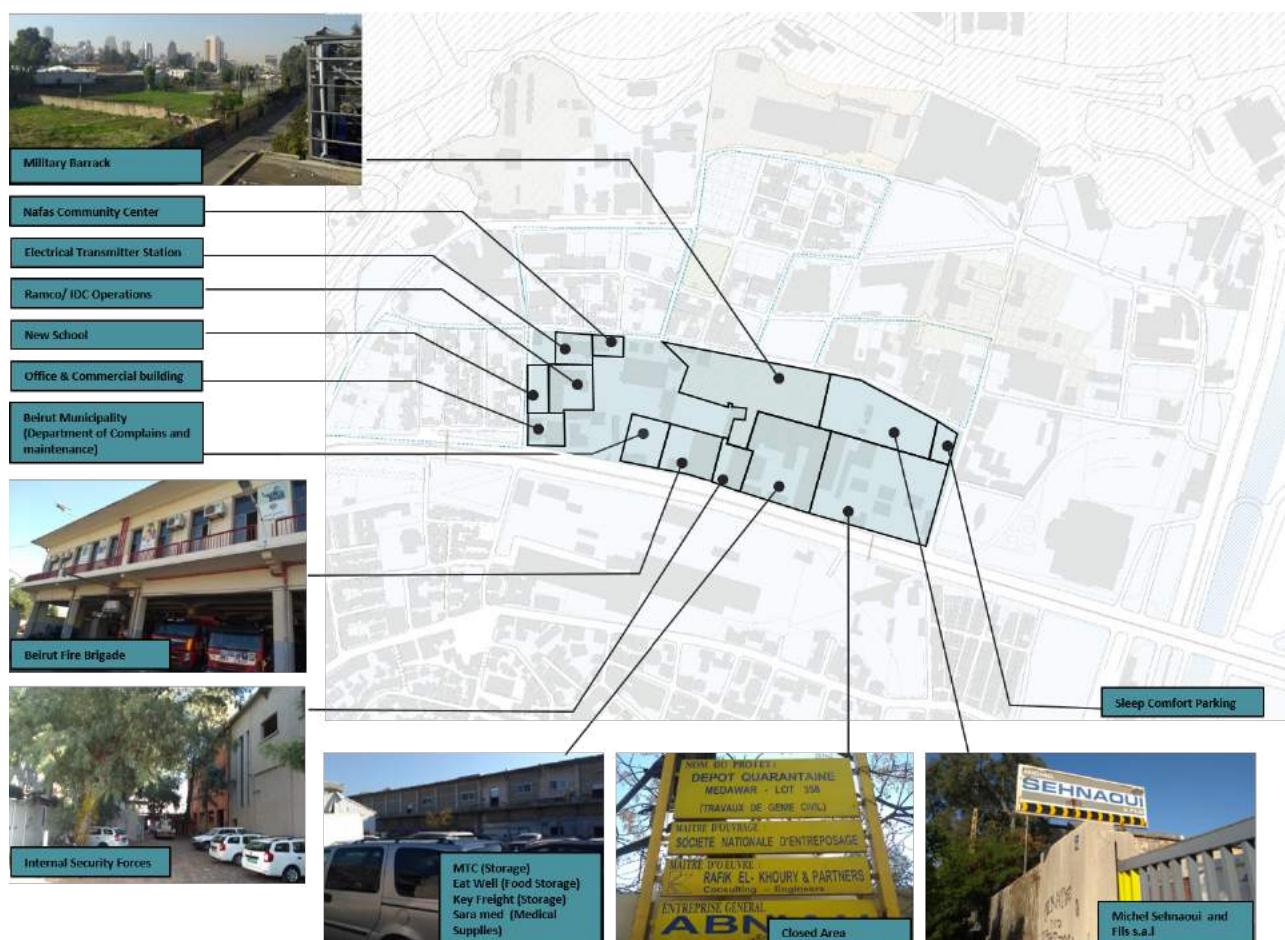
**Figure 17a.** The southern edge of the municipal lot.  
Source: Abir Cheaitli, 2021.



**Figure 17b.** The northern edge of the municipal lot.  
Source: Abir Cheaitli, 2021.

In addition, the lot includes other municipal facilities such as several warehouses that the municipality owns (Figure 18). A large block with an area of 6,100 square meters is located on the same edge to the right side of the municipal lot (Figure 19). The ownership of the block is divided as follows: the Municipality of Beirut owns 20% of the block and private developers own the remaining 80%, with the largest portion allocated to Forum du Beirut. The block also includes the B018 nightclub and the local department of the Municipality of Beirut (Figure 20).

As a result, the block creates another impermeable physical edge that limits connectivity and accessibility between its northern and southern edges, as a result, increasing the isolation and fragmentation of Karantina. According to Jacobs (1961), if large blocks are bisected, opportunities for interaction and commerce multiply (Jacobs 1961). Porosity has the potential to boost spatial, economic, and social connectivity in Karantina; it can enhance the levels of transparency which refers to “the degree to which people can see or perceive what lies beyond the edge of a street or other public spaces” (Ewing, 2013, p.6).



**Figure 18.** A large block at the southern periphery of Karantina that is owned by the Municipality of Beirut, including a mapping of the primary land-uses. Source: Ali Ghaddar, 2021.



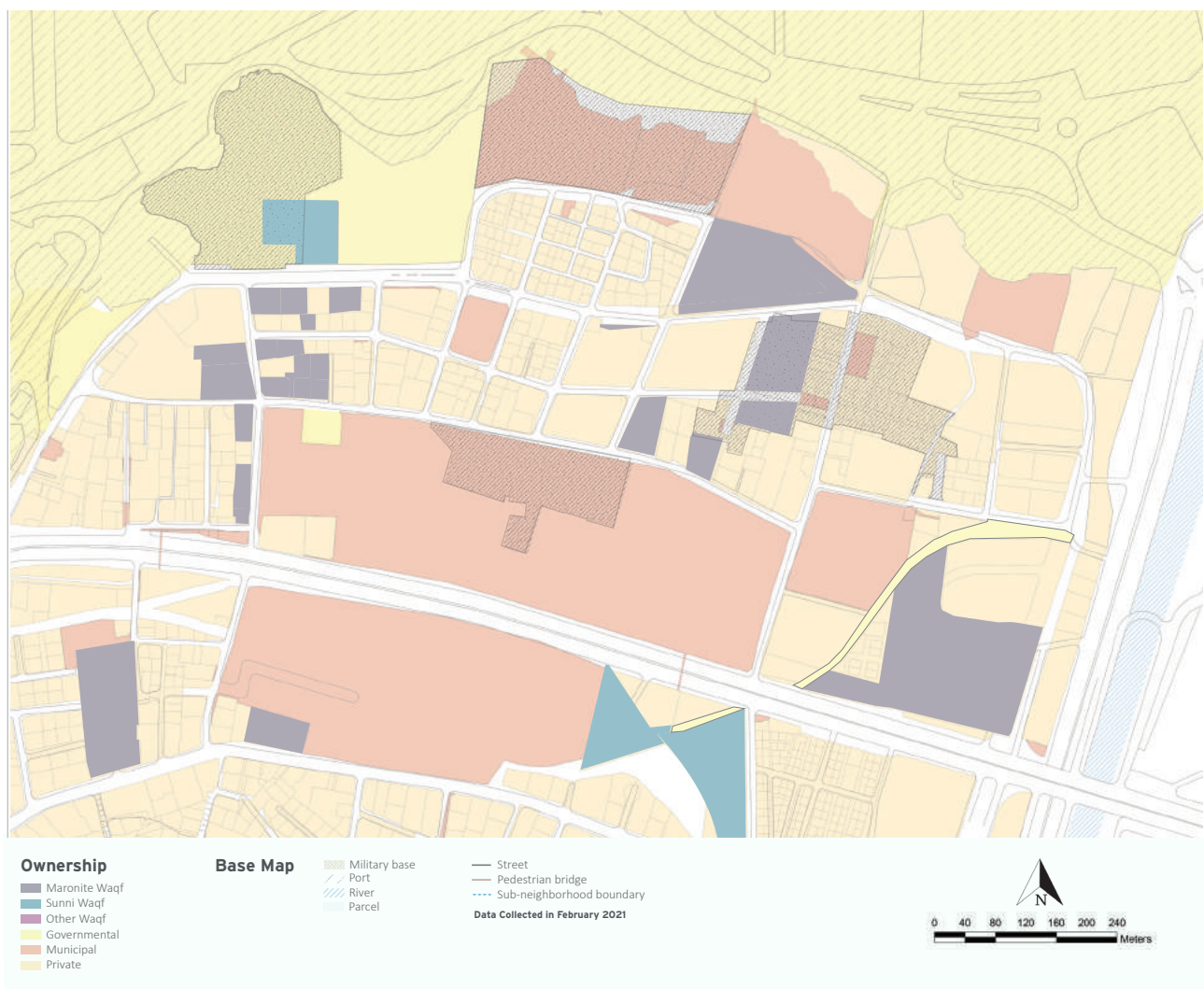


Figure 19: Lot ownership, Karantina Source: The Beirut Urban Lab, 2021.

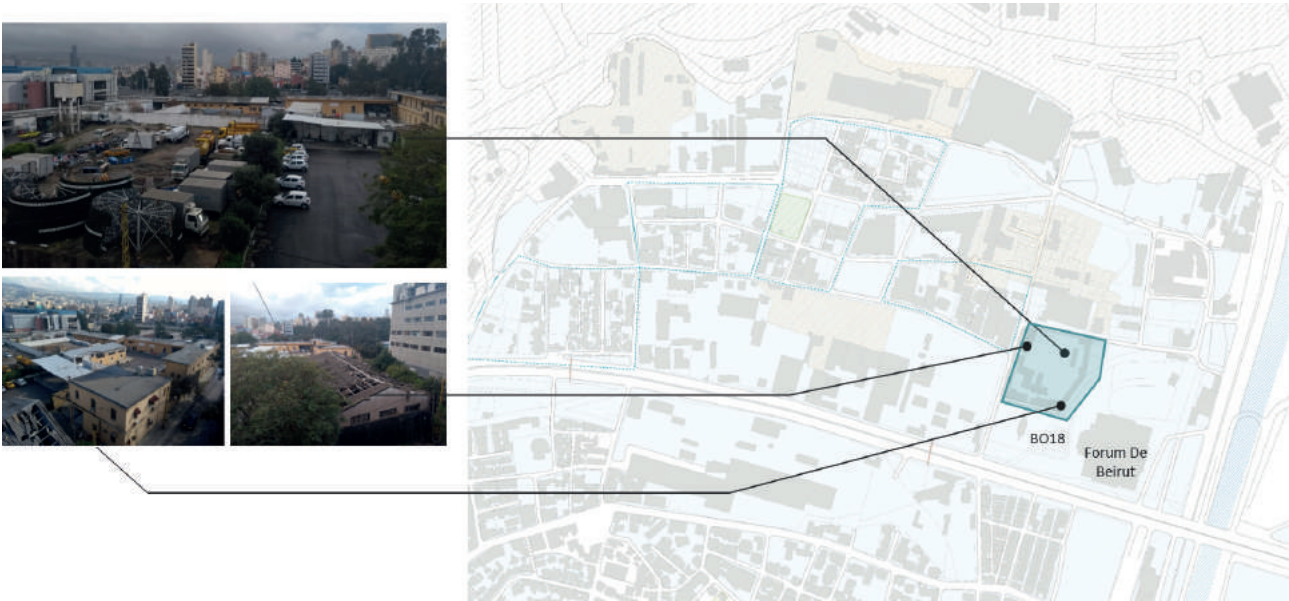
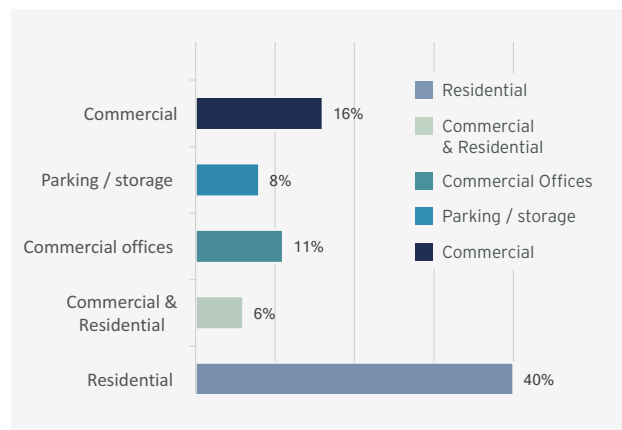


Figure 20: A large block at the southern periphery of Karantina that is owned by the Municipality of Beirut and private developers, including a mapping of the primary land-uses. Source: Ali Ghaddar, 2021.

## E. Frontages

The physical quality of the public realm and the physical relationship between the different elements of buildings, streets, sidewalks, and lots can create cohesion in the urban fabric and boost social interaction and daily practices or create spatial and social breaks (Jacobs, 1961; Gehl, 1996, 2006; Madanipour, 2011). The street frontages between public spaces and building facades at the ground level in Karantina are fragmented. A street frontage refers to the edge between a lot and the public street (Lawinsider, 2021). An active frontage enhances the level of engagement between the street life and the uses on the ground floor of the buildings (Urban Design Guidelines, 2016).

The fieldwork in Karantina showed that there is disintegration and lack of connectivity between the front facades of the buildings at the ground level and the surrounding streets and sidewalks. This was mostly observed in the industrial area and among commercial buildings. Out of the 252 buildings that were surveyed, 31 % are fully commercial buildings (Figure 21). Some buildings have fences or gates along their entrances with minimal transparency, thus, blocking visual connectivity. Other buildings have intensive security elements on the ground floor such as guards and barriers. In addition, walking from one building to the other was challenging as the sidewalks are not maintained, and in some cases, there were no sidewalks (Figure 22).



**Figure 21:** Building's occupation at the ground floor level.  
Source: The Beirut Urban Lab, 2021.

Street frontages between the two public parks and their surroundings are also fragmented. The parks are fenced with metal mesh that provides visual continuity but blocks spatial connectivity. Furthermore, sidewalks are the main public spaces in Karantina. Most of the sidewalks inside the sub-neighborhoods have a width that is less than 1.5 meters, which the American Association of State Highway and Transportation Association considers the minimum requirement for people to walk on the sidewalk (Steiner, Butler, & American Planning Association, 2012). In addition, in several areas in Karantina, sidewalks are either not present or not continuous. (Figures 23 and 24)

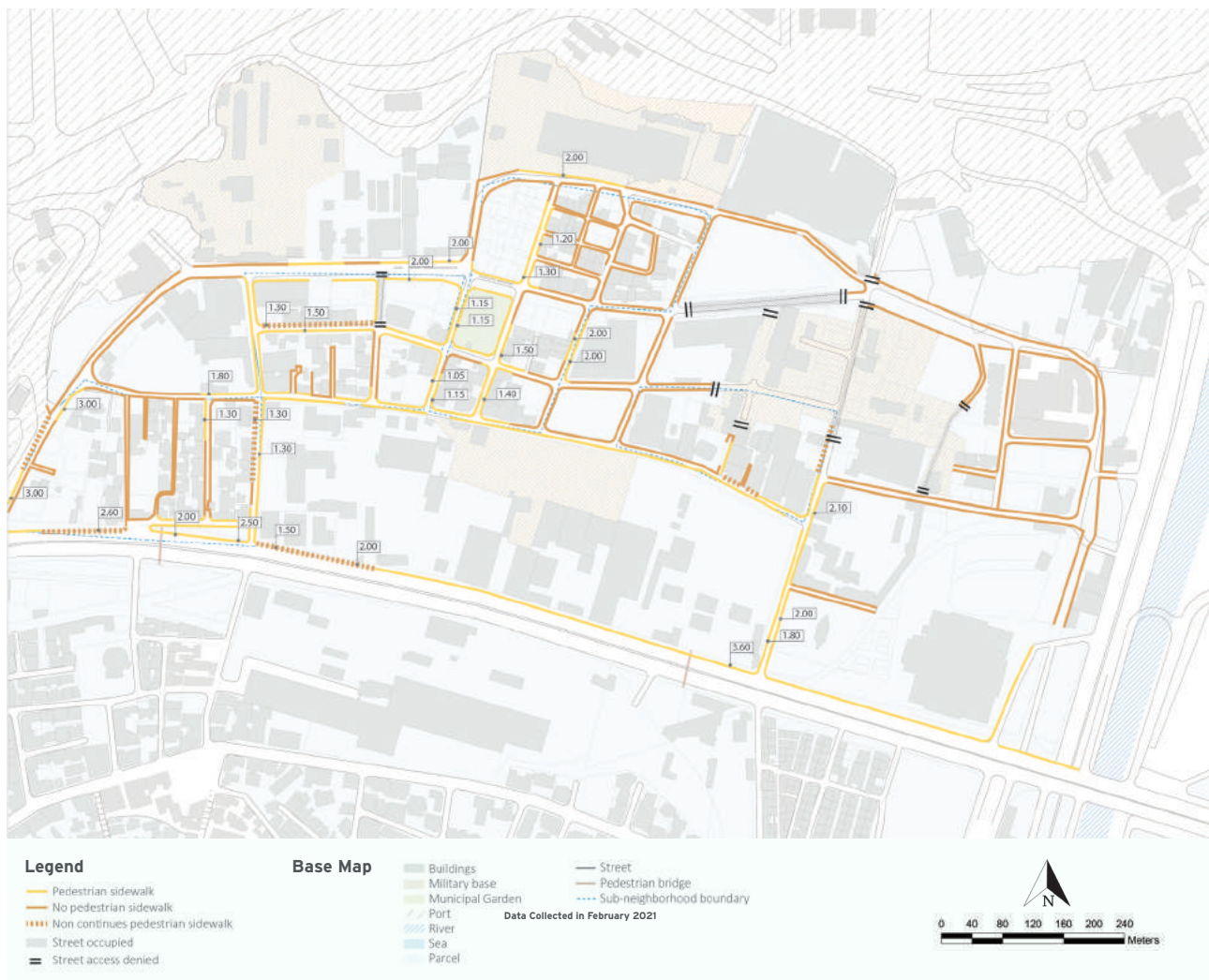


**Figure 22.** Commercial building frontages. Source: Abir Cheaitli, 2021.



**Figure 23.** Streetscape and frontages in Al-Senegal sub-neighborhood. Source: Abir Cheaitli, 2020.





**Figure 24:** Sidewalk continuity, availability, and size in Karantina. Source: The Beirut Urban Lab, 2021.

The width of the sidewalk affects street frontages and connections between the buildings and public spaces. It also affects pedestrian usability and determines the type of access and other pedestrian elements that can be installed. Therefore, the lack of connectivity between the ground floor of a building and street frontages was considered a critical issue in the research since street frontages have the potential to create continuity in Karantina. They can act as engagement points for social interaction and spontaneous socio-spatial practices between the residents of the three sub-neighborhoods and with businesses in Karantina.

## F. Land-use

The Lebanese military has occupied several lots in Karantina for over 30 years. As is mentioned in the descriptive memory report, four military bases are distributed in Karantina on public and private property. The four bases played a role in dividing Karantina into restricted zones and causing inner fragmentation. Spatially, the military bases occupy approximately 103,720 square meters out of 645,126 square meters, constituting 17% of the total area of Karantina (The Beirut Urban Lab, 2021). Yet, based on fieldwork and street surveys, the spatial practices of the military bases are not confined to the boundaries of the lots; many of their security elements extend beyond the lots into the public spaces. These security elements operate as physical obstacles to walkability on some streets in Karantina (Figure 25).



Figure 26 shows how militarization translated into spatial constraints through security measures and mechanisms. Closed streets, check points, fortified walls, metal barriers, cement blocks, no parking zones, plastic cones, and security cameras are scattered across Karantina. They constrain pedestrian and vehicular mobility, breaking the flow and continuity of streets and increasing inner fragmentation in the sub-neighborhoods. These practices and strict measures render Karantina uninviting for people to visit (Fawaz, Harb, and Gharbieh, 2012). Moreover, the typology of businesses in Karantina also determines the level of connectivity with its surroundings. Some businesses contribute to the high levels of isolation and stigmatization of Karantina.



Figure 25. Edge conditions and security elements along the militarized lots. Source: Abir Cheaitli, 2021.

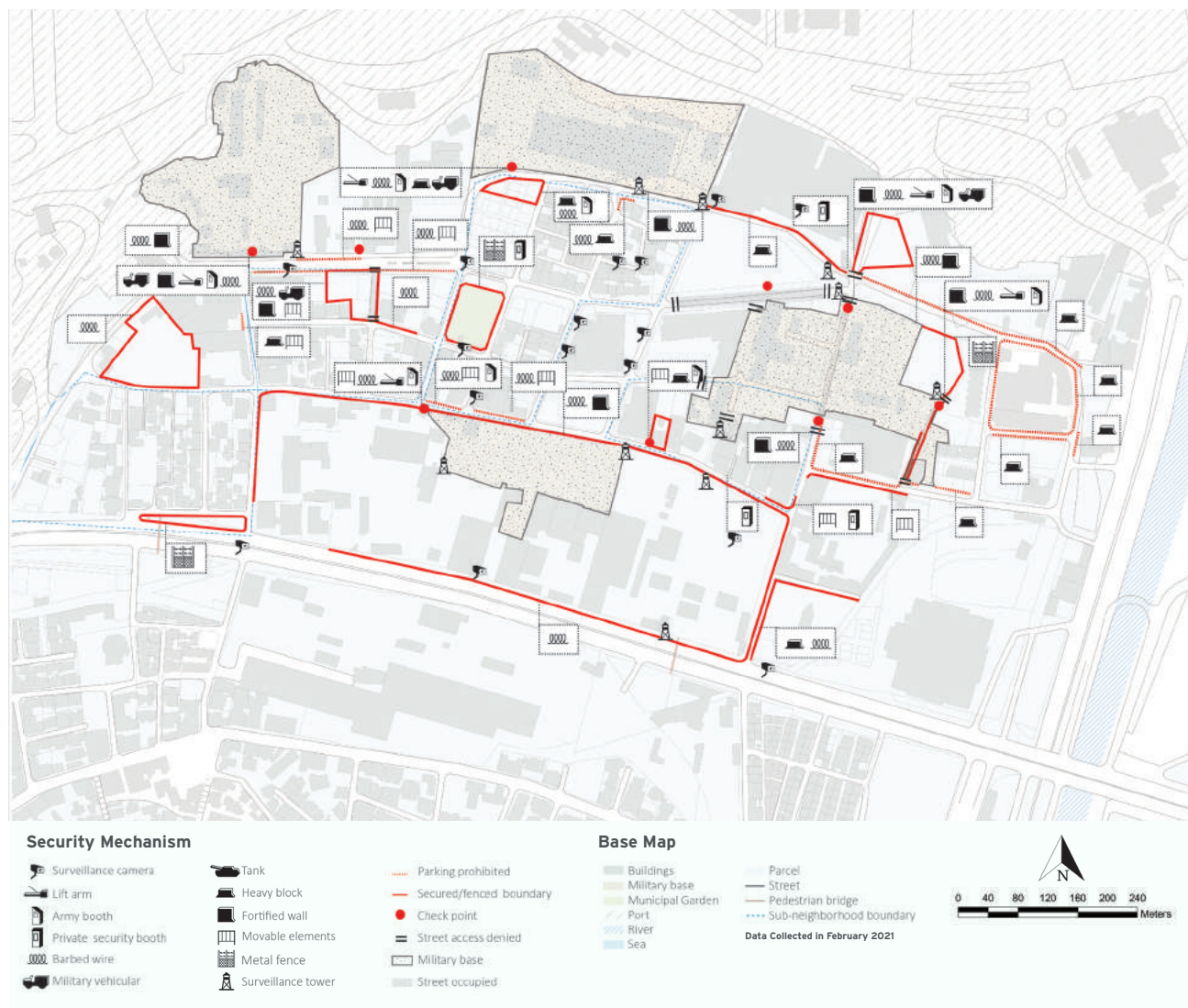


Figure 26: Security Mechanisms in Karantina Source: The Beirut Urban Lab, 2021.

## 5.2. Economic Connectivity

The relatively low rent and the strategic location of Karantina close to the city center and the port attracted many economic activities to Karantina. Land use in Karantina is mostly mixed-use with multiscale economic activities, government facilities, industrial companies, freight logistics services, and micro-scale businesses. These businesses had a two-edged sword impact on the economic activities in Karantina. On the one hand, they operate as active magnets that link Karantina to Greater Beirut and beyond through economic networks. On the other hand, they contributed to the isolation and stigmatization of Karantina, rendering it largely undesirable for residential developments.

### A. Active Magnets

The old slaughterhouse, fish market, government hospital, flour mill, freight services, and art galleries created economic connections between Karantina and its surroundings. These connections generated links within a particular network of services, capital, and human flow. Many of these practices and services are not found in other areas in Beirut, thus, they worked as magnets for outsiders, bringing customers in, and contributing economically to the livelihoods of the low-income residents of Karantina.

The Port of Beirut, which borders Karantina from the north and the west is an important magnet for two reasons: it connects Karantina to the economy of Beirut as a whole. The slaughterhouse serves as another important magnet. Many residents, especially the Arab Al Maslakh tribes, perceived the former practice of meat trading as an active economic hub that extended its operations as far as Tripoli in the north of Lebanon. A previous employee of the slaughterhouse mentioned during an interview that “we were recognized as the best butchers in Beirut who provided good quality, service, and price”.<sup>5</sup> Yet the slaughterhouse was closed in 2014. The slaughterhouse was not only a source of income for many residents in Karantina but also had developed as a major employer in Beirut.

Another magnet that attracts clients from Beirut and beyond is the fish market, which is located at the northern periphery of Karantina, as is evident from the visits to the market and conversations with the fishermen (Figure 27). The fish market provided work opportunities for people in Karantina, particularly the Arab tribes. Karantina’s Government hospital also attracts people to the area (Figure 28). Crowds of people and cars were observed around the hospital during the fieldwork visits.

Other kinds of economic connectors were either present or emerged in Karantina over the past years and functioned as cultural magnets. Local businesses that attracted people with different interests and from different age groups include the Sfeir Semler and KanZaman galleries, and entertainment places (the Urban Park, Forum Du Beirut, KED, and B018), and graphic design and architectural offices. These businesses engaged with city life and introduced leisure and entertainment to Karantina. However, after the port blast, these businesses were threatened and several of them closed or are waiting for compensation for repairs; these include Forum du Beirut and the Urban Park.



Figure 27. The fish market. Source: Ali Ghaddar, 2021.



Figure 28. Karantina's government hospital. Source: Abir Cheaitli, 2021.

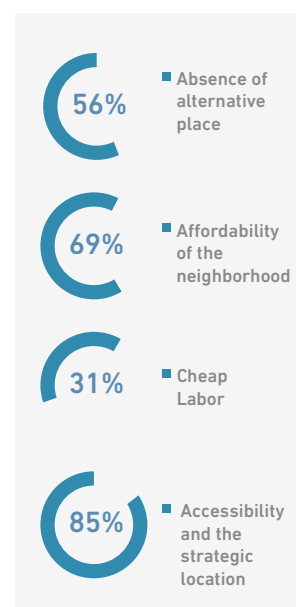
<sup>5</sup> Interview with Mr. Fakir al-din Shihadeh on 27 May 2021. He was a previous employee at the slaughterhouse.



## B. Isolated Economic Islands

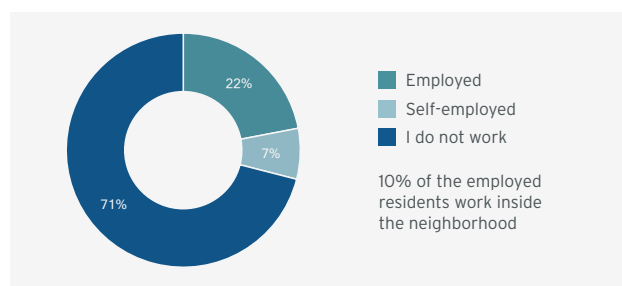
“ There are a lot of public and private companies, and we did not benefit from them in terms of work<sup>6</sup>  
يوجد الكثير من الشركات العامة والخاصة ونحن  
لم نستفد منهم من ناحية العمل

There is a diversity of economic activities in Karantina. They range from industrial manufacturing of steel to micro-scale shops that sell arts and crafts. While this variety in type and scale can be considered a positive attribute of life in Karantina, the unharmonious development of the economic activities inside Karantina contributed to the existing social fragmentation and disintegration, not only among the businesses but also within the local communities in Karantina. Micro enterprises that create a pedestrian flow to Karantina but do not relate to its character in terms of function, job opportunities, and service provision, are mostly galleries (Sfeir-Semler gallery), artisan shops (KanZaman, Boutique du Monde), and leisure facilities (BO18 and Forum du Beirut). These businesses can mitigate the negative labels of Karantina as an impoverished and informal area. However, these businesses do not employ the residents and do not target high-end clients from outside of Karantina. Hence, they do not contribute to the economic growth of Karantina in a sustainable way that benefits both the business and the locals. The Beirut Urban Lab team surveyed 83 businesses in Karantina in 2020. 69% of the businesses mentioned that they were attracted to Karantina simply because the rent is cheaper compared to nearby areas in Beirut, while 85% mentioned that it is because of ease of accessibility and strategic location next to the port (Figure 29). It is worth mentioning that out of the 83 businesses surveyed, 48 mentioned that they want to stay in Karantina because of the social fabric and their feelings of attachment. This is explained by the fact that 30 out of the 48 shop owners already live in Karantina.



**Figure 29:** Reasons why businesses want to stay in Karantina. Source: The Beirut Urban Lab, 2021.

Employment opportunities at these shops are minimal. The household questionnaire in 2020 by The Beirut Urban Lab team revealed that there is a high level of unemployment among residents. Only 29% of the residents are employed, and 10% of them work inside Karantina (Figure 30). Therefore, most of the businesses operate in isolation and do not improve social conditions or contribute to sustainable socio-economic growth.



**Figure 30:** Employment rates. Source: The Beirut Urban Lab, 2021.

Besides, if unregulated, the agglomeration of certain types of businesses (arts and galleries) may lead to the gentrification of Karantina and the displacement of people, a notable problem in the nearby neighborhoods of Beirut (Mar-Mikhael)<sup>7</sup>. The answers to the questionnaires showed that in addition to the disconnection between the typology of businesses and the community groups in Karantina, there is poor communication and networking among the businesses themselves. Businesses that have a similar scope and scale of work also operate independently. There has not been any initiative from local authorities or the community to create business collectives that can bridge between people. Yet, the analysis showed that the smaller micro businesses like mechanic shops are connected to the activities of the freight companies in Karantina that ship cars directly from the port. Networking can help overcome spatial, economic, and social divisions, disconnection, and tensions by encouraging resource exchange, local employment, and business opportunities, in addition to the exchange of knowledge.

<sup>6</sup> K.A.A. (23 January 2021), (George Antoun Tatarian, Interviewer)

<sup>7</sup> Refer to transversal issue III for more details on the relationship between economic practices.



## C. Missing Economic Connections

Although Karantina hosts a wide range of industrial and commercial activities, it still lacks some vital businesses. The fieldwork and mapping of the current businesses in Karantina showed that there are no banks, stationery shops, pharmacies, gas stations, restaurants, coffee shops, electronics shops, and nurseries. During the first Town Hall meeting on 11 April 2021, people complained about the lack of investments and the absence of primary businesses for daily needs. The absence of banks, gas stations, pharmacies, and leisure activities required the residents to rely on adjacent areas. For example, there is only one pharmacy in Karantina that was closed for repairs since the port blast.

“ There is a hospital in the area that has a history, but it does not provide good service; we are compelled to commute to other areas get the needed treatments<sup>8</sup>

في مستشفى إليها تاريخها بس منّا منيحة ومنروح مدري لوين لنتداوى

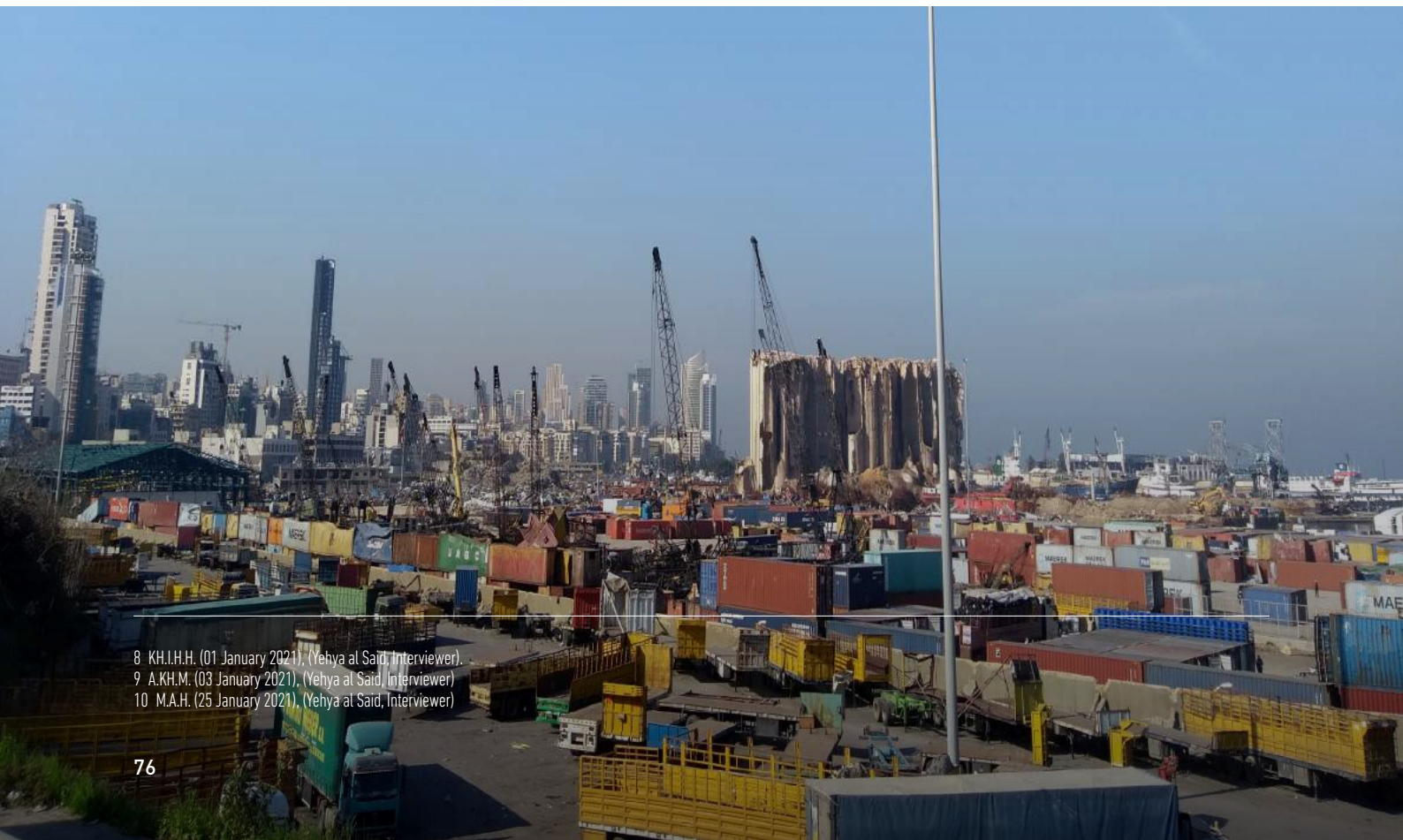
“ I would like Karantina to have a school so Syrian kids don't spend all day on the streets<sup>9</sup>  
بحب شوف فيها مدرسة للأولاد السوريين يلي بظن بالشارع

“ There is no school for the children of Karantina to learn and stay close to their home<sup>10</sup>  
ما في مدرسة تحتوي أولاد المنطقة ليظن قريين من بيوتن

8 K.H.I.H.H. (01 January 2021), (Yehya al Said, Interviewer).

9 A.K.H.M. (03 January 2021), (Yehya al Said, Interviewer)

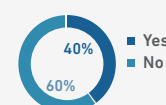
10 M.A.H. (25 January 2021), (Yehya al Said, Interviewer)



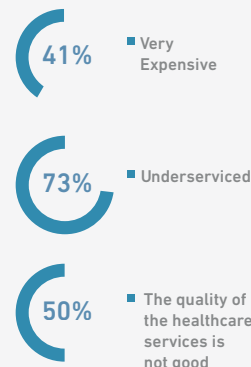
The household questionnaire showed that Karantina also lacks health services and educational facilities. Even though there is a government hospital in Karantina, 60% of the residents mentioned that they do not get their healthcare at the Karantina hospital: 40% mentioned that it is expensive, 73% said it is underserved, and 50% mentioned that the quality of healthcare that it provides is poor (Figure 31). There is only one clinic for the Maronite league in Karantina, which services many people in Karantina and provides consultations at low prices. Still, many residents prefer going to the Geitaoui Hospital in Achrafieh, the Rafic Hariri Hospital in Jnah, Al Makassed Hospital in Tarik Al Jadida, and public clinics in Sabra and Bourj Hammoud. School, learning centers, and nurseries are also absent in Karantina. During the second Town Hall meeting on 30 June 2021, a group of Syrian refugee mothers said that their kids do not go to school since they cannot afford the transportation costs, and do not feel safe sending their kids to distant areas. One Syrian refugee woman said: “my daughter is 9 years old and has never been to school.”<sup>11</sup> The residents mentioned that a learning center could help the children in Karantina to overcome illiteracy levels and mitigate the consequences of the absence of a school. They further explained that a learning center could act as a social hub. The learning center will gather students from various neighborhoods and sub-neighborhoods.

The residents explained that while learning and playing, the children communicate with each other and, as a result, improve the connections between the different community groups, and decrease tensions, especially between the Syrians and Lebanese. Consequently, the absence of specific businesses and services imposes high costs of transportation on the residents, which many are not able to afford, and it exacerbates the sense of isolation in Karantina.

#### Do residents go to the Karantina hospital for healthcare?



#### If not, why?



**Figure 31:** Relation between residents and the Karantina Government hospital. Source: The Beirut Urban Lab, 2021.

## D. Unsustainable Practices

“The area is polluted from the smells of the slaughterhouse, the Beirut port, and the landfill<sup>12</sup>  
المنطقة ملوثة من روائح المسلخ والمرفأ ومكب النفايات

In addition to the inward fragmentation, the neighborhood profile of Karantina showed that some of the businesses and industries negatively affected the environment due to various unsustainable practices. Environment degradation may be driven by many factors due to the dynamic interplay between socio-economic, institutional, and technological activities (Union Budget, 2021). Research also found that the negative impacts of pollution lower property values and divert the interest of developers elsewhere (Liu, et al., 2018).

In business, sustainability refers to “doing business without negatively impacting the environment, community, or society as a whole” (Spiliakos, 2018). In Karantina, the analysis of the data shows that some of the private and public businesses (the old slaughterhouses, the waste management facilities, and the steel industries) caused pollution, health problems, and stigmatization in Karantina, labeling it as a polluted, unhealthy, and hostile site and contributing to its spatial marginalization.

The residents do not only perceive Karantina as polluted, but its reputation as an hygienic area exceeds its boundaries. Karantina has always been tagged as ‘an area that stinks’ and this perception remained even after the closure of the slaughterhouse and the opening of the landfill in 2015.

<sup>11</sup> A Syrian mother during the town hall meeting on 30 June 2021.

<sup>12</sup> M.A.S. (22 January 2021), (George Antoun Tatarian, Interviewer)

During the thematic group discussion on ‘the quality of the urban environment’ on 20 April, 2021 several residents mentioned that Karantina is still stigmatized because of the placement of the landfill. One of the residents said, “Karantina is considered as the junkyard of Beirut, and no one would like to visit it”<sup>13</sup>.

After the port blast, the large load of construction and demolition waste caused by the explosion was dumped in a designated area inside Karantina, emphasizing its stigmatization as the junkyard of the city (Figure 32). Figure 32 shows how the debris formed a massive hill, and the residents are worried that this hill with time will become a permanent site in Karantina as the landfill in Saida and Tyre. In addition, even though the Port of Beirut is a major economic infrastructure that has positively affected Karantina on multiple levels, its proximity to Karantina has dilapidated its infrastructure, road networks, and environmental quality. The cargo transit of trucks frequently causes traffic jams inside the streets of Karantina, threatening the safety of children playing on the streets, damaging public spaces, causing air and noise pollution, and degrading the quality of the environment.



**Figure 32.** Accumulation of construction and demolition waste after the port blast. Source: Abir Cheaitli, 2021.

The association for Sustainable Development Goals (SDGs) states that unsustainable practices of businesses and developments can cause air, soil, water, and sound pollutants, in addition to endangering the health and wellbeing of the residents especially if the operation process does not comply with the required standards (SDGs, 2021). The absence of a sustainable strategy for the urban development endangers the health and wellbeing of residents and stigmatizes Karantina as an unwelcoming and unhealthy environment, hence, exacerbating its isolation and segregation<sup>14</sup>.

The previous sections of this report showed how Karantina suffered from spatial and economic fragmentation due to the infrastructural breaks, the deteriorating quality of the built environment, the militarization of land, and the unregulated industrial and economic activities. However, there was a clear social connectivity, especially at the scale of each sub-neighborhood.

### 5.3. Social Connectivity

“ Whenever I leave the area, I feel like a fish removed from the water, and will instantly die<sup>15</sup>  
بس اطلع برا المنطقة بحس حالي سمكة بلا مي، بموت دغري

Social connectivity is broadly defined as the relationships that individuals have with the people around them. They may be close in terms of family, friends, and co-workers, or more distant in terms of casual acquaintances (Healthwise, 2021). This report defines social connectivity as how an individual links to their neighborhood and how the neighborhood as a social unit engages with the broader community through social magnets. These interactions can happen along with different types of networks such as familial ties, neighborhood ties, religious ties, and institutional or business ties.

<sup>13</sup> A resident of Al-Khodur sub-neighborhood during the thematic group discussion on ‘the quality of the urban environment’ on 20 April 2021.

<sup>14</sup> This section of the report is detailed in Transversal Issue V ‘quality of the built environment’.

<sup>15</sup> M.H.H. (09 January 2021), (Yehya al Said, Interviewer)



In the report, each type of network was examined along three different scales: at the scale of the sub-neighborhood, at the scale of Karantina, and at the scale of the adjacent neighborhoods. Additionally, the analysis of the spatial connectivity revealed that Karantina is also socially fragmented.

“ The word ‘hay’ means to me good company, it’s like a small country where my relatives and close ones live together in harmony<sup>16</sup>

الحي كلمة تعني لي العشرة الجميلة كأنه وطن  
مصغر ففيه يعيش أقاربي وأهلي

“ The neighborhood is socialization between people, love of neighbors, and companionship between family and people<sup>17</sup>  
الحي هو اجتماعات بين الناس محبة الجيران عشرة طويلة بين الأهل والناس

////////////////////////////////////

The perception of the residents of the sub-neighborhoods - Hay<sup>18</sup> “الحي”, and their boundaries showed that there is a connection between conceived spatial boundaries and the social makeup of the sub-neighborhoods. This was evident in the findings from the household questionnaire, whereby social connectivity is strong at the scale of each sub-neighborhood but not at the scale of Karantina as a whole. Most of the residents referred to their sub-neighborhood as the boundary that hosts their own social group or the community that they belong to. As mentioned before in the report, Karantina has three sub-neighborhoods: Al-Khodor, Al-Saydeh, and Al-Senegal. The first reading of the sub-neighborhoods showed that they can be characterized by according to religious and familial ties.

**The household questionnaire asked questions to measure the level of connectivity. The questions were:**

- To what extent do you agree/disagree that you belong to the neighborhood?
- To what extent do you agree/disagree that your friendships and relationships with people in the neighborhood are meaningful?
- To what extent do you agree/disagree that if you want some advice on something, you can go to someone in the neighborhood?
- To what extent do you agree/disagree that you could borrow items and exchange services for you and your neighbors?
- To what extent do you agree/disagree that you can stand up and talk to people in the neighborhood?
- To what extent, do you agree / disagree that people in the neighborhood are willing to help their neighbors?
- To what extent, you agree/disagree that you can trust the people of the neighborhood?

The analysis showed that social connection to the neighborhood and sense of belonging is at its highest in an Al-Khodor sub-neighborhood recorded at 71 %, while Al-Sayed sub- neighborhood at 58% and Al-Senegal sub-neighborhood at 52% (Figures 33,34,35,36).

Sub-neighborhoods	Strongly agreed	Agreed	Total % of positive response
Al-Khodor	30%	41%	71%
Al-Saydeh	9%	49%	58%
Al-Senegal	16%	39%	52%

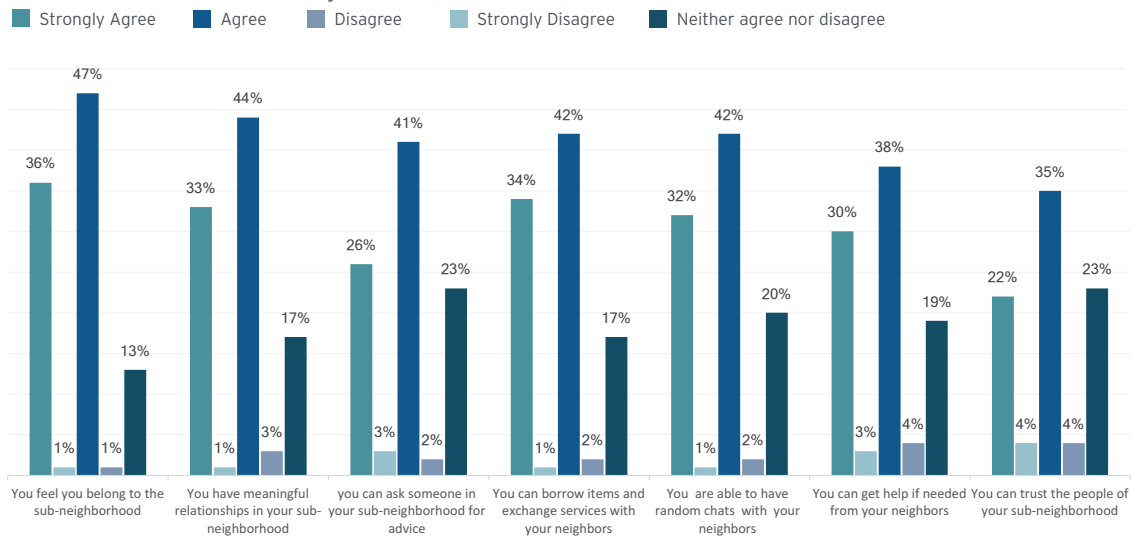
**Figure 33.** Summary of the analysis in figures 34, 35, and 36 on social connectivity. Source: The Beirut Urban Lab, 2021.

<sup>16</sup> A.S.A.A. (08 January 2021), (Wafaa Alshahadah, Interviewer)

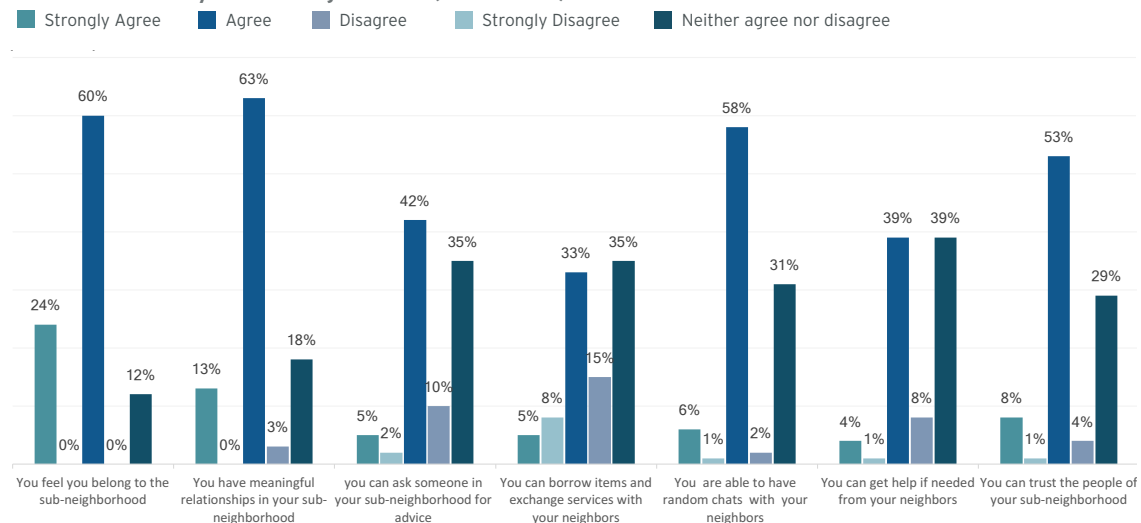
<sup>17</sup> Z.H. (24 December 2020), (Mohamad Amshah Tatarian, Interviewer)

<sup>18</sup> Hay/Ahyaa “حي/أحياء” can be translated as: “section/s (of a city)”, “quarter/s (of a city)”, or “(neighborhood/s)”.

#### Social ties in Al-Khodor sub-neighborhood (350 families)



#### Social ties in Al-Saydeh sub-neighborhood (130 families)



#### Social ties in Al-Senegal sub-neighborhood (65 families)

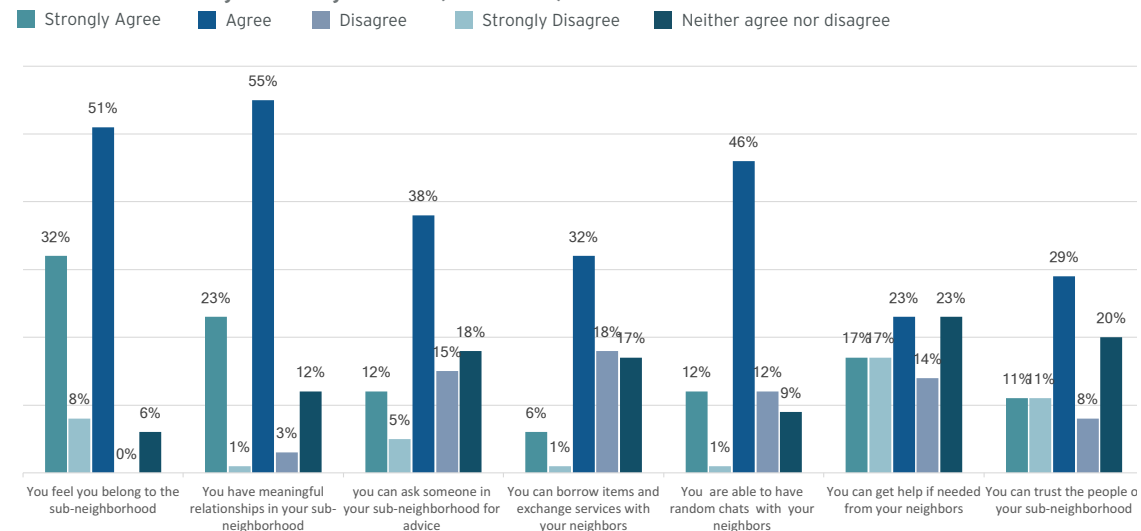
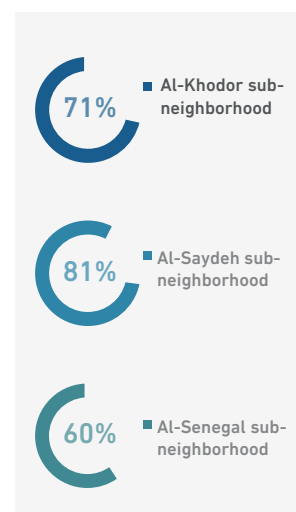


Figure 34, 35, and 36: Various levels and methods of social connectivity in each sub-neighborhood. Source: The Beirut Urban Lab, 2021.

## A. Familial and Tribal Ties

Social ties at the neighborhood level influence the decisions of people to leave or stay in an area (Dawkins, 2006). The social composition of the sub-neighborhoods in Karantina is the result of several events that triggered certain patterns of settlement. The field visits and interviews showed that there are familial and kinship ties inside the three sub-neighborhood and that kinship has influenced social relation where people lived and with whom they got married.

Findings showed that familial ties are a strong asset in the sub-neighborhoods. Most of the residents responded to the household questionnaire that they spend their free time with family members inside Karantina and across the three sub-neighborhoods (Figure 37). Nevertheless, as is mentioned in Transversal Issue I, the densest sub-neighborhood is Al-Khodur. One can note that social connections are nurtured in public spaces. While walking during the day through Karantina and the inner alleys, the research team noted that many social practices animated public spaces such as people sitting, chatting, and eating together, children playing football, cycling, or running, and the elderly watching from the balconies (Figures 38).



**Figure 37:** Time spent with family members across the three sub-neighborhoods. Source: The Beirut Urban Lab, 2021.

This pattern of engagement was present in the other sub-neighborhoods but with less frequency and a lesser number of residents per gathering. For example, it was rare to see children on the streets of Al-Saydeh and Al-Senegal.

The analysis showed that 83% of the residents of Al-Khodur have a sense of belonging to the sub-neighborhood. This was also clear in the narratives and the ways that the residents of Al-Khodur described their sub-neighborhood and their close relationships with the locals. During the chats with the residents about the relationship between the members of the same sub-neighborhood, the residents of Al-Khodur used words such as 'family', 'siblings', and 'uncles', and they emphasized that they all know each other through familial or tribal ties. Several of the residents also mentioned that they were born and raised in Al-Khodur and got married to a family member that was also born and raised on the same street. Some quotes that illustrate these familial ties included:



**Figure 38.** Social gatherings and practices in Al-Khodur. Source: Abir Cheaitli, 2021.

“ There is a familial atmosphere as in villages; we all know each other and are relatives.<sup>19</sup>

في جو عائلي مثل أجواء القرى كلنا منعرف بعض ومنقرب بعض

“ I like the kinship relationships in the area, as we all are relatives in some way, even if that relation is distant<sup>20</sup>

أحب صلة القرابة الموجودة في المنطقة حيث اننا كلنا تربطنا علاقة قرابة حتى وإن كانت بعيدة بعض الشيء

<sup>19</sup> Z.A.S. (01 January 2021), (Yehya al Said, Interviewer)

<sup>20</sup> A.N.I.H. (22 December 2020), (Yehya al Said, Interviewer)

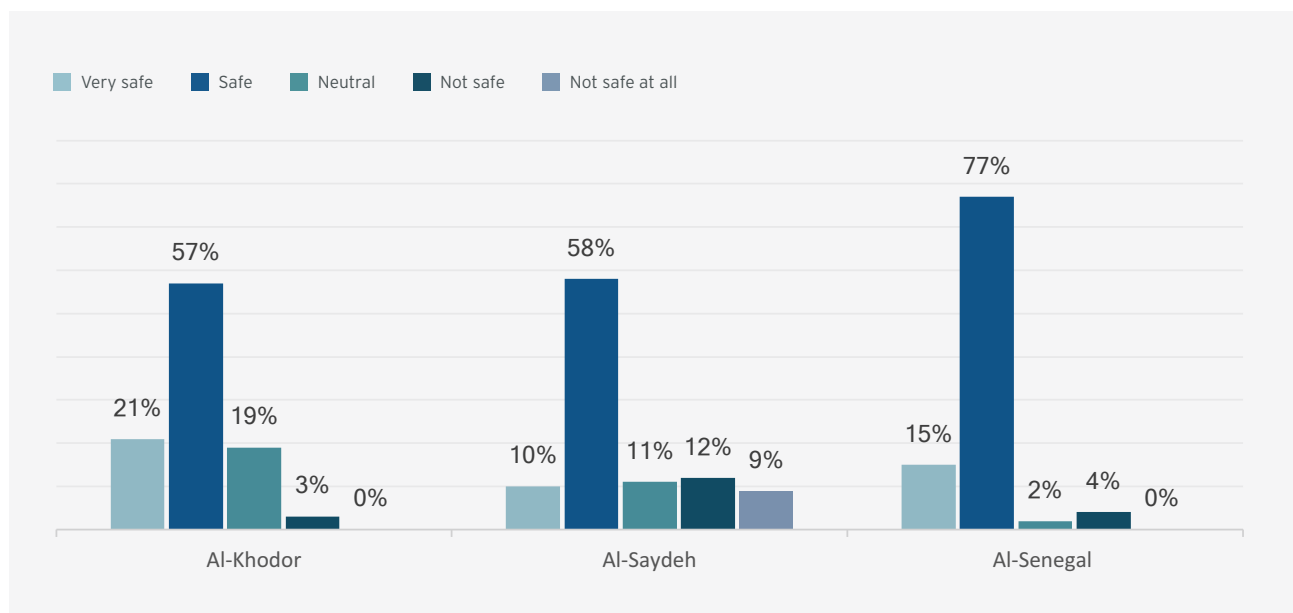


“ We are a group of relatives that live in the same area<sup>21</sup>  
نحن مجموعة من الأقارب يسكنون نفس المنطقة

In some cases, familial ties overpower economic interests and benefits. For example, in the thematic group discussion on housing, a woman from Al-Khodor sub-neighborhood stated that لو لم أكن عمته لكان طردني على الفور “if I weren’t his aunt, he would have evicted me instantly”. Thus, social relations have formed over time a community which members support one another even in critical times.

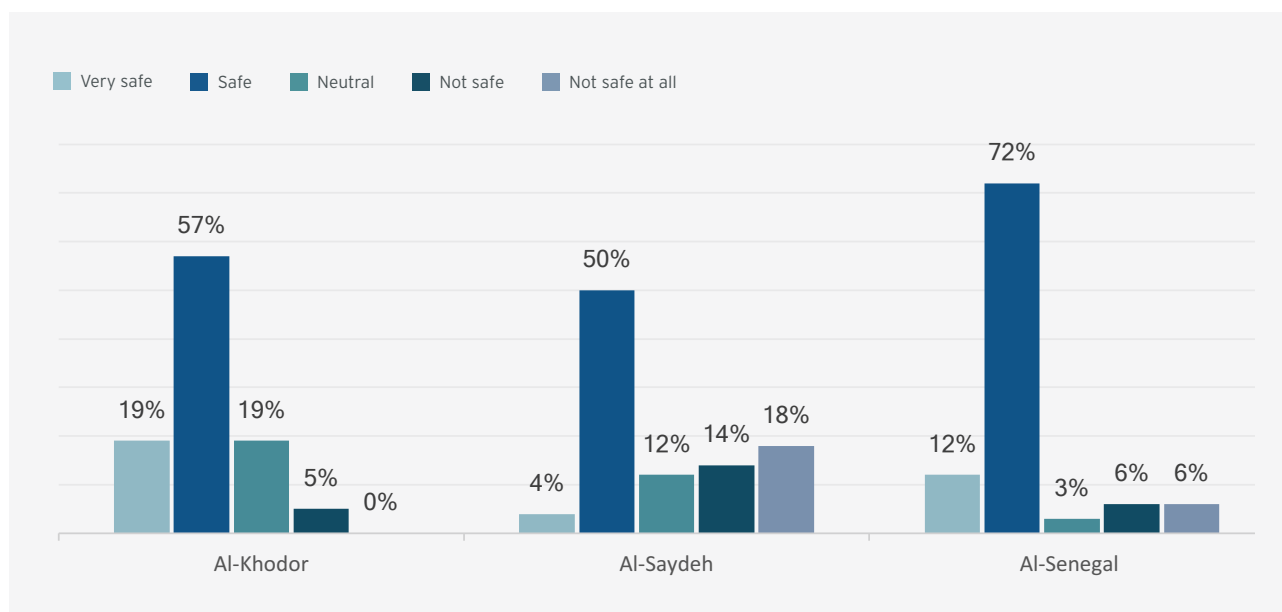
However, the research team did not note these forms of familial bonds and quotes from the other sub-neighborhoods. The reason behind this difference among the sub-neighborhoods is that the social composition of Al-Khodor stems from communal tribes in addition to religious similarities. The household questionnaire showed that 141 families belong to an Arab tribe in Al-Khodor, four families in Al-Saydeh, and four in Al-Senegal. Arab tribes such as Arab Al Maslakh were mostly present in Al-Khodor and promoted a keen sense of belonging, social connective, and security.

Moreover, familial ties and kinships generated a sense of safety among the residents. The collected data showed that across the three sub-neighborhoods, more than 60% feel safe or very safe to live in Karantina (Figures 39 and 40). The narratives of women in Al-Khodor attributed safety to the familial and tribal ties. Women in Al-Khodor mentioned that everyone in the sub-neighborhood knows each other. As a result, mothers feel safe walking on the streets at any time during the day. They also feel safe leaving their children to play on the streets at night, while the sense of safety and security in Al-Saydeh and Al-Senegal are attributed to the presence of the military bases.



**Figure 39:** Sense of safety and security during the night across the three sub-neighborhoods. Source: The Beirut Urban Lab, 2021.

<sup>21</sup> A.W.M.. (26 January 2021), (Wael al Said, Interviewer)



**Figure 40:** Sense of safety and security during the day across the three sub-neighborhoods. Source: The Beirut Urban Lab, 2021.

## B. Neighbors

“ Like the quote says: a neighbor is as important as one's home<sup>22</sup>  
 مثل ما بقول المتل: الجار قبل الدار

The sub-neighborhoods in Karantina are aligned by residential buildings that are separated by narrow streets and alleyways (Figure 41). People often chat to one another from their balconies. However, the interaction of neighbors differs between the three sub-neighborhoods. Neighbors in Al-Khodor are, in most cases, not from the same family, which is different in Al-Senegal and Al-Saydeh sub-neighborhoods. This was evident to the citizen scientists when they were collecting data in January 2021. The experiences of data collection and knowledge of their neighborhoods were different across the researchers who came from the three sub-neighborhoods. The citizen scientists from Al-Saydeh and Al-Senegal sub-neighborhoods commented that while doing the interviews, they were surprised by the people they met for the first time. They said that they have been living in the sub-neighborhood since they were born and were not aware of the presence of many of the people they encountered during their fieldwork.



**Figure 41.** Inner alleyways in Al-Khodor sub-neighborhood. Source: Abir Cheaitli, 2021.

However, in Al-Khodor, familiarity and social tightness were highly noted by the citizen scientists. They felt comfortable while conducting the interviews with the residents that they already know. The words 'الفه', and acquaintance and trust were also mentioned by citizen scientists from Al-Khodor while they were describing the relationship between the neighbors.

<sup>21</sup> A.W.M.. (18 January 2021), (Wael al Said, Interviewer).

## C. Religion

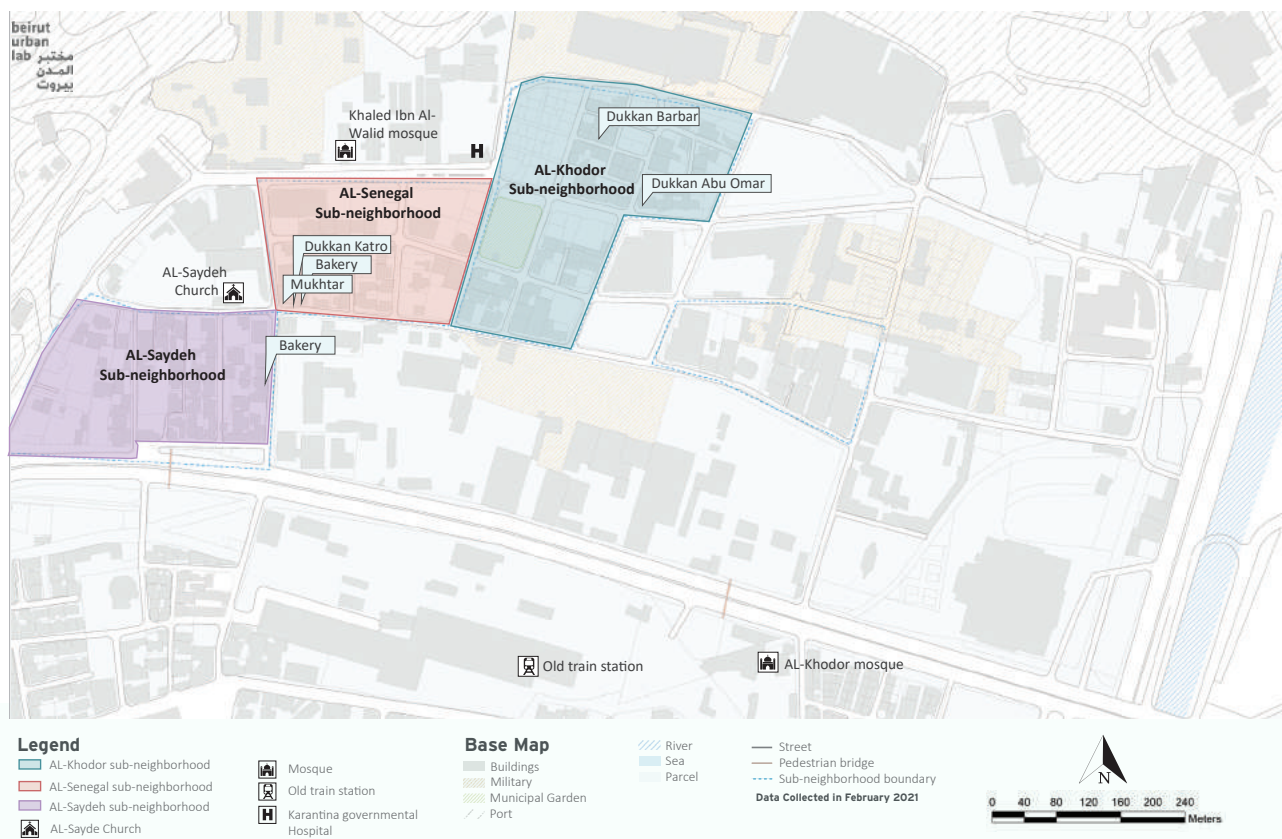
As was evident in the neighborhood profile, the socio-spatial compositions of the three sub-neighborhoods were the result of historic events and compounded crises that happened in Karantina (waves of incoming refugees and the civil war) which led to religious fragmentation among the different communities in Karantina. While at the level of each sub-neighborhood, religious affiliation led to social cohesion and a sense of trust. The data that was extracted from the household questionnaire showed a clear correlation between the definition of the sub-neighborhoods and attachment to religious sites. 41 families out of 130 mentioned Al-Saydeh Church as a space of significance in Karantina. Those families live in Al-Saydeh or Al-Senegal sub-neighborhood, while 39 families out of 350 in Al-Khodor mentioned the mosque as a meaningful social space. During the field visits, it was evident that the names of the sub-neighborhoods came from the local religious landmarks. For example, to the west of Karantina, there is Al-Saydeh Church in the predominantly Christian Al-Saydeh sub-neighborhood.

There is a dominant perception that Al-Saydeh sub-neighborhood relates to the Mar Mikhael neighborhood. This perception firstly is because Al-Saydeh sub-neighborhood was once connected to the Mar Mikhael neighborhood but was spatially separated because of the Charles Helou Highway, and second because of the religious connection to the Christina residents of Mar Mikhail. While Al-Khodor sub-neighborhood, which is predominantly Muslim, is close to Khaled ibn al Walid Mosque but takes its name from Al-Khodor Mosque that is currently located in Mar Mikhael (Figure 42).



**Figure 42.** Al-Khodor Mosque in Mar Mikhael.  
Source: [www.culturalreligious tourism.com](http://www.culturalreligious tourism.com).

In contrast to Al-Saydeh sub-neighborhood, interviews with residents from Al-Khodor did not show any interest in being associated with Mar Mikhael, which could be associated with religious differences. Al-Senegal sub-neighborhood includes a population mix of both religions that contributes to its diversity (Figure 43).



**Figure 43:** The three sub-neighborhoods, Karantina Source: The Beirut Urban Lab, 2021.



“ Some say that Muslims and Christian in this area are not supposed to be living together in harmony<sup>23</sup>  
 مسلم ومسيحي بهل منطقة بيعتبرونا ما لازم نعيش سوى

Furthermore, according to the narratives of some of the residents, Karantina is socially divided because of the grouping of people who share the same religion, cultural background, and political identity. The feeling of being connected with the other sub-neighborhoods or with Karantina in general is missing. This can be attributed to the historical event of Karantina's massacre due to the civil war in 1976 that created fear among people. This fear was translated spatially through the relative isolation of the sub-neighborhoods and caused a rift and a socially fragmented urban fabric. As a result, Karantina until now has sectarian tensions, social breaks, and stigmatization, thus, not benefiting from any attempt for integration. Nevertheless, the sub-neighborhoods are not characterized by formal boundaries that are, in this case, symbolic and mental (Figure 44). Symbolic and mental boundaries are “the lines that include and define some people, groups, and things while excluding others”, expressing similar “normative interdictions (taboos), cultural attitudes and practices, and patterns of likes and dislikes” (Lamont, Pendergrass, Pachucki, 2001).



**Figure 44.** Religious landmark in Al-Senegal sub-neighborhood. Source: Abir Cheaitli, 2021.

## D. Institutions

Institutions are places that can act as foundations for civic engagement, intellectual resources, economic vitality, and cultural power (Cagney, et al., 2013). Studies suggested that neighborhood institutions are important for community stability, social control, collective efficacy, and social democracy. They highlight the important role of local institutions and public spaces in the development of trust and social relations in communities (Curley, 2010). Another study mentioned that political and civic institutions play a role in providing “access to a variety of resources and public goods, representing local interests, enhancing, and reproducing local identity, and creating opportunity in the civic sphere” (Brown and Schafft, 2011). Through these institutions, communities plan, manage civic life, educate, socialize with youth, and protect public health and safety.

This section of the report considers institutions to be physical locations where some form of organized social activity takes place. Other than the Karantina government hospital, the area does not have a library, a local community foundation, a school, or a cultural organization such as an art center. The household questionnaire, the community meetings, and thematic group discussions revealed how strongly the residents advocate for the presence of such institutions. After the port blast, several NGOs worked to set up temporary institutions as was mentioned in the descriptive memory report.

<sup>23</sup> A Resident from thematic group discussion on connectivity on April the 27<sup>th</sup>.

“ There are no good schools nearby. We must send our children to far areas for them to get a good education<sup>24</sup>

ما في مدرسة منيعة للأولاد يعني  
منضطر نبعت ولادنا عآخر الدني كرمال المدارس

To map the locations of where children in Karantina go to school, the household questionnaire asked parents where their children commute to get to school. The analysis of the answers to the questionnaire revealed that children in Karantina go to 21 different schools (Figure 45).

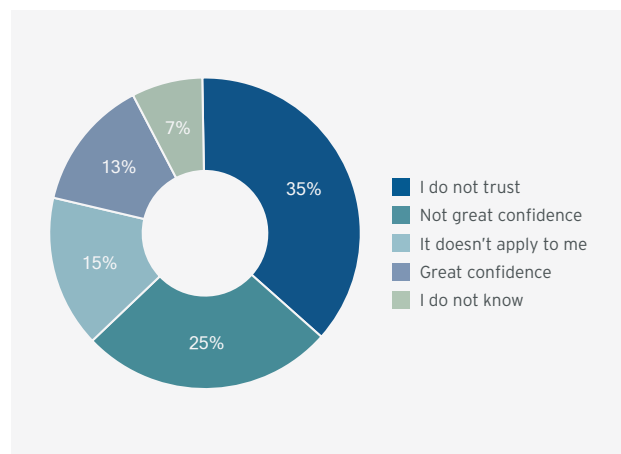
School location	Sub-neighborhood			Total
	Al-Saydeh (14 households with school-aged children)	Al-Senegal (20 households with school-aged children)	Al-Khodor (135 households with school-aged children)	
Achrafieh	3	9	49	61
Burj Hammoud	3	1	4	8
Basta	—	—	7	7
Bedawi	1	1	—	2
Badaro	1	2	—	3
Choueifat	—	—	2	2
Dekwaneh	—	2	—	2
Dawra	1	—	—	1
Furn El Chebbak	—	—	1	1
Gemmayzeh	2	—	—	2
Hadath	—	—	1	1
Jnah	—	—	1	1
Kaslik	1	—	—	1
Mousaitbeh	1	—	—	1
Mansourieh	—	—	1	1
Nehmeh	—	—	1	1
Ras El Nabeh	—	1	25	26
Sin El Fil	—	2	3	5
Tariq Al Jadideh	—	—	6	6
Verdun	—	2	—	2
Zarif	—	—	2	2
Dropped out of school	1	1	8	10

**Figure 45:** Locations of the schools where the children of Karantina currently study. Source: The Beirut Urban Lab, 2021.

<sup>24</sup> H.O.H. (22 December 2020), (Yehya al Said, Interviewer).

The children of Karantina got to a wide range of schools outside of the area. This does not contribute to developing a close-knit community. A school is a facility that not only provides learning opportunities but is also a space that establishes social relations and networks across different age groups, nationalities, and religious and political backgrounds.

Moreover, since the sub-neighborhoods house people of the same religion clustering in the same area, the analyses aims to examine if the religious institutions enhanced social connectivity. The household questionnaire included a question that asked the residents how much they trust the local religious institutions. Only 18 % of the respondents mentioned that they trust religious institutions (Figure 46). The interviews with the residents showed that the church and the mosque offer events for community engagement. A resident from Al-Saydeh sub-neighborhood mentioned that a priest used to arrange events for children in Karantina inside the park when it was open. However, in general, events in religious institutions mostly attract people from the same congregation.



**Figure 46:** Levels of trust among the residents of Karantina towards the religious institutions. Source: The Beirut Urban Lab, 2021.

## E. Businesses

The analysis of economic connectivity showed that the relationship among various mixed-used businesses in Karantina is fragmented since the businesses operate as isolated islands with no relationship with the surrounding communities or between the businesses themselves. However, in-depth field surveys inside the sub-neighborhoods showed that there is a pattern of social connectivity between the smaller micro businesses that the residents of the same sub-neighborhood operate.

“ I like Dour’awi’s Dukan, and I spend all my free time sitting there<sup>25</sup>  
أحب دكان الدرعاوي الذي أمضي فيه كل أوقات فراغي

When residents were asked in the household questionnaire ‘where do you go to spend your free time?’ and ‘what is the significance of the place for you?’, some referred to the Arabic term dukan<sup>26</sup>. The field visits showed that these micro-scale grocery shops such as Dukan Barbar, Abu Omar, Aldirghawi, Walid, Katro, and Jamil work as anchor points for people to gather and socialize. Figures 47 and 48 were taken in Al-Khodor sub-neighborhood in March 2021 and they show how the residents gather in front of the local, smaller micro businesses and sit on plastic chairs to exchange conversations with people in the streets. This practice was observed across the three sub-neighborhoods. The research team also sensed a bond between the shop owners and neighbors on the professional and personal levels.

During the field visits, The Beirut Urban Lab research team became familiar with these smaller micro businesses and were greeted on several occasions and invited for coffee or a chat. The people were welcoming and warm and provided a place for comfortable conversations. For the residents, these rooted places are symbolic landmarks in the three sub-neighborhoods and catalysts for social engagement.

<sup>25</sup> T.Y.M. (02 January 2021), (Mohammad Amshah, Interviewer).

<sup>26</sup> A dukanna is a small grocery shop commonly found in every neighborhood in Lebanon and functions at the scale of a neighborhood or a hay. In general, these shops are operated by their owners who often live in close proximity to the shop.





Figure 47 and 48. Local, micro-scale shops in Al-Khodor sub-neighborhood where residents meet and socialize. Source: Abir Cheaitli, 2021.

“ My Hay’s (sub-neighborhood) boundary is from Katro’s dukan till Abu Omar’s dukan<sup>27</sup>  
حدود الحي من دكان أبو عمر إلى دكان كاترو

“ My Hay’s (sub-neighborhood) boundary is from Soulaiman’s Bakery till Dour’awi’s Dukan<sup>28</sup>  
حدود الحي من فرن سليمان إلى دكان الدراوي

The answers to the household questionnaire showed how people use the locations of these local shops as some of the markers of the boundaries of the sub-neighborhoods. When people were asked ‘What are the boundaries of your neighborhood?’, 74 households out of the total 545 used the words dukans and bakeries to describe the limit of their sub-neighborhood.

Moreover, during a visit to Al-Khodor sub-neighborhood, the research team noted a bicycle shop (Figure 49). The owner of the bicycle shop mentioned that she and her husband live in Al-Khodor and they opened the store in early 2021. She and her husband noticed that more children play in the streets these days during the current pandemic situation, the economic crisis, and the increase in the number of incoming Syrian refugees. As such, they seized the opportunity and opened a rental bike store next to their house. She also mentioned that she was grateful to be part of the Al-Khodor community since the residents supported their new business. Another woman beside her said: “We are glad this shop opened; we come to this store, drink coffee with our neighbors, while our children play.”



Figure 49. A rental bicycle shop in Al-Khodor sub-neighborhood that opened during the Covid-19 pandemic crisis. Source: Abir Cheaitli, 2021.

However, the social ties that developed between the micro-scale shops and residents do not extend beyond the boundaries of the sub-neighborhood. The residents from each sub-neighborhood prefer to use the coffee stores, dukan, bakeries, and barbershops within their sub-neighborhood. Thus, social connections are limited to a perceived boundary between people.

<sup>27</sup> H.O.A.B. (22 December 2020), (Mohammad Amshah, Interviewer).

<sup>28</sup> T.Y.M. (02 January 2021), (Mohammad Amshah, Interviewer).

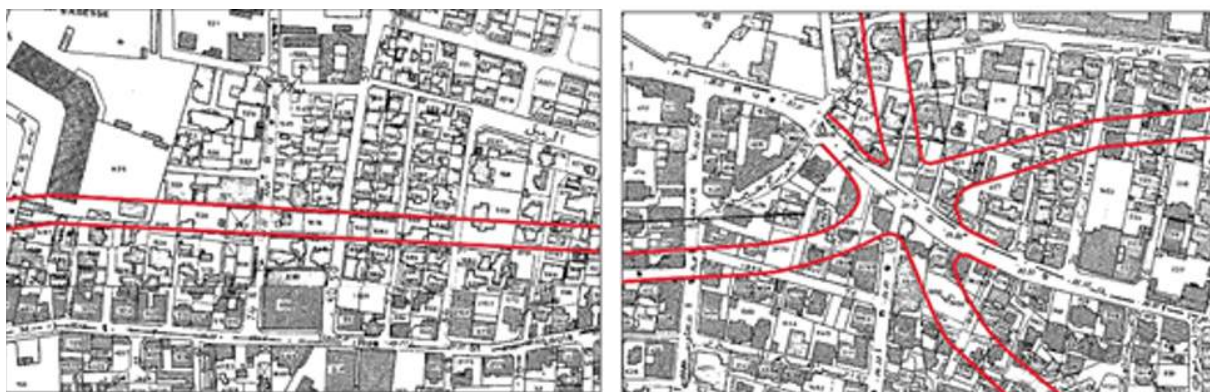
## 6. SYNTHESIS AND RECOMMENDATIONS

Connectivity allows for spatial, economic, and social networks that enable inclusive growth and sustainable development (World Bank, 2013). Karantina has ruptures at multiple levels. Karantina currently remains marginalized due to the trajectory of previous events, which resulted in critical spatial, economic, and social challenges.

The literature livability depends upon has stated that “livability depends upon three key interdependent spheres of social life: the economy, social well-being, and the environment” (National Research Council, 2002, p.32). This was also evident in The Beirut Urban Lab analysis of Karantina which revealed that there are connections between the spatial, economic, and social qualities of Karantina that are examined in this report.

### FINDINGS

- 01 Many of the highways in the Egli and Ecochard transport plans for Beirut that were implemented between the 1950s and 1960s acted as ‘infrastructural breaks’; a term that refers to the “irregular urban conditions resulting from the imposition of traffic arteries on inner cities fabrics” (Haidar & Amin, 2016, p.vi). These infrastructural breaks worked as “catalysts of urban change by cutting the spatial continuity between adjoining districts, changing the confines and structure of neighborhoods, creating residual spaces, and truncated parcels and blocks” (Haidar & Amin, 2016, p.2) (Figure 50). The Ecochard transport plan for Beirut primarily focused on facilitating accessibility to Beirut and did not engage with social and cultural needs. The implementation of the Charles Helou Highway disrupted the social fabric of the different neighborhoods in Medawar and ruptured the spatial continuity between Karantina and the rest of Beirut.



**Figure 50.** The concept of infrastructural breaks illustrated through sections of Beirut's 1964 cadastral map. It highlights the impact of the break on the urban fabric caused by the construction of urban highways. Top: Sassine Square, Alfred Naccache Avenue, and independence Avenue cutting through Achrafieh. Bottom: Charles Malek Avenue cutting through Rmeil. Source: Stoptheghighway.wordpress.com.

- 02 Two overpasses were added after 30 years and after many deaths and accidents were reported. Yet these overpasses do not provide accessibility for people with special needs. They are not maintained, and do not provide shade from the sun nor shelter from the rain. They also attract burglars since they do not have a lighting structure. An overpass can be more than just a crossing structure; it can be a piece of artwork and a gateway that connects different communities (University of North Carolina, 2016).
- 03 Karantina is also located at the edges of the taxi's and bus drivers' routes in Beirut.

- 04** Spatial fragmentation and isolation resulted from the block typologies and land-use in Karantina, which until now prevent a certain degree of porosity along the edges of the area. Porosity or permeability refers to the extent to which urban morphology permits or restricts the movement of vehicles and people (Marshall, 2005; National Transport Authority, 2015). The edge conditions of Karantina are clearly defined and confined within harsh borders and lot typologies that work as a barrier, preventing pedestrian and vehicular accessibility and visual connectivity. They are defined by the Port of Beirut, the Charles Helou Highway, the Beirut River, and the security elements from the military in Karantina.
- 05** The streets, sidewalks, and in-between spaces are not safe for people to meet, or for kids to play, and they do not operate as urban elements that link the three sub-neighborhoods in Karantina. The fragmented and degraded urban fabric played a role in increasing the levels of discontinuity between the sub-neighborhoods and in decreasing social connectivity among the residents. They do not invite people to pose and enjoy or encourage and trigger spontaneous encounters beyond the perceived boundaries of the sub-neighborhoods. Public spaces do not follow urban design principles and urban furniture to animate the sidewalks and activate street frontages. One main street element that is missing is streetlights; a resident of Karantina mentioned that several residential frontages on the ground floor turn on their light to illuminate the streets at night. Another urban element that is missing is litterbins; as a result, littering is common in many open spaces and damages the aesthetic quality of the space<sup>29</sup>.
- 06** The analysis showed that some businesses act as active magnets, but the majority act as isolated economic islands while others engage in unsustainable practices that pollute the urban environment. The analysis also showed that there are missing economic chains such as banks that can connect Karantina to a larger network of services in Beirut. The old slaughterhouse, the fish market, and the Port of Beirut function as economic catalysts that provide job opportunities, enhance pedestrian flow, and social networks. These businesses extended patterns of networking to other areas through exclusive services that create economic and social connections that the residents boast.



**Figure 51.** The interior space of a building in Karantina that is rented out to the Sfeir- Semler Gallery.  
Source: [www.sfeir-semler.com](http://www.sfeir-semler.com).

On the other hand, other facilities work as introverted and isolated islands. They were attracted to the strategic location of Karantina, its rental market, and the typology of buildings including galleries, showrooms, industrial corporations, and storing accommodations (Figure 51). The analysis also showed that Karantina lacks a bank, a gas station, and a restaurant. These businesses can be easily found in other areas in Beirut. Institutions and community centers are also missing in Karantina. Karantina does not have cultural centers, sports facilities, or education amenities that can provide people with opportunities to come together and engage with the community. These institutions can be considered as services to the community but can also boost the economic sector.

- 07** On the social level, connectivity was studied in the sub-neighborhoods rather than at the level of Karantina as a whole, and each sub-neighborhood exhibited different patterns of social networks. There are patterns of links among residents of the same sub-neighborhood. Networks of interpersonal ties that developed through familial, religious, or connections between neighbors provide sociability, support, information, a sense of belonging, and social identity. Nevertheless, there was a pattern of disintegration between the residents of the different sub-neighborhoods.

<sup>29</sup> Refer to Transversal Issue V 'quality of the urban environment' for further details.



They also perceive the boundaries of the sub-neighborhoods in different ways. During the interviews, the thematic group discussions, and the Town Hall meetings, the residents questioned the names and the boundaries of the different sub-neighborhoods. It was challenging to draw one common boundary that represents all the residents. The perception of boundaries can produce social connections or isolations. The analysis showed that the residents' perception of boundaries was associated with the following categories:



### Edges

“من نهر بيروت إلى جسر شارل الحلو”



### Religious Landmarks

“من الكنيسة إلى جامع الخضر”



### Neighborhoods

“من مار مخايل إلى برج حمود”



### Communities

“المنطقة التي يسكن فيها العرب”



### Institutions

“من المستشفى إلى المسلخ”

Sometimes the boundaries were a combination of different components such as:

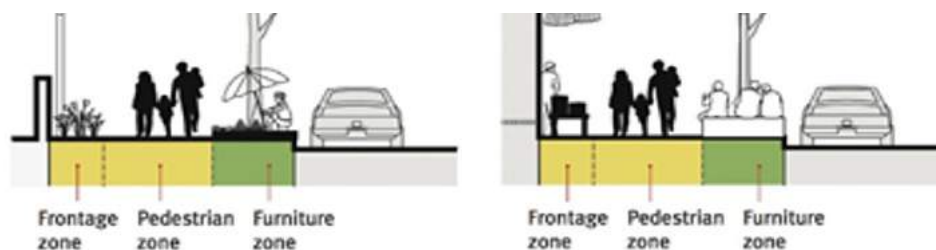
“من مار مخايل إلى ثكنة الجيش”

“من الرابطة المارونية حتى مدخل البور”

“من جامع الخضر إلى ثكنة الجيش المدفعية ومن شركة الغاز الى تمثال المغتربين”

## RECOMMENDATIONS

- 01 Footpaths have the potential to stitch the urban fabric of Karantina, not only to reconnect Karantina to adjacent communities but to also attract new people. Accordingly, the existing overpasses must be redesigned according to urban design guidelines for accessibility, inclusivity, and safety for all users, as well as introduce new urban furniture that adapts to seasonal and day and night conditions.
- 02 Public transport can decrease the level of isolation in an area by creating connections between spaces and people (Bai, 2015). Accordingly, there is a need to connect Karantina to the taxi and informal bus routes in Beirut and introduce bus stops at strategic nodes. On the long term, Beirut also needs a public transport system that can further benefit Karantina. This will reduce the perception of isolation and stigmatization in Karantina and the commuting pressure on employees, the elderly, and people with disabilities.
- 03 The edges should be redesigned to become more porous. For example, the concept of ‘short blocks’ that Jacobs developed in 1961 (Jacobs, 1961) can be used to promote permeable morphology, interconnectivity, and synergies between the different agents in Karantina. This concept can be implemented in the large lots that the Municipality of Beirut owns. There is also a need to enhance accessibility to the sea, which was reduced with successive stages of the expansion of the port. The sea before the expansion of the port operated as a leisure and important cultural asset for the residents of Karantina and the surrounding neighborhoods. Reactivating this edge will attract people to Karantina and boost socio-cultural activities.
- 04 Public spaces need to be designed in the form of linkages that can enhance physical and visual connectivity in the urban fabric and, as a result, improve movement and accessibility (Ewing, 2013). The upgrading and enhancing of public spaces will activate street frontages and create interaction between people walking on the streets, the residents, and the businesses (Figure 52).



**Figure 52.** Sidewalk frontages should operate as buffer zones between different land-uses and accommodate underground utilities, trees, and furniture that can reduce obstacles to walkability. Source: ITDP's Better Streets, Better Cities, 2011.

- 06** If appropriately selected and placed, street furniture (pedestrian-scale streetlights, fountains, benches, special paving, and public art) can draw people to outdoor spaces; they encourage walkability and create spaces of encounter for people to sit, rest, and eat, hence, they boost the economy and break patterns of social fragmentation. People do not need elaborate interventions to use a space; rather, they are likely to sit where there are places to sit (Whyte, 1980).
- 07** There is a need to regulate the industrial sector in Karantina that contributed to its stigmatization and increased the levels of pollution in the urban environment at multiple levels. A connected network of businesses should operate in collaboration with public officials, stakeholders, and residents to align the economic activities in Karantina with the strategic goals of sustainable development growth. This strategy could support long-term economic growth without negatively affecting the social, environmental, and cultural aspects of the community.
- 08** The smaller micro businesses provide opportunities for entrepreneurs and jobs for locals, and they operate as community places for the residents to gather. As such, they have the potential to reinforce a community identity that is rooted in place while providing sustenance and improving vitality (Gartenstein, 2019). Future investments should also focus on local micro businesses, which as evident in the analysis, are essential elements of social connectivity. The aim is to improve economic competitiveness through reliable access to services and employment and educational opportunities for the communities and businesses in Karantina.
- 09** Steps need to be taken to ensure that the sub-neighborhoods are more integrated as a whole and that they equally receive the resources that they need. The community developer, Maurice A. Jones (2018), mentioned that in strong communities, local interests can converge, and people are more likely to share information, form networks, and take collective action on local issues with investors and government departments to advocate for their needs. As such, it is important to understand that Karantina has social, economic, and cultural layers that are intertwined with the daily lives of people in each sub-neighborhood. The key is to form social and strategic connections that can empower the residents of Karantina and foster a culture of equal participation. This can be achieved through the implementation of community centers and landmarks that can help mitigate social fragmentation and act as social catalysts for community cohesion, sense of belonging, and cultural diversity.

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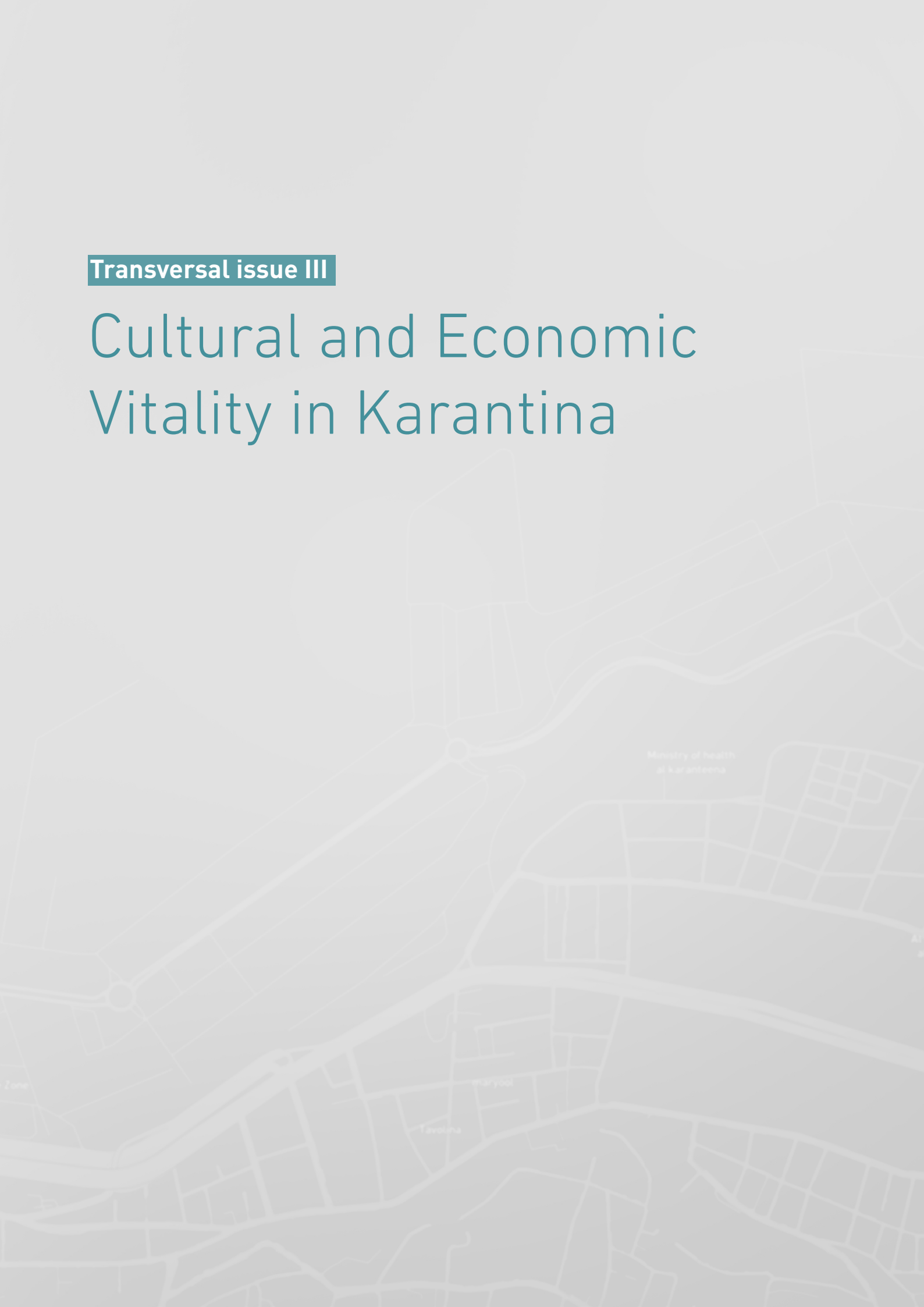
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**Transversal issue III**

# Cultural and Economic Vitality in Karantina





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# 1. INTRODUCTION

This section of the report presents the strategic diagnosis of the cultural and economic vitality in Karantina, one of the five transversal issues that were generated at the end of the descriptive memory report.

The descriptive memory report provided a general understanding of the key economic drivers in Karantina with a brief on the local cultural activities. Lebanon is currently experiencing a sharp decline in the activities of the economic sector due to the economic meltdown since 2019<sup>1</sup>, ongoing political instability, the global outbreak of the COVID-19 pandemic, and the recent port blast in 2020. The port blast exacerbated the vulnerability of businesses and households in the impacted neighborhoods, including Karantina where 70% of the population is unemployed<sup>2</sup> (Beirut Urban Lab, 2021). In this context, this section aims to present a more focused understanding of the economic and cultural activities through an in-depth profile of the business sector and cultural practices in Karantina. It builds on the diagnosis of their status in relation to the components of vitality and the relevant trends of transformation in Karantina.

## Position

The term vitality was widely discussed in the literature and defined by Shaffer and Summers (1988) as “the ability to survive, to persist in generating desired outcomes.” (p. 1). Many scholars linked the definition to three main sectors; economy (Shaffer & Summers, 1988; Mountlake Terrace County, 2015; Berk Consulting Inc., 2015), culture (Cole, 2019), and urban space (Jalaladdini and Oktay, 2012).

In this regard, economic vitality can be defined as the capacity of a social group or community in a given area to having decent jobs, viable businesses, and/or profitable investments, with very few people at a poverty level (Shaffer & Summers, 1988; Mountlake Terrace County, 2015; Berk Consulting Inc., 2015). However, cultural vitality of a place corresponds to the distinctive identities and sense of place that create opportunities for cultural participation, social interactions and business development among the local community groups (Jackson, Kabwasa-Green, & Herranz, 2006; Duxbury, Gillette, & Pepper, 2007). In an urban setting that encompasses the social, economic, cultural, and spatial aspects, it is important to know what factors influence the survival and the reproduction of the urban spaces, economic units, social groups, and cultural practices and spaces (Shaffer & Summers, 1988; Jalaladdini & Oktay, 2012). This is possible by observing successes, failures, challenges, and opportunities from which inferences may be made.

In the context of this study, the term vitality is anchored in the diversity, intensity, and sustainability of economic and cultural practices. Cultural practices are communal practices that are linked to a group of people and is sustained over time to form a ‘culture’. It can operate at multiple spatial scales. However, some cultural practices are limited to the residents who are geographically distributed among three different residential sub-neighborhoods in Karantina, while others attract people from outside Karantina. As such, some cultural practices are associated with economic activities while others are associated with the daily practices of the residents. In some cases, social and economic activities intersect. This will be further explored in the analysis in this report.

The components of economic vitality that are investigated in this report included: (1) economic sustainability through land tenure, key services, financial support, and human resources (2) the diversity and intensity of businesses by type, size, age, locality, and inclusion of business owners by class, sect, gender, and nationality (3) connectivity to customers, serviceability of businesses, and their relation to the surrounding neighborhoods. Similarly, cultural vitality in Karantina is also examined through the components of sustainability, diversity, and intensity of the cultural practices. The analysis includes the types of practices, their intensity, and how they are related to the residents of Karantina and people from the rest of Beirut. Accordingly, this section explores the current conditions of cultural and economic vitality in Karantina by analyzing sets of qualitative and quantitative data.

<sup>1</sup> According to the World Bank, Lebanon's GDP plummeted from about US\$55 billion in 2018 to a projected US\$20.5 billion in 2021, while real GDP per capita fell by 37.1 percent.

<sup>2</sup> This does not account for take into account child labor.

## Hypothesis

Karantina has long experienced a decline in its economic and cultural activities that was exacerbated by the port blast. The cultural activities were reduced to everyday socio-spatial practices in the sub-neighborhoods and were limited to some of the artistic practices in the Industrial Zone. Previously, the socio-economic and recreational practices were more vibrant in Karantina, especially before the closure of the slaughterhouse in 2014, which was considered as an integral part of the lives of the residents of the Arab tribes<sup>3</sup>, and the closure of many recreational and leisurely hubs due to the port blast. Besides, Karantina hosts land-uses that are directly connected to the port, including a diversity of commercial and industrial facilities that were impacted by the port blast.

# 2.METHODOLOGY AND DATA COLLECTION

The diagnosis of economic and cultural vitality in Karantina is based on the analysis of primary data<sup>4</sup> from answers to questionnaires, interviews, thematic focused group discussions, town hall meetings, and spatial mappings between January and June 2021. The primary data was also compared to some of the secondary data that is available on specific topics, for example, the closure of the slaughterhouse, and validated by information from the one-on-one interviews and the thematic focused group discussions. The data helped the research team form an in-depth understanding of the economic and cultural activities in Karantina, define problems and shortcomings, and identify historical trajectories for these activities. It is important to note that the analysis was carried out in relation to a definition of the term 'vitality' that is specific to the context of Karantina.

## SOURCES OF DATA COLLECTION

### PRIMARY DATA

#### 1. Semi-structured Questionnaires

Face-to-face and online interviews were conducted to obtain the required information on 83 out of the 140 local businesses. The interviews were divided as follows:

1. 62 micro businesses were interviewed by the citizen scientists from the three sub-neighborhoods of Al-Khodor, Al-Saydeh, and Al-Senegal.
2. 21 micro, small, to medium-sized businesses in the Industrial Zone were interviewed by The Beirut Urban Lab research team.

The questionnaires were divided into eight sections, including: **(1)** the profile of the business owner, **(2)** general information on the business, **(3)** information on the property or store, **(4)** information on the size and financial situation of the business, **(5)** the scope of assessment, aid, and relief after the port blast, **(6)** the quality of the sub-neighborhood, **(7)** the social and political trust among the business owners, and **(8)** the vision for the sub-neighborhood vision.

The data was georeferenced and statistical charts and graphs were generated for comparative analysis across the sub-neighborhoods.

<sup>3</sup> Also known as Arab al maslakh (عرب المسلخ). "Al maslakh" means the Slaughterhouse. The term is associated with the Arab tribes because they used to work in the business of slaughtering animals.

<sup>4</sup> The primary data was collected after the blast due to the absence of an in-depth profile of the socio-economic situation in Karantina.



## 2. Thematic Focused Group Discussions

One of the thematic focus group discussions on cultural and economic vitality was held in April 2021 and covered some of the critical issues that emerged from the preliminary results of the questionnaire, such as the phenomena of evictions after the port blast, the increase in rent prices, and new small to medium-sized companies in the Industrial Zone after 2019. The focus group discussion brought together business owners from the three sub-neighborhoods (Al-Khodor, Al-Senegal, and Al-Saydeh), and the Industrial Zone with different socio-economic backgrounds (Figure 1). It included the smaller micro businesses (including minimarkets and tailor shops), the larger micro businesses (including shipping services and mechanic shops), and small and medium-sized industries (including freight services and furniture shops) with a diversity of tenure (old versus new rent) and ownership types.

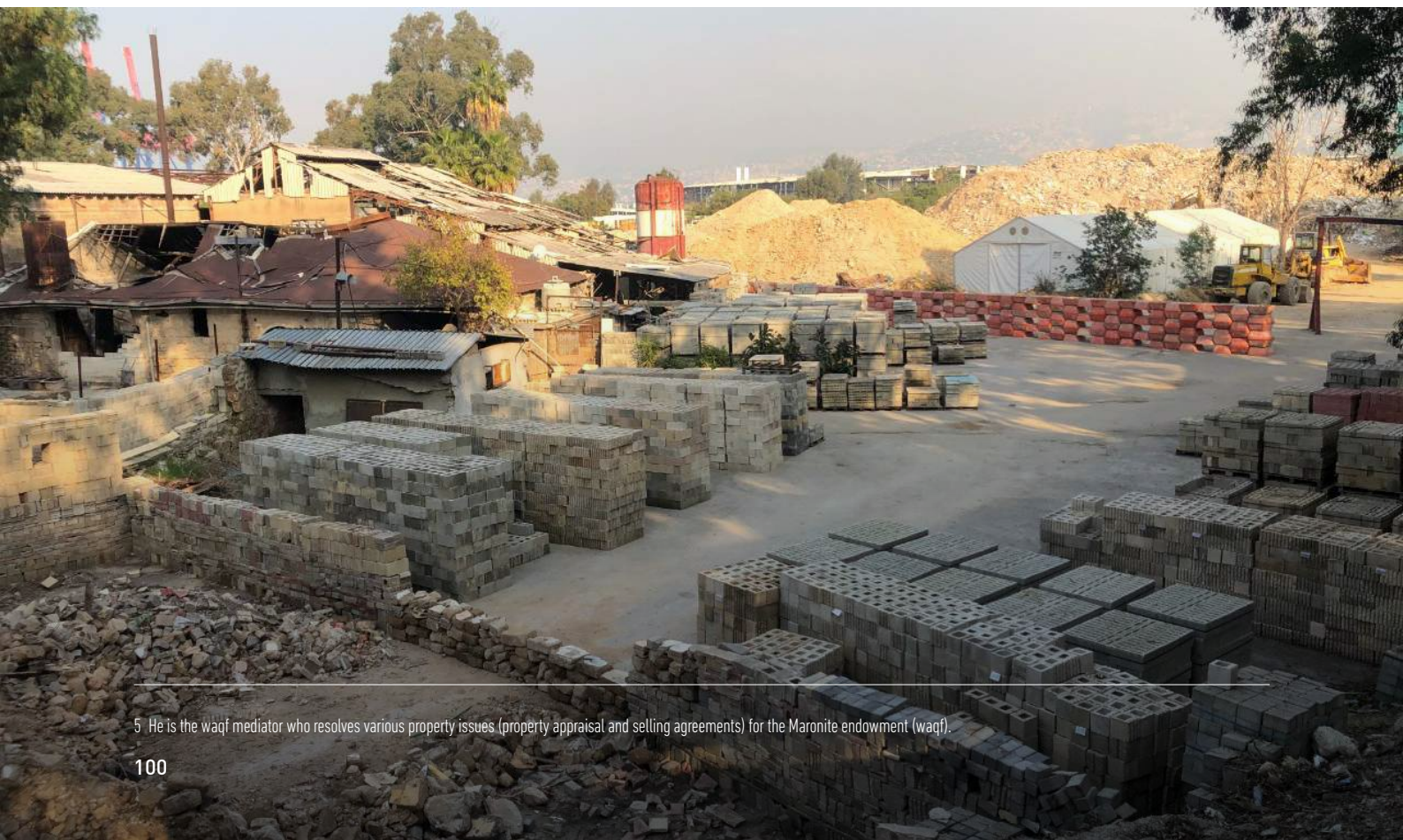


**Figure 1:** Group of business owners discussing different issues during the focused thematic discussion at the UNDP Office- Karantina. Source: Ali Ghaddar, 2021.

The meeting was considered as an opportunity for the attendees to listen to the stories of each other, understand the status of current business activities, and form an idea about their pressing needs.

## 3. One-on-one Interviews

One-on-one interviews were conducted with two attendees of the thematic focused group discussion. The first interviewee was with Naji Obeid<sup>5</sup> who played a role in transforming the economy of Karantina and planned to attract small and medium-sized companies (logistic companies, car showrooms, and recreational centers) to the Industrial Zone. The other interviewee represented businesses that are rooted in Karantina and inherited the profession from his family members. He had previously worked in the slaughterhouse. The aim was to understand the process of the transformation of the old businesses and how the trend of declining and emerging businesses is transforming the economy and culture in Karantina.



<sup>5</sup> He is the waqf mediator who resolves various property issues (property appraisal and selling agreements) for the Maronite endowment (waqf).

## 4. Field Mapping and Field Observations

The relevant data was collected through site visits, field observations, walk-through assessments, and informal conversations. Subsequently, the collected data was discussed with the members of the research team to further validate the findings. In addition to the physical mapping (for example, the mapping of buildings), the team mapped socio-spatial practices in Karantina, the involved users, and their intensity by location and time during the day to understand their role in enhancing cultural vitality. The mapping was supported by data that was extracted from the household questionnaire regarding the number of users, type of socio-spatial and leisurely activities, and their relationship between the residents and public spaces.

## SECONDARY DATA

In addition to the primary sources, the analysis of data also relied on secondary sources such as: **(1)** historical maps that show the historical development of key businesses in Karantina, **(2)** articles and documents about the activities of the key economic drivers in Karantina, including the slaughterhouse and fish market, and **(3)** the Urban Snapshot report (Descriptive memory) of Karantina that The Beirut Urban Lab produced after the port blast. The Urban Snapshot report included a general profile of Karantina that guided the preliminary findings. The report located the effect of the port blast within the larger urban trends in Beirut that influenced the development of Karantina over the past three decades.

## METHODS OF ANALYSIS

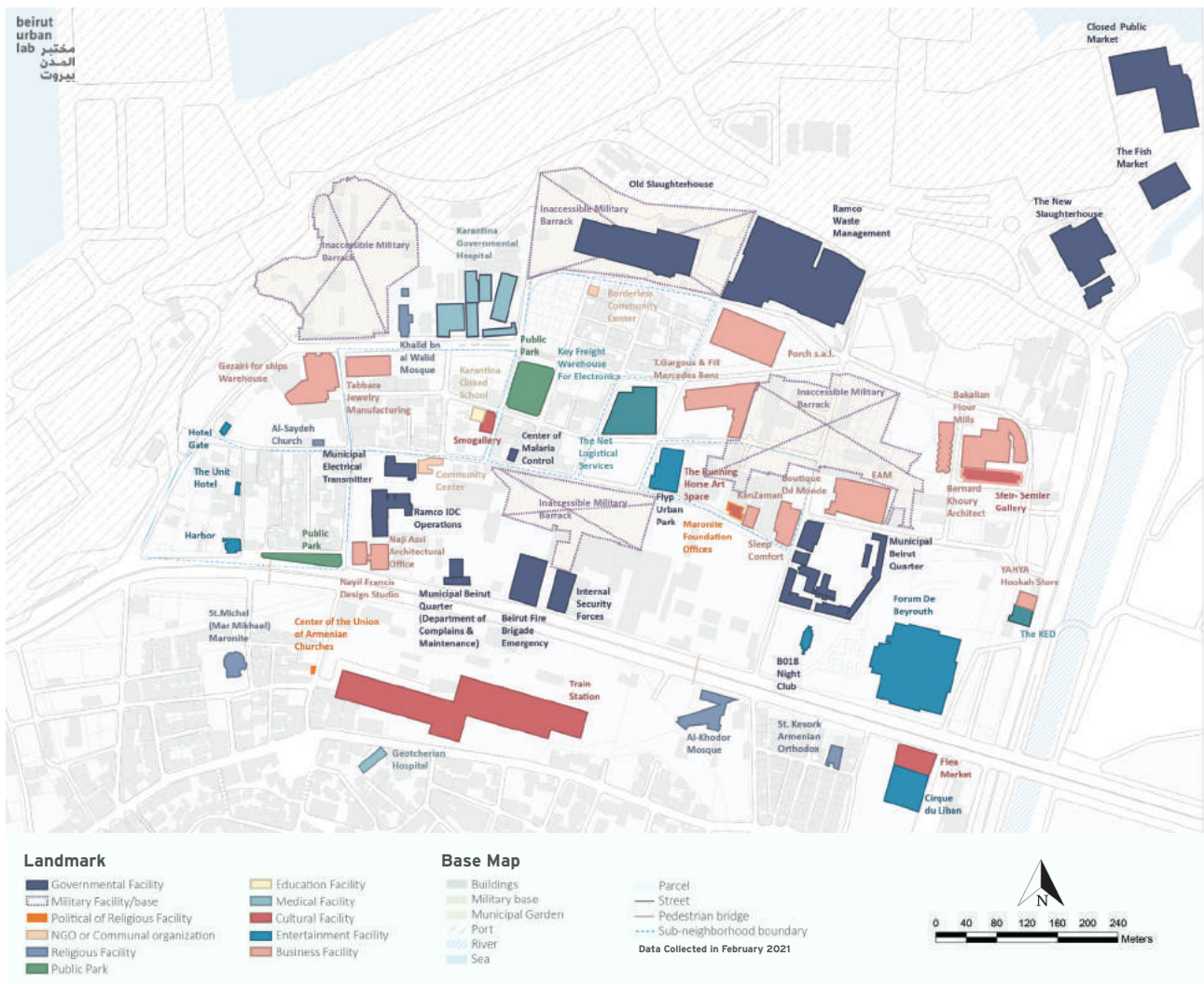
This section of the report used statistical analysis to analyze in-depth the economic activities by profiling the business and business owners, exploring efforts to distribute compensations and conduct repair after the port blast, and studying access to business services and funds. Statistical analysis was also used to measure cultural vitality by understanding the interest of the community groups in public spaces, the types of daily practices, and the availability of art and crafts facilities. The research also relied on comparative analysis to understand the different patterns of businesses, their sizes, and the nationalities and socio-economic profiles of their owners across the three sub-neighborhoods. Spatial analysis was crucial to explore the various types of socio-spatial practices in Karantina, the tenure patterns, changes in land-uses, and fluctuations in rent prices in the sub-neighborhoods. Cross-referencing information was also important to explore multiple spatial correlations such as the increase in the number of eviction suits for businesses in relation to tenure type, rent increase, and the status of repairs. The data gathered was located and spatialized using the mapping software ArcGIS.

# 3. IN-DEPTH PROFILE OF THE ECONOMIC AND CULTURAL ACTIVITIES IN KARANTINA

The descriptive memory report showed that Karantina serves as a reservoir of cheap labor that supports the activities of the port and neighboring industries, and it includes large lots that host many services and facilities that serve the city at the local and regional scales.

It includes SUKLEEN, a waste management facility, the closed slaughterhouse, a closed commercial market, the fish market, the governmental hospital, and a large parking space for the municipality. It also accommodates new and emerging businesses that spilled from the surrounding neighborhoods into Karantina; these include shipping services and creative industries. Additionally, various companies took advantage of the morphology of the lots in the Industrial Zone and the proximity of Karantina to the port to set up their warehouses; examples of these companies include Key Freight and Key Net Logistics, Gezairi Transport, and Flyp Urban Park (Figure 2).





**Figure 2:** Neighborhood Landmarks in Karantina. Source: The Beirut Urban Lab, 2020.

It is important to note that the descriptive memory report showed that the emerging recreational, leisurely, and cultural activities were attracted by the low rent market<sup>6</sup> for commercial facilities prior to the port blast. These commercial facilities attracted both locals and visitors with diverse backgrounds. However, the emerging businesses did not provide job opportunities for the residents of Karantina who were treated as cheap labor with no expertise and skills. Furthermore, many residents are under the threat of potential displacement and gentrification on the long term due to the emergence of new creative industries.

The descriptive memory report also explored the main professions of the residents of Karantina who work in unskilled jobs; they work as delivery people, taxi drivers, and daily workers at the port. Currently, the residents are impacted by the collapse of the national economy and the devaluation of the local currency. Some of the residents previously worked in the slaughterhouse which closed in 2014 for political and hygienic reasons. The closure of the slaughterhouse affected many families in the Al-Khodor sub-neighborhood; they were named 'Arab al maslakh' after the slaughterhouse.

The following section provides an in-depth profile of the economic activities in Karantina and a reading of the current socio-spatial practices that are crucial to enhancing cultural vitality. The in-depth profile is based on information from the results of the questionnaires and spatial mappings that complement the general views in the descriptive memory report and support the analysis through quantitative data.

6 The rental market is low relative to other areas in Beirut, especially, surrounding the neighborhoods surrounding such as in Mar- Mikhael and the Beirut Central District.



The in-depth profile includes: **(A)** the profile of the economic activities in Karantina, including the backgrounds of business owners (nationality, place of living, level of education, and gender), the types and sizes of businesses, the types of tenure, and the aid that was distributed to the business owners after the port blast; and **(B)** the profile of the cultural activities in Karantina that was supplemented by detailed mapping of the current socio-spatial practices divided by type and intensity.

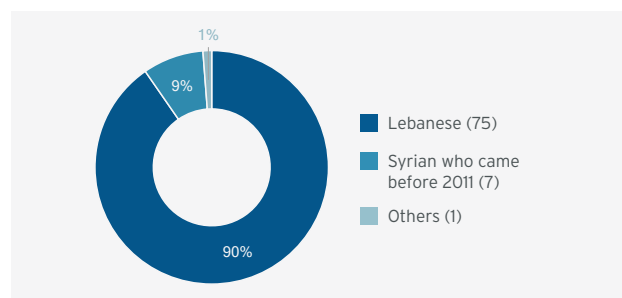
### 3.1. IN-DEPTH PROFILE OF THE ECONOMIC ACTIVITIES IN KARANTINA

#### A. The Profiles of Business Owners

“ We are very upset from this neglect to this area’s community<sup>7</sup>  
 نحنا كثير مستائين من إهمال المجتمع يلي بهل المنطقة

#### Nationalities and their Distribution in the Sub-neighborhoods

90% of the surveyed business owners in Karantina are mainly Lebanese, and they constitute 75 business owners out of the total 83. 26 of the business owners are from the Arab Tribes who live mostly in Al-Khodor sub-neighborhood. The Syrian business owners are limited to a few in comparison to the large number of Syrian households in Karantina. Only 9% of the surveyed businesses are owned by Syrians who arrived to Karantina before the start of the Syrian in 2011.

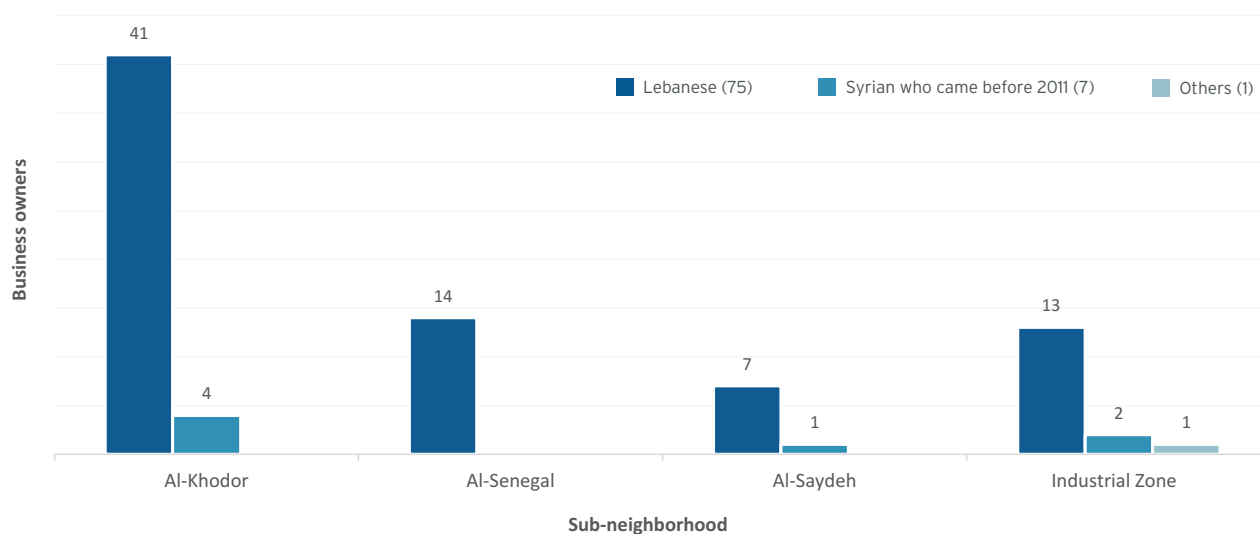


**Figure 3:** The nationalities of the business owners.  
 Source: The Beirut Urban Lab, 2021.

They own business such as garages for mechanic repairs, machine repair shops, minimarkets, and furniture showrooms. Hence, Syrians refugees who arrived to Karantina after 2011 did not open their own local businesses (Figure 3).

Most of the surveyed business owners are Lebanese with the highest percentage in Al-Khodor sub-neighborhood, and they constitute 41 business owners out of the total 73. Although the number of Syrian businesses is little, Syrians have more businesses open in Al-Khodor than in the other sub-neighborhoods. This is due to the fact that the Syrian households are more concentrated and welcomed in Al-Khodor sub-neighborhood. Additionally, only one of the business owners is Lebanese-German and runs a gallery in the Industrial Zone. The gallery attracted many leisure and commercial activities to open in Karantina (Figure 4).

<sup>7</sup> First Town Hall meeting, Karantina, (2022-April-11).

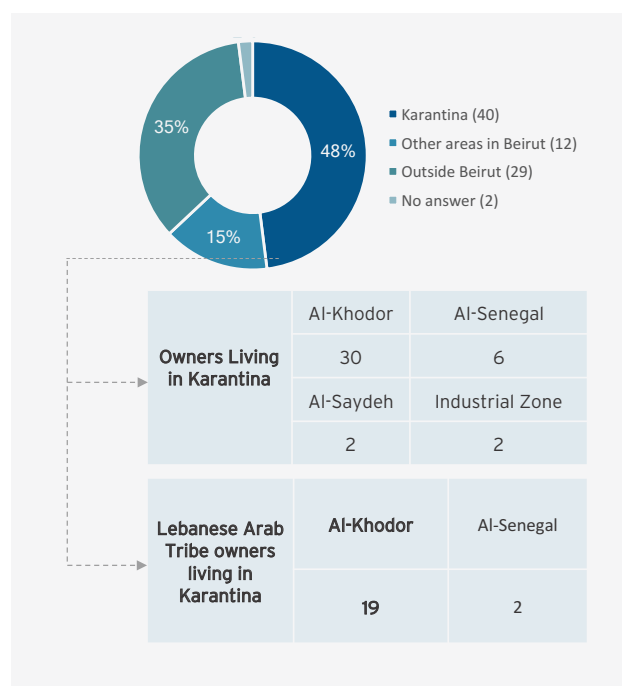


**Figures 4.** The distribution of nationalities of business owners across the sub-neighborhoods.  
Source: The Beirut Urban Lab, 2021.

## Place of Living

Half of the surveyed business owners live in Karantina, constituting 40 business owners out of the total 83, while 29 live outside Beirut, and 12 live in other areas in Beirut (Figure 5). Most of the medium-sized businesses and chain companies, such as the logistics, food wholesale, and creative industries, are owned by people who live outside of Karantina. Hence, Karantina attracts investments and has become a destination for commercial and trade activities.

Most of the business owners who reside in Karantina live in Al-Khodor sub-neighborhood, constituting 30 business owners out of the total 40; the majority are from the Lebanese Arab Tribes. 19 of these business owners reside in Al-Khodor while the remaining 2 reside in Al-Senegal (Figure 5). As such, Al-Khodor sub-neighborhood accommodates many of the Arab Tribe families who live and work there. Additionally, most of the business owners who live outside Beirut come from areas in Greater Beirut such as Khalde, Jdeideh, Jnah, Fanar, Halat, and Zalka. The business owners who live in Beirut but outside Karantina are mainly from neighboring areas such as Achrafieh, Al Zarif, Sanayeh, Hamra, and Salim Salam.

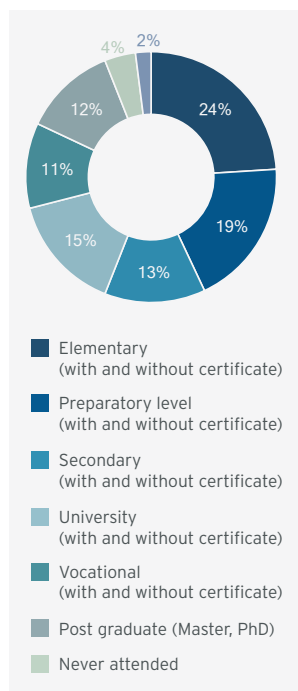


**Figure 5:** The location of business owners and distribution of the occupation of business owners per locality.  
Source: The Beirut Urban Lab, 2021.

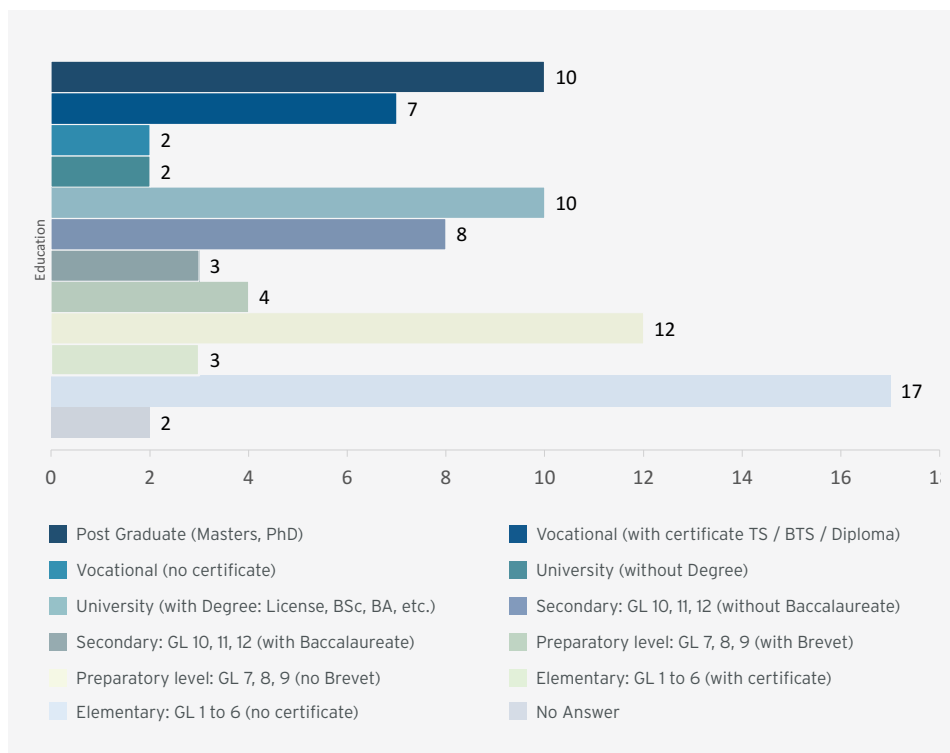
## Level of Education

The research team also analyzed the level of education of the surveyed business owners. The data showed that almost 40% of business owners did not complete their education or attend university. This is attributed to different reasons including the outbreak of the civil war and the local levels of poverty (Figure 6). The data further showed that most of the business owners attended elementary school but did not attain a school certificate (17 business owners).

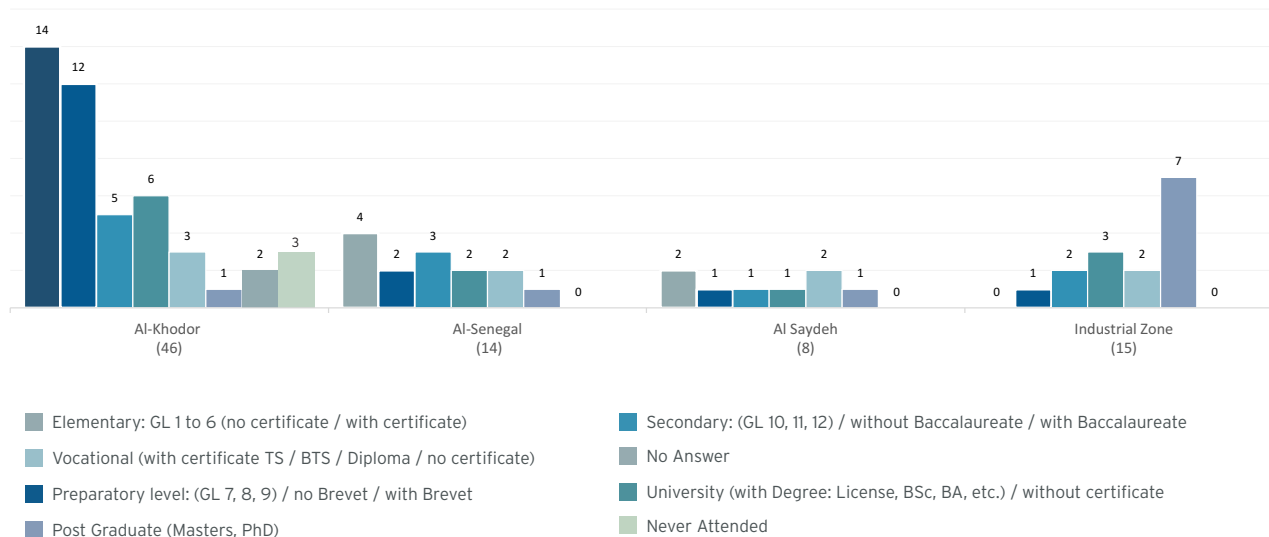
A big number of the business owners also attended preparatory school without holding a brevet certificate (12 business owners), some completed post-graduate degrees (10 business owners), while only 3 business owners never attended school (Figure 7 and 8).



**Figure 6:** The level of Education of the business owners. Source: The Beirut Urban Lab, 2021.



**Figure 7:** The level of Education of the business owners. Source: The Beirut Urban Lab, 2021.

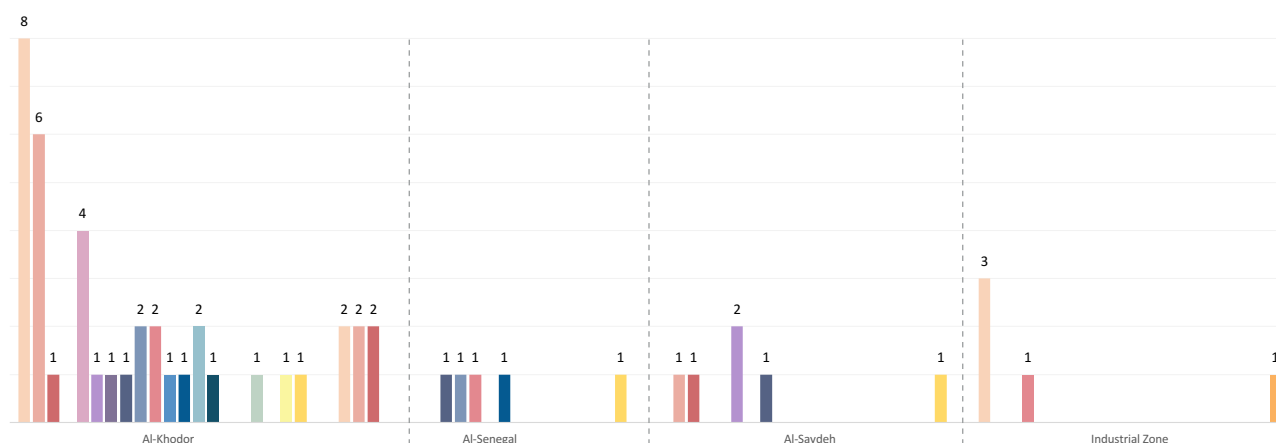


**Figures 8.** The level of education of business owner in the sub-neighborhoods and the Industrial zone. Source: The Beirut Urban Lab, 2021.

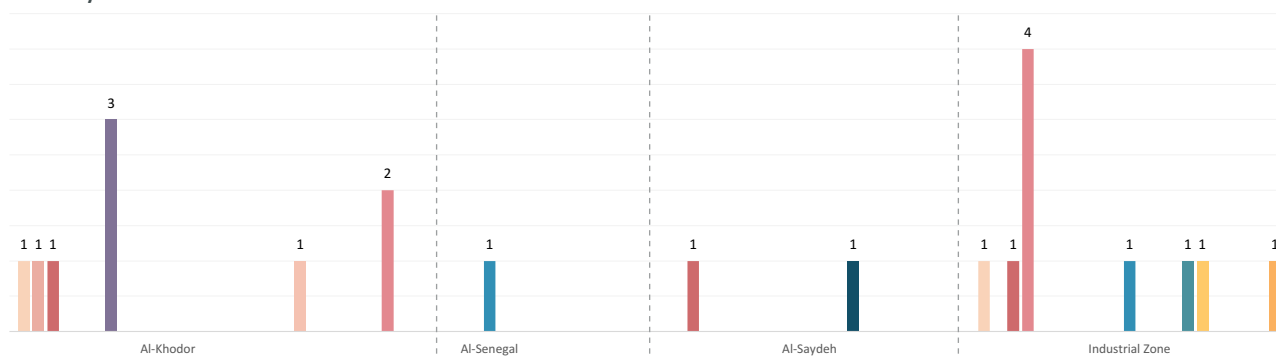
The level of education of business owners was also studied in each sub-neighborhood. The majority of the 46 business owners in Al-Khodor attended elementary and preparatory school while a few completed post-graduate degrees. The majority of the 14 business owners in Al-Senegal attended elementary school while a few completed post-graduate degrees. The majority of the 8 business owners in Al-Saydeh completed vocational training (with a TS/BTS/Diploma) or attended elementary school. The majority of the 15 business owners in the Industrial Zone completed post-graduate degrees while a few only attended preparatory school (Figure 9).



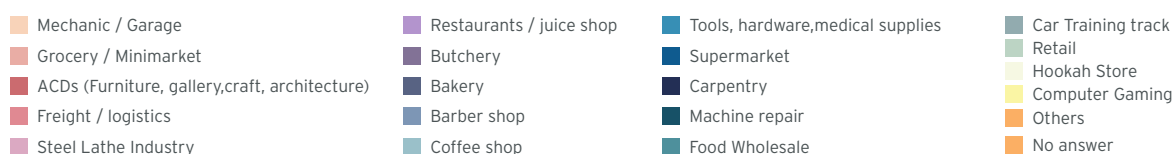
## Elementary, Preparatory, Secondary, and Vocational Levels



## University and Post Graduate Levels



## Never Attended School



**Figures 9.** The level of education of business owners in relation to their type of work and location in the sub-neighborhood. Source: The Beirut Urban Lab, 2021.

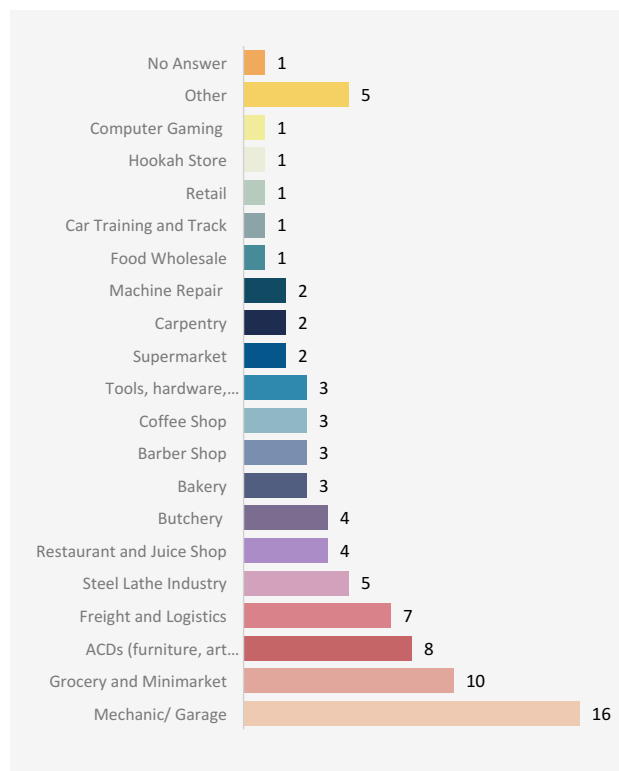
The level of education of the business owners was further explored according to the main economic activities in each sub-neighborhood (Al-Khodor, Al-Senegal, and Al-Saydeh) and the Industrial Zone. Figure 9 shows that most of the business owners who did not attend or finish high school run micro-scale trade and commercial shops (mechanics shops, grocery stores, minimarkets, and steel lathing workshops) and are mostly located in Al-Khodor sub neighborhood. Additionally, most of the business owners who attended university and completed post-graduate studies run businesses that do not require a school or university degree; these include butchery stores and minimarkets in Al-Khodor. However, many of the businesses that require a university degree are in the Industrial Zone; these include key freight, logistics, art galleries, food wholesale, and mechanics shops.

## B. Types of Businesses

### A. Private Sector (Micro, small, to medium-sized enterprises)

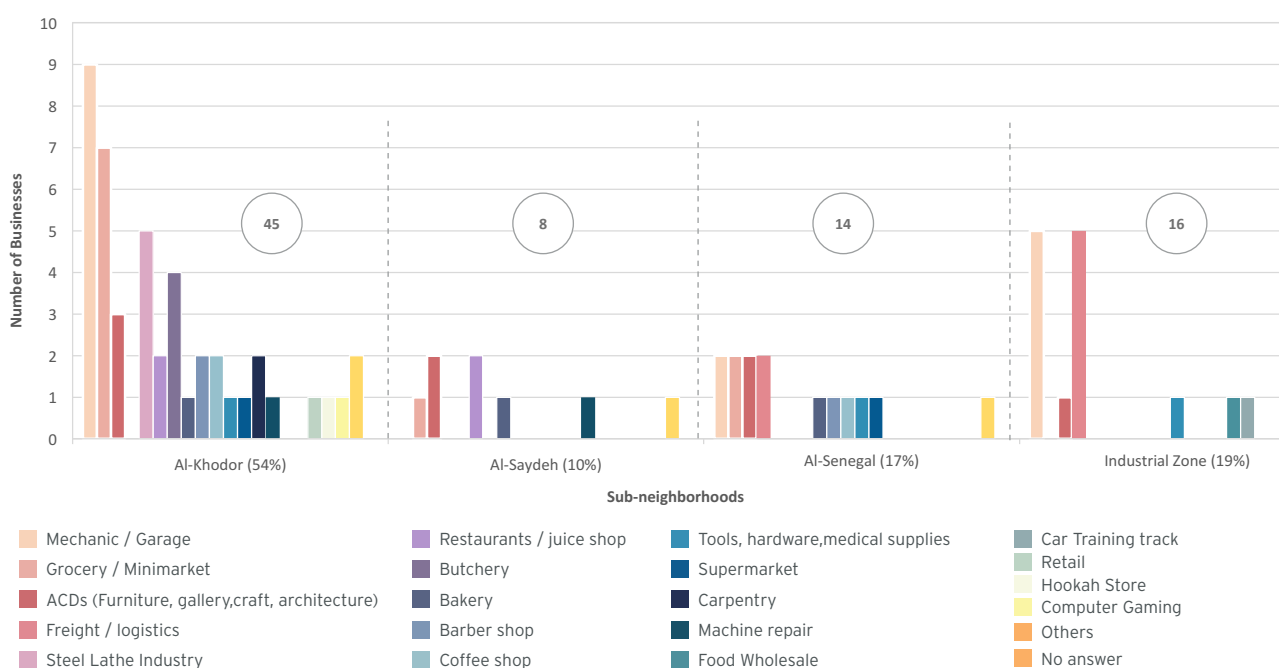
Some of the businesses are related directly or indirectly to the activities of the port. The answers to the questionnaires showed that 19% of the surveyed businesses are mechanic shops and garages. This high percentage is due to the high number of transit trucks and vehicles in Karantina. Additionally, 8% of the surveyed businesses provide freight, logistic and shipping services. A few businesses provide equipment and machine repairs. Additionally, Karantina attracted art galleries, showrooms, and architectural offices, constituting 10% of the surveyed businesses. However, leisure and recreational spaces are scarce in Karantina; there are 3 coffee shops, 1 computer gaming shop, 1 hookah store, and 1 car training track. Other businesses include food wholesale companies, carpentries, and steel lathing workshops (Figure 10).

The distribution of business types in the sub-neighborhoods showed that there are 9 mechanics and garage workshops, 7 grocery and minimarkets, and 2 food shops and 2 coffee shops in Al-Khodor, while there is one business of each of these categories: bakeries, hookah stores, and furniture showrooms.



**Figures 10.** The numbers of the surveyed businesses by type. Source: The Beirut Urban Lab, 2021

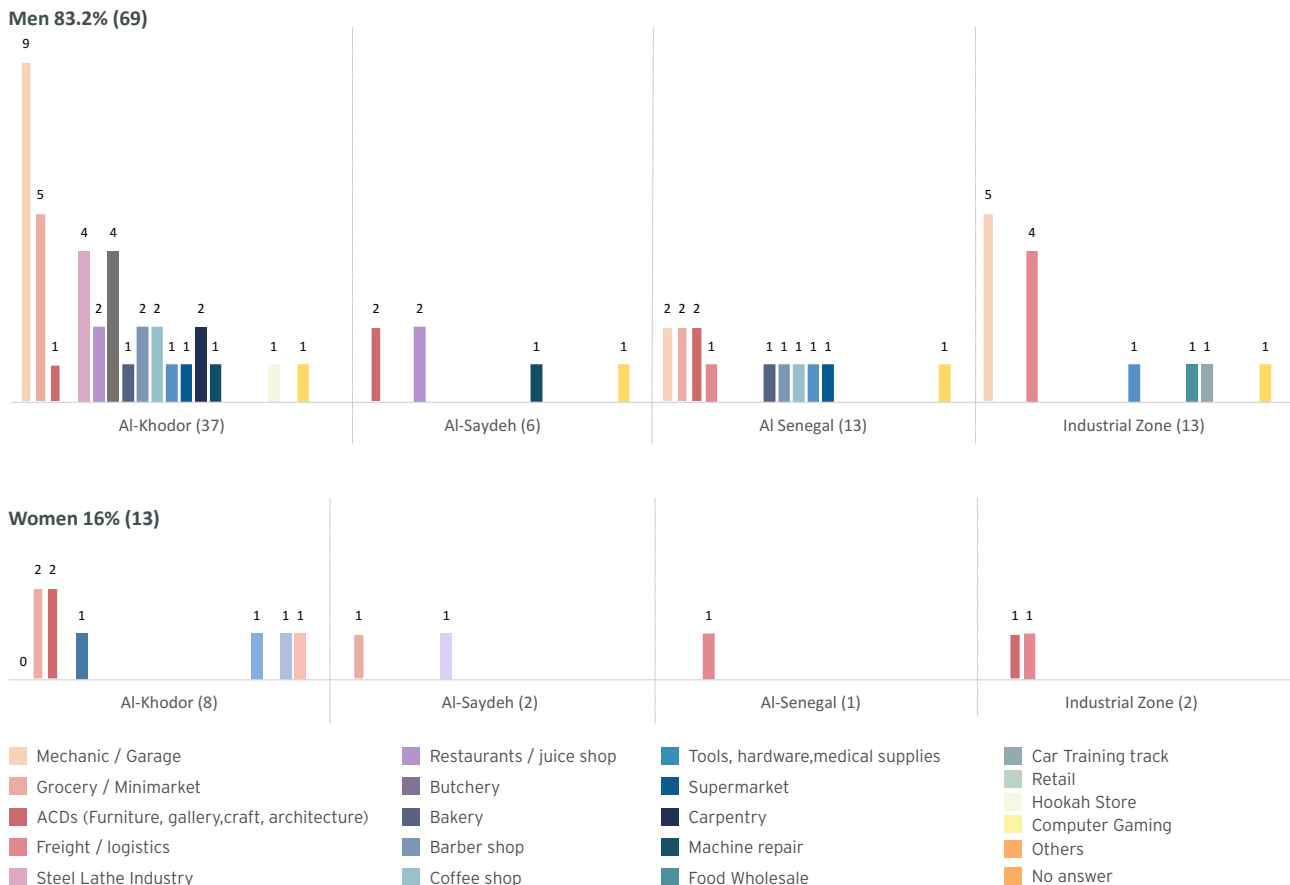
Al-Senegal contains freight and logistics services, garages, minimarkets, supermarkets, coffee shops, barber shops, and crafts and retail stores. The percentage of the businesses in the Industrial Zone is divided equally between garages and freights and logistics services with some food wholesale stores, retail stores, galleries, and storage for tools and medical supplies. There are a few restaurants, grocery stores, bakeries, and furniture showrooms in Al-Saydeh (Figure 11).



**Figures 11.** The distribution of business types and their density in the sub-neighborhoods. Source: The Beirut Urban Lab, 2021.

## Gender

Many of the business owners are men, constituting 69 business owners out of the total 83. Most of the male business owners work in commercial, leisurely, and industrial activities such as garages, logistics, restaurants and supermarkets, while female business owners work across different trades, primarily in the creative industries, freight and logistics services, retail, and minimarkets (Figure 12). The business activities of women inside the residential clusters is primarily in food production (such as “mouneh- مونة”)<sup>8</sup>, grocery stores, and bakeries.



**Figures 12.** The distribution of business types in relation to the gender of business owners in the sub-neighborhoods. Source: The Beirut Urban Lab, 2021.

## B. Public Sector: The Slaughterhouse, the Fish Market, and the Public Market

“Many businesses that used to provide employment for the area, like the slaughterhouse (al-Maslakh) and the public market were closed<sup>9</sup> كثير من الأعمال يلي كانت تأمن وظائف بالمنطقة مثل المسلخ والسوق الشعبي تسكروا

<sup>8</sup> Mouneh is an old Lebanese tradition that involves the annual processing of fruits, vegetables, herbs, flowers, and animal by-products. It is done naturally according to availability during each season

<sup>9</sup> First Town Hall meeting, Karantina, (2022-April-11).



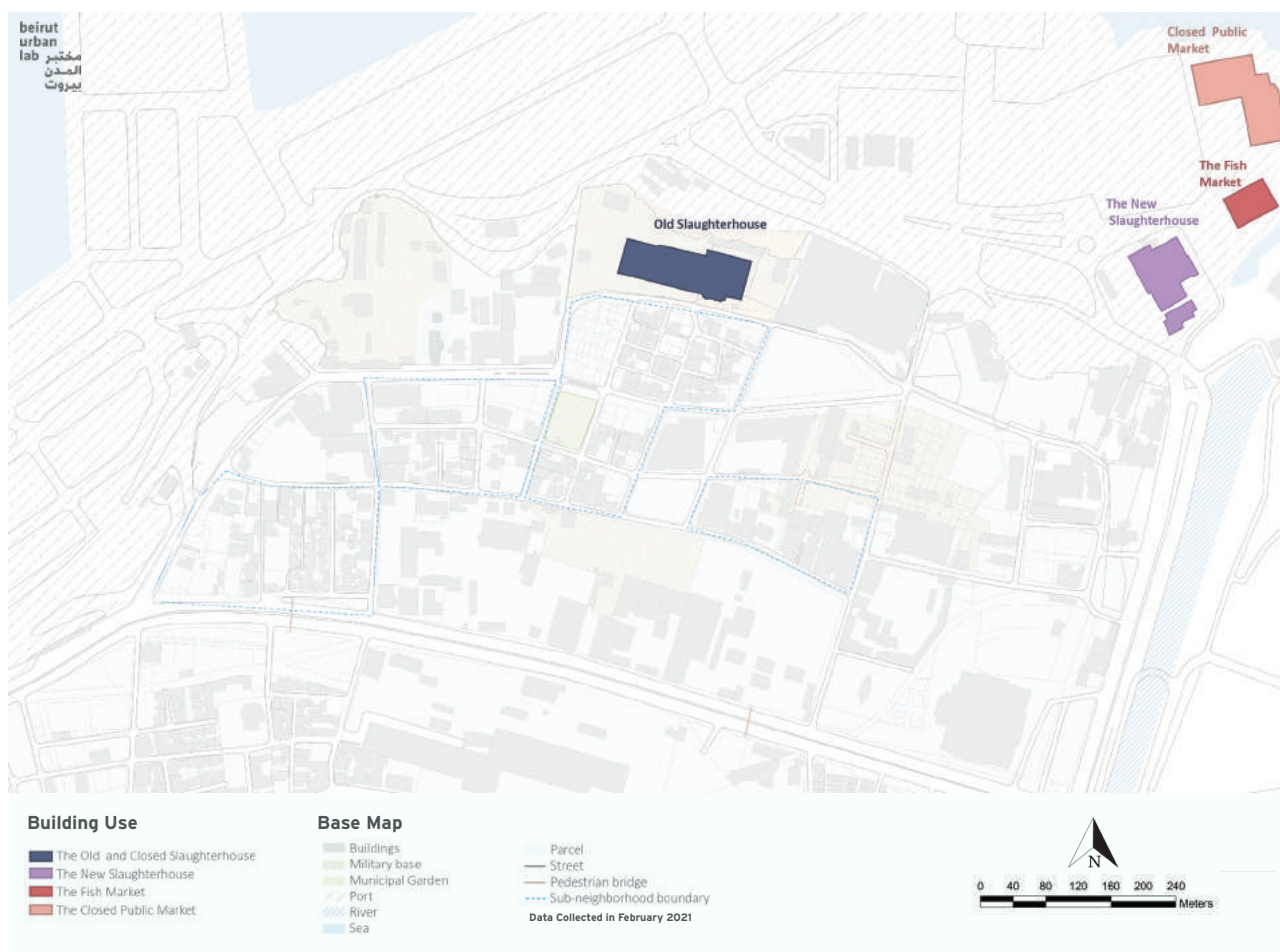


Figure 13: The location of the slaughterhouse, the fish market, and the public market. Source: The Beirut Urban Lab, 2021.

## The Slaughterhouse

The Karantina slaughterhouse is the largest in Lebanon and attracts trade and commerce activities from all over the country (Ecocentra, 2015). It was established in 1910 and developed incrementally by individual traders and merchants who settled in Karantina<sup>10</sup>. The main transformation of the slaughterhouse was in 1964 when a German company refurbished the structure according to high standards of public safety and health. Eventually, the slaughterhouse was closed during the civil war (1975-1990) and was occupied by Lebanese militia forces until the army took over.

During the civil war, the slaughterhouse was relocated to Al-Madina Al-Riyadiya to the south of Beirut. In 1992, after the end of the civil war, the slaughterhouse reopened but in a new location on the periphery of Karantina (Figure 13). However, The Governor of Beirut and the Minister of Public Health and Safety closed the slaughterhouse in 2014 (Figure 14). It was closed temporarily because it did not meet the minimum health and hygiene requirements. Several reports showed that 19 employees in the slaughterhouse died from cancer over a period of seven years (Ecocentra, 2015)<sup>11</sup>.

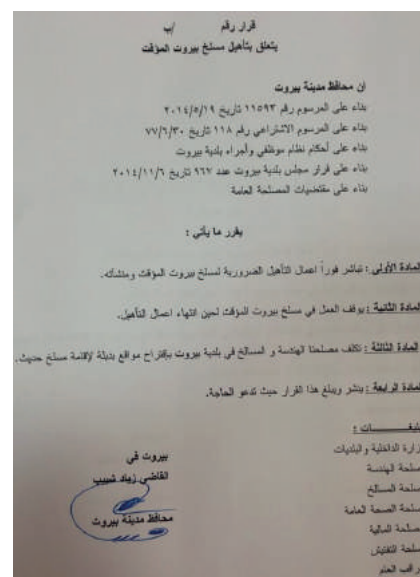


Figure 14: The statement of the Governor of Beirut regarding the closure of the slaughterhouse. Source: www.lebanonfiles.com.

<sup>10</sup> Interview between The Beirut Urban Lab research team and Fakir al-din Shihadeh (2021-May-27). Fakir al-din Shihadeh was previously employed at the slaughterhouse.

<sup>11</sup> <https://ecocentra.wordpress.com/2015/01/21/the-disaster-that-is-the-karantina-slaughterhouse/>.

Before the port blast in 2020, there were plans to partially re-open the slaughterhouse after its rehabilitation and due to pressures from the residents of Karantina (Al Akhbar, 2020). However, after the port blast, the outer areas of the slaughterhouse were used as dumping grounds for the rubble of the destroyed buildings (figure 15). This caused further physical damage to the slaughterhouse and extended the closure period. The slaughterhouse employed many of the residents of Karantina, especially some of the Arab Tribe residents of Al-Khodor sub-neighborhood. The closure left many of the residents unemployed, especially those who inherited the profession from their parents. Additionally, slaughtering animals is considered an important practice for the Arab Tribes and a prime source of income. As a result, the closure of the slaughterhouse reduced the number of merchants and customers who used to come to Karantina and removed an important part of their socio-economic practices.



**Figure 15.** The outer space of the closed slaughterhouse that was transformed into a dump after the port blast. Source: Ali Ghaddar, 2021.

## The Market

The public market in Karantina opened for the first time in 1996 (Figures 13 and 16) and closed after four years<sup>12</sup>. It reopened in 2014 and operated for another few years before it closed again. The market was built on a 45,000 square meter lot and has a floor area of 3,500. It also accommodates the fish market. The market has around 100 shops, and each shop has an area of 18 square meters. The monthly rent of each shop was set at 286,000 Lebanese Pounds in 2020. The bills were included in the rent and cover water, electricity, and security. Additionally, a designated shuttle bus used to provide free transportation for visitors from the market entrance to the market. The shuttle bus attracted and facilitated the movement of customers and visitors. The market attracted merchants and customers from Karantina and Greater Beirut. The market employed more than 300 people, including administrators, workers, and cleaners. Many of these employees are Lebanese from different backgrounds and locations in Lebanon, including Beirut, south, and north Lebanon. According to Fakir al-din Shihadeh, the market was one of the economic drivers that employed several residents, including women who used to sell their own products or were hired to run the shops of other people. The closure of the market negatively affected many of the residents of Karantina who became unemployed.



**Figure 16.** The abandoned public market near the fish market. Source: Cristina Gosen, 2022.

<sup>12</sup> Annahar. (2014-December-22). The opening of the public market in Karantina. Retrieved from Annahar newspaper: <https://www.annahar.com/arabic/article/199885-%D8%A7%D9%81%D8%AA%D8%AA%D8%A7%D8%AD-%D8%A7%D9%84%D8%B3%D9%88%D9%82-%D8%A7%D9%84%D8%B4%D8%B9%D8%A8%D9%8A%D8%A9-%D9%81%D9%8A-%D8%A7%D9%84%D9%83%D8%B1%D9%86%D8%AA%D9%8A%D9%86%D8%A7>



## The Fish Market

“ We are afraid they close the fish market. The area is being hijacked by outsiders who want to exploit it, and they are killing the area by that<sup>13</sup>  
 نحنا خايفين انو يسكروا سوق السمك. المنطقة عم يتم  
 اختطافها من قبل الغربا يلي بدن يستنزفوها  
 وبهله شي عم يقتلوا المنطقة



Karantina has a wholesale and retail fish market that serves the entire city of Beirut (Figure 13). The fish market is in front of the public market on a 45,000 square meter lot. It has a floor area of 1,200 square meters. It is directly accountable to the Lebanese Council of Ministers through the Prime Minister. Before the civil war (1975-1990), the fish market was in Beirut Central District (BCD), on the same site of the current ESCWA building in front of the Fouad Chehab Highway. After the civil war, the fish market was demolished according to the reconstruction masterplan for the BCD and opened in 1995 in its current location on the periphery of Karantina next to the Beirut River. A few reports mentioned that the fish market sells fresh and frozen fish to many restaurants in Beirut. The fish market is currently facing a rapid decline in its activity (Figure 17).



**Figure 17.** The conditions of the internal space of the fish market in Karantina. Source: Cristina Gosen, 2022.

<sup>13</sup> First Town Hall meeting, Karantina (2022-April-11).



An interview with a market trader<sup>14</sup> showed that the decline dates to before the port blast and was caused by the economic crisis that started in Lebanon in 2019. The economic crisis caused an 80% decline in the activities of the market. For example, fish sales used to reach 20-30 tons per day before the economic crisis; these numbers decreased to only 5-6 tons. Additionally, the market used to close at 10:00 pm and currently it closes at 5:00 pm. It used to accommodate 55 stations for retail and 9 booths for wholesale, and now it has only 10 stations for retail and 10 booths for wholesale. Each booth employs 2 to 4 workers with a salary of 500,000 Lebanese Pounds per week.

Thus, the drop in the number of booths left many of the workers unemployed. It is worth noting that the booths are rented under an official contract that can be renewed every three months for 950,000 Lebanese Pounds per month. Finally, the fish market resorted to using local resources in Lebanon; the market used to import fish from Senegal, Mauritania, Egypt, and Turkey before the economic crisis and the devaluation of the Lebanese Pound.

Moreover, various additional factors contributed to the decline in the activities of the fish market. Firstly, the opening of co-ops and large supermarkets like Spinneys and Carrefour attracted customers and promoted offers that competed with the Karantina market. Secondly, the devaluation of the Lebanese Pound increased the prices of the fish by seven times, which is not affordable to most of the local households from low-income groups. Thirdly, the shortage of gasoline reduced the number of people who can visit and buy fish from the market.

## C. Business Size

The research divided the sizes of the businesses into the following categories: smaller micro enterprises (0-2 employees), larger micro enterprises (3-10 employees), small enterprises (11-50 employees), and medium or chain enterprises (51-150) (Figure 18). The distribution of the different sizes of businesses in the sub-neighborhoods shows that most of the smaller micro are in Al-Khodor sub-neighborhood and mainly include butcherries, groceries, and mechanics shops. However, most of the larger micro businesses, small businesses, and medium or chain businesses are in the Industrial Zone and mainly include arts and crafts and creative industries, logistic, car showrooms, and food wholesale companies (Figure 19).

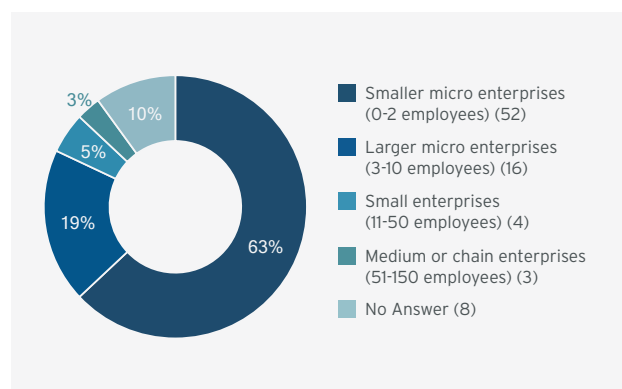


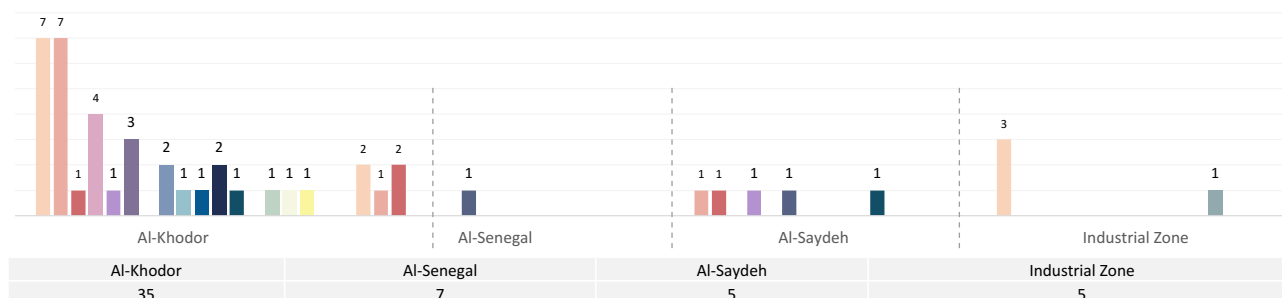
Figure 18: Sizes of businesses. Source: The Beirut Urban Lab, 2021.

In addition to the number of employees, the sizes of the businesses were categorized based on criteria such as employee salaries, the number of branches in and outside of Lebanon, and the total built-up areas (Figures 20 & 21).

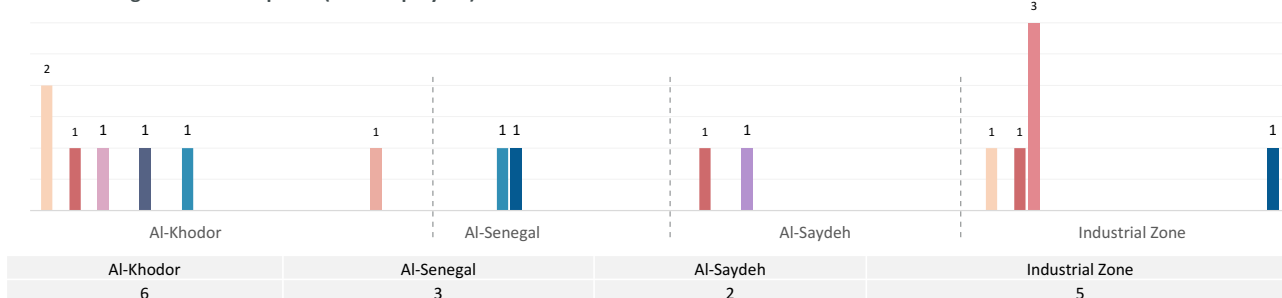
The total built-up area of the businesses varied from 0-50 square meters to more than 5000 square meters. 39 properties were between 0-50 square meters, 19 properties were between 51-100 square meters, 14 properties were between 101-500 square meters, 7 properties were between 501-5000 square meters, and 4 were more than 5000 square meters. Respectively, these businesses were used as follows: minimarkets/garages, butcherries, garages, freight and logistics, and food wholesale/furniture showrooms/facilities for training people to drive cars. Businesses with small areas (between 0-50 and 51-100 square meters) are mostly in the three sub-neighborhoods while businesses with large areas (501-5000 square meters) are in the Industrial Zone (Figure 22 and 23). The small businesses are in buildings that are dedicated for single use.

<sup>14</sup> Interview with Hassan Deeb, a merchant in the fish market (2021-April).

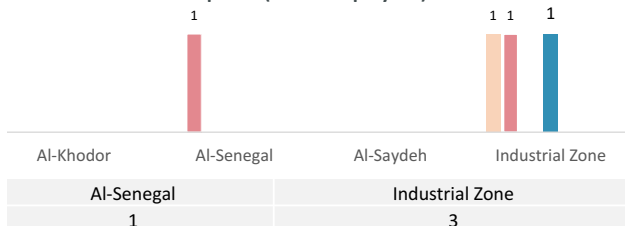
### Number of smaller micro enterprises (0-2 Employees)



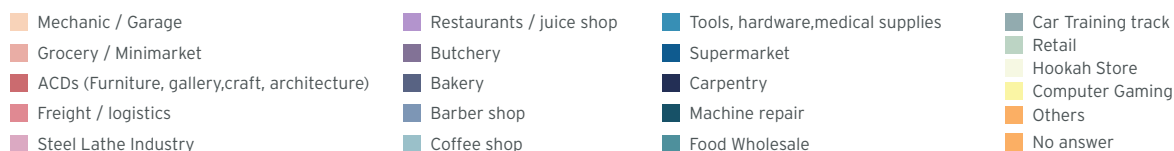
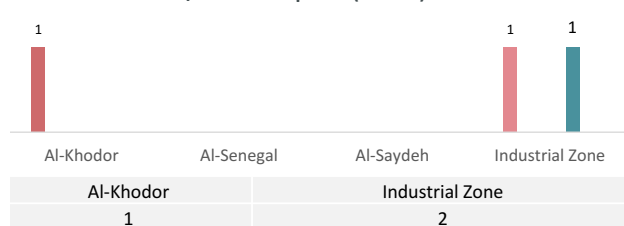
### Number of larger micro enterprises (3-10 Employees)



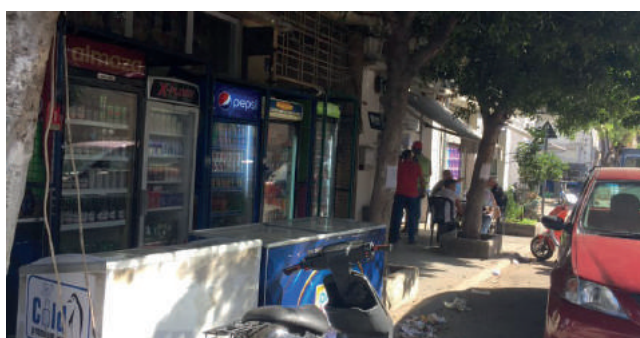
### Number of small enterprises (11-50 Employees)



### Number of medium/chain enterprises (51-150)



**Figure 19:** The distribution of businesses in the sub-neighborhoods and the Industrial Zone according to size. Source: The Beirut Urban Lab, 2021.



**Figure 20.** Smaller micro business (right) and larger micro business (left). Source: Ali Ghaddar, 2021.



**Figure 21.** Small (right) to medium/chain (left) businesses. Source: Ali Ghaddar, 2021.

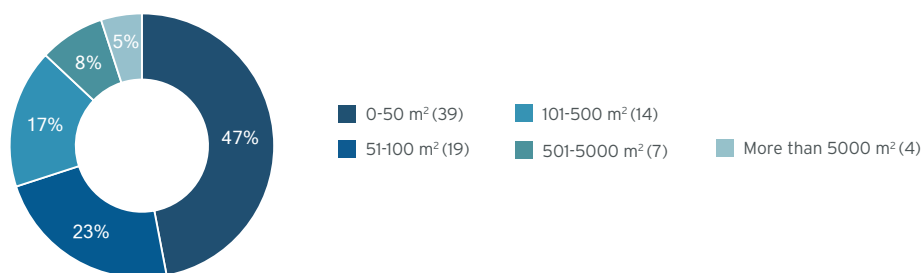


Figure 22. Area of businesses. Source: The Beirut Urban Lab, 2021.

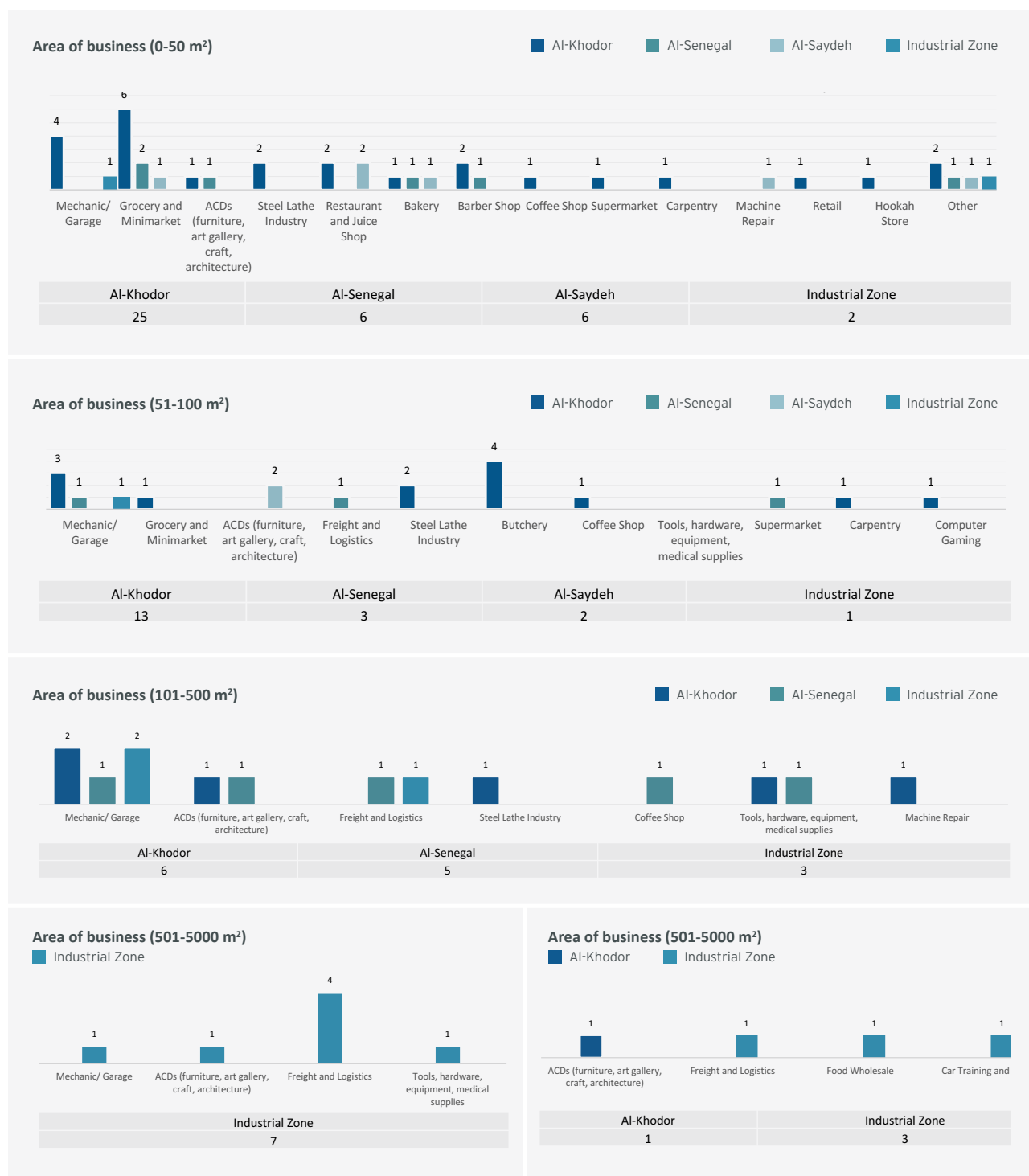
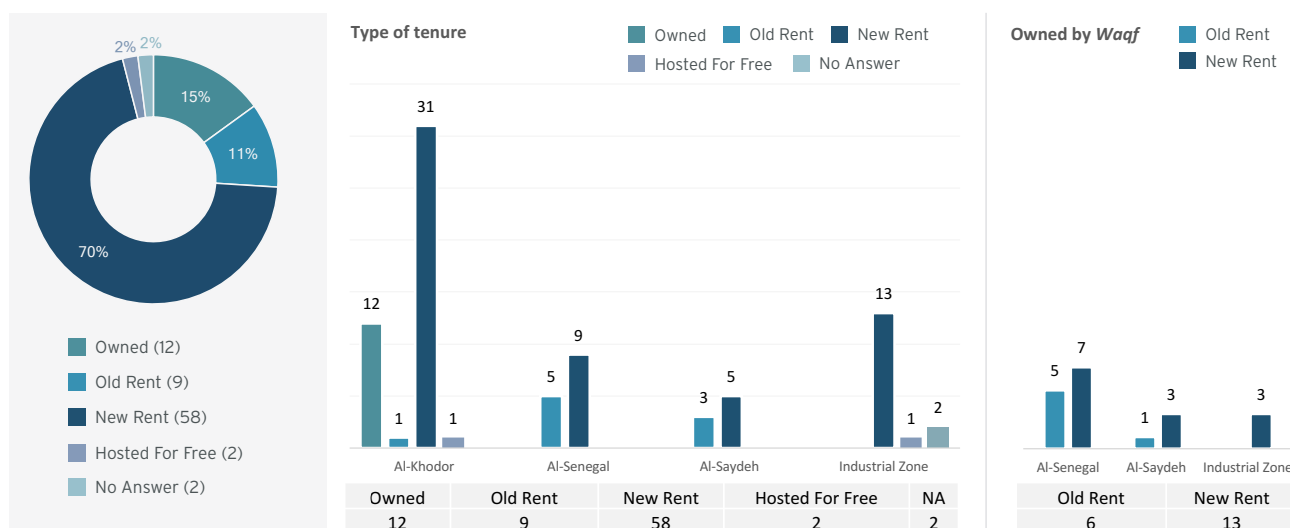


Figure 23. The distribution of businesses in relation to the total built-up areas of the businesses. Source: The Beirut Urban Lab, 2021.



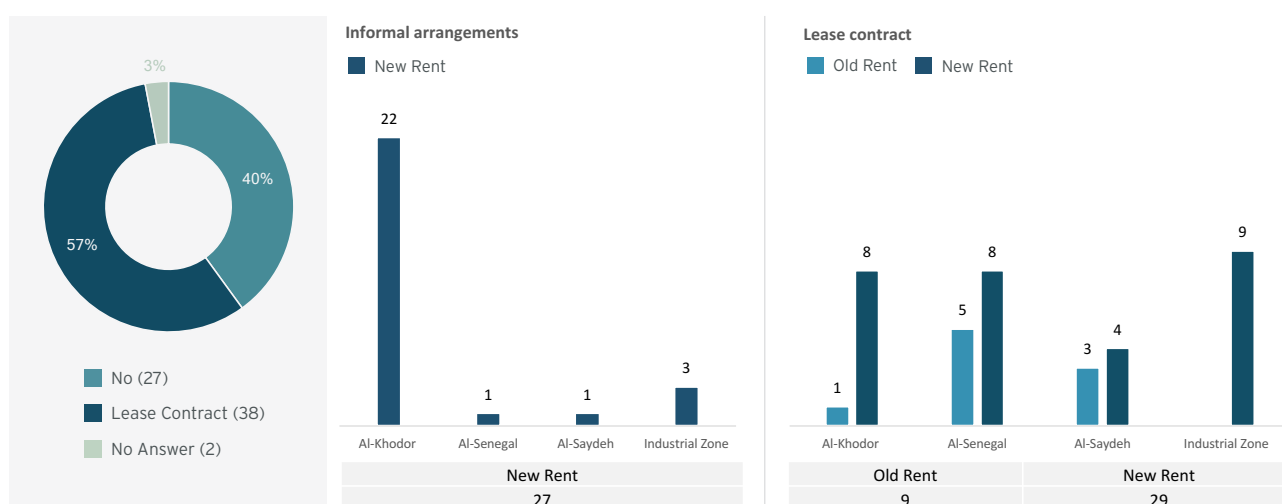
## D. Type of Tenure

Around 70% of the business owners in Karantina have rent agreements. The highest concentration of businesses on new rents is in Al-Khodor, and these businesses are mostly mechanics shops, garages, and grocery or minimarkets. Most of the businesses that are on old rent are located along Al-Senegal Street, and most of them are owned by the Maronite Waqf. Only 15% of the businesses are owned and are located in Al-Khodor sub-neighborhood (Figure 24).



**Figure 24:** The distribution of the different types of tenure agreements in the three sub-neighborhoods. Source: The Beirut Urban Lab, 2021.

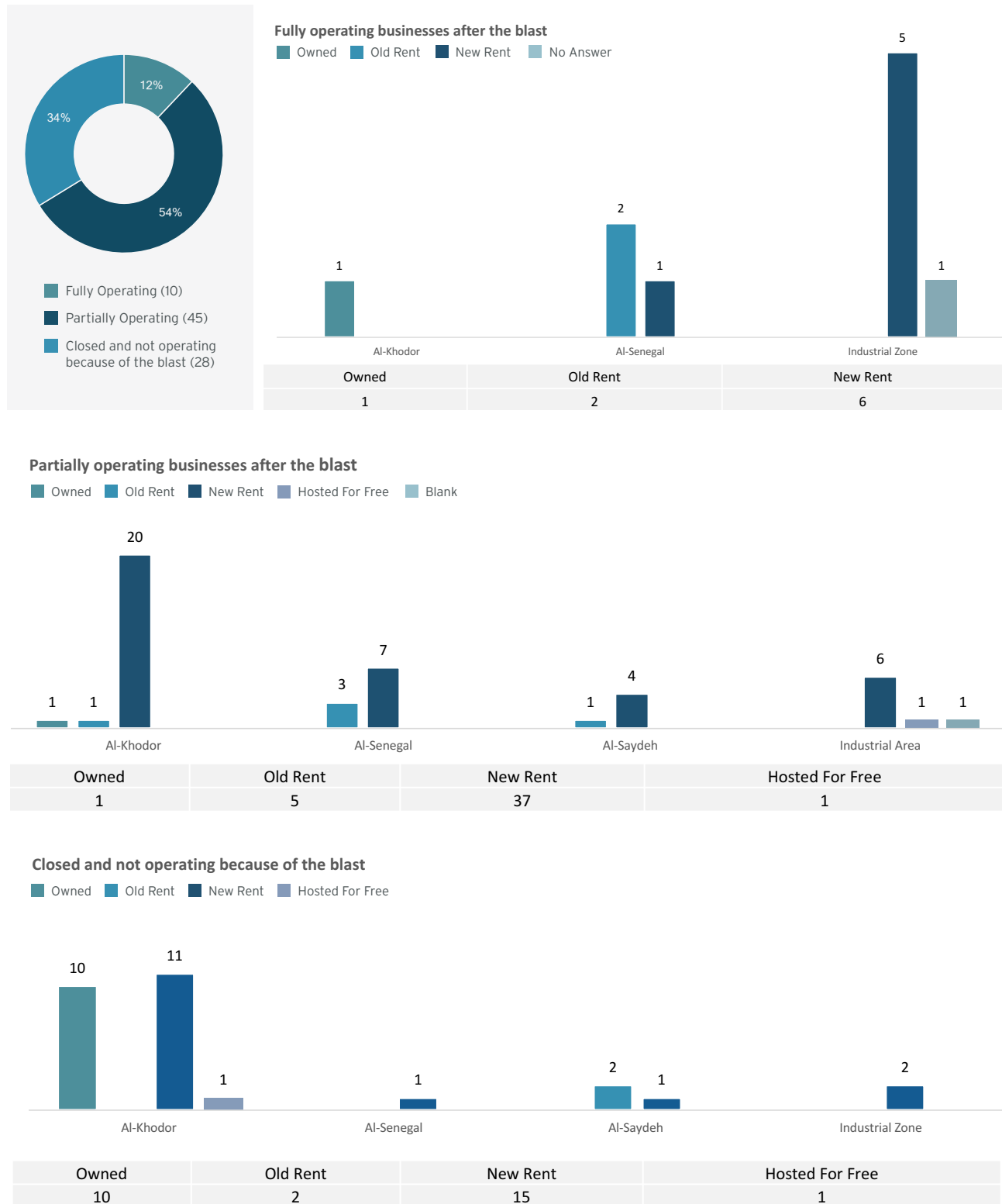
Some of the business owners have formal rent contracts, while others have informal rent agreements. The formal contracts include both old and new rents. The informal agreements include new rents and are mainly in Al-Khodor sub-neighborhood. 46% of the businesses in Al-Khodor have rent contracts, and most of them are new rents. 32% of the businesses in Al-Khodor do not have rent contracts (Figure 25).



**Figure 25:** Types of rent agreements. Source: The Beirut Urban Lab, 2021.

## E. Business Status

Most of the surveyed businesses were partially operating, while some of the businesses were closed and not operating due to the port blast. Only a few businesses were fully operating at the time of data collection. Most of these businesses were on new rent contracts or informal agreements (Figure 26).

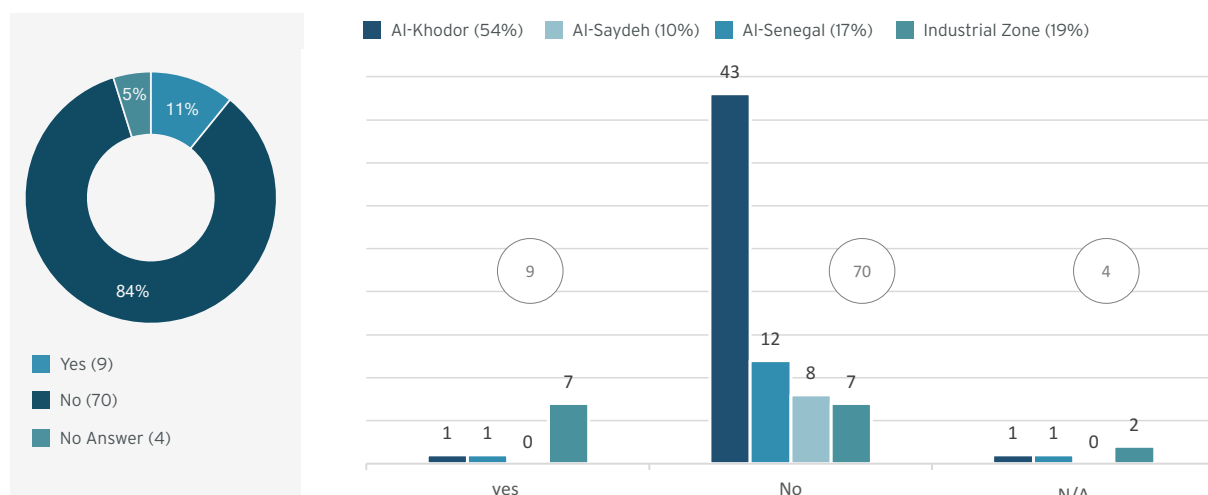


**Figure 26:** The status and distribution of businesses in Karantina: fully operating, partially operating, and closed.  
Source: The Beirut Urban Lab, 2021.

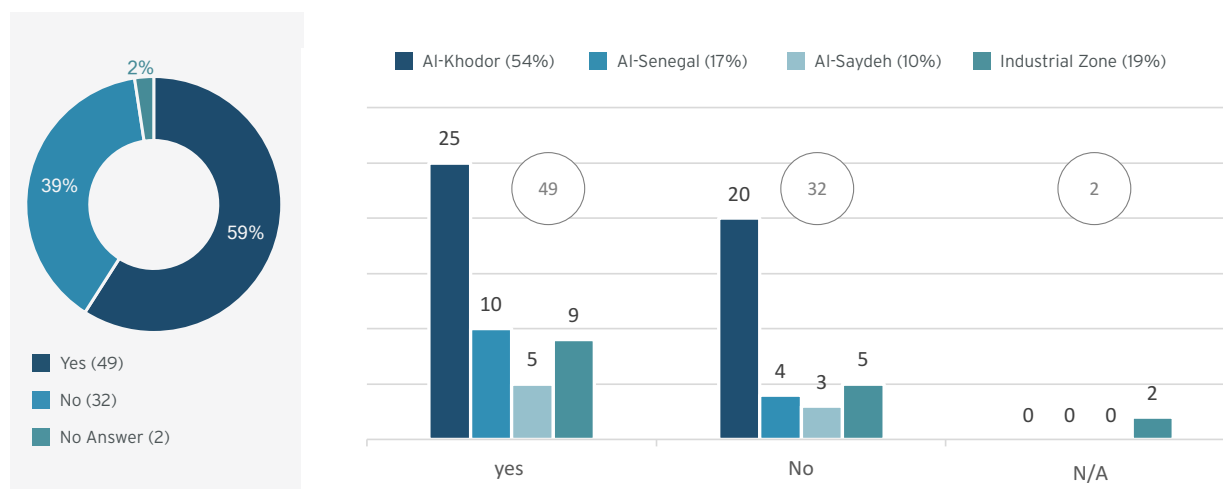
## F. Aid after the Port Blast

Most of the business owners did not have insurance to cover the damages from the port blast (70 out of the total 83), and are mostly in Al-Khodor sub-neighborhood, while 9 had insurance and are mostly located in the Industrial Zone (Figure 27). They include small businesses for freight and logistics, food wholesale, and furniture galleries.

Most of the businesses were assessed for damages (49 out of a total of 83); they are mostly located in Al-Khodor sub-neighborhood (Figure 28).



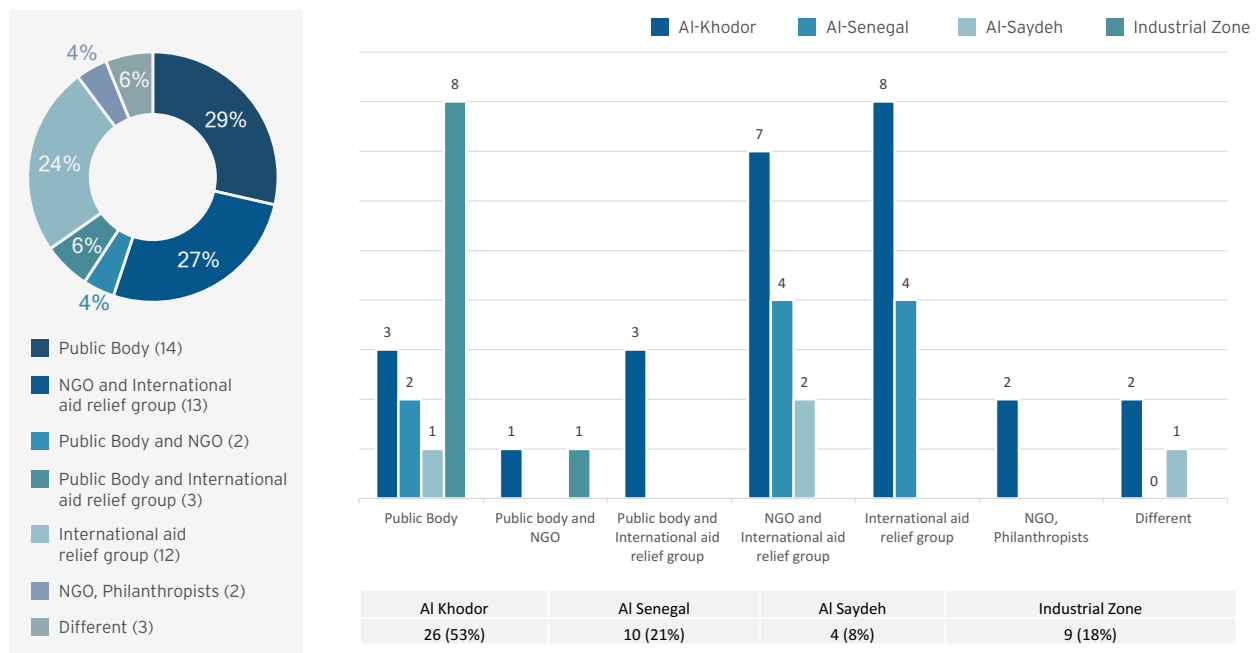
**Figure 27:** Business owners who have insurance and their distribution in Karantina. Source: The Beirut Urban Lab, 2021.



**Figure 28:** The number of business owners who received assistance, aid, or service and their distribution in Karantina. Source: The Beirut Urban Lab, 2021.

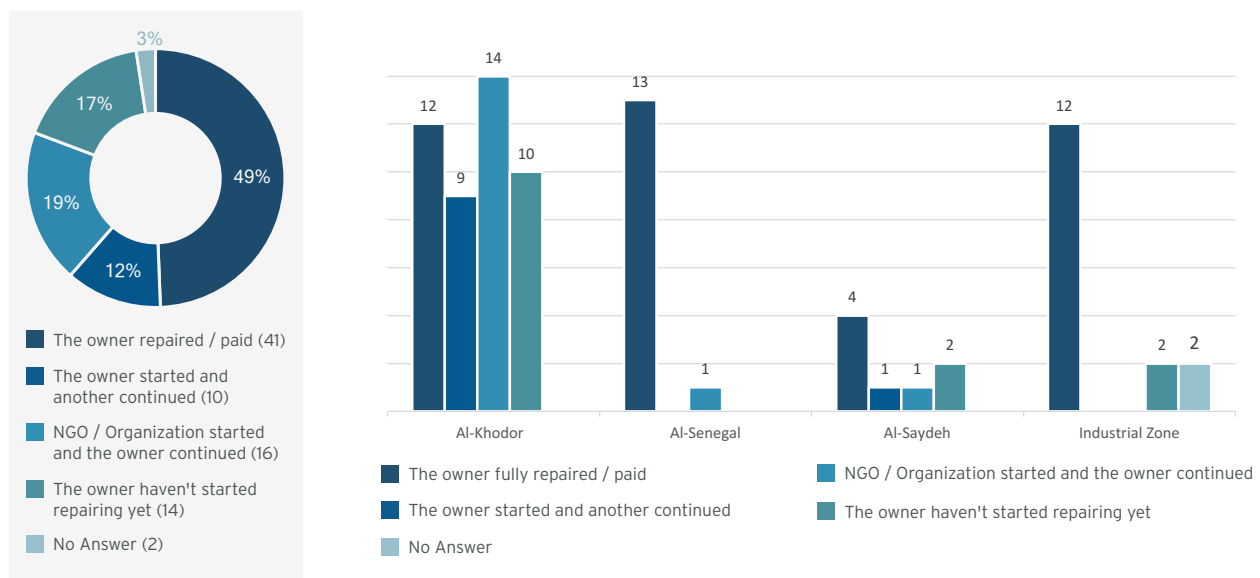
Most of the assessments and surveys were done by the army and other public bodies, while NGOs, INGOs, and philanthropists provided money and services for repairs and new equipment. Figure 29 shows that the assessments by public bodies were more concentrated in the Industrial Zone. This can be attributed to the immense destruction of the warehouses in the Industrial Zone. NGOs and INGOs provided repair services to the smaller micro businesses in the sub-neighborhoods. Repairing the smaller micro businesses, compared to the small and medium-sized ones in the Industrial Zone, required less money but were more urgent.





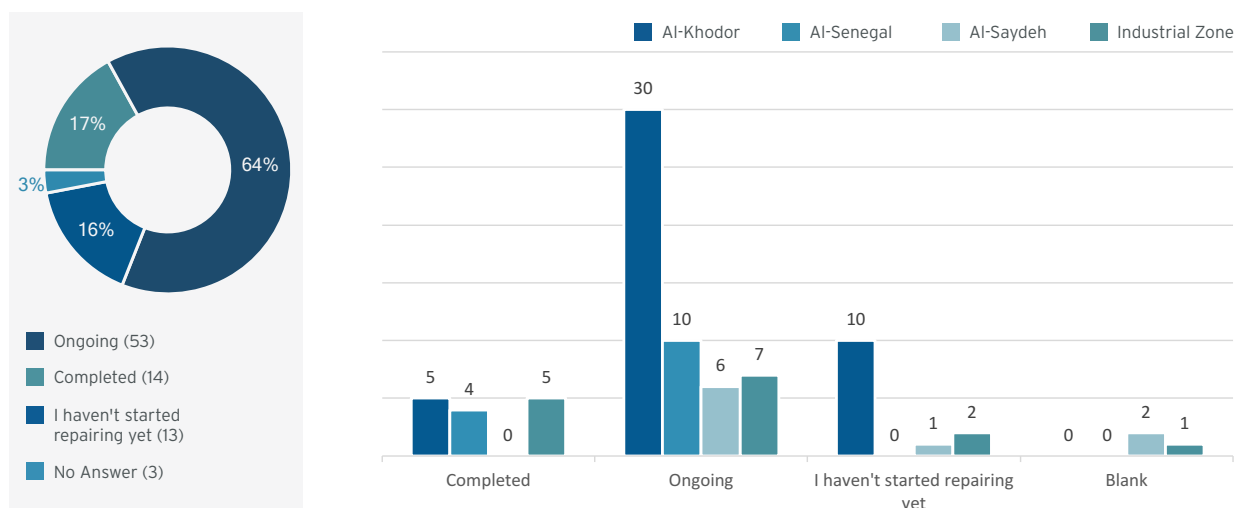
**Figure 29:** Parties that provided assistance, aid, or service and the distribution of their work in Karantina. Source: The Beirut Urban Lab, 2021.

Most of the business owners repaired their shops at their own expense (41 out of a total of 83). NGOs repaired a few businesses while some of the businesses were not yet repaired in 2020 and 2021 when the research team at The Beirut Urban Lab collected answers to the business questionnaire (Figure 30).



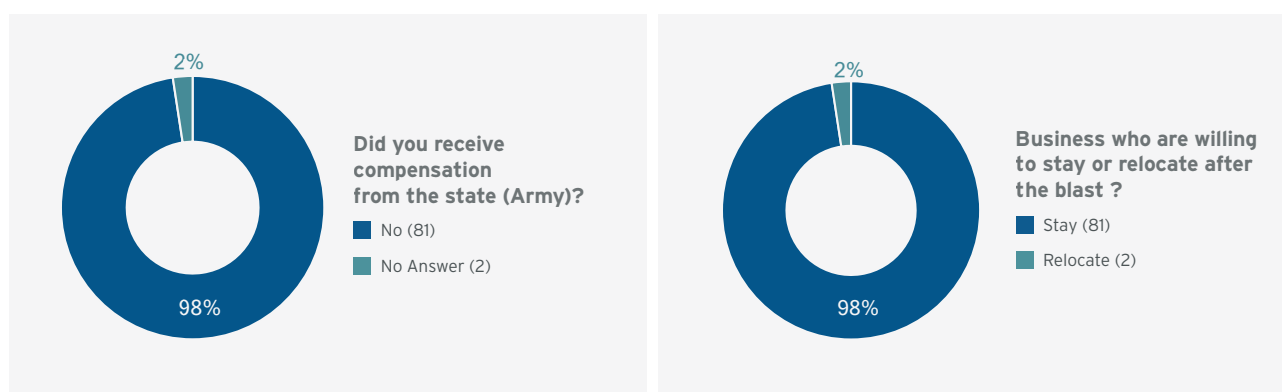
**Figure 30:** Business owners who were able to repair their facilities across different areas in Karantina. Source: The Beirut Urban Lab, 2021.

Repair works were mostly ongoing in 2021 (53 out of a total of 83), while some of the repair work was completed (14 out of a total of 83) and some did not start (13 out of a total of 83) (Figure 31).



**Figure 31:** Status of repairs and their distribution in the sub-neighborhoods. Source: The Beirut Urban Lab, 2021.

Most of the surveyed business owners did not receive compensation from the Lebanese government (81 out of a total of 83), while the remaining 2 business owners did not provide an answer in the business questionnaire (Figure 32).



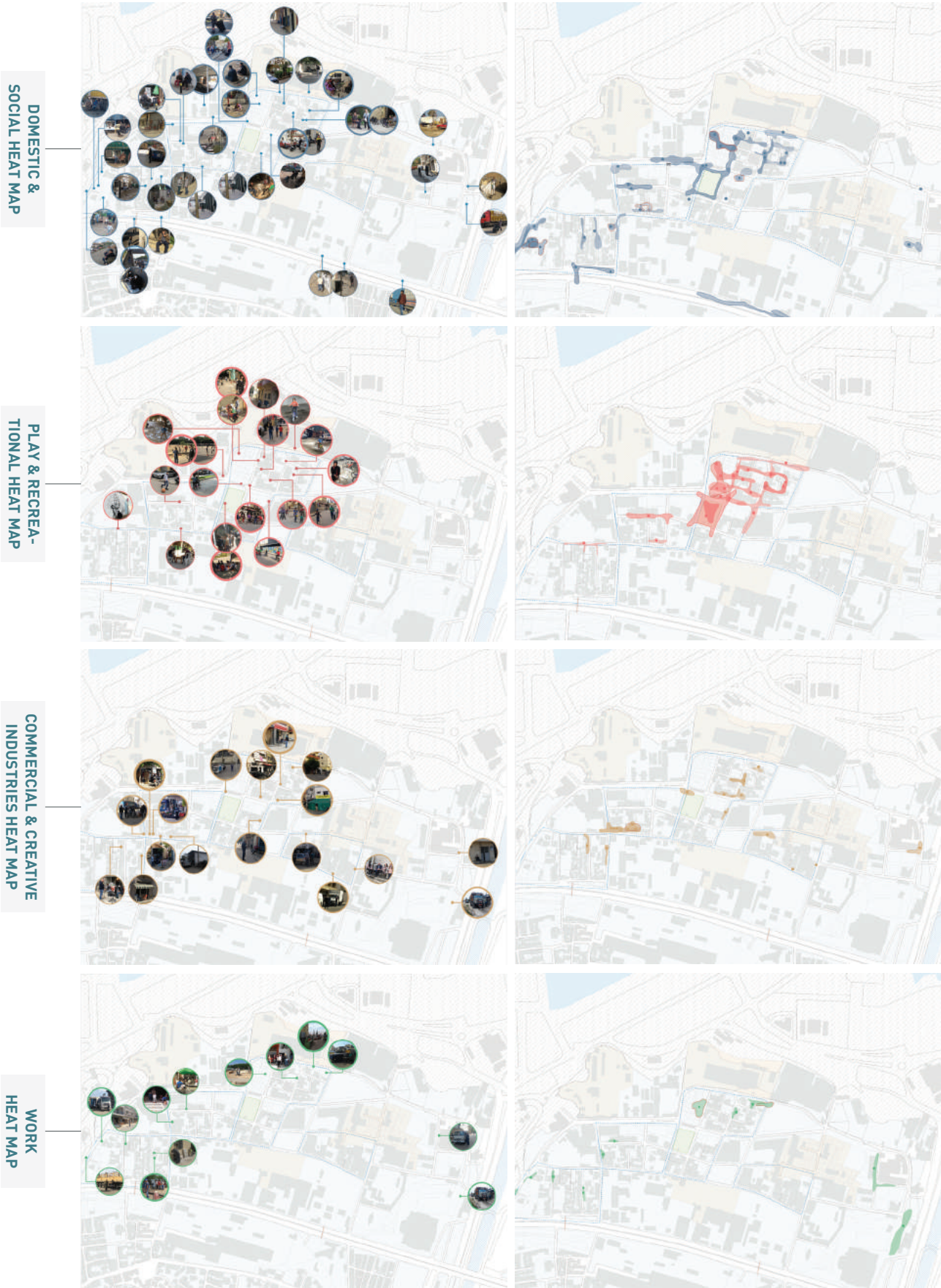
**Figure 32:** Number of business owners who received compensations from the army and their plans to relocate or stay in Karantina. Source: The Beirut Urban Lab, 2021.

## 3.2. IN-DEPTH PROFILE OF THE CULTURAL ACTIVITIES IN KARANTINA

This section of the report explores the types of cultural practices and analyzes their intensity, type, and how they unfolded spatially. Cultural practices in Karantina can be divided into two categories:

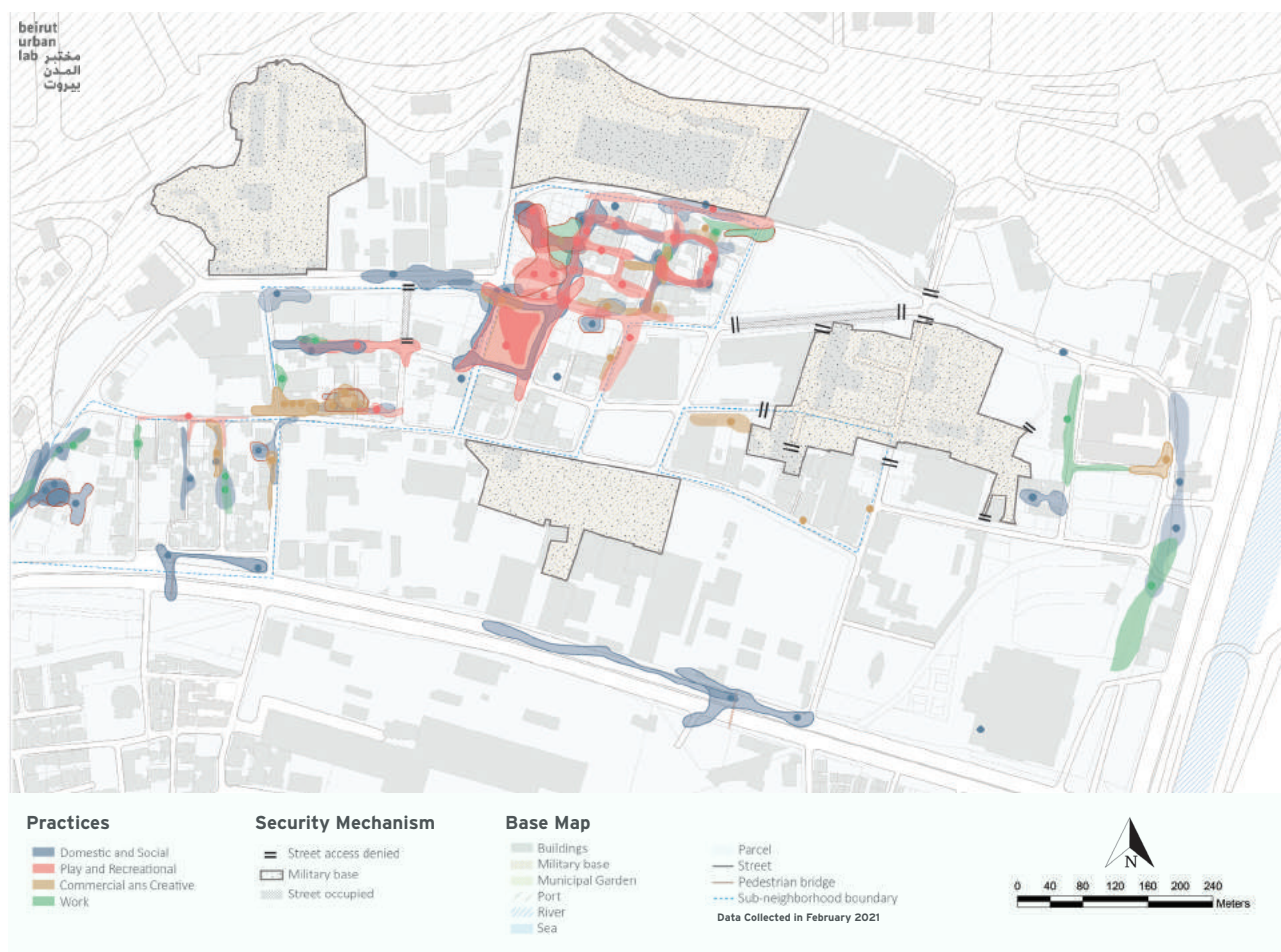
1. Cultural practices that are associated with economic activities.
2. Cultural practices that are associated with the residential clusters.

As mentioned earlier, mapping socio-spatial practices is an integral part of the argument in this section that links vitality to the intensity and diversity of cultural practices and their relationship to the residents and people outside karantina. This section classified socio-spatial practices based on their type and time during the day; they include (Figure 33): domestic/social practices, play/recreational practices, commercial and creative/light industries, and other industries and temporary working spaces. The analysis in the heat map (Figure 34) showed that these socio-spatial practices are mainly in the residential clusters. This is due to the presence of military bases around the sub-neighborhoods which limit the movement and activities of people to the residential clusters and restricts their extension to the Industrial Zone. Additionally, these socio-spatial practices are more intense and concentrated in Al-Khodor that has a higher population number relative to the other sub-neighborhoods, most of which are occupied by Arab Tribes and Syrian refugees.



**Figure 33:** A series of maps that analyses the distribution of different types of socio-spatial practices in Karantina.  
Source: The Beirut Urban Lab, 2021.





**Figure 34:** Heat map of the existing socio-spatial practices and the physical challenges hindering mobility in Karantina. Source: The Beirut Urban Lab, 2021.

A preliminary analysis of the data showed that the cultural activities in Karantina are limited and mostly associated with daily household activities like family gatherings in the mornings and evenings. Some of the cultural activities are related to the local economic practices such as daily shopping and gathering in front of bakeries or truck drivers gatherings in Karantina during their breaks. In addition to these activities, some temporary activities emerged after the port blast especially by NGOs and INGOs who appropriated some of the vacant lots into on-site workshops for building repairs. These workshops closed after a few months when the NGOs and INGOs finished the building repairs. This demonstrated the potential to use vacant lots for temporary social activities such as cycling, community gathering, and playing.

Moreover, some cultural practices, including art activities, are either absent or limited in the sub-neighborhoods. Some of the cultural practices also disappeared after the closing of the slaughterhouse, the nightclubs, and various other recreational venues. Additionally, some of the cultural practices are tied to religious affiliations and, as a result, are limited to the Christmas and Al-Adha holidays. The large presence of the army and military bases in Karantina also limits the presence of political parties and the use of public spaces for political events. There is only one office for the Lebanese Kataeb Party<sup>15</sup> in Al-Saydeh (Figure 35).



**Figure 35.** Office for the Kataeb Party in a residential building in Al-Saydeh. Source: Ali Ghaddar, 2021.

<sup>15</sup> The Kataeb Party is a Christian political party in Lebanon.

## 4. PROBLEM DEFINITION

In this section, the vitality of Karantina is tied to the operation of the local economic sector and its embedded cultural practices. It is important to note here that Karantina does not have a wide range of social and artistic activities due to its marginalization from the rest of Beirut and the presence of the military bases in the area.

Cultural practices are mostly tied to the economic sector and are reduced to everyday socio-spatial practices. They are limited by space and time and do not form a notable “culture” that is linked to the residents of the sub-neighborhoods. In specific, the closing of the slaughterhouse, one of the key economic drivers in Karantina, had a negative impact on the Arab Tribes in Al-Khodor. The closing of various recreational, nighttime leisure, and art activities that used to bring younger groups of people to Karantina further weakened the connection to the rest of Beirut. As a result, the current local cultural practices are not diverse and are limited to a few. Even the intensity of these practices is low and fragmented between the sub-neighborhoods and the Industrial Zone.

Additionally, the economic sector in Karantina faces different problems due to the accumulation of multiple traumas and crises<sup>16</sup> that led to the decay of old businesses and high rates of unemployment. The economic activities are partially diverse by type, size, and location, but are not intensive and sustainable. Micro businesses that are associated with the port activities faced severe hardships due to the delay in compensations from the government and the insurance companies after the port blast, and the business owners are threatened with potential displacement due to the increases in rent prices and eviction claims. Some of the older and more traditional businesses were closed; these include the public market and slaughterhouse, and other businesses lost many of their clients. In addition, the activities of large businesses, especially the ones that are associated with the port, are declining due to the economic and political instability in Lebanon. As such, assessing the current status of businesses in Karantina requires an exploration of the multiple causes of the economic crises and their impact on the local socio-economic activities and the employment rates.

As a result, the cultural and economic activities in Karantina are undergoing multiple forms of socio-spatial and socio-economic transformations that affect the local levels of vitality. This is further limiting the economic role of Karantina on the local and regional scales. The following section of the report provides an in-depth analysis of the factors that impacted cultural and economic vitality in Karantina.



<sup>16</sup> These crises include the Lebanese civil war between 1975 and 1990, the explosion in the port in Beirut in 2020, and the ongoing economic and political instability in the country. These crises were exacerbated by the spread of the Covid-19 pandemic since February 2020



# 5. DIAGNOSIS TRACKS

## 5.1 ECONOMIC VITALITY IN KARANTINA

### A. The Economic Sustainability of Businesses

The first component of economic vitality is the long-term sustainability of businesses. Accordingly, the following section of the report investigates economic sustainability by assessing the following sub-components: land tenure, key services, financial support, human resources, and connection to customers at different scales.

#### A.1 Land Tenure

Access to land for economic and social development is problematic in Beirut. The real estate market is influenced by multiple factors such as land speculations, sectarian affiliations, exemptions, outdated urban planning and building regulations, and deregulation. The factors fostered high-end construction and development. Like other sectors in Beirut, businesses in Karantina are influenced by these factors. Businesses face various challenges such as access to affordable property and secure long-term tenure. The answers to the questionnaires and the one-on-one interviews showed that land and property in Karantina are owned or controlled by four main actors:

1. The public sector through the national government and the Municipality of Beirut. They both own many large lots in Karantina that accommodate commercial activities and public services (Figure 36).
2. The private sector through some of the older residents and new developers and investors. The old residents own micro-scale shops, while new developers and investors bought land and properties for redevelopment.
3. Religious Institutions through the Waqf. The Waqf owns multiple large lots in Karantina, especially in the Industrial Zone.
4. Mediators and brokers who have influence and interest with the Waqf and facilitate property and real estate transactions in Karantina.

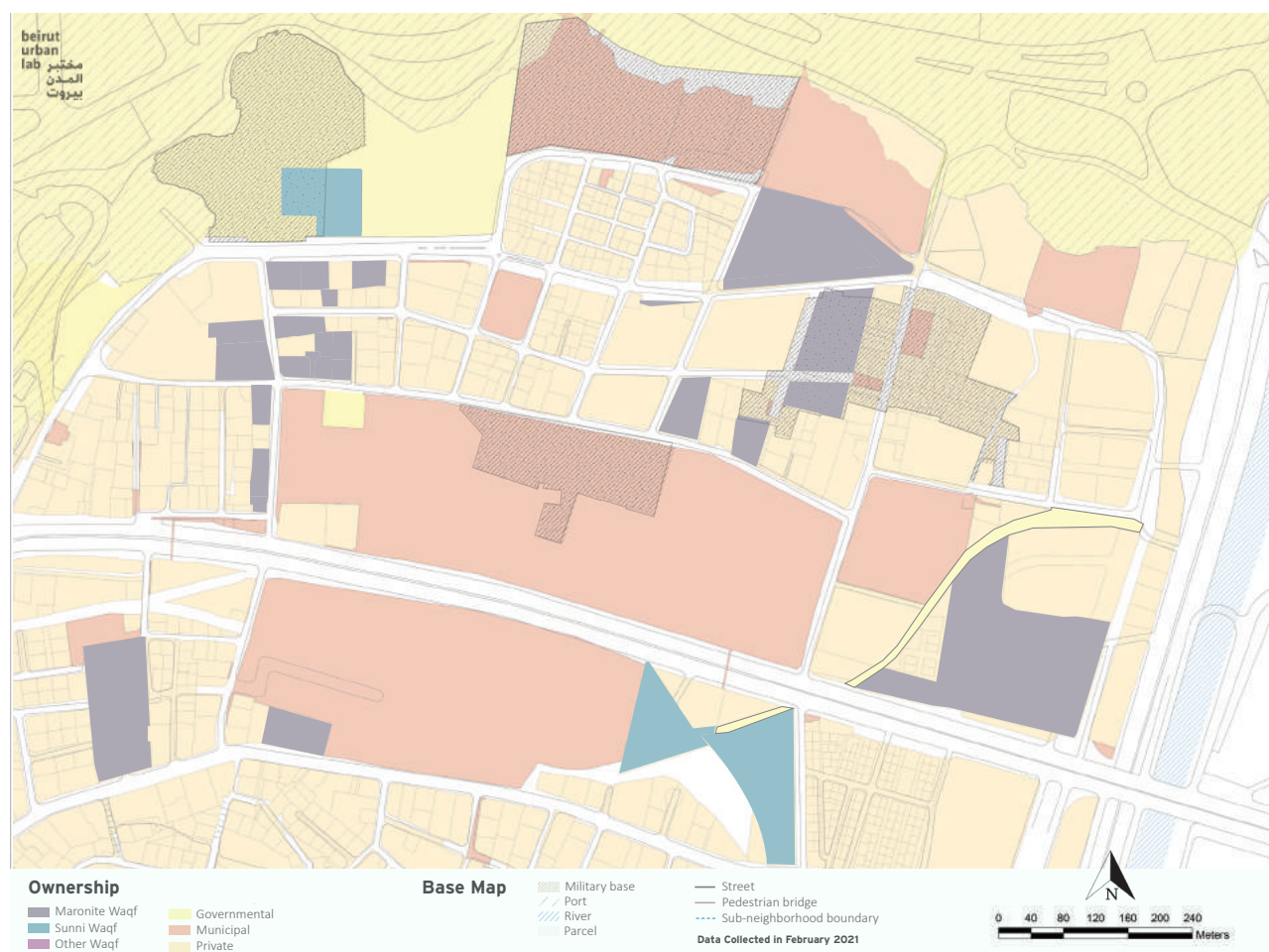
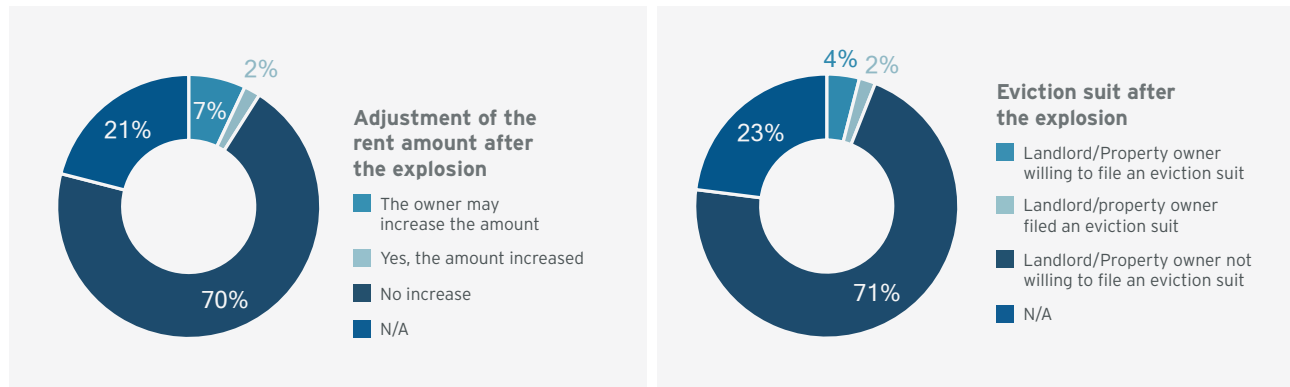


Figure 36: Land ownership in Karantina. Source: The Beirut Urban Lab, 2020.



Many landlords and property owners, especially the Maronite Waqf, used the port blast as an opportunity to raise rents or evict businesses for various reasons including re-development, upscaling to higher-end facilities, the economic crisis, and the need for repairs and compensations from NGOs.

The answers to the business questionnaire and the thematic group discussions showed that businesses find it difficult to secure long term tenure (Figure 37).



**Figure 37:** Adjustments in rent and eviction claims after the port blast. Source: The Beirut Urban Lab, 2021.

As such, business owners face various forms of threats: (1) current and potential increase in rent prices, (2) rent increase that is accompanied by a threat of eviction, and (3) current and potential eviction claims by the landlords.

1. The current and potential increase in rent prices are exacerbating the vulnerability of micro sized businesses. Data shows that rents are projected to further increase in the coming months. 6 business owners may face an increase in rent prices; some of them are partially operating and are mainly located in Al-Khodor sub-neighborhood and the Industrial Zone. 3 of these properties are owned by the Waqf. The one-on-one interviews showed that one of the business owners who was threatened by the increase in rent price already received a written letter from the Waqf requesting a higher rent at the rate of 4,000 Lebanese pounds per 1 dollar (Figure 38). Thus, the increase in rents is happening at a rapid pace and threatening many of the smaller micro businesses in Karantina.

In this case, the economic crisis and the devaluation of the Lebanese pound prompted landowners to increase the rents. The increase in rents applied to all business sizes, especially the larger micro, small, and medium ones that have a lease contract. The one-on-one interviews showed that most businesses accepted the increase, especially the small, medium, and chain businesses in the Industrial Zone.

من : شركة ناجيكا بوكالة الأستاذة كريستل عبيد

لحضرة السيدين : قليب أشقر وعبد وضو

لما كان فيما بيننا عقد إيجار على العقار / ٣٠١ / ملك الرهينة اللبنانية في منطقة المنور العقارية

ولما الحقبة الأولى من هذا العقد تنتهي في ٢٠٢١/٤/١

وفي حال رغبت بالاستمرار في العقد ، عليكم التقيد بالشروط التالية :

١- هناك زيادة بنسبة ١٠٪ على العقد موعدة من قبلكم

٢- عليكم الالتزام بدفع مبالغكم أي قيمة الإيجار دفعة واحدة بتاريخ ٢٠٢١/٤/١

٣- الدفع سيكون على دولار سعر صرف / ٤.٠٠٠ / ل.ل. للدولار الواحد أو شك بالدولار لا فرق.

٤- لما كنتم دائماً تتخلفون عن دفع الرسوم البلدية علماً ان كل غطر له صحيفة عقارية خاصة به

الإيجار يتوجب عليه رسوم . والعقار / ٣٠١ / له صحيفة عقارية ومسجل فعلياً مع مجموعة عقارات لدى بلدية بيروت وفقاً لقانون البلدي كل إيجار يدفع ٨.٥ ٪ رسم بلدي وبالعقد فيما بيننا المادة السابعة تنص . ان كافة الضرائب المنظورة والغير منظورة هي على عاتق الفريق الثاني . عليكم التقيد ببند الاتفاق ودفع الرسم البلدي عن هذه السنة . والبالغ / ٨.٥٠٠.٠٠٠ / ل.ل. فقط ثمانية ملايين وخمسمائة ألف ليرة لبنانية.

نحن نرغب بأي أفضل علاقة تجارية فيما بيننا .

لذا عليكم التأكيد على تنفيذ مطالب الشركة خلال ١٥ عشرة يوماً تحت طائلة فسخ الإيجار وتسليم شركة ناجيكا العقار موضوع العقد مع تمليككم العطل والعطل والضريبة

بكل نخفط بالوكالة

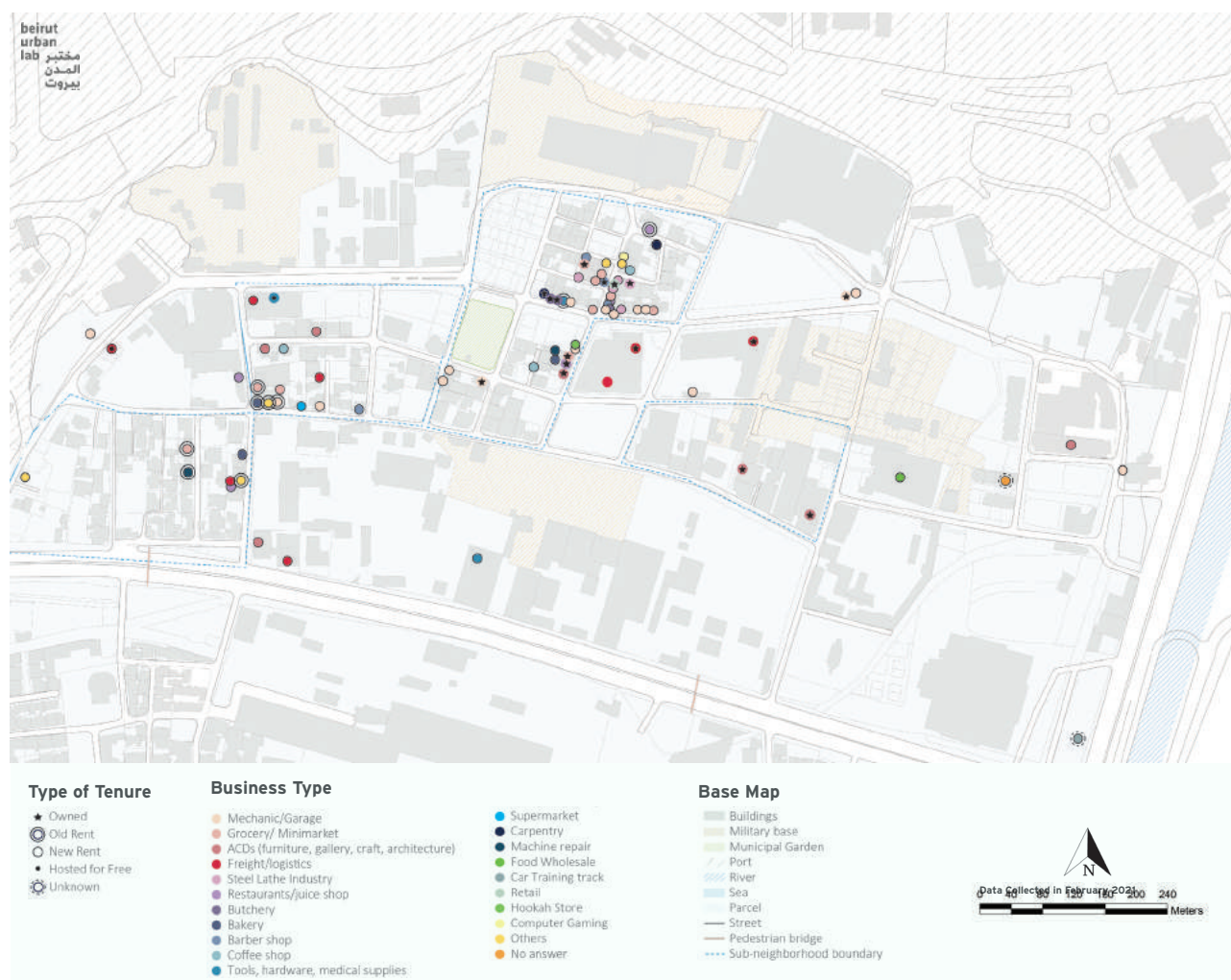
المحامية

كريستل عبيد

**Figure 38:** A letter from the lawyer of the Maronite Waqf notifying people about the 10% increase in rent. Source: Ali Ghaddar, 2021.

Some of the businesses have access to fresh dollars. Other business owners agreed to pay part of the rent at the rate of 1,500 Lebanese pounds to 1 dollar, and the remaining part at the rate of 3,900 Lebanese pounds to 1 dollar. The objective is to sustain the long-term activities of business owners who do not have access to fresh dollars and still pay for the products and raw materials at the Lebanese official rate.

2. Some of the business owners are threatened by both increases in rent prices and eviction claims. They operate informally and on a temporary basis in Karantina without a lease contract; for example, when operating mechanics shops, garages, showrooms, and transit services (Figure 39). Landlords prefer informal rent so they can redevelop the businesses in future or replace them with higher-end ones. Interestingly, some of the lots that accommodate these businesses belong to the Waqf. They are also managed by a mediator who controls the types and activities of the businesses in the Industrial Zone.



**Figure 39:** Tenure agreement in relation to the business type. Source: The Beirut Urban Lab, 2021.

In addition to the increase in rent prices, the businesses in Karantina are threatened by eviction claims and displacement after the port blast. 2 business owners already received eviction claims and 3 businesses are likely to receive eviction claims in the near future. Some of the businesses partially operate and others closed after the port blast. Most of these businesses are micro enterprises (barber shop, grocery shops, and mechanics shops) and are distributed across the sub-neighborhoods of Al-Khodor and Al-Senegal (Figures 40 and 41).

Despite these challenges, most of the owners are planning to keep their businesses open in Karantina due to the strategic location near the port, the affordable prices, easy access, and, in some cases, because there is no other alternative. However, the increasing threat of evictions and increase in rent prices may change these plans.



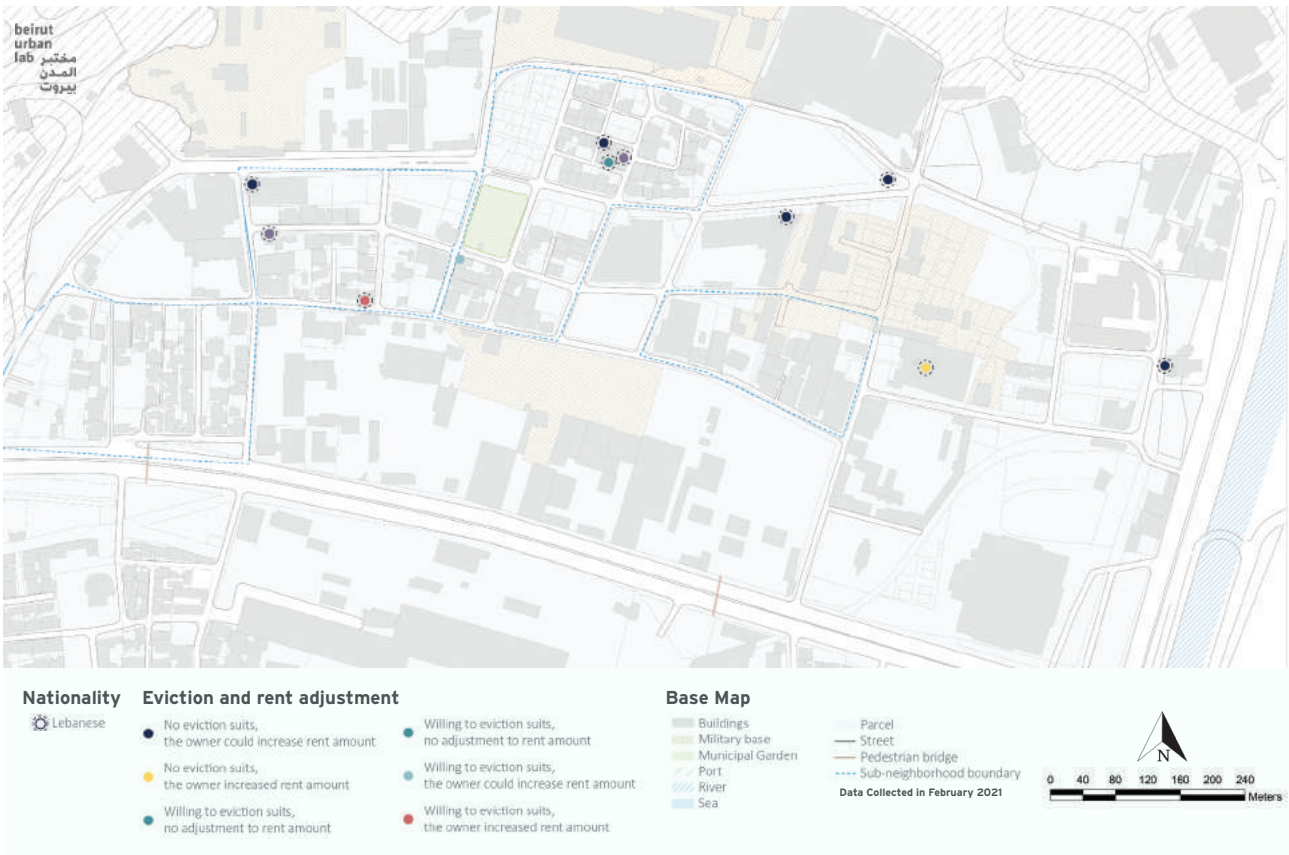


Figure 40: Eviction claims and increases in rent according to nationality. Source: The Beirut Urban Lab, 2021.

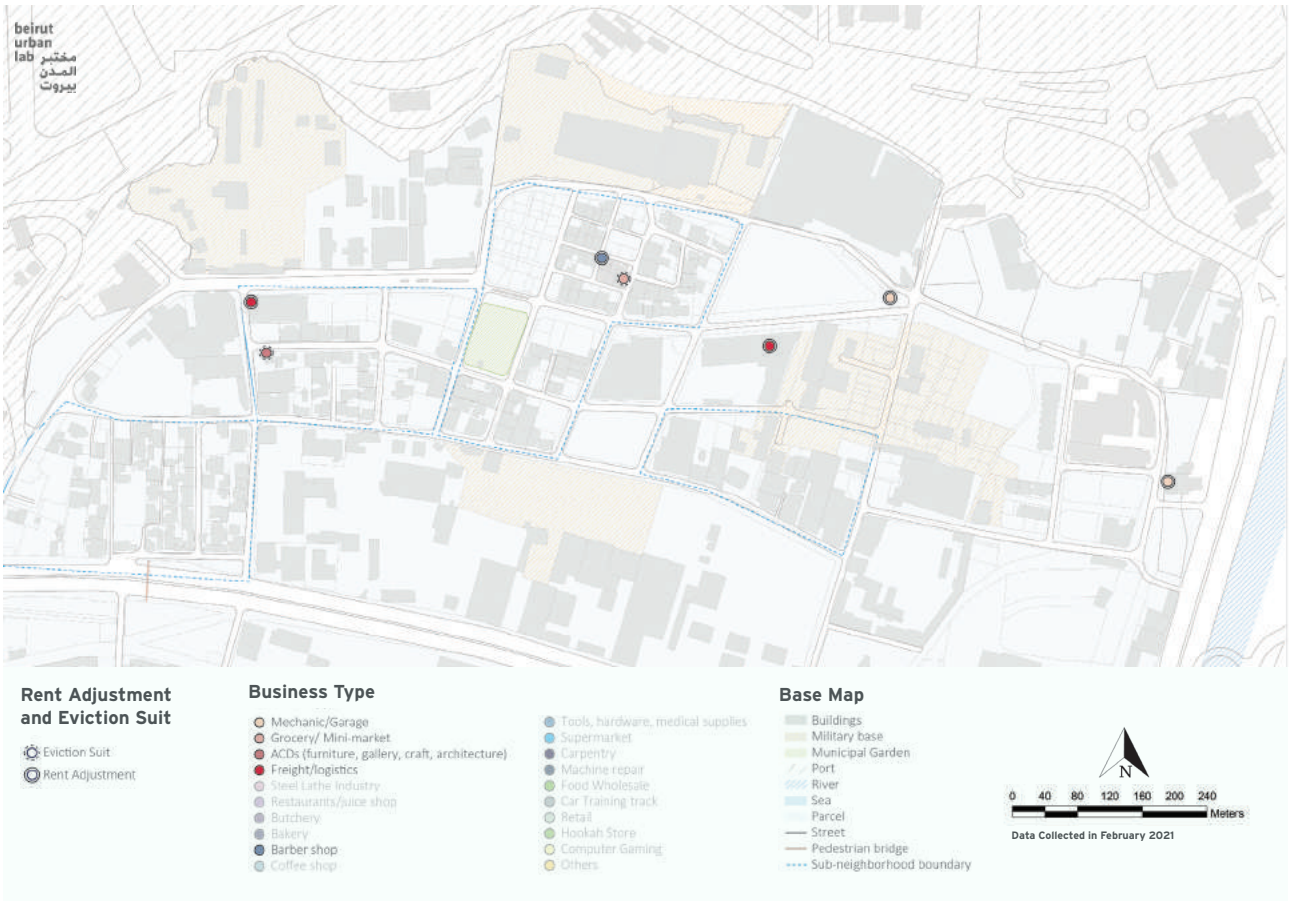


Figure 41: Business types in relation to eviction claims in increases in rent. Source: The Beirut Urban Lab, 2021.



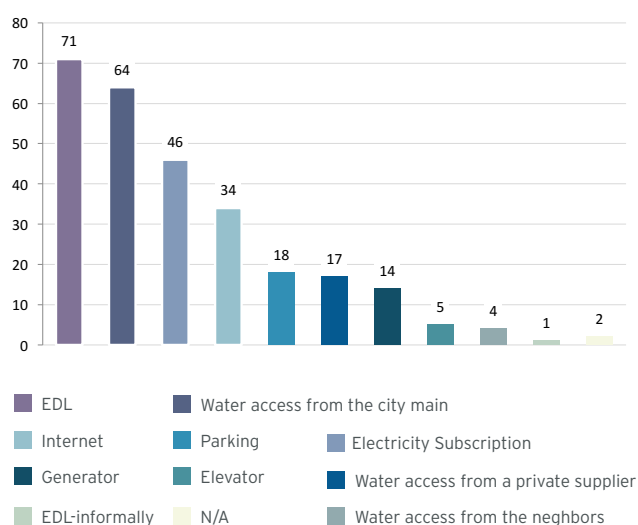
3. There is a slow rate of real estate acquisitions in Karantina compared to other areas in Beirut. However, Figure 42 and the focus group discussions showed that new investors and the local mukhtar proposed to some of the business owners to sell their facilities before and after the blast. Some of the business owners are among the most vulnerable groups in Karantina; they have loans to pay, and do not have other sources of income. Hence, they may sell their businesses and relocate if the economic crisis in Lebanon worsens. After the port blast, some of the business owners that the research team surveyed refused to sell their properties; they prefer to remain in Karantina and maintain their network of clients. However, during the focus group discussion, one of the business owners noted that the local mukhtar approached her before the port blast to sell her business and she declined the offer but mentioned that she may consider future offers. She said: “The local mukhtar offered to buy our business before the port blast and we did not accept. Now I might accept to sell the business because there is no work.”<sup>17</sup>



**Figure 42:** Pie charts that show the number of business owners who received proposals to sell their businesses before and after the port blast. Source: The Beirut Urban Lab, 2021.

## A.2 Access to Key Services

Shortages in the key public services such as electricity, water, and internet are a major problem in Lebanon. Unlike other areas in Beirut, all the residents and business owners in Karantina have access to water and electricity. This is due to the geographic location of Karantina near the Beirut River and the sea and the presence of a water reservoir in Al-Khodor sub-neighborhood. Additionally, the presence of the military bases, the proximity to the port, the Beirut Central District, and the location of an electrical transformer in the Al-Senegal sub-neighborhood maintained the access to electricity. The answers to the questionnaires showed that more than 80% of the business owners have regular access to electricity and water (Figures 43 and 44).



**Figures 43.** The main services that are available to businesses in Karantina. Source: The Beirut Urban Lab, 2021.

Access To Key Services	Number of Businesses
EDL	71
Electricity Subscription	46
Internet	34
Water Access From The City Main	64
Generator	14
Water Access From Private Supplier	17
Water Access From The Neighbors	4
EDL-Informally	1
Elevator	5
Parking	18
N/A	2

**Figures 44.** The distribution of services such as electricity, water, elevators, and parking spaces among the 83 surveyed businesses. Source: The Beirut Urban Lab, 2021.

<sup>17</sup> First Town Hall meeting, Karantina (2022-April-11).

However, they are recently suffering from increased power cuts due to the shortage of oil and diesel in Lebanon. This shortage negatively impacts the activities of micro businesses such as mechanic shops and grocery stores that do not own private generators and cannot afford to pay subscription fees to local providers. Data shows that the businesses in Al-Khodor, compared to other sub-neighborhoods, do not have internet subscriptions and formal access to electricity and water. Only 3 business owners have formal access to water and 18 businesses have access to both electricity and water.

Additionally, many of the owners of micro businesses who do not have higher education degrees rely on conventional tools and methods for managing their businesses. They do not use computers or the internet and, as a result, do not rely on e-commerce and online services to buy and sell products. At the same time, small and medium-sized businesses are self-sufficient and able to sustain their activities through private access to services. However, their activities depend on their ability to adapt to the long-term political situation in Lebanon, the devaluation of the Lebanese Pound, and the delay in economic reforms. Surveys showed that most of the small and medium businesses in the Industrial Zone have access to key services and rely on private generators.

Additionally, all the business owners in Karantina suffer from a shortage of electricity in public spaces. The absence of public lighting poles and urban furniture in Karantina forced many of the business owners to install lighting fixtures at the entrances of their businesses. As a result, there is unequal access to key services among the businesses. The shortage of key services is particularly difficult on most micro businesses and threatens their long-term sustainability in Karantina.

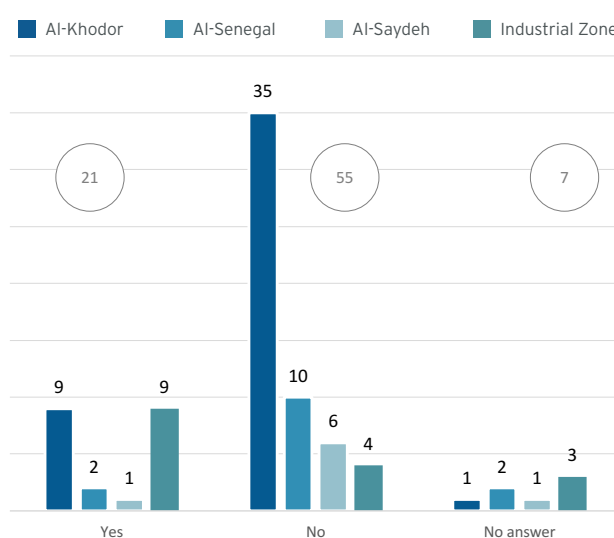
### A.3 Access to Financial Support

Four main modes for financial support were identified among the business owners in Karantina. The modes of support vary between the businesses according to their type, size, and status of registration with the NGOs. These modes include:

#### 1. Cash assistance for businesses that are registered at The Chamber of Commerce, Industry and Agriculture of Beirut and Mount Lebanon.

The chamber supports the registered businesses by providing counseling services, training, economic reports, publications, economic delegations, and business development projects mainly with the European Union<sup>18</sup>. After the port blast, the chamber offered cash subsidies for repairs to the registered businesses<sup>19</sup>.

Figure 45 shows that few businesses are registered at the Chamber of Commerce. These businesses are mainly distributed across Al-Khodor sub-neighborhood and the Industrial Zone. They are various types of the larger micro, small, and medium businesses including furniture companies in Al-Khodor and logistic companies in the Industrial Zone. An interviewee from a larger micro, shipping service business in Al-Saydeh sub-neighborhood mentioned that the Chamber of Commerce issued a limited announcement for the registered businesses to receive financial support; many of the businesses did not notice the announcement and, hence, did not receive any cash assistance. The cash assistance did not cover actual losses and damages and many of the business owners had limited access to fresh dollars for repairs. Therefore, the assistance from the Chamber of Commerce did not cover all the commercial and industrial businesses in Karantina.



**Figures 45.** The number of businesses that are registered at the Lebanese Chamber of Commerce. Source: The Beirut Urban Lab, 2021.

<sup>18</sup> <https://www.ccib.org.lb/en/?p=post&id=3>

<sup>19</sup> According to interviews conducted with different business owners in the area by Ali Ghaddar (2021-March/April)

The activities of the Chamber of Commerce are restricted to the registered businesses and are limited to managerial, counseling and training, and technical services. Accordingly, after the port blast, the work of the Chamber of Commerce was not comprehensive. It did not support all the registered businesses, especially with cash assistance.

Despite these limitations, the Chamber of Commerce had the potential to serve a wide range of businesses and contribute to their long-term sustainability through new forms of support and partnerships between various stakeholders.

## 2. Cash assistance instead of repairs from NGOs and INGOs.

After the port blast, a few NGOs and INGOs supported businesses with cash payments. Only 7 businesses out of the total 83 received cash payments from international NGOs such as ACTED, Red Cross, and UNDP (Figure 46). Non-profit organizations prioritized support to households affected by the port blast due to the urgent need for families to repair their houses and return to their sub-neighborhoods.

TYPE OF SERVICE	NGO	INGO	Philanthropist	Public Body	Total
Structural Works and Repairs	19	11	2	-	32
Furniture and Equipment	1	4	1	-	6
Financial Assistance	-	7	-	-	7
Assessment or Survey	-	-	-	20	20
Not Determined	-	2	-	-	2
*Some businesses received more than one type of aid provision in addition to surveys					67

**Figures 46.** Aid provision and the number of beneficiaries in Karantina after the port blast. Source: The Beirut Urban Lab, 2021.

## 3. Assessment, repair assistance, and direct support instead of cash payments from NGOs and INGOs and various public bodies.

Most of the NGOs and INGOs provided assessment or assistance instead of cash. Our surveys showed the following.

- 49 businesses received assessment, aid, or services after the port blast (Figure 28). NGOs and INGOs provided the most of the assessment and assistance in the repairs (a total of 32 businesses) (Figures 29 and 46). These businesses are mostly in Al-Khodor and Al-Senegal sub-neighborhoods. Additionally, various public bodies assessed the facilities of 11 businesses in the sub-neighborhoods and 9 in the Industrial Zone. Some of these businesses required urgent assessment as they are big in size with concrete structures that can threaten the safety of people. These businesses decided to remain in Karantina and examples include the Bakalian Flour Mills and the DW5 offices.

However, different INGOs preferred direct support and repairs instead of cash payments, especially INGOs that were operating in Al-Saydeh and Al-Senegal sub-neighborhoods. For example, UNDP and USAID supported micro businesses through structural rehabilitation, restocking of products and essential equipment such as fridges, and technical assistance to resume operations and improve productivity.

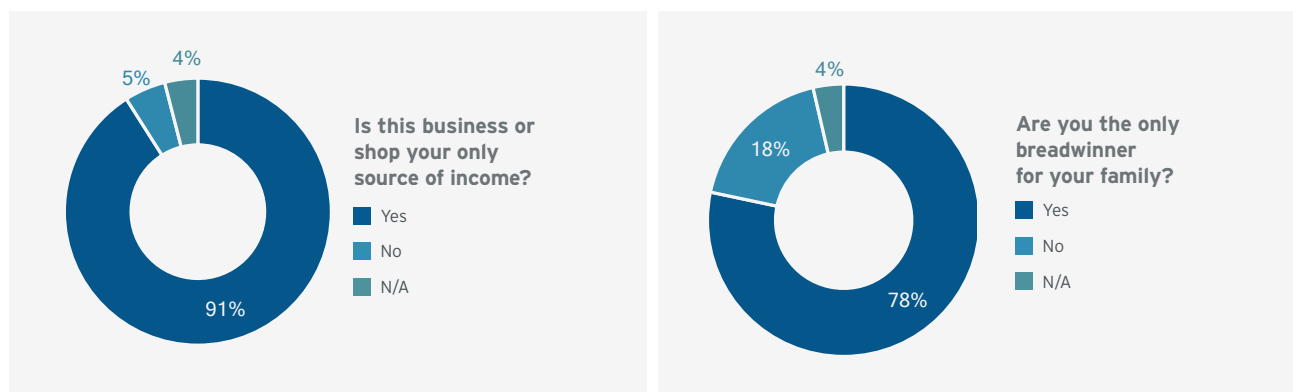
As such, direct support had a similar effect as cash assistance. It kept several businesses open in Karantina. However, most of the micro businesses in the Industrial Zone such as mechanics shops have not received any aid or support. They encountered difficulties in accessing money, and they demanded financial support and economic stability. Hence, they are struggling to keep their businesses open and operational.



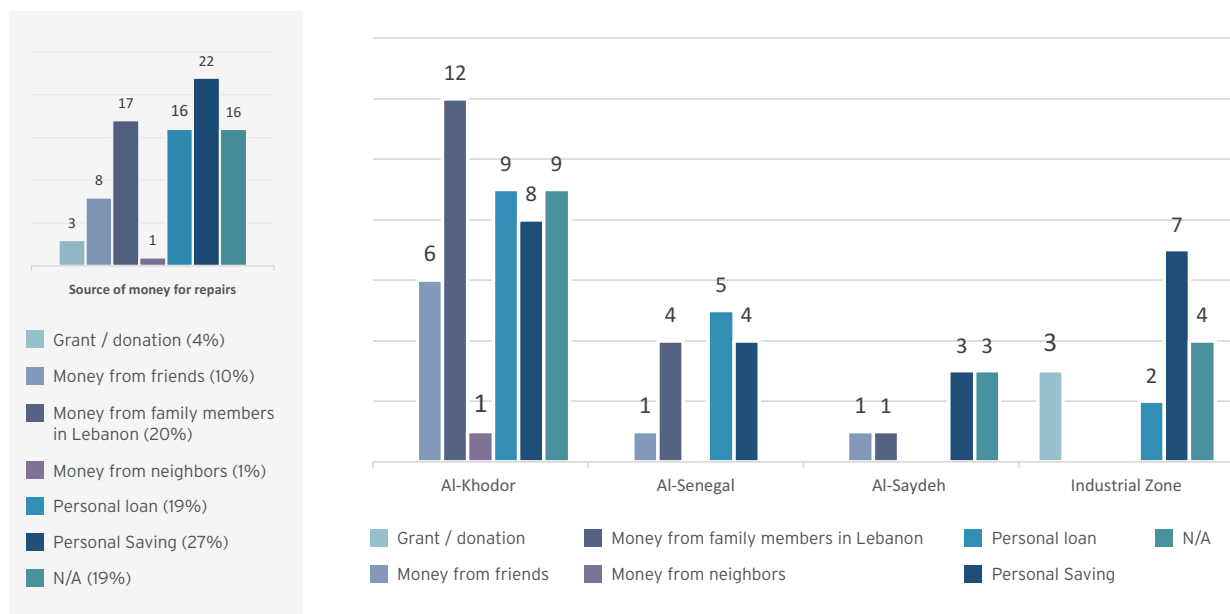
#### 4. Cash assistance and aid through social networks:

Many business owners relied more on their social networks to collect money to repair their facilities and less on NGOs, INGOs, and public institutions; for example, they were able to access money from family members, their savings, and personal loans.

- In terms of repairs, most business owners relied on social networks to cover the cost of the repairs and secure a quick return and re-operation. 91% of the business owners consider their businesses to be the only source of income and 78% of them are the sole breadwinner for their families (Figure 47). Half of the surveyed businesses repaired their facilities using money from their social networks or from their savings, and these are equally distributed across Al-Khodor, Al-Senegal, and the Industrial Zone (Figures 30 and 48).



**Figure 47:** The percentages of business that constitute the only source of incomes for the business owners and their families. Source: The Beirut Urban Lab, 2021.



**Figure 48:** Sources of monetary support for the business owners to repair their facilities. Source: The Beirut Urban Lab, 2021.

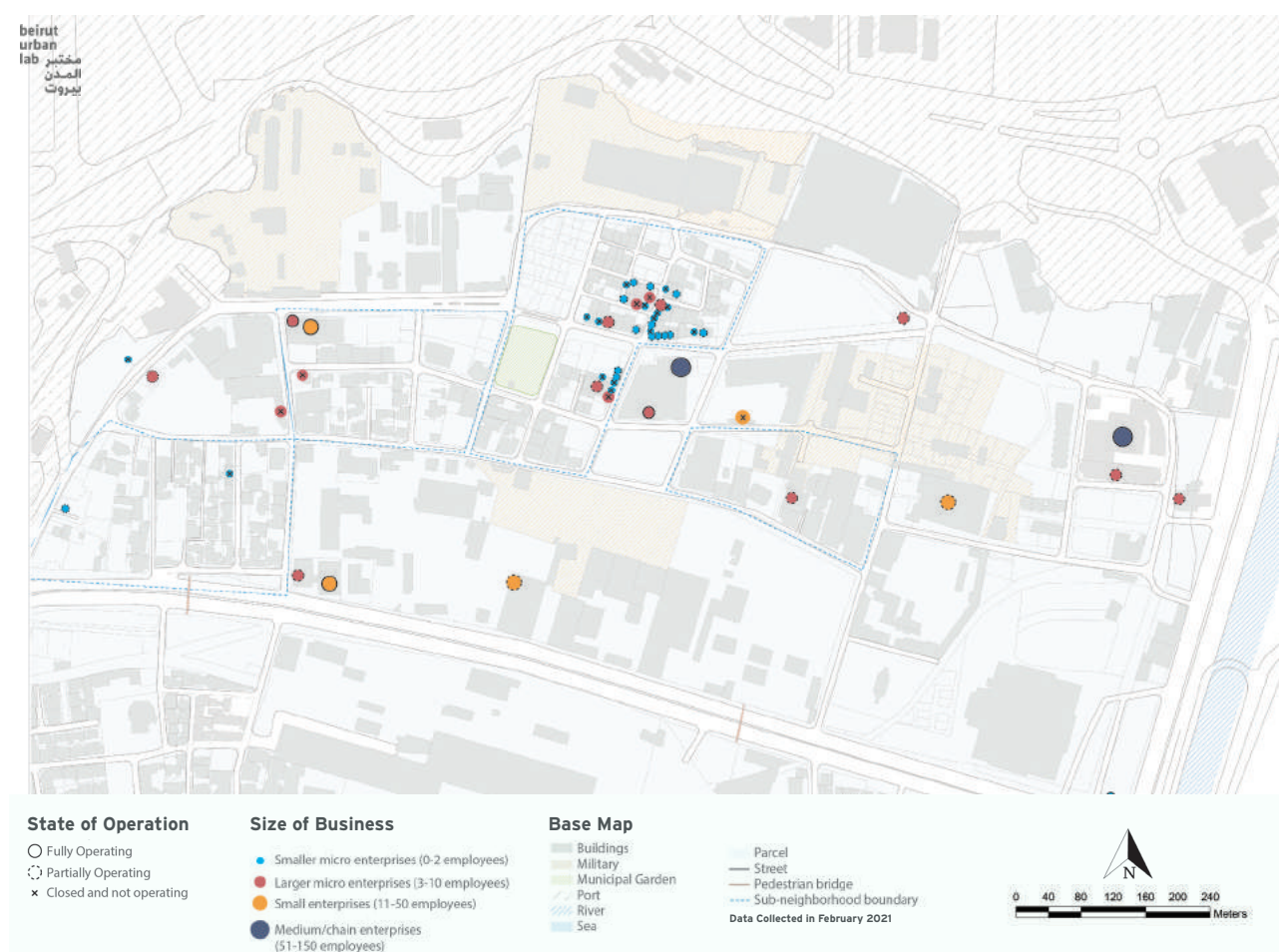
Thus, most of the business owners have fully or partially paid for repairs out of their own resources. They relied on the following social networks for money:

- 25 business owners relied on money from family members or friends in Lebanon to repair their facilities. 19 of these businesses are partially operating and 14 of them are in Al-Khodor sub-neighborhood. They are micro-sized businesses such as mechanic shops, steel lathing workshops, barber shops, and hookah cafes. 9 of these businesses are owned by Lebanese from the Arab Tribe. The remaining 5 businesses were closed after the port blast, 4 of which were in Al-Khodor and one in Al-Senegal (Figures 49 & 50).

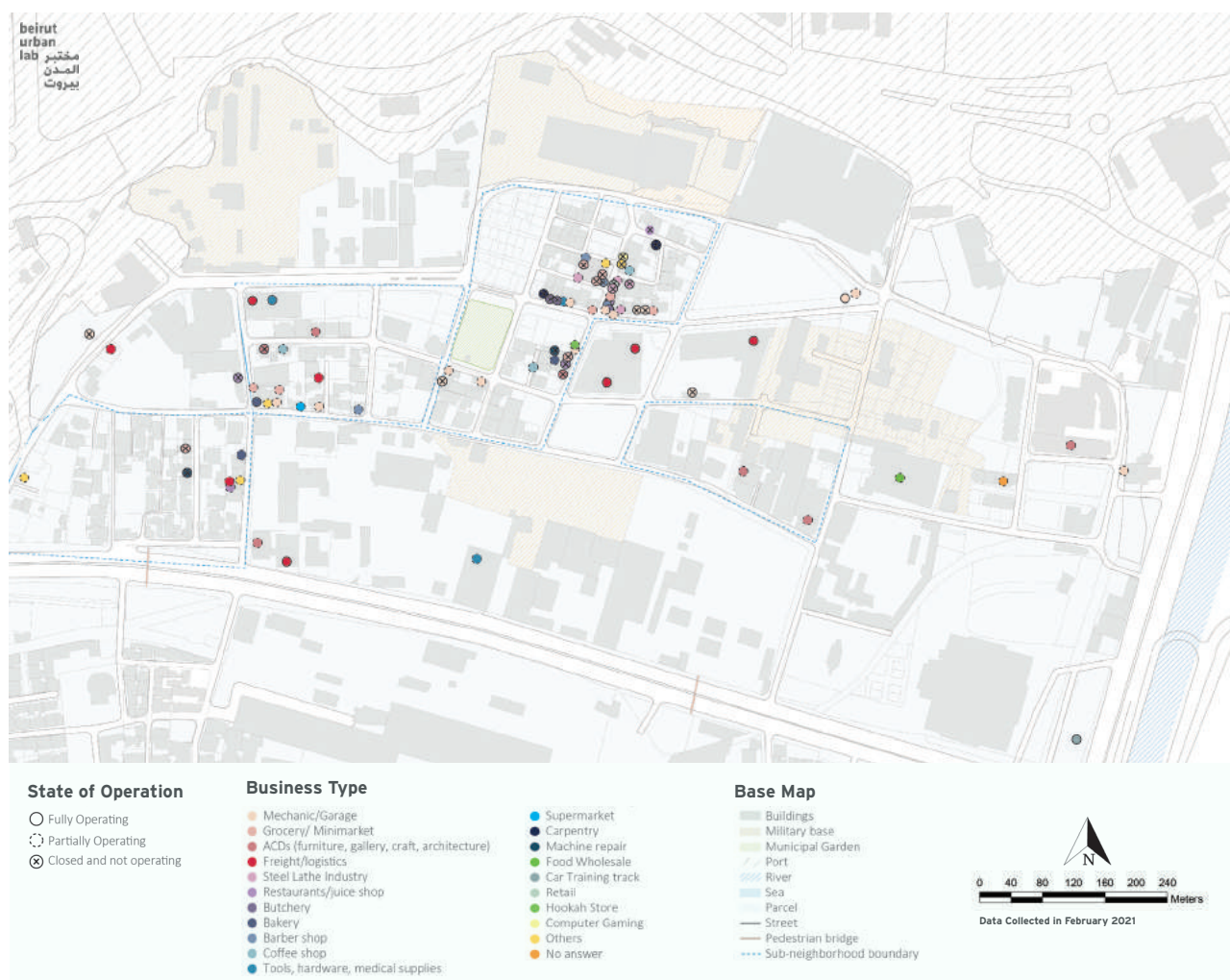
As such, social networks were a main source of financial support after the port blast. Many businesses relied on these networks to access money and support particularly in Al-Khodor sub-neighborhood (Figure 48).

- Most of the small, medium, and chain businesses relied on personal savings for repairs. 22 business owners repaired their facilities from their savings. Many of them are of the smaller micro businesses category and are in Al-Khodor (8), the Industrial Zone (7), and the remaining are distributed in Al-Senegal (4) and Al-Saydeh (3). The owners of 5 of the larger micro, small, and medium businesses in the Industrial Zone had access to money in personal savings and in bank accounts outside of Lebanon to conduct the needed repairs.

- 16 business owners were able to secure loans. These are distributed in Al-Khodor (9), Al-Senegal (5), and the Industrial Zone (2) (Figure 48).



**Figure 49:** The business status in relation to business size. Source: The Beirut Urban Lab, 2021.



**Figure 50:** The business status in relation to business type. Source: The Beirut Urban Lab, 2021.

In addition to financial support, many of the business owners were not yet compensated in February 2021 when the questionnaires were conducted, neither by the military nor by insurance companies. Moreover, the devaluation of the Lebanese pound coupled with the implementation of a restrictive monetary policy have exacerbated the levels of financial instability and insecurity.

Micro businesses are the most vulnerable in terms of access to money. They are mainly located in Al-Khodor, Al-Senegal, and the Industrial Zone. Some of these businesses are related to the port such as logistics and mechanics. In contrast, small and medium businesses were able to repair and open their facilities despite the heavy damage to their buildings. Sleep Comfort, Key Freight, The Net Logistics, Gezairi Transport, Bakalian Flour Mills and, recently, Mercedes-Benz (T. Gargour and Fils) had to repair the entire building at their own expense.

As a result, there was a total absence of government and municipal support<sup>20</sup> after the port blast. Most of business owners across all sizes relied on social networks (loans or support from family members) and savings to rebuild their facilities.

They requested financial support, subsidies, tax exemptions, and political stability. They noted that political stability can be achieved through the formation of a new accountable cabinet that can implement reforms and halting the devaluation of the Lebanese pound. These demands can sustain their activities and ensure their long-term recovery.

<sup>20</sup> This includes support from the Ministry of Economy and the Ministry of Finance.



## A.4 Access to Human Resources and the Financial Stability of Employees

Businesses in Karantina have considerable access to human resources. Small, medium, and chain businesses rely on workers and experts from outside of Karantina; family businesses rely on family members while other businesses rely on low-wage and unskilled labor.

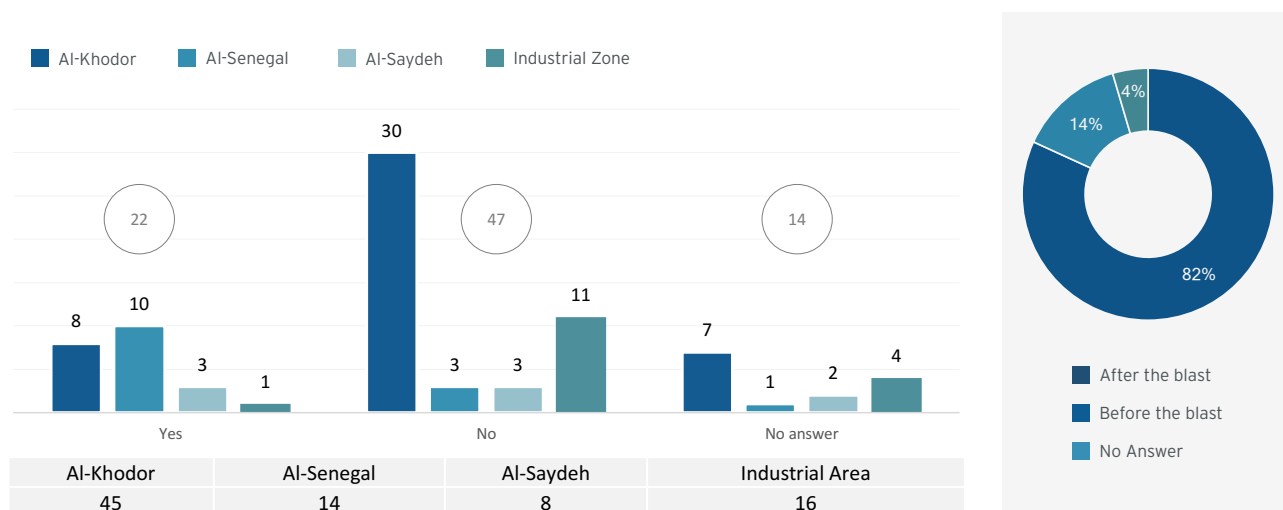
The answers to the household surveys showed that the unemployment rate has reached 70% in Karantina in 2021. Residents, especially the younger generations, are unable to find job opportunities both inside and outside Karantina although many of them completed bachelor's and master's degrees. They attribute unemployment to the gap between the needs and skills of local people and small, medium, and chain businesses that do not hire people from Karantina—for example, logistics, entertainment, and galleries.

During one of the town hall meetings, one of the residents said, “There is a lack of communication between us and these companies.” Another resident added, “These companies only accept our job requests in the low-skilled jobs like delivery; now in GCC, for example, there is only one employed person from our area that works in security.”<sup>21</sup> They urged the businesses to re-direct employment opportunities to the sub-neighborhoods of Karantina since a few of them are employed.

Some of the local young men and women decided to address unemployment and the lack of job opportunities by setting up their own micro business initiatives and enterprises; some of these enterprises include retail stores, coffee shops, and gaming hubs in Al-Khodor sub-neighborhood.

### The Financial Stability of Employees

The Beirut port blast has exacerbated the difficult financial situation of people who live and work in Karantina. Many of the business owners decreased the salaries of their employees after the port blast due to the mass destruction and temporary closure, the devaluation of the Lebanese Pound, and the decrease in the number of customers. The decrease in market demand was influenced by the economic crisis in Lebanon and the restrictions of the COVID-19 pandemic; only three business owners from the group that answered the questionnaire decreased the salaries of their employees before the port blast (Figure 51).

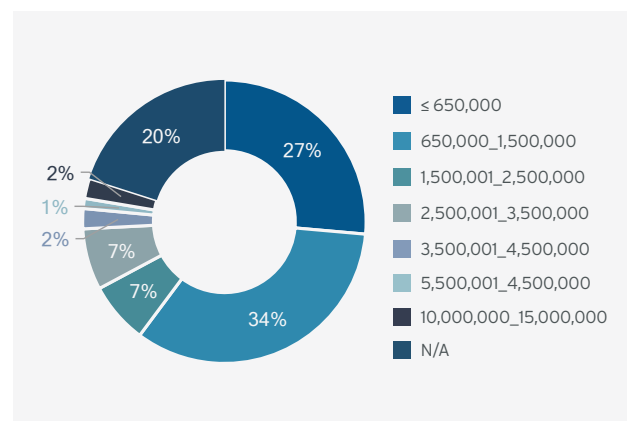


**Figure 51:** Decrease in salaries in Karantina before and after the port blast. Source: The Beirut Urban Lab, 2021.

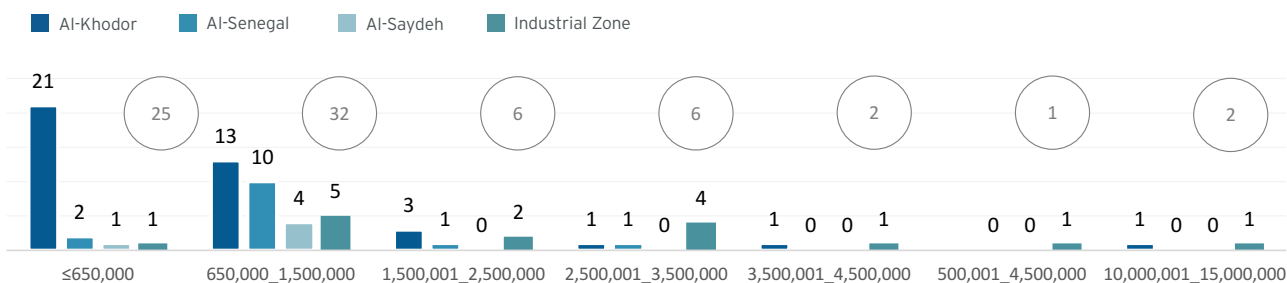
In terms of salaries, most of the employees received low salaries that often ranged between 650,000 to 1,500,000 Lebanese pounds, and salaries could sometimes fall under 650,000 Lebanese pounds (Figure 52).

<sup>21</sup> First Town Hall meeting, Karantina (2022-April-11).

These low salary rates were mostly in micro businesses in Al-Khodor sub neighborhood. However, relatively higher salaries - between 10,000,000 to 15,000,000 Lebanese Pounds - were limited to people with university or vocational training and work in larger micro, small, and medium businesses. The higher salaries were distributed as follows (Figure 53): one in Al-Khodor in the furniture industry, and one in the Industrial Zone in food wholesale. Despite the economic crisis in Lebanon, these businesses maintained a better salary scale for their employees. However, many business owners in Karantina did not adjust the salaries of their employees in response to the significant devaluation of the Lebanese Pound in relation to the value of the dollar.



**Figure 52:** Salary ranges in LBP in Karantina  
Source: The Beirut Urban Lab, 2021.

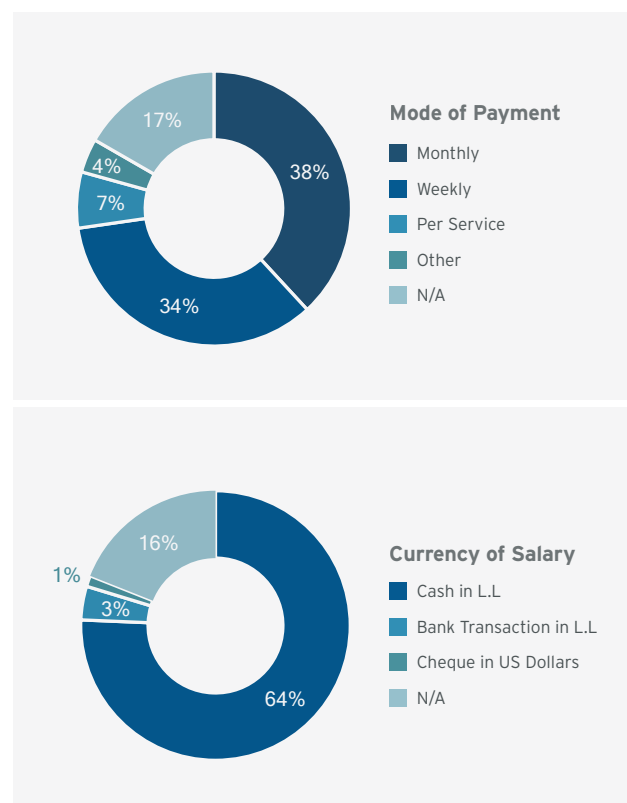


**Figure 53:** The distribution of salary scales across the three sub-neighborhoods and the Industrial Zone. Source: The Beirut Urban Lab, 2021.

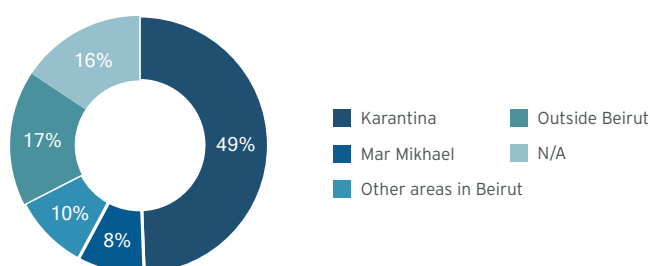
The data from the answers to the questionnaire showed that 32% of the business owners pay salaries to their employees every month, and 29% pay weekly salaries. The 29% are mainly in Al-Khodor - around 22 businesses out of a total of 30 in Al-Khodor - and include owners of butchery shops, minimarkets, bakeries, coffee shops, and mechanics or steelmaking workshops (Figure 54). As a result, many of the employees were likely to look for work opportunities outside of Karantina, or look for local alternatives.

The answers to the questionnaire also showed that half of the business owners employ the residents of Karantina, equivalent to a total of 42 businesses (Figure 55). They are mostly micro businesses such as retail shops, mini markets, butchery shops, bakeries, and micro-scale mechanics shops. However, the owners of medium and chain businesses live mostly outside of Karantina; they tend to employ skilled people who live across Greater Beirut. As a result, medium and chain businesses in Karantina do not contribute to reducing the local unemployment rate.

It is also important to note that the answers to the questionnaire showed that many of the micro businesses are owned by families in Karantina and do not require a large number of employees.



**Figure 54:** The frequency of payments of salaries in Karantina.  
Source: The Beirut Urban Lab, 2021.



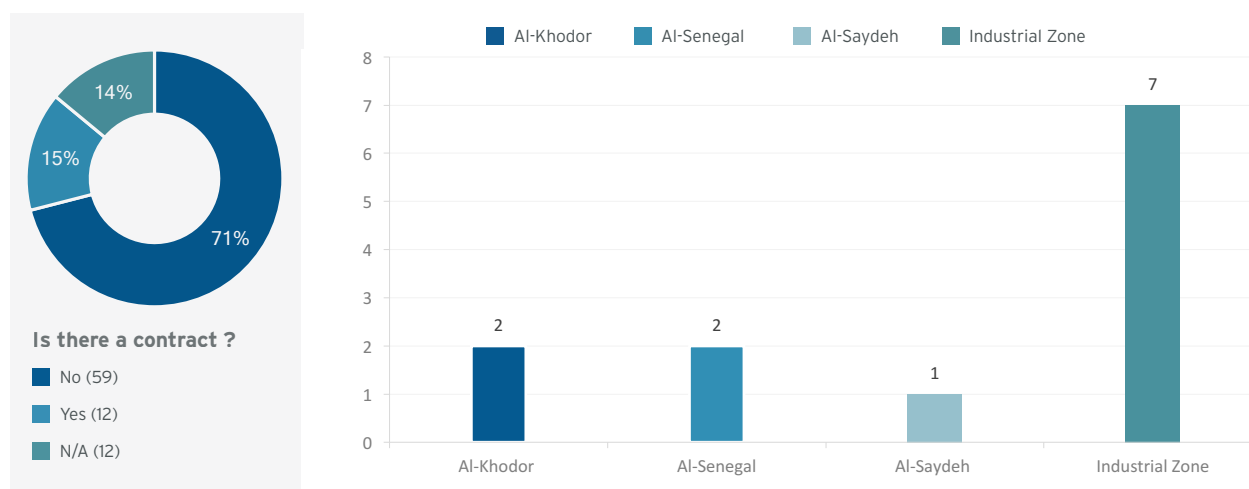
**Figure 55.** Breakdown of the main areas where the employees in Karantina live. Source: The Beirut Urban Lab, 2021.

## EMPLOYMENT TRENDS IN KARANTINA

The employment trends in Karantina are described as follows:

### 1. A significant loss in employment opportunities due to the ongoing threat of businesses closing after the port blast.

People who currently live and work in Karantina are at risk of losing their jobs or sustaining major cuts in their salaries. 21 businesses in Karantina are partially operating and 19 closed after the port blast. 2 of these businesses are planning to relocate while the rest prefer to remain in Karantina. Additionally, most of the employees work without formal contracts and, as a result, are vulnerable to losing their jobs considering the ongoing economic crisis in Lebanon. Only 7 businesses offer their employees formal contracts; most of these businesses are larger micro, small, and medium/chain companies in the Industrial Zone and mainly provide logistics and shipping services (Figure 56).



**Figure 56:** The numbers of businesses in Karantina that employ people on formal contracts. Source: The Beirut Urban Lab, 2021.

In addition to the ongoing closure of businesses, the salary cuts reduced the purchasing power of the employees and business owners who live and work in the different sub-neighborhoods in Karantina, and this negatively affected the local economy<sup>22</sup>. The economic crisis in Lebanon also threatened the activities of many of the smaller micro businesses in Karantina. It is important to note that 63% of the business owners pay their employees in cash in Lebanese pounds, 3% through bank transfers in Lebanese Pounds, and only 1% through check transfers in dollars that can only be retrieved in LBP at a conversion rate fixed by the bank "lollar" (Figure 54).

<sup>22</sup> 30 business owners work and live within the different sub-neighborhoods; 23 businesses are in Al-Khodor sub-neighborhood.



## 2. Unequal access to job opportunities:

Micro businesses rely on manual labor workers who live mainly in Karantina while many medium and chain businesses in the Industrial Zone employ general office and management workers who live outside of Karantina. During the town hall meetings and the thematic focus group discussions, many of the Karantina residents pointed out the importance of increasing local job opportunities and the shortcomings of temporary aid and family support. It was clear from the discussions and the data from the questionnaire that community groups in Karantina are marginalized and unable to access equal employment opportunities. Additionally, some of the previous employees of the slaughterhouse resorted to temporary jobs such as taxi driving, and some of them remain unemployed.

## B. Business Diversity and Intensity

### B.1 Diversity and Intensity of Businesses by Type, Size, Location, and Date of Establishment

“ We don’t have a pharmacy in the area and this is primary<sup>23</sup>  
ما في عنا صيدلية بالمنطقة وهل الشي من الأساسيات

This section of the report explores the level of diversity and intensity of business activities in Karantina in terms of two factors. The first factor is the level of diversity of businesses by type, size, age, and location in the three sub-neighborhoods or the Industrial Zone. The second factor is the level of diversity and inclusion of business owners in terms of class, religion, gender, and nationality.

### Business Type and Location

Four main characteristics distinguish the types of businesses in Karantina:

- 01 Firstly, businesses are spatially arranged into clusters. Local micro businesses such as bakeries and grocery shops are clustered in the residential sub-neighborhoods. These businesses serve the daily needs of the residents. However, most of the small, medium, and chain businesses and industries such as logistics, car showrooms, and transit services are in the Industrial Zone. Micro-scale industries such as mechanics shops and garages are in the residential sub-neighborhoods along key streets or are clustered in the inner areas of the Industrial Zone.
- 02 Secondly, there is an absence of businesses that can meet the essential daily needs of the residents, including gas stations, bookstores, banks, and doctor clinics. The absence of these types of businesses reflects the level of marginalization of people in Karantina and the lack of adequate investments. For example, one of the Syrian residents said “I live in this area too. I propose that a health center ‘mostawsaf’ be created, and which takes symbolic fees, as the hospitals are very expensive.”<sup>24</sup>
- 03 Thirdly, the three sub-neighborhoods are mixed-use and most of the residential buildings have commercial activities on the ground level (Figure 57). Accordingly, the facades of buildings on the ground level are active in Al-Senegal, Al-Khodur, and partially active in Al-Saydeh (Figure 58). However, the facades of buildings in the Industrial Zone are completely inactive due to the morphology of the large lots and the detached building types that are single use (Figure 59).

<sup>23</sup> First Town Hall meeting, Karantina (2022-April-11).

<sup>24</sup> First Town Hall meeting, Karantina (2022-April-11).

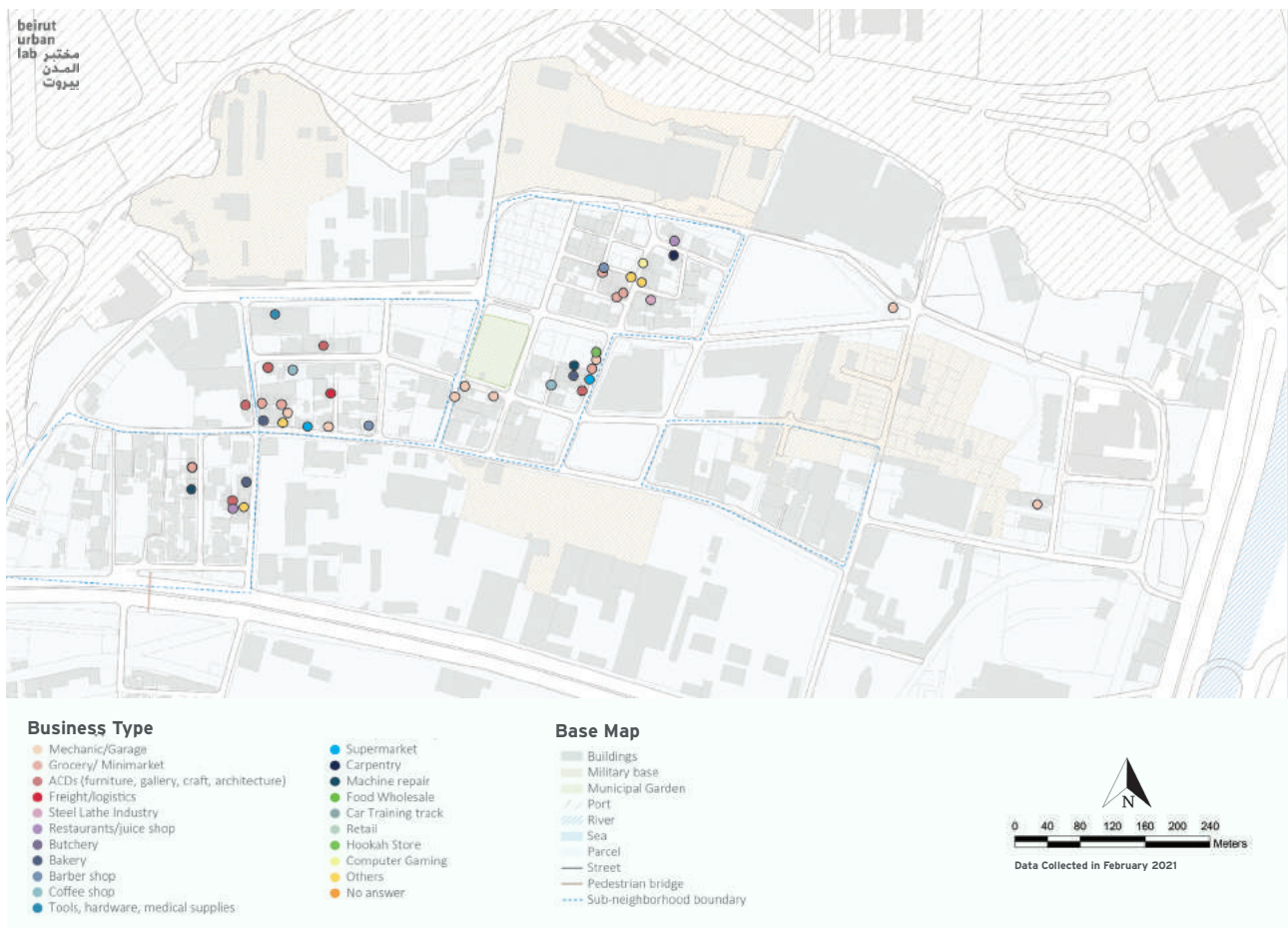


Figure 57: Building use at the ground level. Source: The Beirut Urban Lab, 2021.



Figure 58: Active shop fronts in the residential clusters. Source: Ali Ghaddar, 2021.



Figure 59: Absence of active shop fronts in the Industrial Zone. Source: Ali Ghaddar, 2021.



As a result, there are three main issues that characterize the distribution of businesses by type and location in a neighborhood:

- 01** The land uses in the sub-neighborhoods and the Industrial Zone are relatively limited and not diverse. Most of the businesses are not continuous on the ground level and are spatially fragmented.
- 02** The Industrial Zone does not have shops or active frontages and does not include mixed-use and apartment buildings. Most of the buildings are large, detached, and are mostly used for storage and small to medium industries.
- 03** The military bases surround the inner-neighborhood residential clusters and create a spatial segregation from the Industrial Zone. They are located along the periphery of Karantina close to the Charles Helou Highway and the port (Figure 60).



**Figure 60:** Military base in the municipal lot along Al-Rehban Street. Source: Ali Ghaddar, 2021.

Additionally, the inner-neighborhood residential clusters are slowly transforming into commercial uses (Figure 61). The infiltration of new business activities, such as logistics and shipping services, into Al-Saydeh sub-neighborhood is transforming the socio-spatial composition of the area. Apartment buildings are replaced by new businesses and residual open spaces are used by the employees to park their cars. These changes started in 2010 and increased in 2015.

Many business owners in Mar Mikhael moved their businesses to Al-Saydeh due to the affordable rents and the proximity to the port and the Charles Helou Highway. Some of the business owners rented apartments while others purchased multi-story apartment buildings and turned them into offices (Figures 62 and 63). Most of the activities of these businesses are related to the port and include shipping and logistics services.



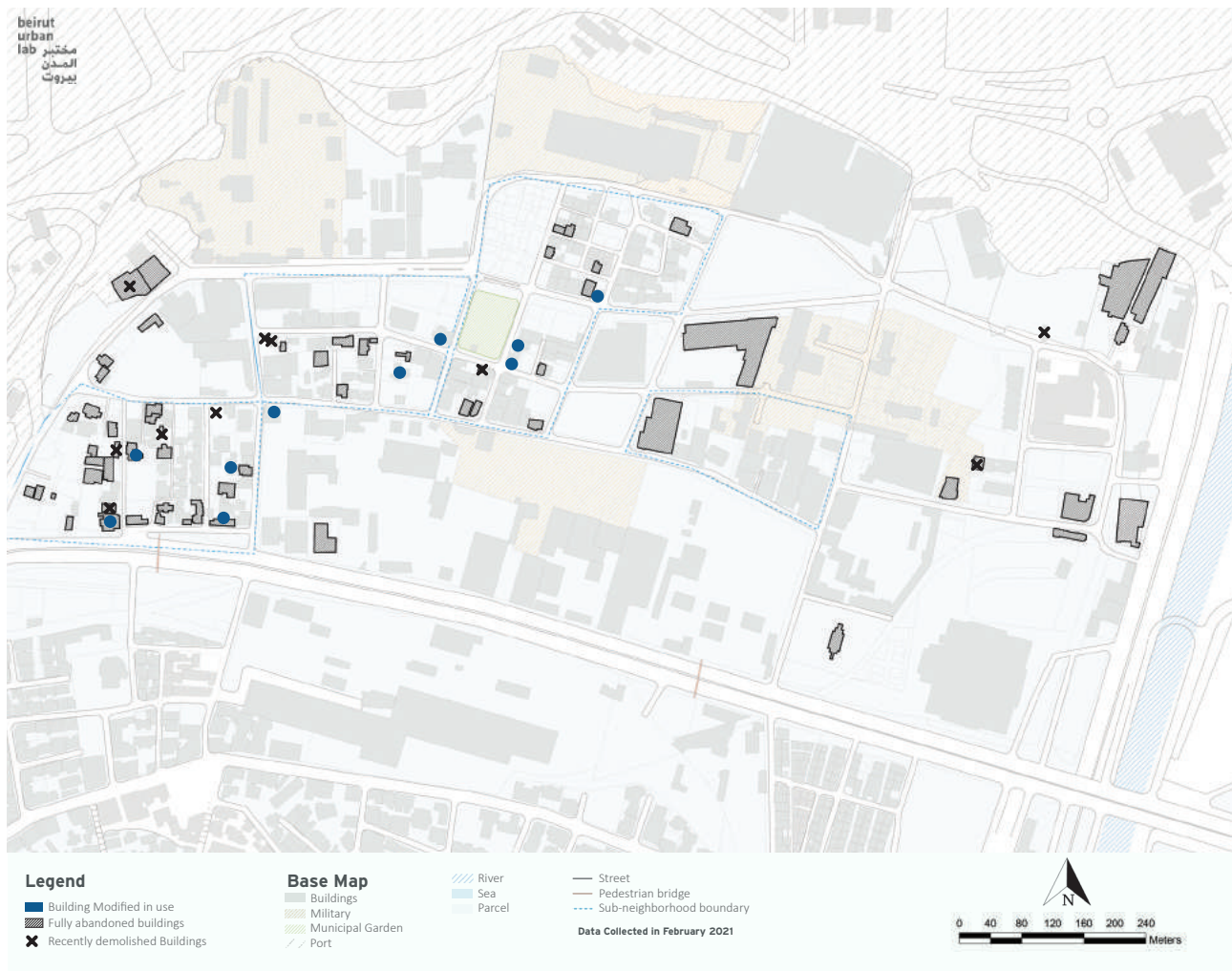


Figure 61: Changes in land-use from residential to business use. Source: The Beirut Urban Lab, 2021.

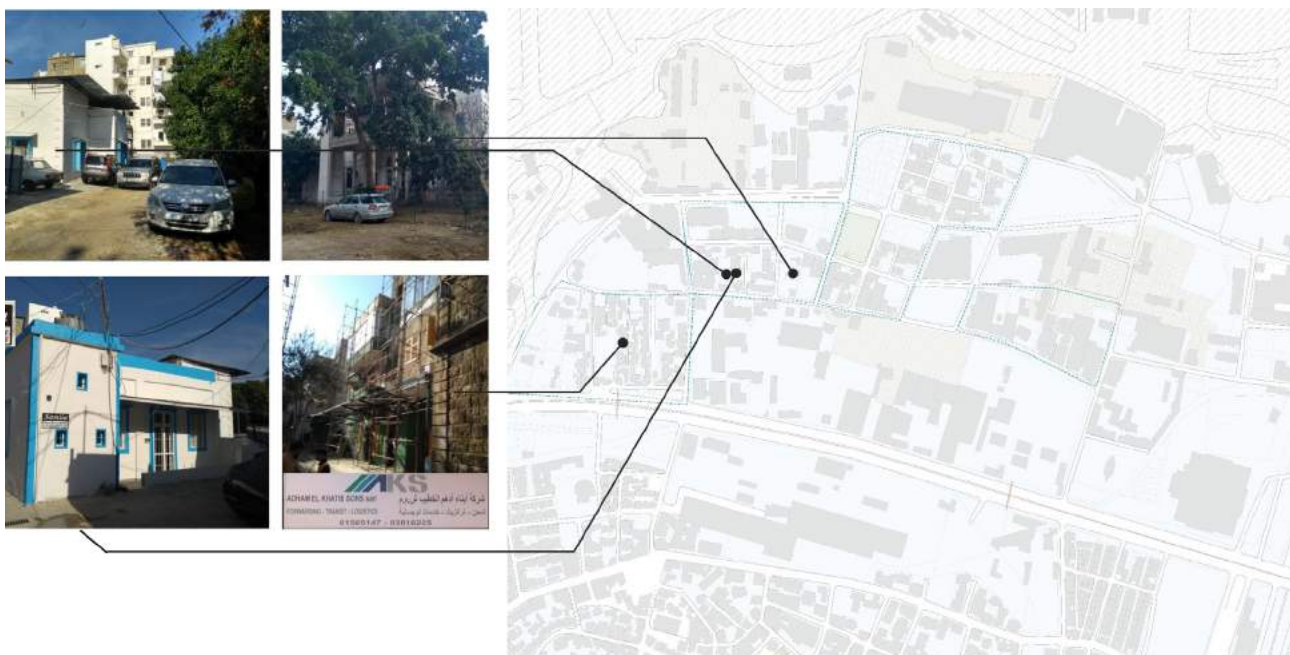
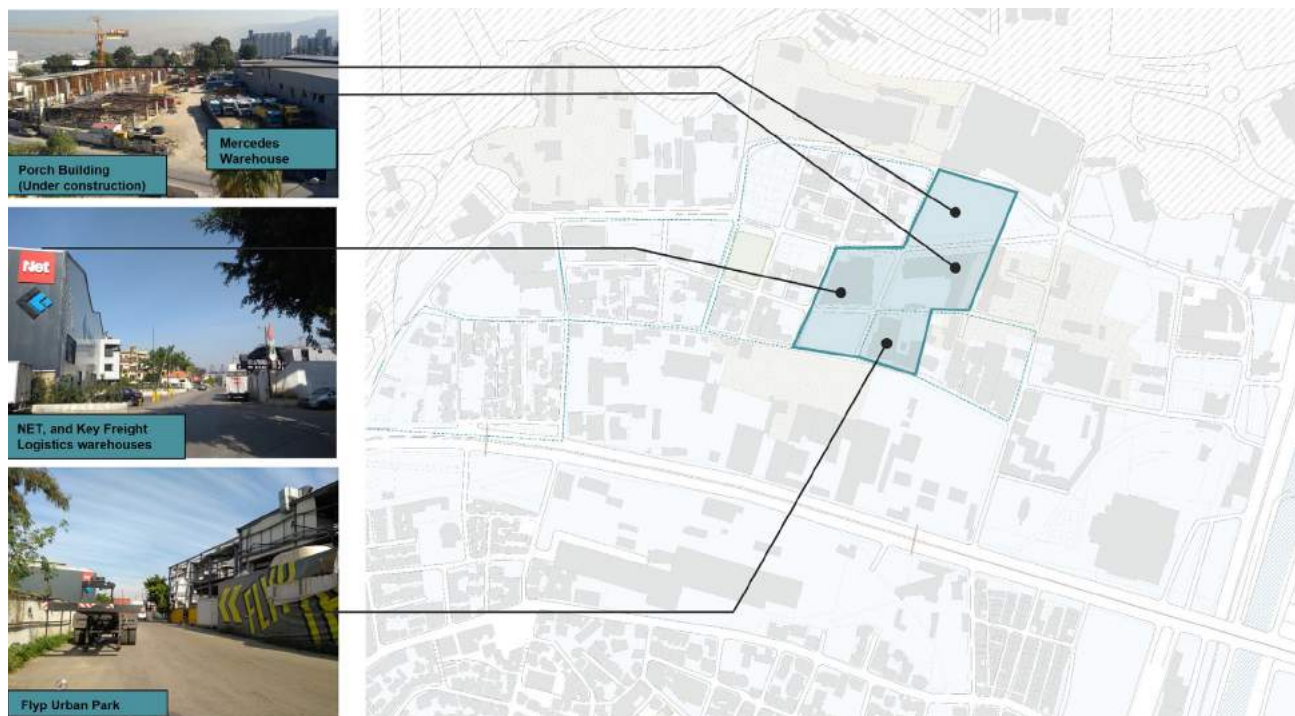


Figure 62: New shipping service companies in the inner residential clusters. Source: Ali Ghaddar, 2021.



**Figure 63:** The new types of small to medium businesses along Iben Sarjoun Street. Source: Ali Ghaddar, 2021.

## Sizes of Lots and Businesses

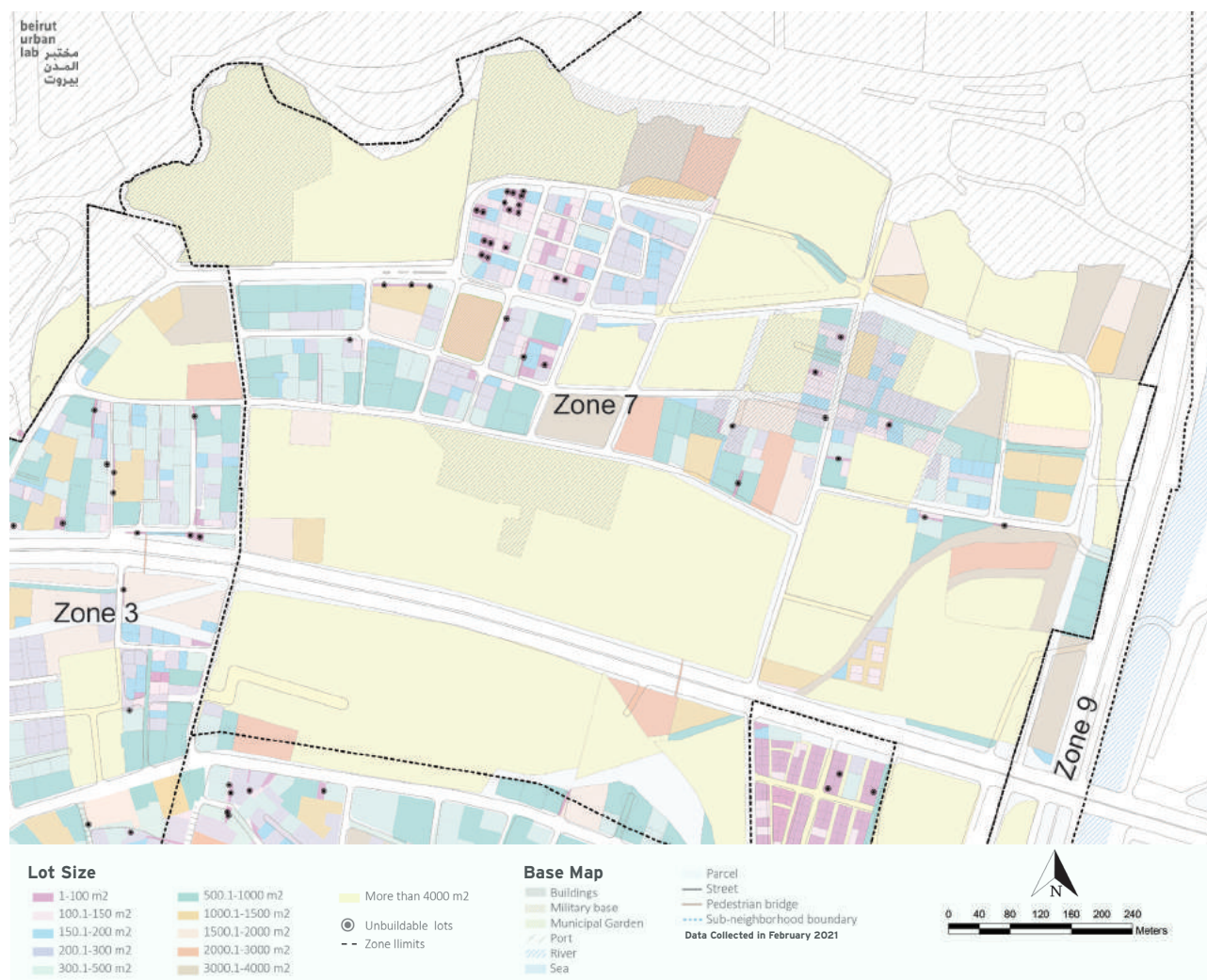
Karantina has a variety of lot sizes compared to other areas in Beirut outside of the Beirut Central District. This variety of lot sizes is a key to creating and maintaining a diversity of businesses in Karantina in terms of sizes and uses. For instance, some of the large lots are used for public amenities, for example, for the waste management facility. Besides, large lots in Karantina attracted functions that are related to the port and medium/chain businesses such as logistics, showrooms, and recreational activities. These businesses are mushrooming along Iben Sarjoun Street and transforming the area into a high-end commercial zone (Figure 63). The new medium and chain businesses do not attract visitors and clients to Karantina.

Some of the businesses include storage warehouses with managerial offices such as The Net and Key Freight that offer logistic services. Other businesses, such as Mercedes-Benz (T. Gargour and Fills) provide repairs and store Mercedes cars before they are distributed to the Lebanese market from the port. As such, the size of a business is tied to the lot size in Karantina; large lots attract substantial business investments that require large built structures and flexible spaces (Figure 63). The process of transforming Iben Sarjoun Street from an industrial to a commercial strip by the Waqf mediator is addressed in the fourth transversal issue report on Inclusive and Sustainable Development in Karantina<sup>25</sup>.

Figure 64 shows the distribution of lots by size in Karantina. Small lots (between 0-50 and 51-100 square meters) are mostly located in the three sub-neighborhoods where large pieces of land were subdivided in the 1900s and 1940s to accommodate apartment buildings. However, large lots (between 501 and 5000 square meters) are in the Industrial Zone and accommodate individual and single-use buildings. Most of these large lots are owned by the Municipality of Beirut or the Waqf.

<sup>25</sup> Refer to report 4 "Sustainable and Inclusive Development"





**Figure 64:** The sizes of lot and unbuildable lots in Zone 7. Source: Ali Ghaddar, 2021.

Additionally, the Municipality of Beirut leased part of its lots at the periphery of Karantina along the Charles Helou Highway to a private company that constructed multiple warehouses. The company provides storage agreements, not lease contracts, to business owners (Figure 65). The port blast destroyed most of these warehouses that belonged to small and medium businesses and were not repaired in 2020 and 2021.

There are 5 main office buildings in Karantina (Figure 66). One of these office buildings is located along the Charles Helou Highway near the municipal lot and attracts clients from all over Lebanon. The office building has active storefronts, with mechanics shops and garages, and accommodates larger micro businesses like architecture offices. It has few vacant offices compared to the new office buildings that were constructed in 2018 and 2019 before the port blast. After the port blast, and because of the halt on new rental agreements and contracts, approximately 90% of the offices in these buildings became vacant.

Other older office buildings are now partly occupied according to the new “For Rent” signs on the building facades<sup>26</sup>. They mainly include larger micro, small, and medium businesses such as jewelry stores, law firms, and logistics and shipping services.

<sup>26</sup> It was evident from the field work observations that many stores were destroyed and left vacant because of the port blast.



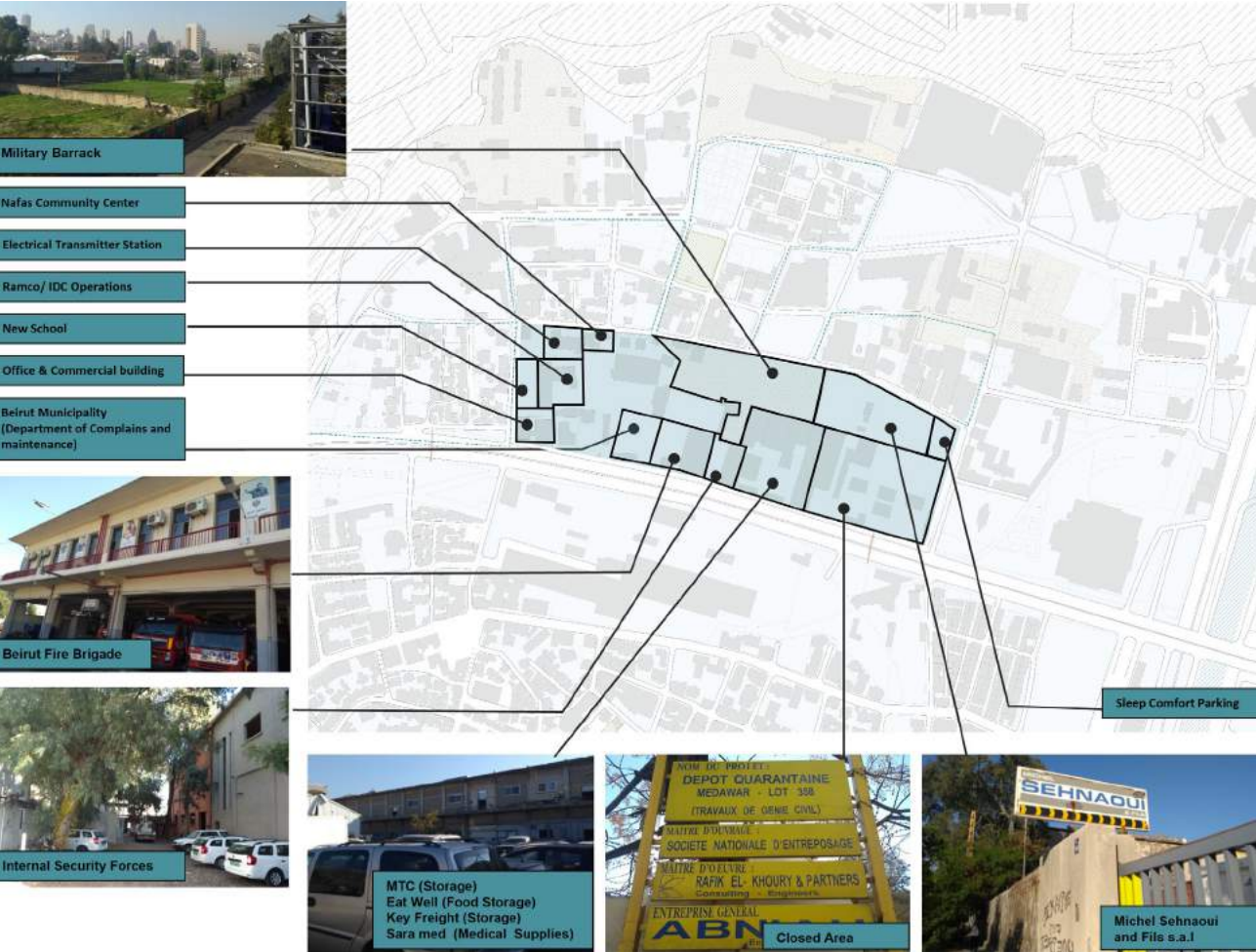


Figure 65: The distribution of different functions on the municipal lot. Source: Ali Ghaddar, 2021.

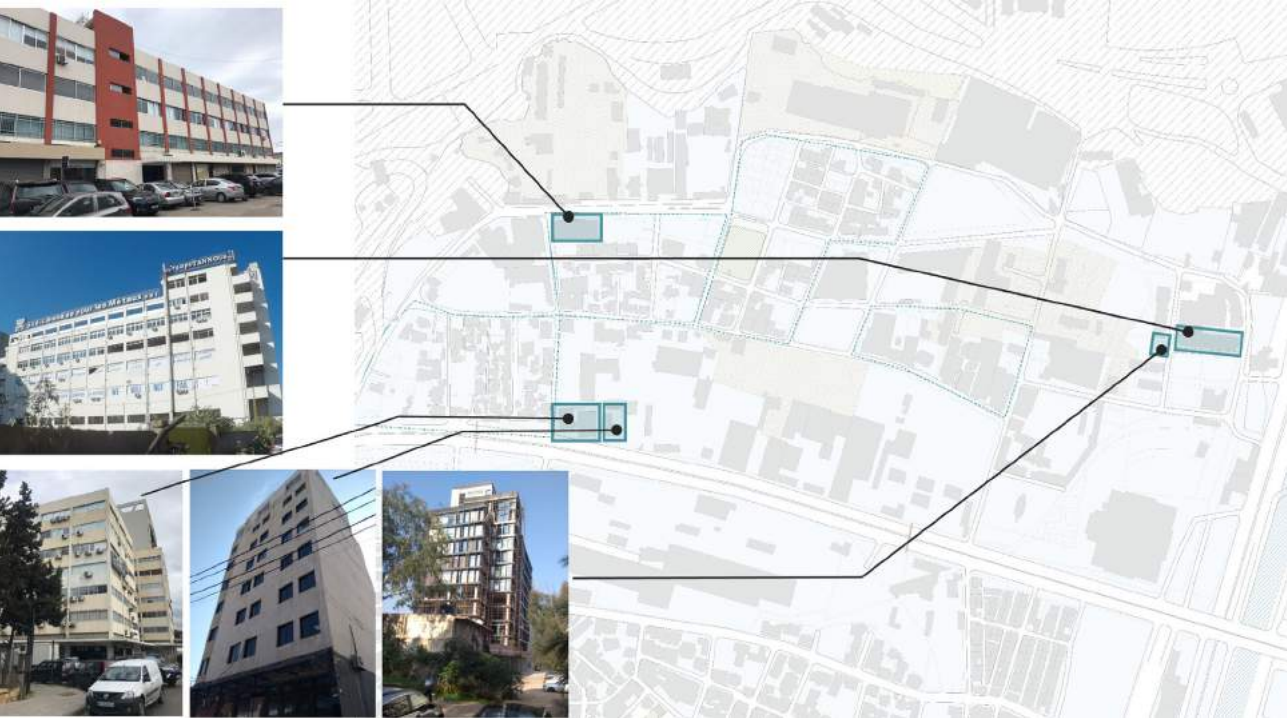
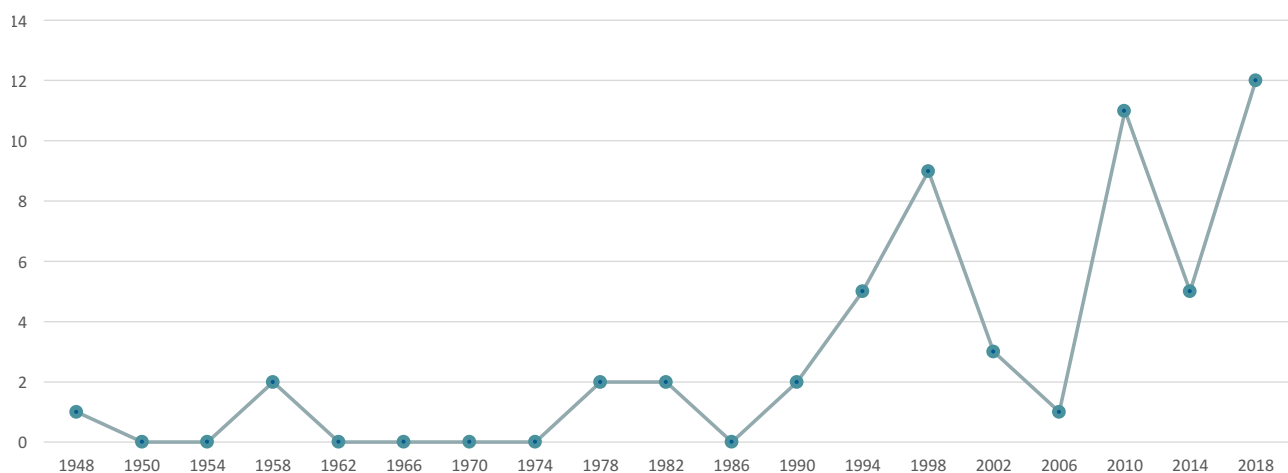


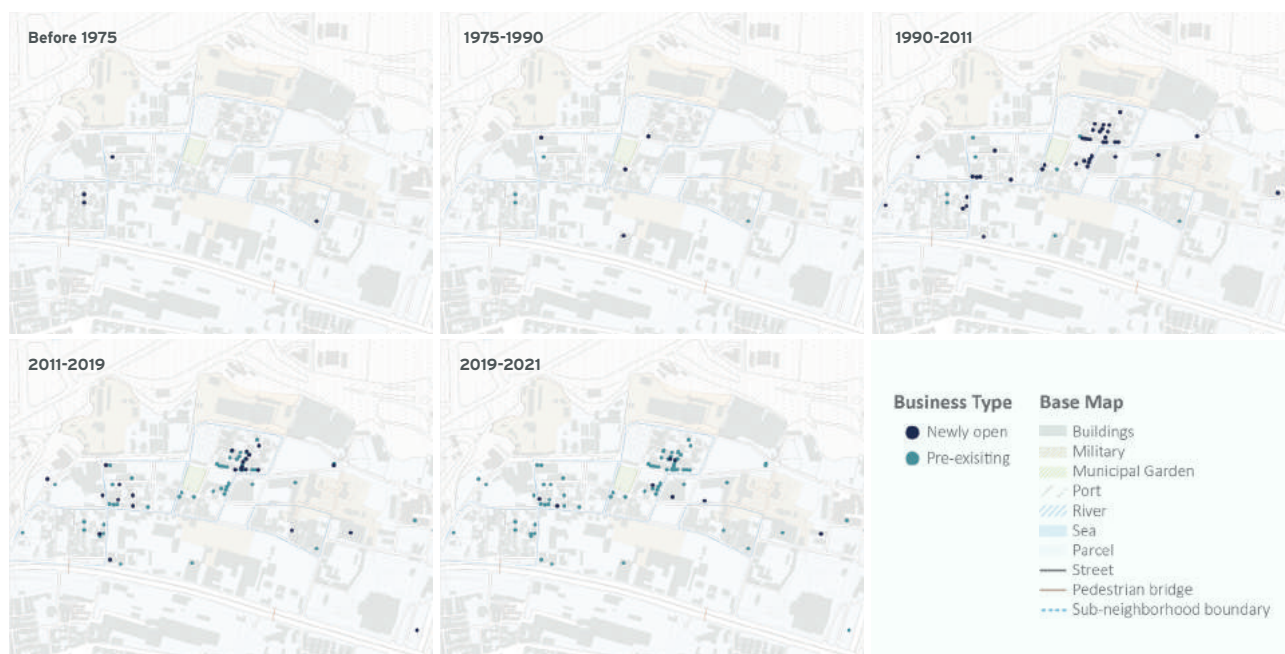
Figure 66: The distribution of the key office buildings in Karantina. Source: Ali Ghaddar, 2021.

## Business Age

New businesses opened in Karantina mainly during three periods that corresponded to major events in Lebanon. The first period was a few years after the civil war between 1998 and 2001 when the displaced residents returned to Karantina. The second period was before the beginning of the Syrian refugee crisis between 2009 and 2011. The third period was before the port blast between 2018 and 2020 (Figures 67 and 68). At the time, most of the new businesses were concentrated in the Industrial Zone and Al-Senegal sub-neighborhood. They replaced old businesses and some of the traditional crafts. Thus, Karantina became a destination for business owners who were looking for affordable rent in a low-density area that is close to the city center and the port.



**Figure 67:** Businesses that opened in Karantina from 1958 to 2020. Source: The Beirut Urban Lab, 2021.



**Figure 68:** Businesses that opened in Karantina from 1958 to 2020. Source: The Beirut Urban Lab, 2021.

However, most of the businesses that were established before the civil war either had to move to other locations or closed. Data shows that a few businesses survived the civil war (1975-1990) (Figure 69), two of which are in Al-Khodor (Sleep comfort and a grocery shop) and the others are in Al-Senegal. It is important to note that few of these businesses were able to expand their activities beyond Lebanon after the civil war, including Sleep Comfort and Bakalian Flour Mills. Additionally, most of the businesses that opened in the sub-neighborhoods after the war are neighborhood scale and enough to meet the daily needs of the residents; they include butcheries, grocery shops, bakeries, barbershops, and minimarkets.

Here, most of the new businesses in Al-Khodor introduced new types of activities to the sub-neighborhood. Many micro-scale industries such as mechanics shops and steel lathe workshops opened before 2000. However, most of the businesses that opened after 2000 were of the smaller micro businesses category and owned by families that live and work in Karantina. These businesses include grocery stores, butcheries, retail stores, and online gaming workshops.

AL- KHODOR SUB-NEIGHBORHOOD	Specify the type of your business	What was the previous use of this space	Year
	Juice Shop	Formerly Vacant	2010
	Coffee Shop	Formerly Vacant	2015
	Phone Shop	Formerly Vacant	2009
	Retail	Formerly Vacant	2019
	Steel Lathe Industry	Formerly Vacant	2013
	Furniture	Formerly Vacant	1948
	Mechanic / Garage	Formerly Vacant	1995
	Mechanic / Garage	Formerly Vacant	1993
	Pesticide Spraying	Formerly Vacant	1995
	Carpentry	Formerly Vacant	1982
	Butchery	Formerly Vacant	2000
	Butchery	Formerly Vacant	2000
	Barber Shop	Formerly Vacant	2018
	Grocery	Formerly Vacant	2000
	Steel Lathe Industry	Formerly Vacant	1994
	Butchery	Formerly Vacant	2020
	Coffee Shop	Formerly Vacant	2005
	Crafts	Grocery	2000
	Supermarket	Formerly Vacant	1994
	Minimarket	Fridge and washing machine repair shop	2010
	Mechanic / Garage	Formerly Vacant	1928
	Furniture	Art Gallery	2017
AL- SAYDEH SUB-NEIGHBORHOOD	Specify the type of your business	What was the previous use of this space	Year
	Grocery	Formerly Vacant	1961
	Architectural Office	Shipping Company	2017
	Furniture	Minimarket	2012
	Money Transfer	Restaurant	1990
	Restaurant	I was the first to open here	2010
	Bakery	Grocery	2001



AL- SENEGAL SUB-NEIGHBORHOOD	Specify the type of your business	What was the previous use of this space	Year
	Mechanic / Garage	Formerly Vacant	1996
	Minimarket	Mechanic / Garage	2019
	Minimarket	Formerly Vacant	2013
	Lottery Shop	Formerly Vacant	1999
	Supermarket	Bakery	2019
	Freight and Logistics	Freights and Logistics	2011
	Tools and Hardware	Formerly Vacant	1978
	Freight and Logistics	Apartment	2018
	Barber Shop	Formerly Vacant	1999
	Crafts	Food Snack	2010
	Coffee Shop	Formerly Vacant	2017
	Wax Factory	Formerly Vacant	1958

INDUSTRIAL ZONE SUB-NEIGHBORHOOD	Specify the type of your business	What was the previous use of this space	Year
	Freight and Logistics	Shipping	2019
	Freight and Logistics	Freight and Logistics	2002
	Freight and Logistics	House	1999
	Mechanic / Garage	Formerly Vacant	2017
	Mechanic / Garage	Tannous Steel	2010
	Mechanic / Garage	Tannous Steel (Storage)	2018
	Food Wholesale	Formerly Vacant (Junkyard)	2012
	Car Training and Track	Parking	2018
	Mechanic / Garage	Mechanic / Garage	1998
	Gallery	A Storage for Metal and iron rods	2005
	Medical and Lab Supplies	Storage	1980
	Freight and Logistics	Tannous Steel	2019
	Freight and Logistics	Tannous Steel	2019
	Freight and Logistics	Tannous Steel	2019
	Mechanic / Garage	Formerly Vacant	2019

**Figure 69:** Changes in land-uses and types of businesses in the three sub-neighborhoods and the Industrial Zone from 1958 to 2020, highlighted in gray, the businesses that opened before and during the civil war. Source: The Beirut Urban Lab, 2021.

However, more businesses are opening in the Industrial Zone at a rapid pace especially after the relocation of Tannous Steel along Iben Sarjoun Street to Zgharta. The relocation of Tannous Steel changed the dominant land-use from industrial to commercial and recreational activities. This change is guided by a mediator from the Waqf who planned to upscale the status of the Industrial Zone by attracting high-end commercial businesses. The number of new businesses reached its peak in 2020 before the port blast especially with the opening of the Porch branch (Figure 70). Thus, Karantina is becoming more attractive to businesses from the adjacent neighborhoods and investors looking for affordable rents and property prices close to the port, the Charles Helou Highway, and the Beirut City Center.



**Figure 70.** A building with a porch that is under construction in the Industrial Zone. Source: Ali Ghaddar, 2021.

Additionally, due to the proximity of Al-Saydeh sub-neighborhood to Mar Mikhael, new nightlife and leisure businesses opened especially along the Charles Helou Highway after 2011; examples of these businesses include the Harbor 201 club (Figure 71&72). The club owners refurbished an old Lebanese building into a restaurant. However, nightlife businesses are still limited to a few, and most of these businesses are located near or along the Charles Helou Highway. The nightlife did not infiltrate into the sub-neighborhoods but was limited to the periphery due to the presence of the military bases and residential clusters.



Figure 71 and 72. Harbor 201 after the port blast. Source: Ali Ghaddar, 2021.

## B.2 Business Inclusion by Class, Religion, Gender, and Nationality

### Nationality, Class, and Religion

Most of the business owners are Lebanese and a few of them are Syrian (Figure 4). Syrian refugees either rely on money from social networks or families outside of Lebanon. They also often have to borrow money from their neighbors or rely on temporary support from NGOs, INGOs, and the United Nations High Commissioner for Refugees. Recently, Syrian refugees are suffering from the economic crisis in Lebanon and many of them are unable to provide the basic needs for their children such as food and medicine.

The social characteristics of the business owners in the residential clusters are not diverse; each sub-neighborhood has its own social characteristics that reflect the socio-spatial distribution of the local community groups before the civil war (1975-1990) (Figure 73). Most of the business owners in Al-Khodor are Sunnis and belong to the lower to middle income households, while the majority of business owners in Al-Saydeh are Christians and also belong to lower to middle income households. However, the new businesses that are infiltrating the residential clusters in Al-Saydeh and Al-Senegal belong to different religious and social groups.

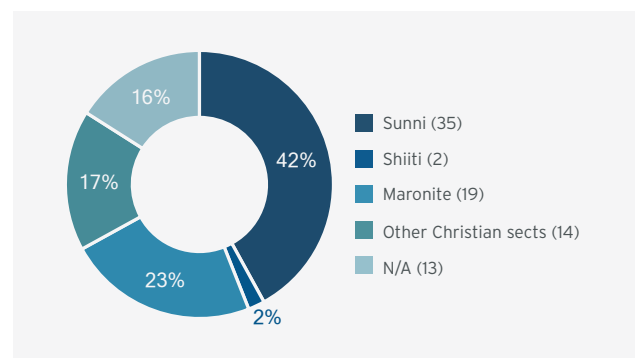


Figure 73: Breakdown of the religious affiliations of business owners in Karantina. Source: The Beirut Urban Lab, 2021.

However, the Industrial Zone is diverse in terms of nationality, religion, and levels of income in comparison to the three sub-neighborhoods. The new businesses are owned by Lebanese owners who reside outside Karantina and belong to different religious sects; whereas, the majority of the business owners are Christian. This diversity reflects the socio-economic dynamics in the Industrial Zone that attracts companies and business owners from across regions in Lebanon regardless of their religion. Furthermore, some of the older businesses in the Industrial Zone belong to Armenians who established their businesses before the civil war (1975-1990); an example of these businesses is Bakalian Flour Mills. It is worth noting that most of the new small and medium businesses are high-end in comparison to the mechanics shops and garages.

## Gender

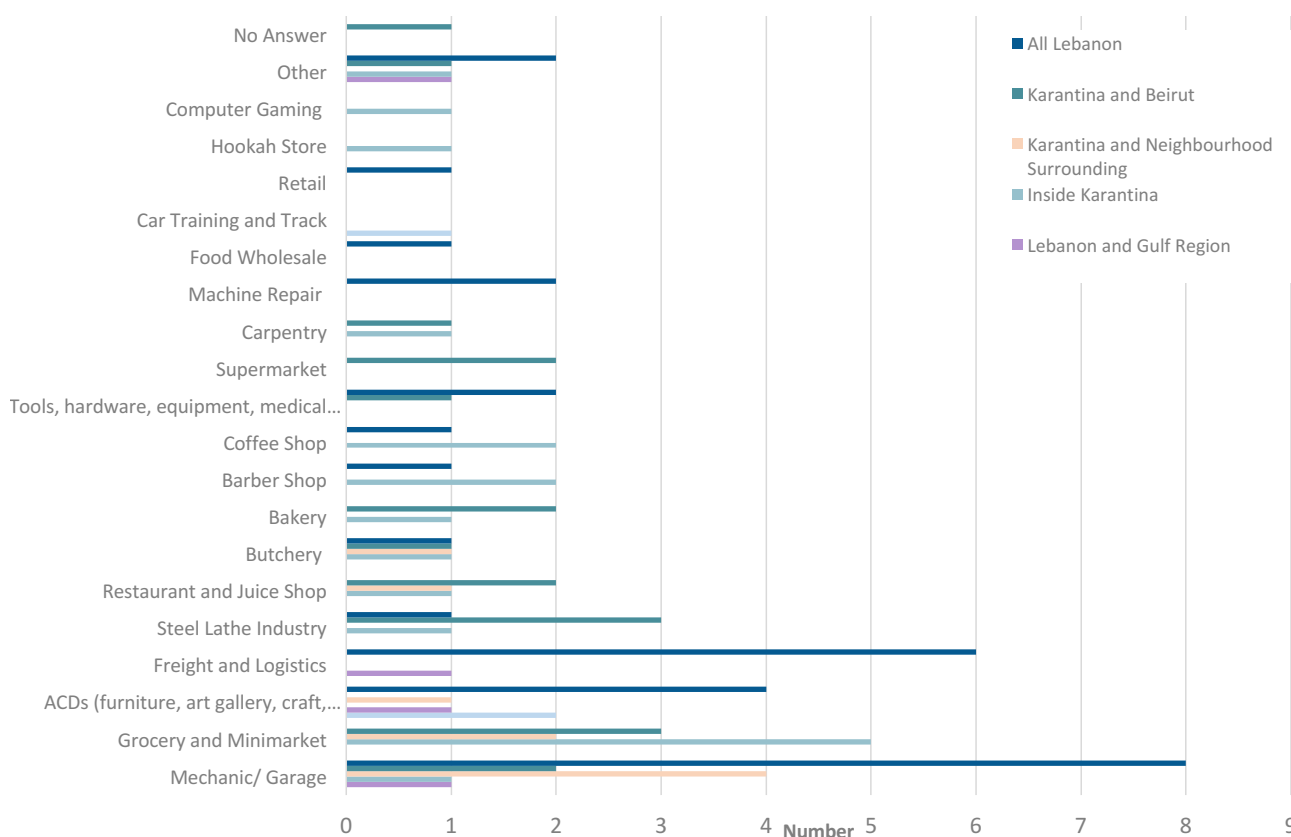
The in-depth profile of Karantina showed that most of the business owners are men - 69 business owners from the total 82 - while the rest are women (Figure 12). The level of participation of women in economic activities in Karantina is the same as the rest of Beirut. Women work, access job opportunities, and contribute to the local economy; nevertheless, their number is limited to a few. However, the port blast affected businesses owned by women of Karantina- 7 women lost their businesses due to the port blast and the activities of the remaining businesses that are owned by women is threatened by the ongoing economic crisis in Lebanon. Additionally, Syrian women are not able to access job opportunities or contribute to the everyday economy. This includes Syrian refugee women who are often not able to work due to restrictions from their family members, the lack of resources and employment opportunities, or because they do not have a college degree. Accordingly, both Lebanese women and Syrian refugee women need support and assistance in sustaining their businesses or accessing job opportunities.

## C. Connectivity and Serviceability of Businesses and their Relation to the Surrounding Neighborhoods

This section of the report analyzes the spatial connectivity between the businesses and their customers at different spatial levels: the sub-neighborhoods, Beirut, Greater Beirut, Lebanon, and beyond. It assesses the activities of customers and merchants who operate in Karantina in relation to the locations, intensity (size), and diversity. This section of the report also analyzes the level of serviceability of the businesses in Karantina and their ability to expand and accommodate new demands without having to compromise on important factors like time, money, consumer satisfaction, and efficiency.

### C.1 Connections to Customers at Different Spatial Scales

Businesses in Karantina are connected to customers at different spatial levels. Figure 74 shows the locations of customers in relation to the types of businesses in Karantina. The following spatial scales present the levels of diversity and intensity of visitors, customers, and merchants in Karantina.



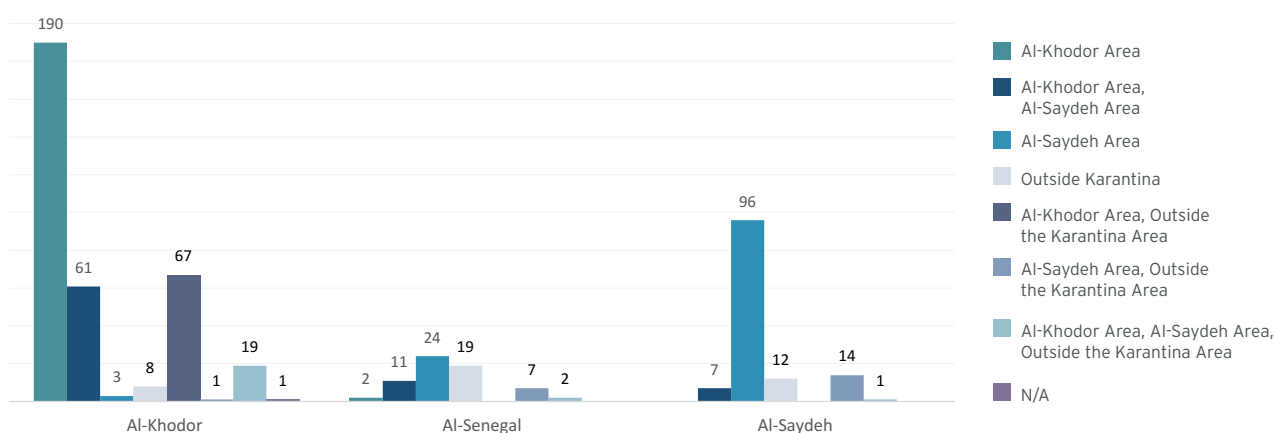
**Figure 74.** The locations of clients and customers in relation to the types of businesses in Karantina. Source: The Beirut Urban Lab, 2021.



### INSIDE KARANTINA

Many businesses in the sub-neighborhoods, especially in Al-Khodor, serve their own residents. 15 out of 18 shops in Al-Khodor are frequently visited by a customers from the same sub-neighborhood. These shops are of the smaller micro businesses (0-2 employees) that are family-owned and rely on the residents of Karantina to purchase their goods. They include butcheries, mini markets, grocery stores, barbershops, computer gaming workshops, and hookah stores. Additionally, most of the families in Al-Khodor and Al-Saydeh buy their daily and essential needs from shops in their sub-neighborhood. The shops provide the residents with their daily needs including vegetables, bread, and dairy products.

Despite the proximity between the three sub-neighborhoods, the residents of Al-Khodor do not often buy products from the shops in Al-Saydeh; equally, the residents of Al-Senegal and Al-Saydeh do not frequently buy products from shops in Al-Khodor. As such, each sub-neighborhood is economically detached from its surroundings (Figure 75).



**Figure 75.** Graphs showing the shopping destinations for the residents of the three sub-neighborhoods. Source: The Beirut Urban Lab, 2021.

### FROM KARANTINA, BEIRUT, AND GREATER BEIRUT

Micro businesses in the sub-neighborhoods attract clients from different locations and backgrounds in Beirut and beyond. For example, a small bakery in Al-Senegal attracts customers not only from Karantina but also from Greater Beirut due to the quality of the service (Figure 76). One of its customers said that he usually comes to Karantina because of the quality of food that the bakery offers. Moreover, micro mechanics shops attract customers from across Greater Beirut. For example, one of the mechanics shops in Al-Saydeh offers mechanical repairs for luxury cars that are owned by customers from outside Karantina (Figure 77). The garage repairs cars and offers high quality services that require high-end technologies and technical skills.



**Figure 76.** Bakery in Al-Senegal sub-neighborhood. Source: Ali Ghaddar, 2021.



**Figure 77.** Mechanics shop in Al-Saydeh sub-neighborhood. Source: Ali Ghaddar, 2021.

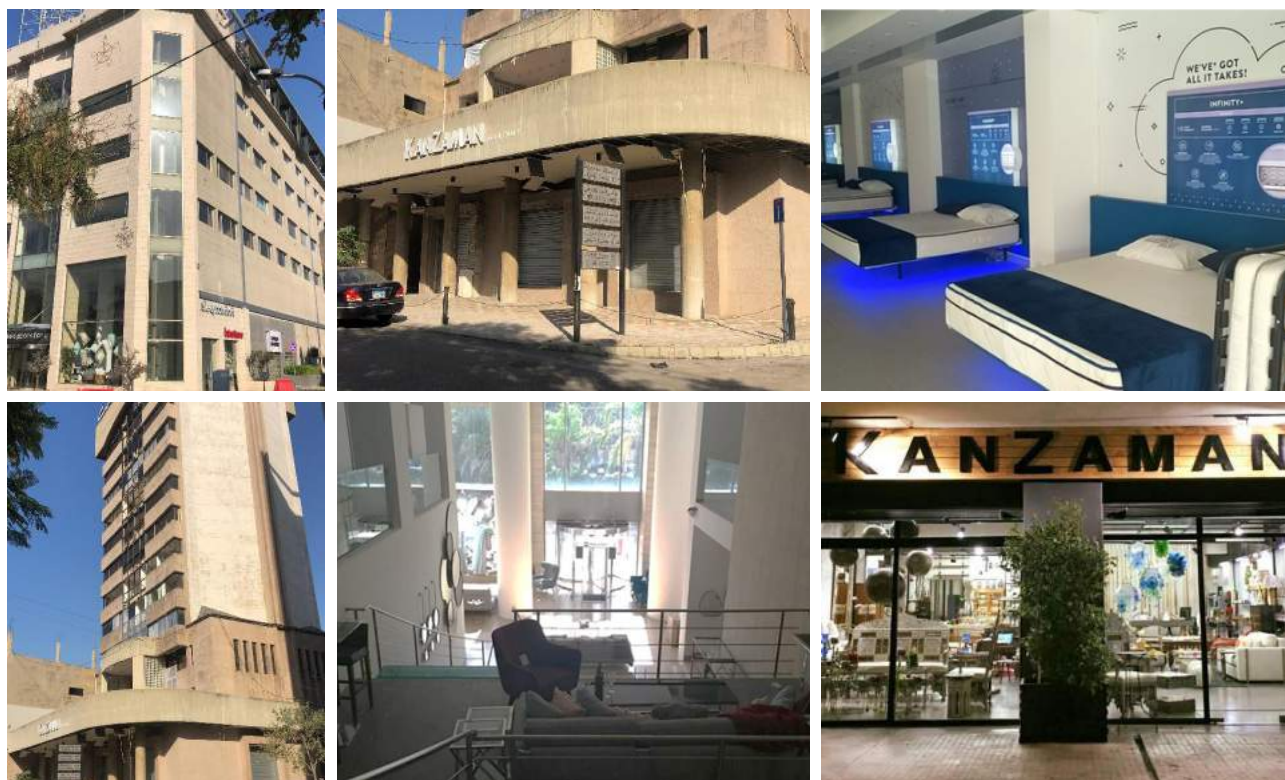
Other businesses such as carpentry and steel lathe shops are located on the periphery of Karantina and attract clients from across Greater Beirut, given that Beirut does not have a designated Industrial Zone by the zoning law. Such micro-scale industries require a special permit from the Municipality of Beirut to operate within or close to residential neighborhoods and should meet special requirements for safety and environmental standards. Currently, these businesses are deteriorating due to the loss of customers and the inability of business owners to compete with larger companies. Moreover, many businesses that are related to the port, especially mechanics shops and transportation services, are losing their clients because of the partial closure of the port. Many of these businesses lost their vehicles in the explosion and are hardly partially operating. They were not compensated by the Lebanese government or from insurance companies.

## ACROSS LEBANON

Additionally, some of arts, crafts, and creative industries in Karantina, like Gallery Kan Zaman attract clients from across different areas in Lebanon (Figure 78). During the lockdown period of the Covid-19 pandemic in 2020-2021, the gallery diversified its operations and relied on virtual platforms such as Facebook and Instagram to attract new customers and serve its clients. After the port blast, the owner repaired the destroyed gallery at her own expense. Moreover, the activities of the gallery declined because of the pandemic and the economic crisis in Lebanon that was exacerbated by the port blast. During one of the focus group discussions, the owner mentioned that the port blast impacted the activity of the gallery intensively. However, she prefers to stay in Karantina because of its strategic location and the solid customer-base that she secured and are now familiar with the location.

As such, the number of arts and crafts and creative industries in Karantina are limited, losing their customers, and threatened with closure. Most of these industries are in the Industrial Zone and Al-Khodor sub-neighborhood that is adjacent to the Charles Helou Highway.

In addition to these industries, the closure of the slaughterhouse and the public markets affected the number of visitors, merchants, and customers who come to Karantina. It caused people to lose many job opportunities and reduced the daily commercial activities that link Karantina to Lebanon.



**Figure 78.** Arts and crafts and creative industries at Sleep Comfort and Kanzaman Gallery across the Rehban Street. Source: Ali Ghaddar, 2021 and KanZaman Facebook page.

Additionally, some of the businesses on the periphery of Karantina, along the Beirut River and the Emile Lahoud Highway, are spatially fragmented. However, they attract customers from multiple areas across Lebanon; examples include the hookah store and KED (Figure 79). KED serves as a center for art galleries, art performances, and music venues in Beirut. It attracts visitors and artists from across Lebanon. It is important to note that periphery edge of Karantina along the Charles Helou Highway is fragmented and not accessible due to the fenced municipal lots and land-uses that do not attract customers to Karantina; these land-uses include storage warehouses and military bases.



**Figure 79.** KED building from the outside and inside. Source: [desktop.beiruting.com](http://desktop.beiruting.com) and [www.beirutdesignweek.org/](http://www.beirutdesignweek.org/).

### ACROSS LEBANON, THE GULF REGION, AND EUROPE

Other industries serve clients outside of Lebanon. For example, the Bakalian Flour Mills, a family-owned enterprise, extends its services to the MENA region by offering a variety of products (Figure 80). It is a private company that employs more than 40 employees from different backgrounds, professions, and locations in Lebanon. Other companies such as Key Freight, The NET Logistics, and Mercedes-Benz Garage are associated with the activities of the port (Figures 81 and 82). They provide high-quality services that rely on skilled and professional employees. However, they barely attract clients and visitors to Karantina. They rely on online communication and dedicate their Karantina branch to store products for customers from the port or to redistribute them to their sub-branches. Mercedes-Benz Garage, in specific, provides both mechanical repairs for Benz automobiles in Lebanon and stores their imported cars.



**Figure 80.** Bakalian Flour Mills. Source: Ali Ghaddar, 2021.



**Figure 81.** Key NET and Freight Logistics. Source: Ali Ghaddar, 2021.



**Figure 82.** Mercedes-Benz Garage. Source: Ali Ghaddar, 2021.



## LEBANON AND WORLDWIDE

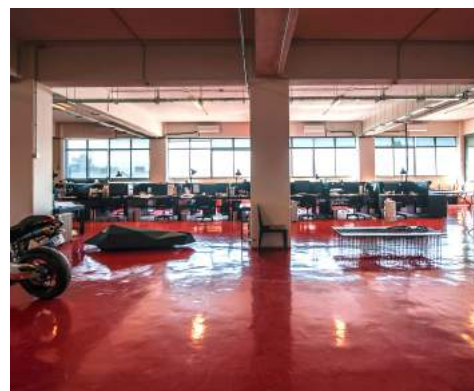
Moreover, many leisure activities, such as the BO18 nightclub, and Forum de Beirut attract visitors from Lebanon and all over the world. BO18 is a nightlife destination for international artists that attracts younger generations from higher-income families from Lebanon and abroad (Figure 83). They rarely attract people from Karantina. Moreover, prestigious galleries, such as Sfeir Gallery, attracts international artists, exhibitors, and visitors from Lebanon and abroad. The number of new arts and crafts and creative industries increased in Karantina, especially after the renowned Lebanese architect Bernard Khoury opened his office in the Industrial Zone (Figure 84).



**Figure 83.** BO18 night club.  
Source: Ali Ghaddar, 2021.



**Figure 84.** The office of the renowned Lebanese architect Bernard Khoury in the Industrial Zone. Source: Ali Ghaddar, 2021.



As such, Karantina is threatened by the closure of businesses and the loss in the number of clients. Some of these businesses are gated, exclusionary by type (single use) or class (dedicated to high-income households) or accommodate land-uses such as warehouses that do not attract people to Karantina. Additionally, many of the businesses, especially the ones in the inner neighborhoods, are spatially fragmented and economically detached from each other.

## 5.2 CULTURAL VITALITY IN KARANTINA

### A. Cultural Practices in Karantina

Cultural practices are communal practices that unfold in the religious, economic, social, and artistic activities. These practices bring groups of people together to become part of their collective identity.

Accordingly, the term 'culture' is defined in this report as the communal practice of activities that unfold spatially; it is characterized by, and linked to, the scale of the groups of people who are involved in these activities. In this section, there are four main categories of cultural practices in Karantina:

- (1) religious practices;
- (2) socio-economic practices;
- (3) socio-spatial practices; and
- (4) artistic practices.

This section of the report presents these categorizes, analyzes them in relation to the term vitality, and demonstrates how they unfold spatially.

## A.1 Religious Practices

Religious practices include Friday gatherings at the neighborhood mosque for prayer or Sunday prayers at Al-Saydeh Church. They are particularly relevant during the holiday seasons. For example, during the Christmas holiday, the Christian community in Al-Saydeh and Al-Senegal organizes recitals, food gatherings, and prayers in the church (Figures 85 and 86). During Al-Adha holiday, the Muslim community in Al-Khodor celebrates Eid by visiting family members and organizing lunch gatherings. During special occasions - for example, while mourning the death of a family member - people in Karantina, especially the Arab Tribes, gather outdoors. They set up tents with plastic seats in the streets for the gatherings. This practice is part of the collective traditions of the Arab Tribes who tend to support each other through difficult situations.



**Figure 85.** Christmas tree in an open space in Al-Saydeh. Source: Ali Ghaddar, 2012.



**Figure 86.** Al-Saydeh Church in Al-Senegal (right) and Khalid Ibn Al Walid Mosque in the Industrial Zone (left). Source: Ali Ghaddar, 2021.



## A.2 Socio-economic Practices

The residents of Karantina often produce their own household food 'mouneh'. A few families in Al-Khodor and Al-Saydeh produce and sell healthy, homemade food from their kitchens. Other families turned some of the residual open spaces or their backyards into urban farms where they grow vegetables and herbs. For example, a woman in Al-Khodor uses her kitchen to prepare homemade food and sells it to NGOs for their local events. She also displays organic foods in small glass bowls in her home to visitors and neighbors (Figure 87). Additionally, there is a growing potential in Al-Saydeh to produce handmade foods, especially after the port blast; some of the residents of Al-Saydeh are planning to open small restaurants for homemade food in their backyards and open spaces in front of their houses.

The activities around the port are determined by the socio-spatial practices of the truck drivers in Karantina, the majority of whom are Syrians. The proximity of Karantina to the port and the limited number of parking spaces inside the port is causing frequent truck traffic congestion inside Karantina. The truck drivers gather in Karantina almost every day during their breaks to have some food and smoke the hookah (Figure 88). They take their breaks mostly on the vacant lots, the sidewalks, and the streets at the peripheries of Karantina.

Daily shopping is a main element of the street activities in front of shops and bakeries. The answers to the business questionnaire showed that most of the residents of Karantina buy their daily products locally. Only 7.7% of the household buy their daily products from outside of Karantina (Figure 74). However, daily shopping is fragmented and bounded in terms of space. The residents of each sub-neighborhood prefer to shop from nearby streets. For example, 75% of Al-Saydeh's households buy their daily needs from nearby shops in Al-Saydeh since it is more convenient; they also mentioned that some products like alcoholic drinks are not available in shops in Al-Khodor (Figure 89).





**Figure 87.** Homemade food (mounneh) by a resident in Al-Khodor sub-neighborhood. Source: Ali Ghaddar, 2021.



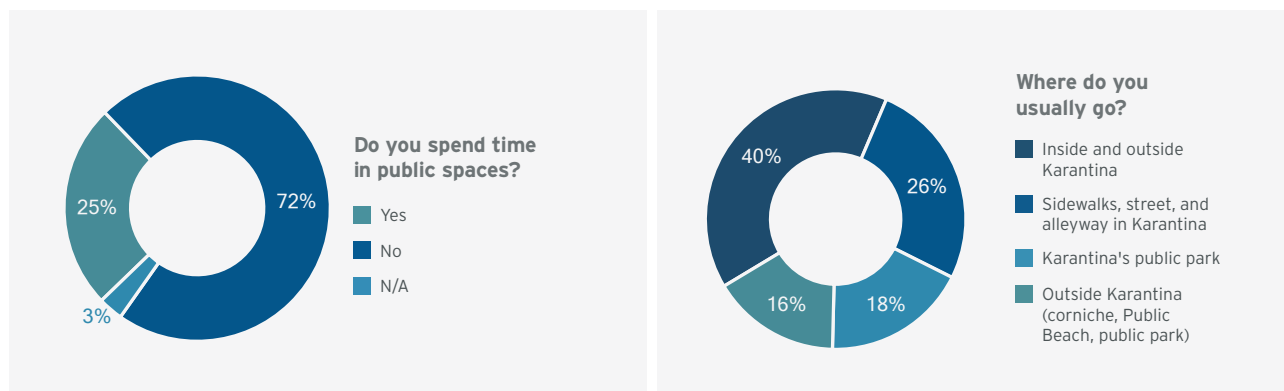
**Figure 88.** Truck drivers spending their breaks in an open space near the port. Source: Ali Ghaddar, 2021.



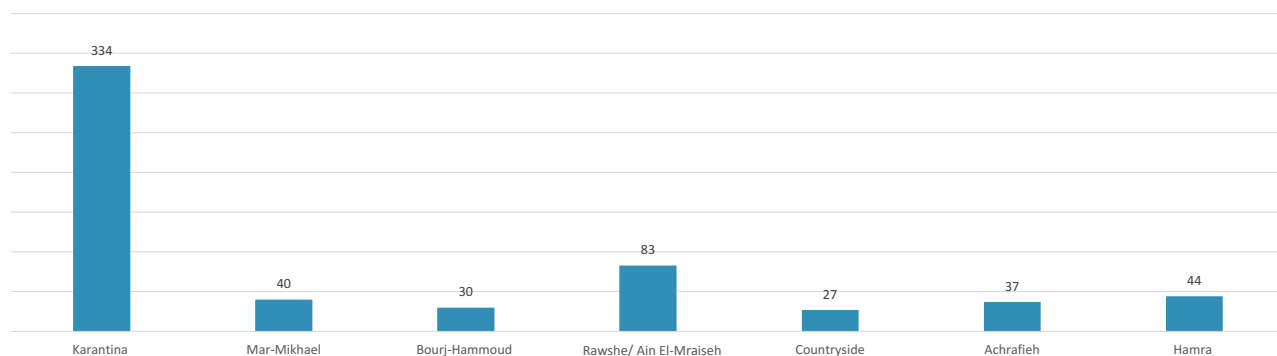
**Figure 89.** Stores along the main streets in Al-Senegal sub-neighborhood (right) and in Al-Khodor sub-neighborhood (left). Source: Ali Ghaddar, 2021.



Leisurely and recreational activities in Karantina are often communal and occur continuously over an extended period. These activities, as mentioned earlier, are limited to small gatherings on streets, sidewalks, and in front of coffee shops (Figure 90). The answers to the business questionnaire showed that around 72% of the households do not use public spaces and most of the residents prefer to stay in Karantina for leisurely activities. A few households go to nearby areas such as Bourj Hammoud and Mar Mikhael for leisurely activities while others prefer to go to Rawsheh and the seaside (Figure 91).

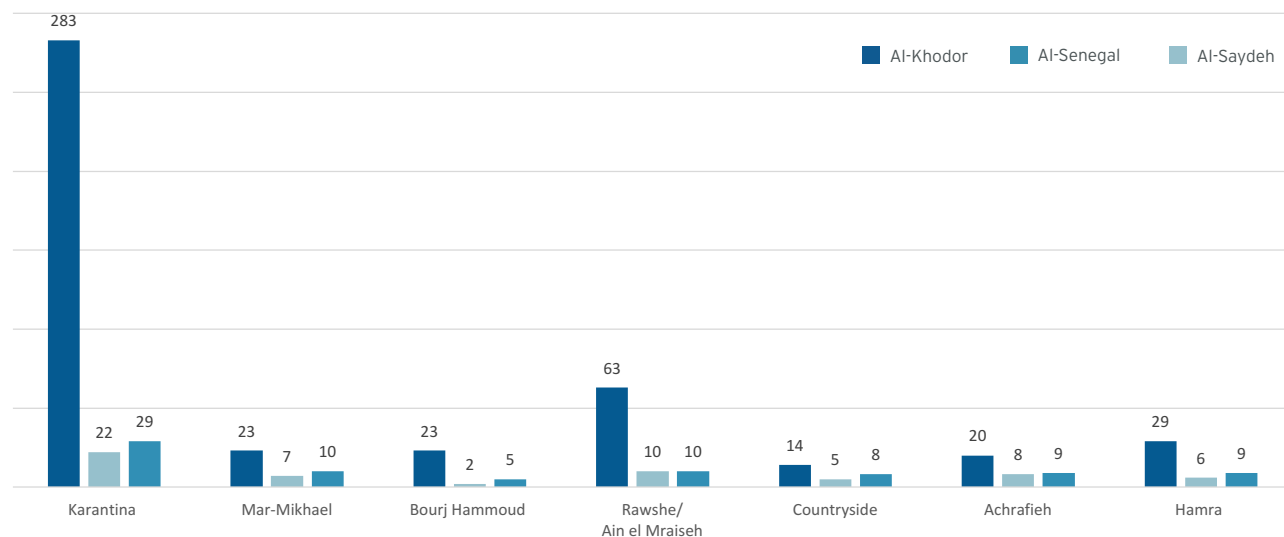


**Figure 90:** The locations of public spaces where households mostly spend their time. Source: The Beirut Urban Lab, 2021.



**Figure 91:** The main locations of leisure activities. Source: The Beirut Urban Lab, 2021.

Figure 92 analyses the density of leisure activities in Al-Khodor. Most of the households in Al-Khodor (Syrians and Lebanese) spend a considerable amount of time outdoors on the streets, sidewalks, and in public spaces. Families, including children and younger people, often buy snacks, food, and juice packs from the nearby grocery stores while using these public spaces.

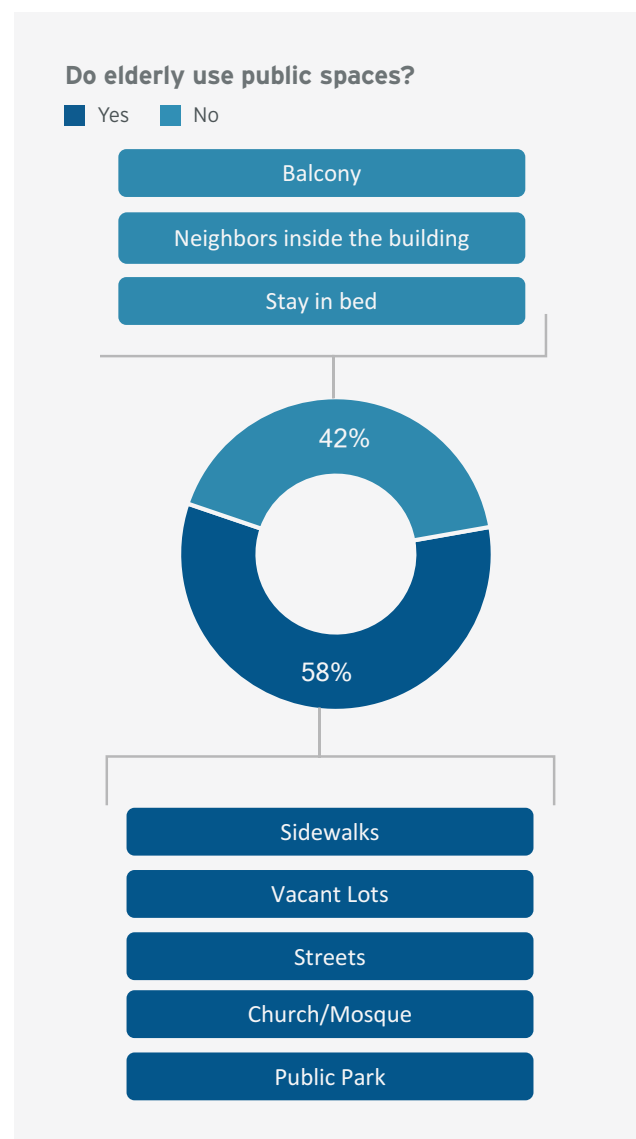
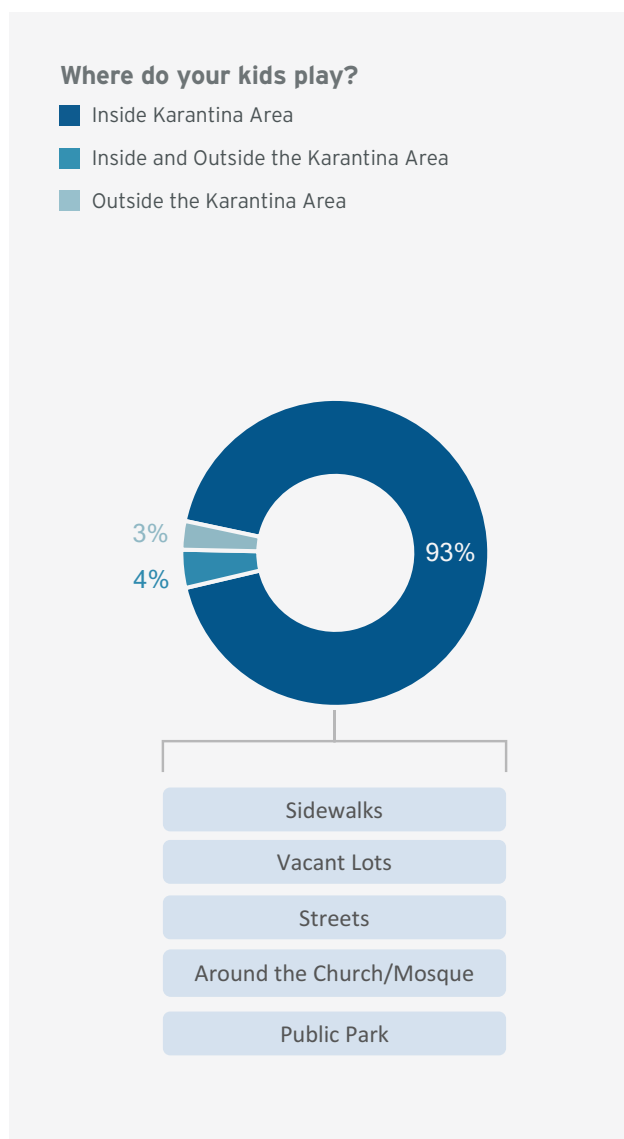


**Figure 92:** The main locations of leisure activities in relation to the places where people live. Source: The Beirut Urban Lab, 2021.

Additionally, children more frequently ride bikes in the streets in Karnaitna due to the growing numbers of shops that sell, rent, and repair bikes in Al-Khodor. Most of the children in Karantina play outdoors (Figure 93). 93% of the children play on the streets and sidewalks, on vacant lots, in the public park, and in the areas around the church and the mosque. They bike, play soccer, and engage in various outdoor games. 58% of the elderly people use public spaces and 42% prefer staying at home (Figure 94).



**Figure 93.** Children playing in alleyways, vacant lots, and streets. Source: Ali Ghaddar, 2021.



**Figure 93.** The main locations where children play, and elderly people spend their time. Source: The Beirut Urban Lab, 2021.

Nevertheless, Karantina has its own leisure hubs and recreational centers in the Industrial Zone and along the Charles Helou Highway near the Beirut riverside. BO18 is a well-known nightclub that opened in 1994 after the civil war (1975-1990) and closed in 2020 after the port blast. The owners of BO18 decided to relocate to Dubai. Forum du Beirut is another leisure and recreational center in front of BO18. It is a large and multi-purpose hall area that people from across Lebanon used for political, entertainment, and artistic events. It was affected by the port blast and is now under renovation. Both BO18 and Forum du Beirut were built on lots where massacres took place during the civil war. Additionally, one of the nightclubs that opened on the rooftop of a food wholesale building closed after the port blast due to the complete destruction of the interior space and furniture (Figure 95). FLYP Urban Park is a sports center that opened in 2018 and was also destroyed and closed after the port blast (Figure 96).



**Figure 95.** The destroyed roof of the Food Wholesale building. Source: Ali Ghaddar, 2021.



**Figure 96.** The FLYP Urban Park from the inside before the port blast (right) and from the outside after the port blast (left). Source: Ali Ghaddar, 2021 and the Facebook page of the FLYP Urban Park.

These leisure hubs and recreational centers target specific high-end users who reside mainly outside Karantina. They are partially isolated from the sub-neighborhoods socially and spatially. Most of the residents of Karantina do not go to these places despite their proximity to the Industrial Zone since they are expensive. The residents of Al-Khodor also prefer not to go to these places for religious reasons. As such, the nightlife activities, including the local pubs, are not connected to the lifestyles of the residents who do not work there.



## The Slaughterhouse

“ Maslakh Beirut- Beirut Slaughterhouse was a source of employment for 250 Lebanese and 100 Syrian people. It has been closed for political and sectarian reasons<sup>27</sup>  
 كان مسلخ بيروت مصدر للعمل لـ 250 لبناني و 100 سوري تسكيرو لأسباب سياسية و طائفية



Some cultural practices are embedded within, or associated with, the economic activities in Karantina. The slaughtering of animals for food is a good example of an activity that brings the collective practices of the residents of Al-Khodor with an economic establishment. The link is manifested in a web of professional relations that were fostered over years and allowed people to acquire informal titles to frame their roles. Mr. Fakir al-din Shihadeh<sup>28</sup> pointed out in an interview that slaughtering animals for food is a common activity among the Arab Tribes in Karantina, also known as Arab Al Maslakh from previous generations. Their relationship, as described by Shihadeh, is manifested in the following network: (Figure 97):

- 01 The dominant cattle traders who belong to wealthy families such as Mikdash and Zahran. They import livestock cattle through the port and sell them to private farms outside of Beirut that distribute them to local traders. In the process, they monopolized the wholesale market.
- 02 The local traders, al toujar (التجار) are the business owners who buy the cattle from the farms of the monopolists (Al Mouhtakeron) and send them to the slaughterhouse for distribution. The traders are mainly from Al-Khodor and are known as Abnaa Al Karantina
- 03 Al Mouaayeshon (المعيشون) are the sub-traders who provide special orders to their own networks of clients. They work in the slaughterhouse and have strong ties with the traders.
- 04 The anchored businesses that include dying industries are related to food. The food industries utilize the leftover parts of the slaughtered cows, for example, bones, bowels, and intestines.
- 05 Suppliers are micro-scale butcheries. Some of the butcheries are in Karantina and others are spread out across Greater Beirut.
- 06 Municipal employees are the ones who administer and oversee the everyday operation of the slaughterhouse and the trading process. They include managers, guards, cleaners, technicians, some of whom live in Al-Saydeh, and veterinary doctors.

<sup>27</sup> First Town Hall meeting, Karantina (2022-April-11).

<sup>28</sup> Interview with Fakir al-din Shihadeh was conducted by BUL researcher (2021-May-27) who used to work in the old slaughterhouse.

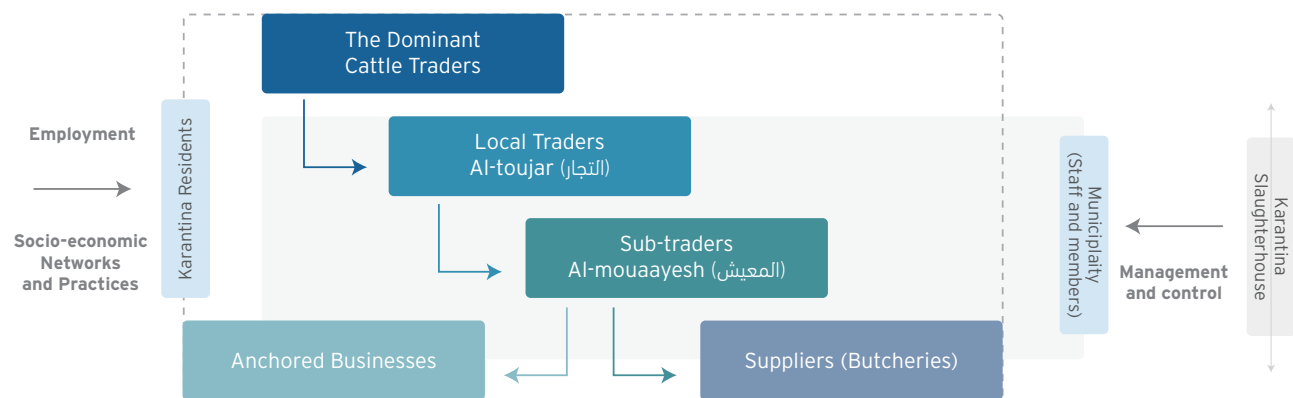


Figure 97. The network of actors who were involved in the operation of the slaughterhouse. Source: Ali Ghaddar, 2021.

Accordingly, the slaughterhouse was a key economic driver in Karantina and Beirut in general. It provided employment opportunities to many lower and middle income families in Karantina, especially families in Al-Khodor who inherited the profession. The closure of the slaughterhouse weakened the cultural and economic practices in Karantina and decreased the number of incoming merchants and clients. Hence, it reduced both levels of cultural and economic vitality in Karantina.

### A.3 Socio-spatial Practices

“ The neighborhood is socialization between people, love of neighbors, and convivial relations between family and people<sup>29</sup>  
 الحي هو اجتماعيات بين الناس محبة  
 الجيران عشرة طويلة بين الاهل والناس

Daily gathering is a street practice that is visible in the three sub-neighborhoods especially mornings (Sobheye, صبحية) and evenings (Asrouniyeh, عسرونية). They are mostly visible along the main streets in Al-Khodor and Al-Senegal specifically in front of the residential apartments at the ground level, or on the inner alleys (Figure 98). The daily gatherings reflect the strong social ties between the residents, especially the Arab Tribes, and the village like social networks. In Karantina, men mostly gather to smoke the hookah on Mashgarah Street while women prefer the inner alleyways. These gatherings do not extend to the Industrial Zone which is typically empty at night. They are spatially fragmented, restricted to the residents of each sub-neighborhood, and do not occur with the same intensity throughout the day and night.

At night, the closing hours of many businesses such as bakeries, mechanics shops, and key services impact the intensity and activity of people gathering in the streets. The daily outdoor gatherings reflect the village like character of social environment in Karantina, especially in the sub-neighborhoods. Karantina is, however, threatened by changes in its economic sector and the operation of local businesses, for example, the closing of the slaughterhouse and the emergence of new business ventures, the displacement of younger generations of people, and new real estate construction that is altering the socio-spatial and socio-economic practices.

29 Z.H., (2020-December -24), (Mohamad Amshah Tatarian, Interviewer).



**Figure 98.** The residents of Al-Khodor sub-neighborhood gathering in the streets in front of their apartments and shops. Source: Ali Ghaddar, 2021.

## A.4 Art Practices

Karantina has three main furniture and home décor galleries that are known across Lebanon (Kan Zaman, Sleep Comfort, and Boutique Du Monde). However, artistic practices in Karantina are mostly commercial and limited to private homemade crafts; they are not a collective shared practice that brings people together through communal gatherings and exhibitions. Karantina had only two active art galleries in 2021 (Sfeir Gallery and KED) (Figure 99). Thus, art as a communal cultural practice is almost absent in Karantina and is not tied directly to the residents of Karantina.



**Figure 99.** The interior spaces of the Sfeir Gallery. Source: Ali Ghaddar, 2021 and [www.sfeir-semier.com](http://www.sfeir-semier.com).





## 6. SYNTHESIS AND RECOMMENDATIONS

### SYNTHESIS ECONOMIC VITALITY

The economic sector in Karantina is currently facing the following challenges:

- 01** The rate of unemployment is high in Karantina. Currently, 70% of the population is unemployed<sup>30</sup>.
- 02** The old industries in Karantina are frequently replaced with small and medium-sized commercial businesses, and this increased the economic activities in the Industrial Zone. New companies that arrived to Karantina after 2018, such as logistics, car showrooms, and recreational centers, replaced the old steel industry on the periphery of Al-Khodor sub-neighborhood. These new companies are changing the economic status of the Industrial Zone into a high-end commercial zone. Companies that opened across Iben Sarjoun Street are altering the economic character of Karantina and bringing in a new type of clients. As a result, the need for skilled labor in Karantina and its surrounding areas is decreasing in favor of outside skilled workers.
- 03** The closure of traditional businesses, including the slaughterhouse and the public market, raised the unemployment rate in Karantina. Many people lost their jobs at the slaughterhouse. Some of these people moved to unskilled jobs such as taxi driving and the rest remained unemployed. The closure of the slaughterhouse, which was the main economic driver in Karantina, curtailed the economic activity at the local and regional levels. Before its closure, it attracted micro-scale suppliers, traders, and customers from outside of Karantina, Beirut, and the rest of Lebanon.
- 04** The increased closure of micro businesses. Butchery shops, grocery shops, and garages for mechanics are frequently closing due to complete destruction from port blast and the ongoing economic crisis in Lebanon. This is mostly evident in the inner residential clusters. The closures slowed down the economic activities in Karantina and left many households without a steady income.
- 05** The delay in the reconstruction of the port is threatening the operation of various businesses that are related to the port, especially in the Industrial Zone. Many of the larger micro businesses lost some of their customers and are partially closed. They attribute the loss of customers to the partial closure of the port after the blast.
- 06** The increase threats of eviction and hikes in rent prices are exacerbating the vulnerability of many businesses in Karantina. This is especially problematic since 80% of the business owners are tenants.
- 07** The delay in economic reforms at the national level in Lebanon and the absence of any municipal intervention in regulating and supporting the economy in Karantina is threatening the sustainability of larger micro, small, and medium businesses, especially the new businesses and the port related activities. As a result, many business owners were not able to pay their taxes to the Ministry of Finance or their loans to commercial banks on time. Some of the business owners also laid off their employees or decreased their salaries. Many of these businesses are in the Industrial Zone.

<sup>30</sup> This percentage does not account for child labor.

- 08 The purchasing power of consumers has significantly declined as a result of the economy's constant deterioration. The decreasing number of clients from various parts of Beirut and throughout Lebanon is one way in which reality has been reflected.
- 09 Many business owners are not able to sustain and maintain their business activities due to the uncertain economic and political conditions in Lebanon, as well as the negative impact of the pandemic. This uncertainty may lead to a long-term closure. For example, creative industries and micro businesses that work in areas that are connected to the port – such as transportation services and mechanics – were still closed in 2022 after this study was conducted. Many of the businesses lost their cars, equipment, and offices and do not have the financial capacities to get back on track. As a result, some of the businesses are planning a permanent closure.
- 10 The decline of old crafts in Karantina – for example, in manufacturing office and school furniture – threatens the diversity of businesses in terms of size and type. Many of these businesses are entrepreneurial and led by personal initiatives.
- 11 The infiltration of larger micro businesses such as logistics and shipping services to Karantina is transforming the inner blocks from residential to business clusters. 10 residential buildings in the sub-neighborhoods were either fully or partially transformed to businesses. This transformation is leading to the loss of rooted and aging communities and can potentially lead to gentrification.
- 12 The Lebanese Army and insurance companies were delayed in paying compensations to businesses after the port blast. This increased the risk of vulnerable businesses closing, especially the micro-scale mechanics and grocery shops. More than 84% of the surveyed businesses did not receive their compensations. Additionally, most of the NGOs that supported households through short-term aid did not equally support the economic sector. Most of the businesses did not receive assistance or support from NGOs and INGOs.
- 13 There is a lack of important economic activities in certain areas of Karantina. Many micro businesses are absent in Karantina; these businesses include pharmacies, libraries, gas stations, nurseries, and doctor clinics. Additionally, there is complete absence of opportunities for new startups that rely on smart and green technologies.
- 14 Vulnerable groups are no longer active in the economy of Karantina. Most of the Syrian refugees in the sub-neighborhoods are not employed and cannot establish their own businesses due to financial and legal restrictions in Lebanon. Accordingly, only 8% of the surveyed businesses are owned by Syrians who came to Lebanon before 2011. Additionally, a few women who established their own smaller micro businesses are not able to sustain their activities in the long term; some of these women lost their equipment and furniture from the port blast and others lack the needed funds.

The economic sector in Karantina is considered vital in relation to other areas in Beirut. It hosts a wide range of businesses that cater to multiple users and locations across Lebanon. However, Karantina is currently threatened by the ongoing political and economic crises in Lebanon.

The port blast caused further damage to many of the deteriorating micro businesses, especially the businesses that are connected to the port. Additionally, the closure of many of the local traditional businesses weakened the socio-economic practices in Karantina and left many of the residents unemployed.

## CULTURAL VITALITY

Cultural practices in Karantina are mostly linked to economic activities and are often reduced to everyday socio-spatial practices. However, there are a few artistic and religious practices that are kept private.

- 01** The type and intensity of socio-spatial and socio-economic practices in the residential clusters in Karantina mimic the ones that are found in villages, including organizing daily gatherings, shopping for groceries, and growing their own vegetables and fruits. Even the socio-economic practices that are related to the port are mostly limited to truck drivers and the users of the port who mostly live and work outside of Karantina.
- 02** Most of the current socio-spatial practices are limited to a few users and are not directly tied to the identity of the residents. These practices are also spatially fragmented in each sub-neighborhood. Many of the activities in the sub-neighborhoods do not extend to the Industrial Zone that accommodates heavy and single use businesses.
- 03** The closure of the slaughterhouse negatively impacted the economic and cultural vitality in Karantina, especially for the residents from the Arab Tribes. The local practice of slaughtering animals, in specific, used to contribute to the socio-spatial and economic activity. There was a strong connection between the slaughterhouse and the daily practices of the residents of Al-Khodor sub-neighborhood. The slaughterhouse used to also contribute positive gains to the economy of Beirut.
- 04** Finally, the presence of the military base where the slaughterhouse was located - particularly around the sub-neighborhoods and their residential clusters - isolated social practices from the Industrial Zone.

In Karantina, cultural practices are limited and reduced to daily socio-spatial practices:

- 1.** The religious practices are rare and limited to a few residents in Karantina.
- 2.** The artistic practices are almost non-existent and often limited in scope.
- 3.** The socio-economic practices are relatively more vital but are threatened with the increased closure of traditional businesses.

Therefore, cultural vitality is limited by space and type, and it is not sustainable or vibrant.



## RECOMMENDATIONS

### THE ECONOMIC SECTOR

#### 1. AT THE NATIONAL LEVEL:

- a. The Lebanese government, through the Council of Ministers, should move forward with economic reforms, control the devaluation of the Lebanese pound, and promote political and economic stability.
- b. The Ministry of Finance should provide local businesses with financial support through low-interest loans and tax exemptions.
- c. Insurance companies and public agencies should provide direct compensation to businesses that were affected by the port blast.
- d. Commercial banks should support local businesses to access their savings, facilitate financial transactions, and provide long-term subsidized loans.
- e. There is also a need to rehabilitate the port in the near future.

#### 2. AT THE LOCAL LEVEL:

##### **Strengthen and revive local traditional businesses.**

- a. There is a need to reactivate and rehabilitate the key economic drivers and clusters in Karantina. This includes the commercial cluster at the periphery of Karantina that includes the slaughterhouse, the fish market, and the public market.

##### **Introduce new business and employment opportunities.**

- a. Establish a digital platform that announces vacancies and work opportunities at local companies in the Industrial Zone to professionals of unemployed people in Karantina. At the same time, establish cooperatives as economic alternatives to encourage the production of hand crafts, and homemade food initiatives to provide affordable products in Karantina.
- b. Representatives of the Waqf can cooperate with potential local investors to introduce new micro businesses that are not available in Karantina; these can include multi-use and temporary structures for gas stations, stationary shops, coffee shops on some of the large lots that the Waqf owns.
- c. Conduct campaigns that support the circular economy in Karantina.
- d. Involve different stakeholders from the academic sector, incubator centers, and accelerator parks such as the Beirut Digital District” and the Talal and Madiha Zein AUB-Innovation Park to support young people from Karantina who are interested in startups. This can be done through setting up small working spaces or organizing workshops in and outside Karantina.

##### **Provide aid, support, and capacity building.**

- a. The Municipality of Beirut should support local businesses that were affected by the port blast by providing tax exemptions or subsidies.
- b. Establish a local business committee such as the Karantina Traders Association جمعية تجار الكرنطينا to bring the businesses together to discuss their needs and concerns, as well as coordinate future plans and seek funds and support.
- c. Encourage NGOs and INGOs through the newly established Neighborhood Committee by the Beirut Urban Lab to support business initiatives with cash, tools, and training workshops. This is especially needed for vulnerable population groups such as Syrian refugees and women.
- d. Include a representative from the Waqf in the neighborhood committee and engage the community groups in a series of workshops to envision the future use of the vacant lots that are owned by the Waqf.

##### **Introduce a soft mobility strategy and public transportation.**

- a. Provide a soft mobility plan and public transportation that can link Karantina to the rest of Beirut.
- b. Organize and manage the circulation of truck drivers in Karantina. This includes designating off-street parking spaces for the trucks inside the port and creating leisure activities for the drivers.

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A faint, light gray background map of the Karantina area in Manila, Philippines. The map shows a network of streets, including a prominent diagonal road and a horizontal road. A circular road is visible on the left. Labels on the map include "Ministry of health at karantina" in the upper right, "Maryoel" in the center, and "Tarluna" in the lower center. The text "Zone" is partially visible on the far left.

**Transversal issue IV**

# Inclusive and Sustainable Development in Karantina

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This report presents the strategic diagnosis of inclusive and sustainable development in Karantina, one of the five transversal issues that were identified in the descriptive memory report. The descriptive memory report provided an account of the current land-uses and key factors that restrict development in certain lots; the restrictions include the requirements of the current urban regulations and enclosed military areas. This report provides a more focused understanding of the key issues that impact the potential inclusive and sustainable development in Karantina before and after the port blast.

## Position

Scott Campbell urged urban planners to reconcile three conflicting goals for development: the growth of the economy, the distribution of growth in an equitable manner, and the protection of the ecosystem. Sustainable Development is, thus, a framework that combines environmental resource, property, and development management towards a shared goal (Campbell, 1996). Inclusive development aims to include marginalized and diverse groups of people<sup>1</sup> in social, political, and economic processes that improve human wellbeing and social and environmental sustainability (Gupta, Pouw, and Ros-Tonenb, 2015). Accordingly, it “hinges on the inclusion of excluded people and the utilization of their capabilities” (Johnson and Anderson, 2012). Although both concepts of sustainability and inclusion have been addressed by multiple scholars from different approaches, the main objective of inclusive and sustainable development is to provide a good quality of life for all people, produce spaces that serve them and protect the shared commons, and maintain collective and effective participation in decision-making processes.

It is worth noting that inclusive and sustainable development in the context of urban recovery is not yet explored in research studies. In this study, The Beirut Urban Lab (BUL) tackles inclusive and sustainable development within the framework of urban recovery. It is examined through three main axes: (1) access to development opportunities (identifying the key issues that restrict land development) (2) the diversity and activity of actors that are involved in development or re-development; (3) the quality of infrastructure projects and urban planning tools in Karantina (through assessing some of the key infrastructure and public utility projects and the post-blast masterplans and regulations) and (4) community participation in the development decision-making process.

The aim of this report is to present the main problems that inhibit sustainable and inclusive development and, accordingly, pinpoint opportunities for development or re-development in Karantina to guide the proposed strategic framework for urban recovery.

## Hypothesis

Local landlords, residents, and the Municipality of Beirut have limited opportunities for development in Karantina due to the militarization of space, the current urban planning regulations, and transport and planned yet suspended infrastructural project. These limitations protected Karantina from predatory development but also prevented many of the property owners from returning to the area or developing their lots since the civil war. Additionally, the port blast and the ongoing economic crisis in Lebanon since 2019 exacerbated the socio-spatial and economic deterioration of the environment in Karantina, hindering the potential for urban recovery in the long term. Thus, providing an inclusive and sustainable development strategy, rather than a top-down approach to post-port blast reconstruction is fundamental.

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<sup>1</sup> Marginalization is experienced on many levels according to economic class, gender, sex, age, race, ethnicity, and political affiliation.



The diagnosis of inclusive and sustainable development in Karantina is based on the analysis of primary data from questionnaires, interviews, thematic focus group discussions, town hall meetings, and spatial mapping between January and June 2021. The primary data was also compared to existing information on topics that are pertinent to Karantina such as, the local security measures and the militarization of space, and were validated by questionnaires, focus group discussions, and one-to-one interviews.

## SOURCES OF DATA COLLECTION

### PRIMARY DATA

#### 1. Semi-Structured Questionnaires

The citizen scientists administered the questionnaires in person to 545 households from a total of 579 in Karantina. Accordingly, the participation rate was at 94%. 83 interviews out of 140 were also conducted with local businesses.

In this report, the research team extracted different data sets from the responses to the questionnaires, for example, data on lot ownership, vacancy levels and the respondents' future vision for Karantina. The data was geographically referenced on digital maps to generate statistical charts and graphs for comparative analysis between the different sub-neighborhoods.

#### 2. Thematic Focus Group Discussions

One of the thematic sessions focused the discussion on inclusive and sustainable development. It was held in May 2021. The discussion revolved around urban trends and phenomena that emerged during the preliminary analysis of the questionnaires, such as the militarization of space due to the civil war and restrictions on land development due to current urban planning regulations and multi-shareholder ownership.

The session hosted business owners, landlords, residents, and a representative of the Al-Khodor Development Association<sup>2</sup> which works on strategies for the removal of military stations in Karantina. The attendees were from different socio-economic backgrounds and localities in Karantina. The session was an opportunity for the attendees to share their experiences in a group setting, inform the research team about their plans for vacant lots, and discuss some of their pressing needs for development and re-development.

#### 3. One-to-one Interviews

The aim of the interviews was to understand how trends in lot development and re-development and space militarization in Karantina drive socio-economic, socio-spatial, and cultural transformation. As such, the research team conducted one-to-one interviews with two people who had important roles in changing the land-use patterns in Karantina. The first interviewee was the owner of Dallal Steel<sup>3</sup> who bought several vacant lots in the sub-neighborhood of Al-Khodor before the blast for future development. The second interviewee was the Waqf mediator<sup>4</sup>. He had a major role in transforming the Industrial Zone by attracting investment of small and medium companies – including logistic companies, car showrooms, and recreational center.

<sup>2</sup> “جمعية منطقة الخضر الامامية” is a local community association that focuses on the holistic development of Al-Khodor sub-neighborhood in Medawar.

<sup>3</sup> Interview with Tawfic Dallal on 26 May 2021

<sup>4</sup> Interview with Naji Obeid in 2021

## 4. Field Mapping and Field Observations

Site visits, field observations, walk-through assessments, and informal conversations were also part of data collection. The research team discussed and validated the findings from the collected data. They mapped the physical conditions in Karantina - including buildings, four military bases, open spaces, and green spaces - and the military security measures.

## SECONDARY DATA

The analysis of the data also relied on secondary sources such as: (1) historical maps that show the stages of development of lots in Karantina, (2) articles and documents about the presence of military bases, and (3) the descriptive memory analysis of Karantina that The Beirut Urban Lab conducted after the port blast. The descriptive memory report included a general profile of Karantina that guided the preliminary findings of the research. The report located the impact of the port blast within the larger urban trends that influenced the nature and development of Karantina over the past three decades.

## METHODS OF ANALYSIS

The methods of analysis that were used in this section of the report included spatial analysis, comparative analysis, and statistical analysis. A comparative analysis was conducted to explore ownership patterns across the three sub-neighborhoods and their potential to facilitate or impede development in Karantina. Spatial analysis was important to assess the different elements of the urban fabric and map the geographical distribution of the vacant, militarized, and unbuildable lots according to the current and proposed urban planning regulations. The research further mapped and analyzed the security mechanisms and their impact on restricting future development. The statistical analysis of findings from the questionnaires was used to explore the potential opportunities for development in Karantina by assessing the willingness of the residents to remain in the area and develop their lots. Statistical analysis was also used to study a number of approved construction permits in Karantina and Beirut over the years. The collected data was located and spatialized using the mapping software ArcGIS.



This section of the report presents the preliminary findings from the descriptive memory report. The findings showed that the constraints to the development or re-development of lots in Karantina and the spatial characteristics and urban trends negatively impact the built and socio-economic environments. They resulted in development or re-development projects that were not inclusive or sustainable. However, through private initiatives, a few projects before and after the port blast focused on public spaces or adopted a long-term approach to urban recovery. The key findings are detailed below.



## Restrictions on Development

The descriptive memory report showed that development or re-development is not possible in some of the vacant lots and buildings in Karantina because of the presence of military bases, the regulations in the zoning plan for Beirut, and the suspended public expropriation of private property.



## Militarization

Karantina is heavily impacted by the presence of four military bases that restrict accessibility to sidewalks and streets. The military bases also prevented property owners either from returning to their buildings or developing their lots since the civil war ended.



## Dilapidated Urban Environment

Karantina is characterized by a dilapidated urban environment including most buildings. Open spaces - including sidewalks and streets - are either deteriorated or inaccessible because of the current urban planning regulations and the military encroachment on space. Additionally, Karantina lacks key services such as transport and infrastructural networks and facilities like schools that are necessary for a better quality of life of people.



## High Levels of Pollution

High levels of pollution and congestion rendered Karantina an unhealthy place to live. This is due to the presence of a solid waste management plant and a landfill that collected the debris of destroyed buildings after the port blast, as well as truck traffic. The landfill in Bourj Hammoud and the integrated wastewater management systems also negatively affect the odor and quality of air in Karantina. Polluted water also spills into the Beirut River that borders Karantina to the east.





Real estate speculation in Karantina is still limited compared to other areas of Beirut. However, a wave of real estate developers may seek to purchase the large number of deteriorated and demolished buildings due to the port blast. The descriptive memory report showed that many residents in Karantina seized the opportunity of the destruction of their buildings to enable them to sell their properties. As such, the local activity of real estate developments may increase after the blast, negatively impacting certain social groups.



## Potential Wave of Gentrification

A potential wave of gentrification may occur in Karantina. The arrival of different arts and crafts design galleries and nightlife activities such as pubs and restaurants before the port blast may attract the real estate developers to replace old buildings with gated ones and, as a result, displace residents and alter the socio-spatial fabric of Karantina.



## Increase in Levels of Vulnerability<sup>5</sup>

The government removed rent control in Lebanon in 2004, leaving many residents in Karantina in the vulnerable state of paying much higher rents and being threatened with eviction. Additionally, the majority of local Syrian refugees and Lebanese residents live in unfavorable conditions in dilapidated and overcrowded apartments.

# 4. PROBLEM DEFINITION

Building on the findings in the descriptive memory report and desk reviews, this report identifies three key issues that impact inclusive and sustainable development in Karantina.

### The first issue is the restrictions on development.

Some of the lots in Karantina are not accessible to landlords, real estate developers, endowment organizations, and the Municipality of Beirut for development. Lots are either vacant or not constructable because of limitations in the regulations in the zoning plan for Beirut, convoluted ownership rights between multiple shareholders, militarization, and the state suspending the right for expropriation. As a result, restrictions on development and re-development exacerbated the deterioration of the built environment, particularly buildings in areas with suspended infrastructure projects and militarized security measures.

### The second issue is inequitable and unsustainable development practices.

A number of development projects in Karantina like infrastructural projects, solid waste management facilities, landfills, and military bases contributed to its social, economic, and spatial isolation from its surrounding (Figure 1). They rendered Karantina the “backyard of the city”<sup>6</sup>. These developments deprived the local communities from opportunities for equitable development, reduced the intensity of socio-spatial practices, and contributed to the degradation of the built environment and its social and economic networks. Consequently, they increased vulnerability and marginalized the residents and decreased their levels of wellbeing and quality of life. However, despite their negative impacts, these developments protected Karantina from predatory real estate developers and helped maintain the low rent prices in comparison to the rest of Beirut.

<sup>5</sup> Refer to the first transversal issue report on Affordable and Inclusive Housing in Karantina.

<sup>6</sup> Refer to the second transversal issue report on Spatial, Economic, and Social Connectivity in Karantina.

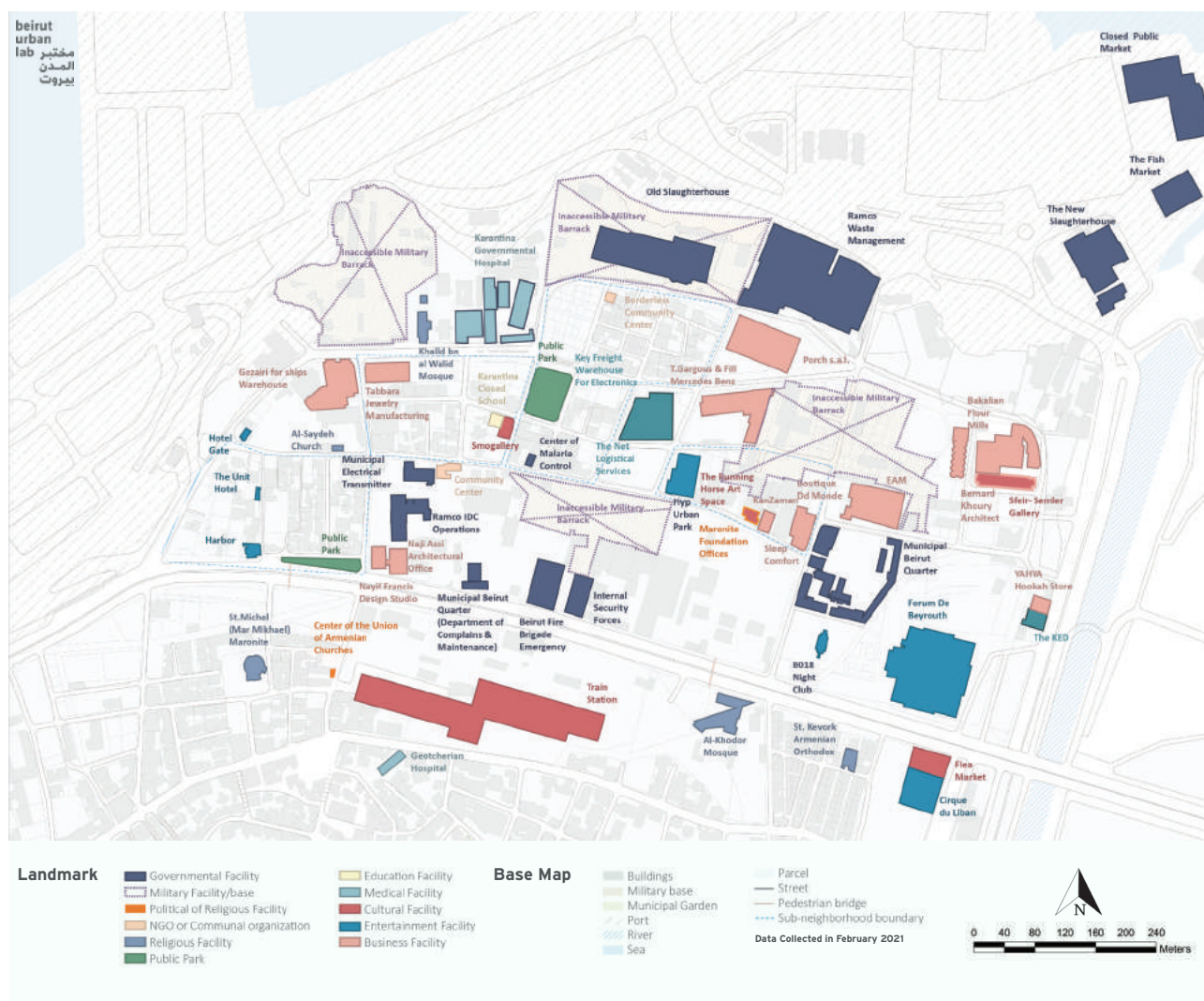


Figure 1: Neighborhood Landmarks in Karantina. Source: TheBeirut Urban Lab, 2020.

### The third issue is outdated planning tools and urban regulations.

Urban regulation and planning tools like zoning plans in Beirut and Lebanon are outdated (Pietrostefani, 2018). They date back to the French Mandate, with most plans characterized by a top-down approach in the decision-making process. Thus, in the absence of a clear vision for a strategic development plan for Karantina, any inclusive and sustainable strategy will be fundamentally challenged by the current regulatory framework, the militarization of space, increased security measures, and suspended infrastructure projects. For example, the current urban regulations placed Karantina "under study", which temporarily froze any development or market activities, did not ensure a long-term inclusive urban recovery. This measure did not address the needs of vulnerable groups for monetary compensation to repair their homes.

Inclusive and sustainable development in Karantina were diagnosed in terms of three key dimensions: (1) access to development opportunities, (2) the quality of infrastructural, urban planning projects, post-blast masterplans, and urban planning regulations, and (3) community participation in the decision-making on development projects.

## 5.1 ACCESS TO DEVELOPMENT OPPORTUNITIES

This section of the report identifies and assesses the key issues that restrict access to land and development opportunities. It also assesses the diversity and activity of the actors that are involved in development or re-development projects.

### A. Restrictions on Land Development

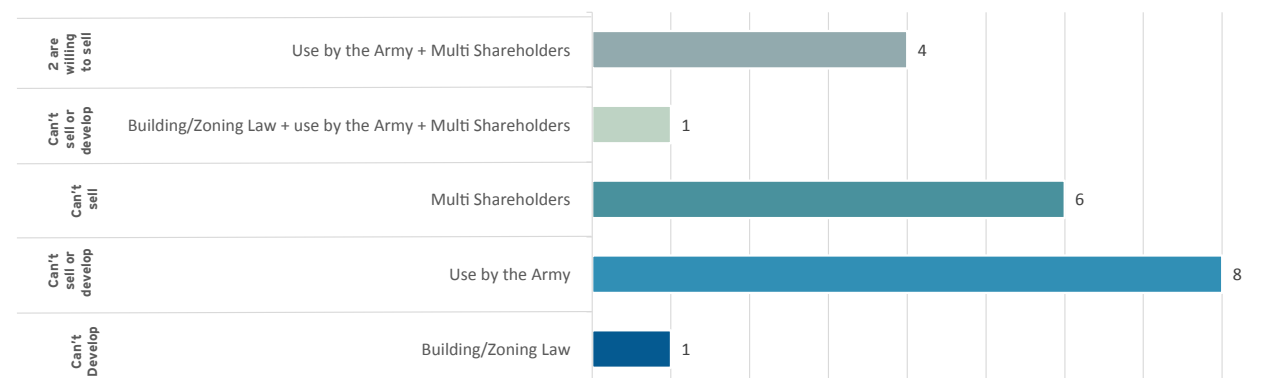
The results of the questionnaires showed that there is a high concentration of undeveloped and vacant lots in the subneighborhood of Al-Khodor where many old buildings were destroyed during the civil war (Figure 2).

Al-Khodor	Al-Senegal	Al-Saydeh	Industrial Zone
22	0	1	0

**Figure 2:** Distribution of vacant lots that are owned by the residents across the different sub-neighborhoods. Source: The Beirut Urban Lab, 2021.

Figure 3 explains the different reasons that limit the reconstruction, development, and sale of these lots. Most of the lots are occupied by the Lebanese army<sup>7</sup>, while the rest are either restricted by the requirements of the zoning plan for Beirut, owned by multiple shareholders, or suspended for use due to incomplete expropriation by the state. The key factors that restrict development are discussed in the following pages:

#### Key factors that restrict development in Karantina



**Figure 3:** Key factors that restrict development in Karantina. Source: The Beirut Urban Lab, 2021.

<sup>7</sup> Some military bases contain vacant lots and buildings that are occupied by the army. Hence, people are not allowed to develop their lots and access or reuse their buildings.



## A.1 The Zoning Plan for Beirut

The regulations in the zoning plan for Beirut<sup>8</sup> are prescriptive with predefined norms and standards and do not address performative issues such as environmental quality in the evaluation of new buildings during the permit application process. Consequently, building permit applications need to comply with the requirements of the zoning plan and the construction law despite their impact on the social, economic, and environmental fabrics of the city. Karantina is in zones 3, 7, and 9 (Figure 4 and 5). Zone 7 extends to Mar Mikhael and allows for a 70% footprint and a total exploitation ratio of 3, and is mostly threatened by the LINORD project. Zone 3 also extends to Mar Mikhael and allows for a 60% footprint and total exploitation of 4 while any type of construction in zone 9 is prohibited. Zone 9 includes lots that are near the Port of Beirut and the Beirut River.



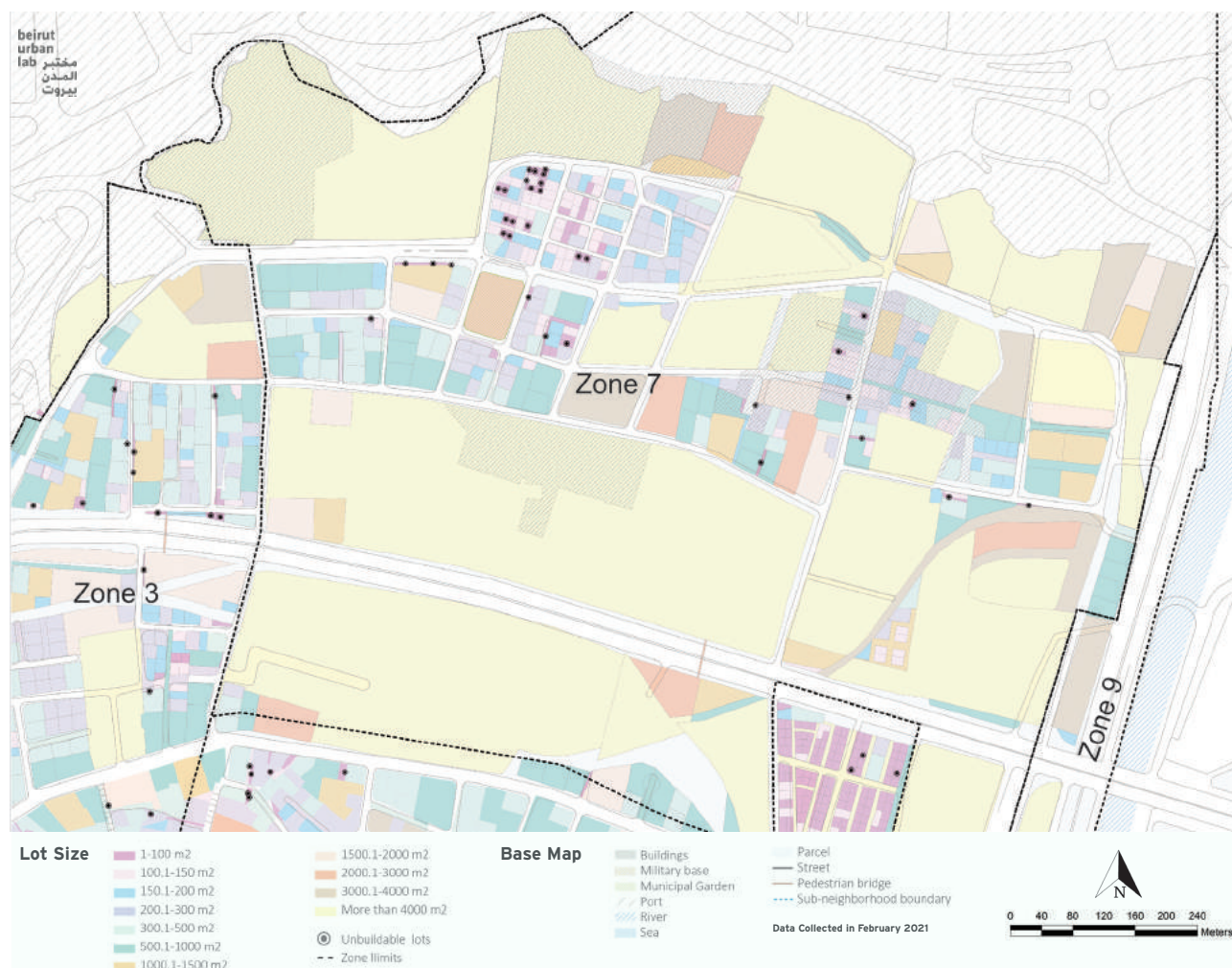
**Figure 4a:** Distribution of zones in Karantina, and an overlay of LINORD project (highlighted in gray). Source: The Municipality of Beirut, modified by The Beirut Urban Lab, 2020.

ZONING OF BEIRUT CITY												
ZONES	LOT PARCEL AFTER DIVISION			CONSTRUCTIBLE PARCEL			MINIMUM RECESS OF FAÇADE FROM:		PERCENTAGE OF CONSTRUCTION	COEFFICIENT OF EXPLOITATION	MAX.HEIGHT OF BUILDING	
	min. surface	min. facade	min. depth	min. surface	min. facade	min. depth	Road	Site limit back/side				
1	250 m²	10m	10m	100 m²	9m	7m	4.5m		100%	6		
2	250 m²	10m	10m	100 m²	9m	7m	4.5m		70%	5		
3	300 m²	12m	12m	120 m²	10m	8m	4.5m 6m (4.5<L<9)		60%	4		
4	300 m²	15m	15m	150 m²	10m	8m	4.5m 6m (4.5<L<10) 2m from edge L>10)		50%	3.5		
5	500 m²	17m	17m	250 m²	12m	14m	Cornice 4m other roads 3m	2.5m	40%	2.5		
6	400 m²	15m	15m	200 m²	12m	8m	4.5m 6m (4.5<L<10) 2m from edge L>10)		50%	2.5		
7	250 m²	12m	12m	100 m²	9m	7m	4.5m 6m (4.5<L<2 (10m from edge L>10)		70%	3		
8	AI	1200 m²	30m	35m	800 m²	25m	25m	depends on map with min. recess of 3m	6m	30%	0.9	17m
	AI4-	900 m²	25m	30m	750 m²	20m	20m		4.5m lat 6m back	40%	1.4	17m
	Spec.	1200 m²	30m	35m	1200 m²	30m	35m	depends on map with min. recess of 4m	5m lat 8m back	30%	2	
	II a	1200 m²	30m	40m	1200 m²	30m	40m		5m lat 8m back	20%	1.25	0.1- ground, 1.00 floor, 0.15 roof
	II b	1200 m²	30m	40m	1200 m²	30m	40m		5m lat 8m back	25%	1.5	0.1- ground, 1.25 floor, 0.15 roof
	II c	1200 m²	30m	40m	1200 m²	30m	40m		5m lat 8m back	25%	1.75	0.1- ground, 1.25 floor, 0.15 roof
9											CONTRUCTION IS FORBIDDEN	

**Figure 4b:** Regulations for the different zones in Beirut. Source: The Municipality of Beirut, 2021.

<sup>8</sup> Except for the Beirut Central District, a zoning plan at the city level guides urban development in the neighborhoods of Beirut

## Unbuildable Lots



**Figure 5a:** Lot size and Unbuildable lots in Karantina. Source: The Beirut Urban Lab, 2020.

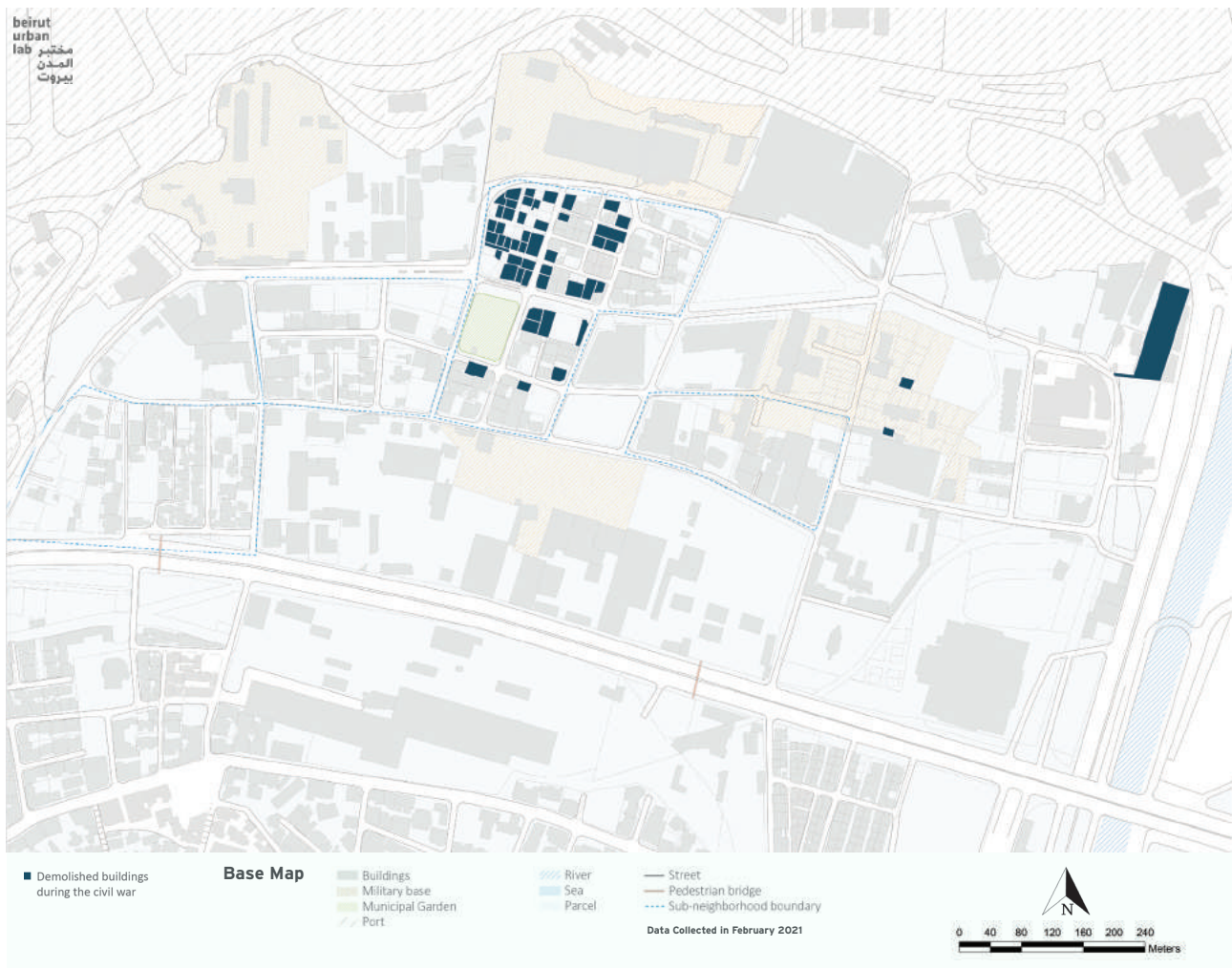
## Number of Unbuildable lots per sub-neighborhood

Al-Saydeh	Al-Senegal	Al-Khodor	Industrial Area
10	4	23	6

**Figure 5b:** The number of unbuildable lots by law per sub-neighborhood, Source: The Beirut Urban Lab, 2021.

The zoning plan for Beirut specifies minimum dimensions and surface area for buildable lots. In Karantina, there are 42 lots that are classified as unbuildable since they do not meet the minimum required dimensions. For instance, in zone 3, the minimum length of the length of the façade of a buildable lot should be 10 meters and the minimum depth should be 8 meters, while in zone 7 the minimum façade should be 9 meters and the minimum depth should be 7 meters. Accordingly, lots that can be developed should have a minimum surface of 120 meter-squares in zone 3 and 100 meter-squares in zone 7. Figure 5 shows the highest concentration of vacant and unbuildable lots is in Al-Khodor sub-neighborhood, mostly built then destroyed during the civil war (Figures 6 and 7).





**Figure 6:** Lots with buildings demolished during the civil war "based on data from the Lebanese Army". This map excludes the demolished buildings from some of the lots occupied by the Army. Source: The Beirut Urban Lab, 2021.



**Figure 7.** Vacant lots that is located in front of the Karantina Public Park. Source: Ali Ghaddar, 2021.

The landowners of the unbuildable lots who attended the focus group discussions and the first community meeting mentioned that they prefer to amend the regulations of the zoning plan or sell their lots to a developer who can afford the administrative costs of land pooling. Currently, many of the vacant lots operate as public spaces for the residents of Karantina (Figure 8).

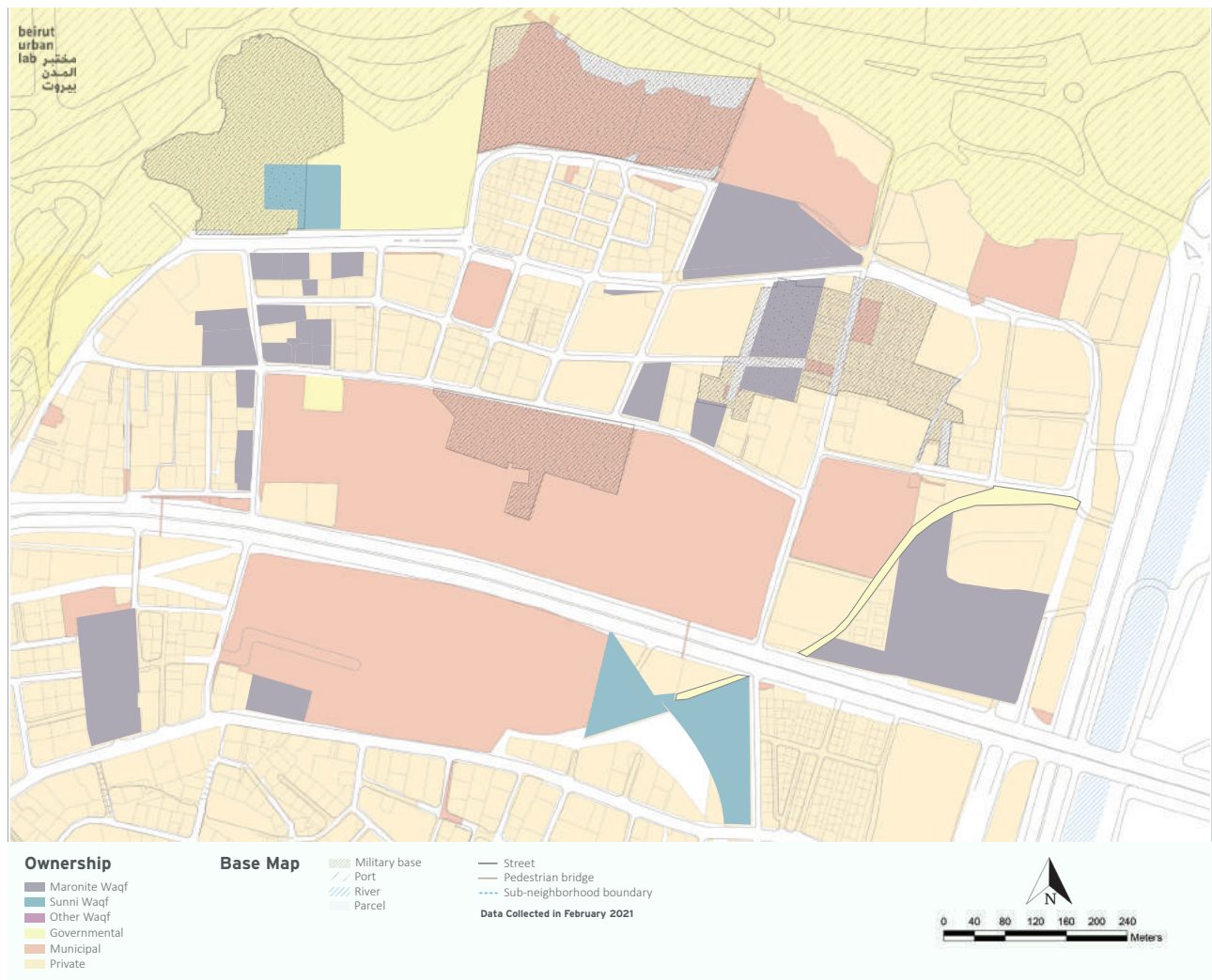




**Figure 8.** Some of the residents of Karantina spending their time in the vacant lots in Al-Khodor. Source: Ali Ghaddar, 2021.

## Lot Typology: Diversity of Lots by Size, Shape, and Ownership

The typology of lots in Karantina varies by size, shape, and ownership. Some lots in the residential clusters are small and are owned by residents or the Waqf. They accommodate residential buildings or are vacant. Other lots in the Industrial Zone are large and have multiple owners from outside Karantina - including the Waqf and the Municipality of Beirut - and include industrial uses or military bases (Figure 9). The size of lots varies from 30 to over 700 square-meters. For instance, the size of the municipal lot that is adjacent to the highway is around 597 square-meters, while the size of the majority of small lots in Al-Khodor does not exceed 100 or 150 square-meters (Figure 5).



**Figure 9:** Lot ownership in Karantina. Source: The Beirut Urban Lab, 2021.

Various factors played a role in shaping the sizes of lots in Karantina. The first factor is ownership (Figure 9). For example, the Municipality of Beirut and the Waqf safeguarded their lots from development or subdivision. In addition, despite the implementation of the Charles Helou Highway which divided the large municipal lot of the train station in two, the section of the lot within the boundaries of Karantina maintained its form.

The second factor is the slow pace of developers pooling small lots in Karantina in comparison to other areas in Beirut. This is due to the lengthy and costly administrative process for land pooling and the complexity of obtaining the consent of multiple shareholders. As such, developers have not been active in acquiring vacant, small, or unbuildable lots in Karantina. However, in this study, the diversity of vacant lots according to size, shape, density, ownership is an opportunity to develop a strategic neighborhood plan that is inclusive and sustainable.

## A.2 Law No. 322/1994

The law in Lebanon and the Taif Agreement in 1989 stipulated the right of displaced people to return to Lebanon after the civil war. Law No. 322 was issued in 1994 to exempt the displaced people from paying taxes and fees for rebuilding their demolished houses. However, the law applied to the restoration of villages and towns and not to Beirut (2015 *جمعية منطقة الخضر الانمائية*). Official documents for the ownership of 183 lots mention that the total area amounted to 157,265 square-meters. However, reconstruction did not happen and many of the residents who left Karantina did not develop their lots since the civil war (2015 *جمعية منطقة الخضر الانمائية*).

## A.3 Multiple Shareholders Lots

Different lots and buildings have multiple owners. For instance, one lot may be owned by various shareholders from the same family (Figure 10) and across generations. Its redevelopment requires the approval and compensation of all the owners. Additionally, the second and third generations of shareholders prefer to move out of Karantina and rent their properties to incoming Syrian refugee families instead of resolving property right disputes that require time and complex negotiations<sup>9</sup>.

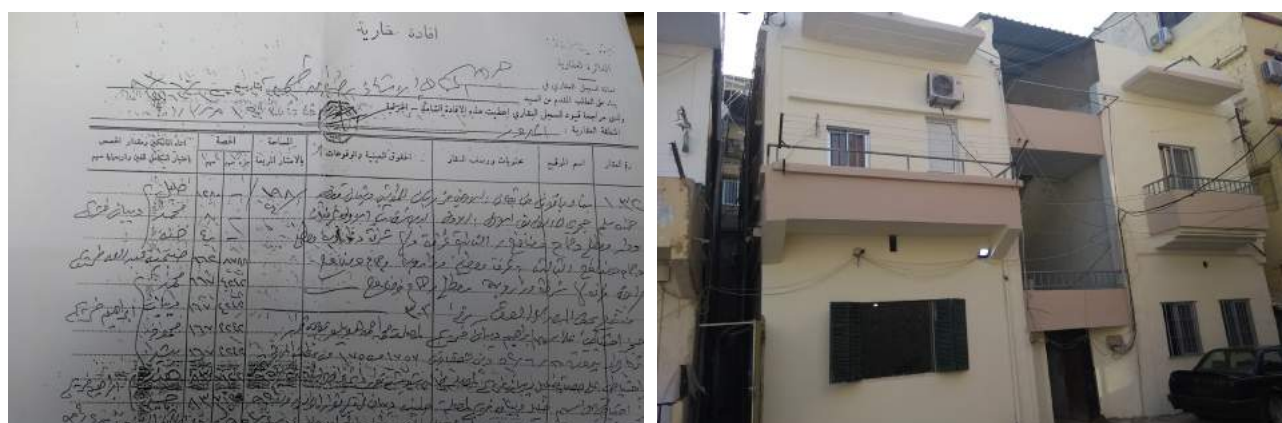


Figure 10. Property owned by multi shareholders across generation groups in the same family. Source: Ali Ghaddar, 2021.

<sup>9</sup> One of the community members during the focus group discussion on "Affordable and Inclusive Housing in Karantina" mentioned that they prefer to relocate and secure loans from the Public Housing Corporation instead of solving property issues.



## A.4 Un-expropriated Lots

Some of the streets in Karantina are partially public due to the incomplete expropriation of lots for suspended infrastructural projects. This is one reason behind the absence of sidewalks and urban furniture, especially in Al-Khodor sub-neighborhood. For instance, many sections of the lots to the left of Al-Mashgara Street are not expropriated (highlighted in Green in Figure 11) (Figure 12). However, the eastern extension of the street is the property of the owners of the adjacent lots (highlighted in Blue in Figure 13) (Figure 14). A private alleyway formed after subdividing the initial lot into smaller ones for development and provides car and pedestrian access to the residents.

While The Beirut Urban Lab was applying to a permit to implement the public space intervention<sup>10</sup>, the Municipality of Beirut did not approve any intervention on the western side of Al-Mashgara Street and on the private alleyway. It is worth noting that both street and alleyway are used for vehicular activity, pedestrian flow, and social gatherings. Additionally, in Lebanon, public ownership is a requirement for obtaining a permit from the municipality to upgrade streets and alleyways. This requirement restricts plans to upgrade a dilapidated street if it is not publicly owned despite its current function as a public space.



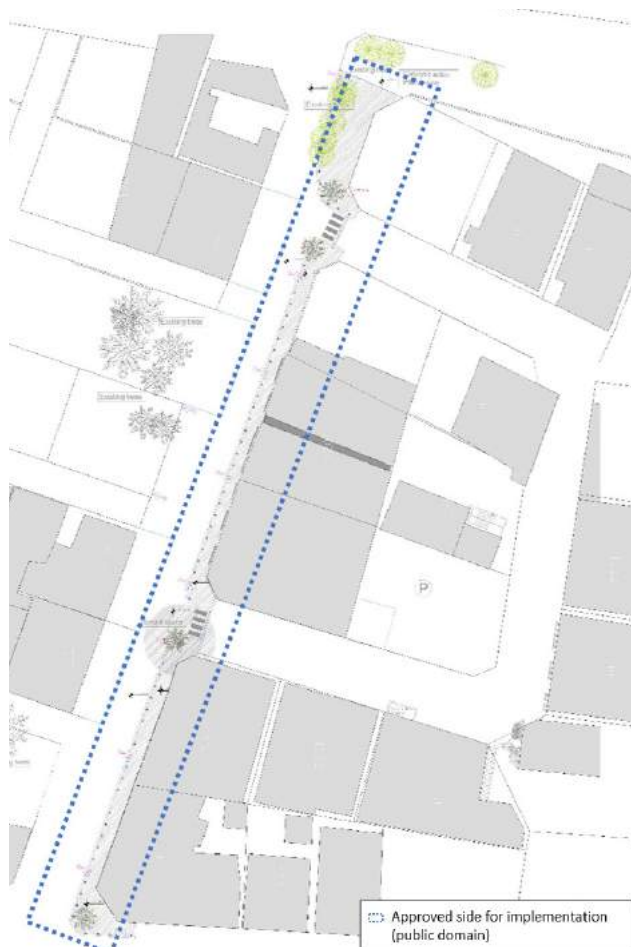
**Figure 11.** The final design approved by the community.  
Source: The Beirut Urban Lab, 2021.



**Figure 12.** Mashghara Street also known as Al-Khodor Street.  
Source: Ali Ghaddar, 2021.

<sup>10</sup> The Beirut Urban Lab research team and District D engaged community members in co-designing the streetscape through multiple workshops. The team's approach was participatory and aimed at understanding the dominant uses, challenges, and needs of the community, but most importantly, the significance of this space which was described by the residents as "الإفنة" or affinity in English.





**Figure 13.** The final design that the Municipality of Beirut approved for implementation. Source: The Beirut Urban Lab, 2021.



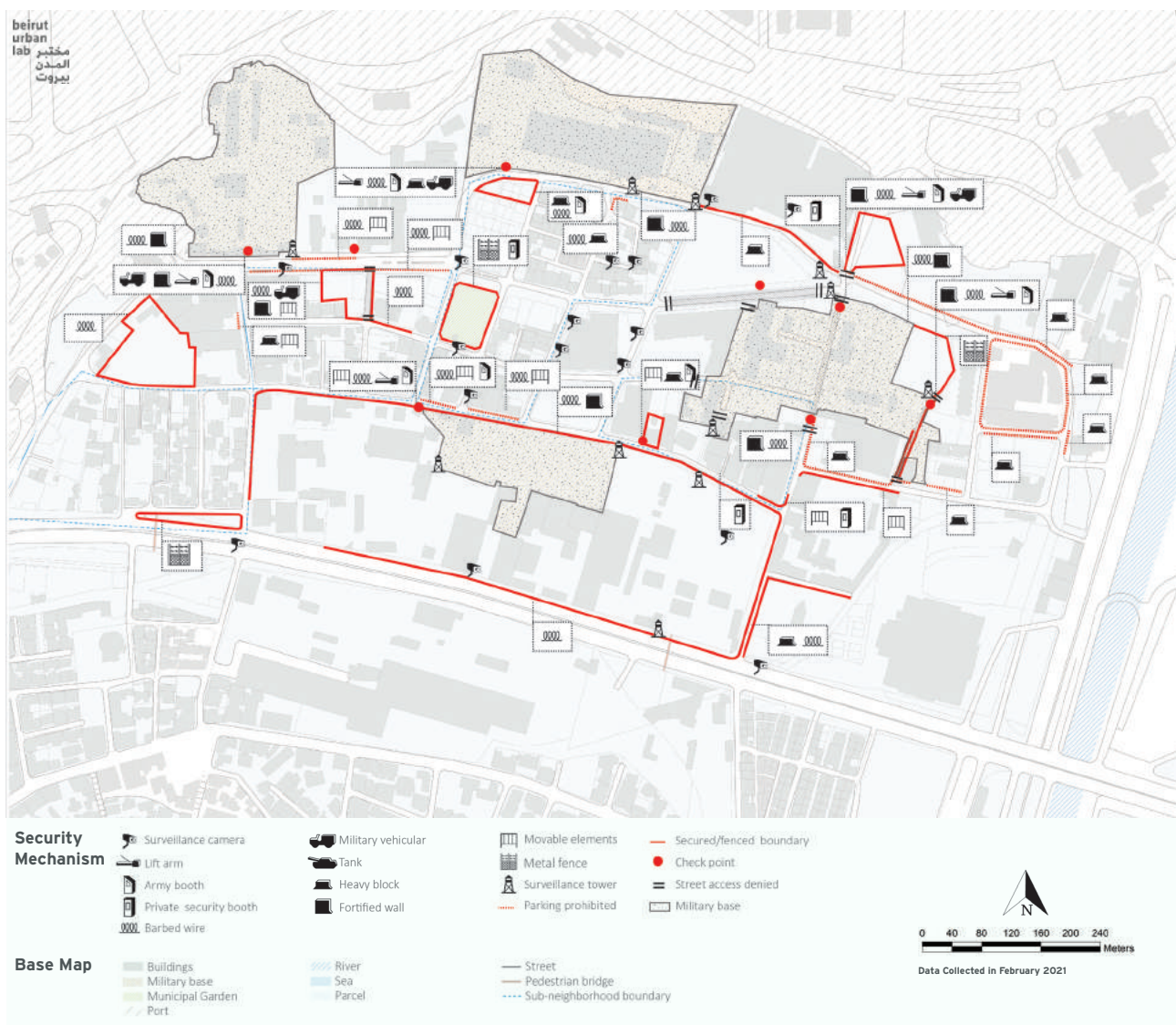
**Figure 14.** The private but shared alleyway. Source: Ali Ghaddar, 2021.

## A.5 Militarized Lots

### “Return the lands to their displaced owners”<sup>11</sup> يرجعوا الأراضي لأصحابها المهجرين

Karantina currently hosts four military bases (Figure 15). Official documents from the mukhtar revealed that 71 private lots are used by the army (Figures 16 and 17). However, the field work and mapping showed that the boundaries of the military bases extend beyond these lots (Figure 15). The residents and landlords who left Karantina during the civil war or immigrated cannot access their buildings or redevelop their vacant lots. Hence, the militarization of space prevented the previous residents to return to Karantina and delayed recovery since the civil war.

<sup>11</sup> A.H.W. (21-12-2020), (Yihyah Shihadeh, Interviewer).

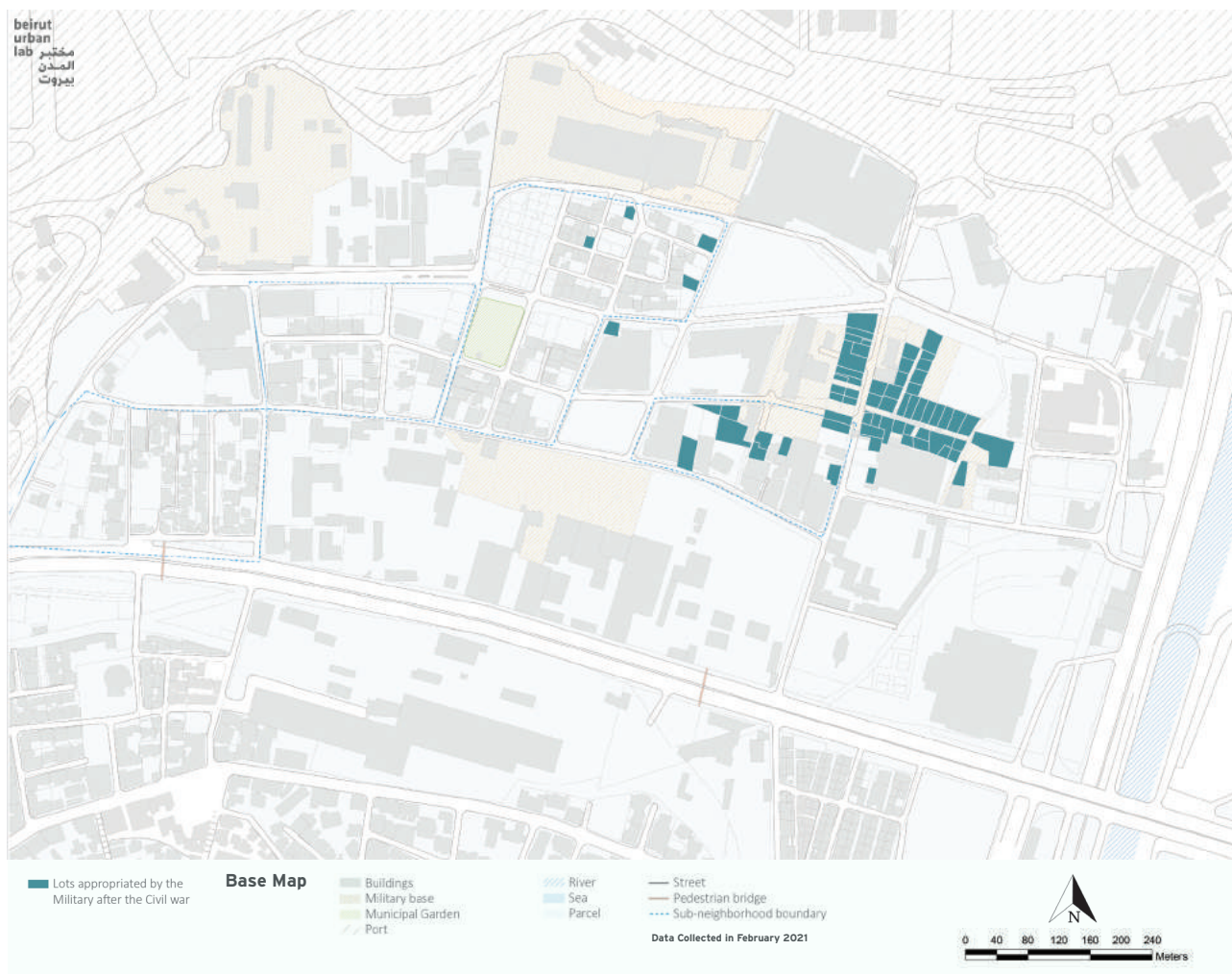


**Figure 15:** Security map of Karantina. Source: The Beirut Urban Lab, 2021.

It is worth mentioning that after the civil war, a neighborhood committee was formed to negotiate the withdrawal of the army from the military bases in Karantina, which are still occupied until today. The Karantina Displaced Committee<sup>12</sup> sent different memos to the army after 1990 and received the following initial response in 2009: “The Army Command has taken the necessary measures to start constructing a new barrack for the benefit of the property owners whose lots are currently used by the military, and it will be vacated as soon as this barrack is completed” (2015, جمعية منطقة الخضر الانمائية). However, the army later argued that for security reasons and the need to protect the eastern entrance to Beirut prevent them from evacuating. As a result, the displaced residents were not able to return to Karantina.

<sup>12</sup> The committee is headed by the lawyer Hassan Matar.





**Figure 16:** Private lots used by the army, based on data from the Lebanese Army. Source: The Beirut Urban Lab, 2021.



**Figure 17.** A view of the lots and buildings that are occupied by the army from; photos taken from the roof of the Sleep Comfort building. Source: Ali Ghaddar, 2021.

However, Hassan Matar, the lawyer who led the committee, mentioned the following: “Does Beirut’s security depend solely on the Karantina area? This is not true, it is forbidden for the people of the area to return to it” (2015, جمعية منطقة الخضر الانمائية). The Lebanese Ministry of the Displaced was not effective in resolving the problem that they attributed to the political and security conditions in the country and their staff members mentioned that their term in office will end before the problem is resolved.



During the thematic group discussion on transversal issue IV on Inclusive and Sustainable Development in Karantina, the lawyer Fouad Matar<sup>13</sup> mentioned that “We as a committee met with several political leaders and official figures and they all are aware of our case and legal rights”. The lawyer also mentioned that “the residents want their lands back, but they do not want to press legal charges on the military, and if no legal actions are taken, the situation is not going to change”. Additionally, the residents prefer not to clash with the army and would rather resolve matters peacefully. Conversations with residents during the focus group discussion revealed that they feel a sense of guilt if any confrontations happened. One resident said “We want the army to move without problems”<sup>14</sup>.

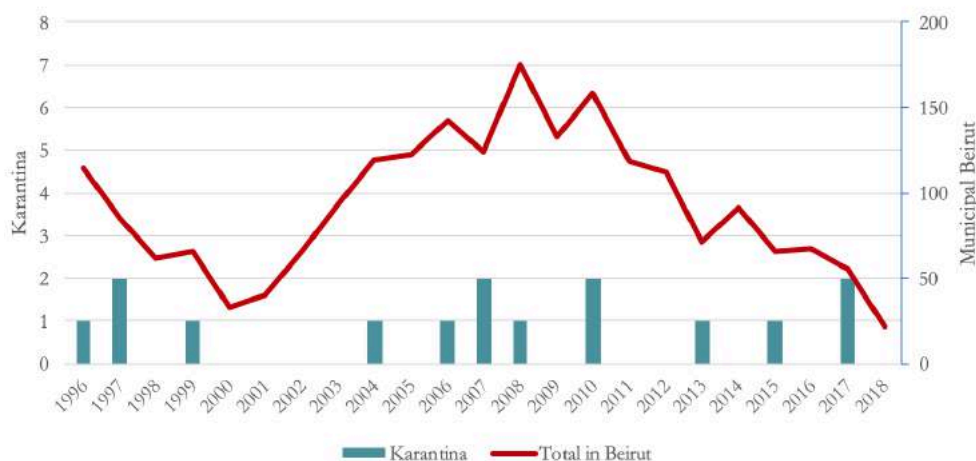
Accordingly, on the one hand, any urban planning project or intervention at a neighborhood scale will face challenges due to the heavy presence of the military and the partial return of the residents after the civil war. On the other hand, the presence of the military protected many lots from development and can be considered as an opportunity for property owners to implement inclusive and sustainable projects in the future.

Moreover, during a one-to-one interview, Naji Obeid<sup>15</sup>, the mediator of the Maronite Waqf, pointed out that after the civil war a decree was issued to put Karantina under study due to the presence of military bases. As a result, all new building permits needed the approval of the Directorate General of Urban Planning. It is worth noting that one of the citizen scientists pointed out that there are ownership disputes over the lots with the Waqf.

## B. Actors Involved in Development or Re-development

### B.1 Real Estate Developers and Private Investors

The marginalization of Karantina from the rest of Beirut, the presence of unbuildable lots, and the lots occupation by the army contributed to safeguarding the area from real estate developers and increases in rent prices. As a result, real estate development in Karantina is limited in comparison to other areas in Beirut. The descriptive memory report mapped the construction of a limited number of buildings since 1998, including: new office buildings, commercial and trade warehouses, furnished apartments, sports center, and galleries (Figure 18).



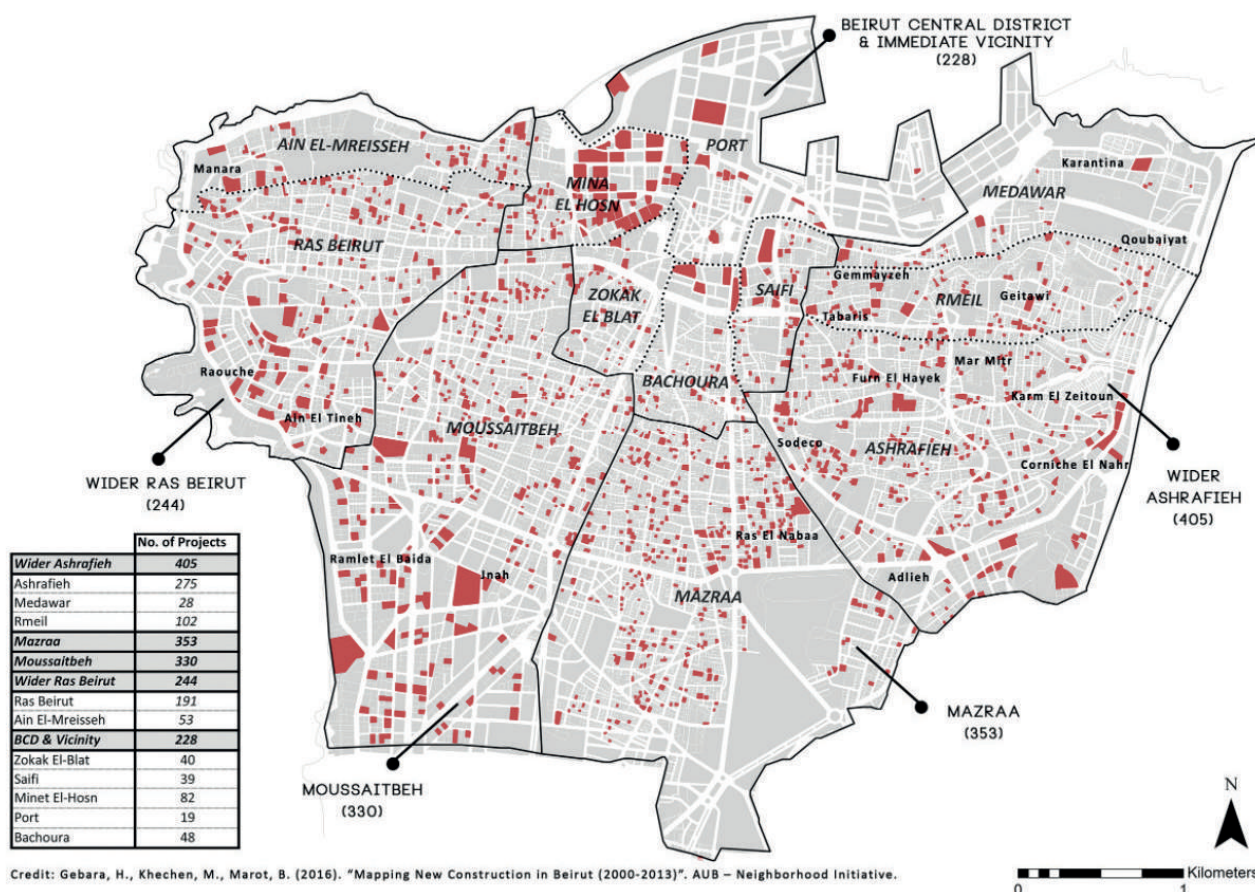
**Figure 18.** Graph of building permits in Karantina and Beirut based on data from the Municipality of Beirut. Source: The Beirut Urban Lab, 2021.

<sup>13</sup> Member in “جمعية منطقة الخضرة الامامية”

<sup>14</sup> A resident from Al-Khodor sub-neighborhood during the thematic group discussion on Inclusive and Sustainable Development.

<sup>15</sup> Interview with Naji Obeid in 2021.

Figure 19 shows that building permits and property speculation is limited and below the average in the rest of Municipal Beirut. As a result, Karantina remains a low-income area where refugees have a relatively secure access to housing units.



**Figure 19.** Location of new constructions in municipal Beirut (2000-2013). Source: Gebara, Khechen, and Marot, <https://www.jadaliyya.com/Details/33751>, 2016.

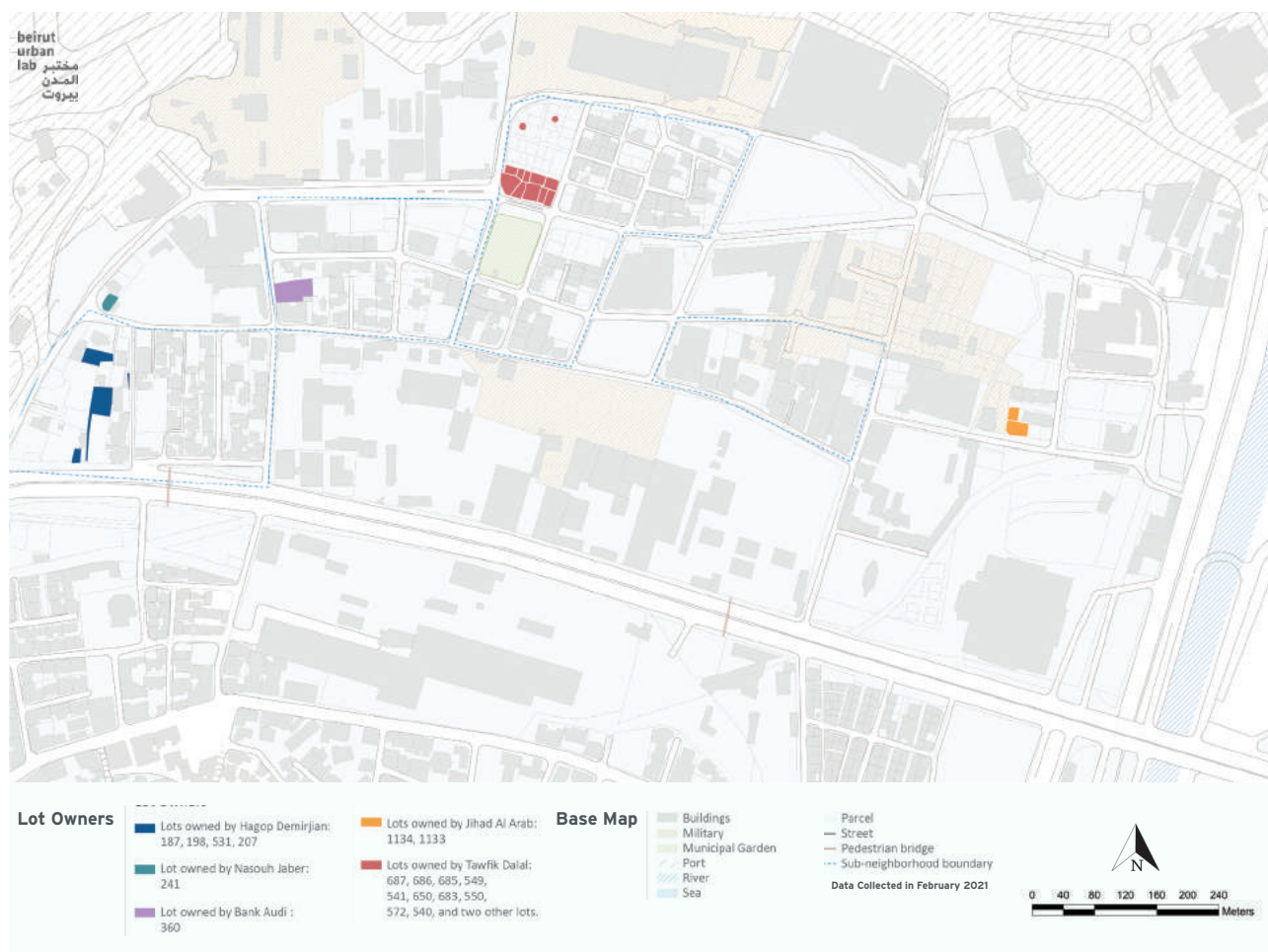
## Profile of Real Estate Developers

There is a limited number of real estate developers that are active in Karantina, including Nassouh Jaber and Jihad Al-Arab, who aim to invest money in lot development. Nassouh Jaber is the real estate developer of a lot in the Industrial Zone that he turned into furnished apartments. Jihad Al-Arab is a contractor who acquired lots in the Industrial Zone, a typical activity for developers who regards lots as safety deposit boxes for future development (Figure 20).

Additionally, the actor who is contributing the most to the development of Karantina is the mediator of the Waqf. His profile and approach to development are discussed in the next section of this report. The profiles of these developers reflect the types of developments that are exclusive and target high-income people that, if not controlled, can lead to gentrification or rapid real estate development in Karantina. As such, the following section of the report presents a narrative of a private investor who aims to develop vacant lots in Al-Khodor sub-neighborhood for future business opportunities.

## Narrative of a Private Investor

Six years ago, Mr. Tawfik Dallal started investing part of his savings in lots in Al-Khodur sub-neighborhood for future business opportunities after his retirement. In 2016, he bought 12 lots in Al-Khodur sub-neighborhood next to the park and the public hospital. Some of these lots were previously built before they were demolished during the civil war. The lots are mostly small in area. 10 out of the 12 lots are located within the area of the LINORD project, of which 5 lots are directly impacted by the proposed highway. The highway imposes a 25% deduction in the area of impacted lots. To avoid the 25% loss from the total area of the 10 lots if pooled, he refrained from pooling for the time being. Furthermore, he hired a lawyer to facilitate the purchasing and registration processes which extended over 5 years. The lawyer managed the negotiations with the shareholders and was able to complete the registration process before the port blast.



**Figure 20:** Lots owned by high-profile developers. Source: The Beirut Urban Lab, 2021.

According to Mr. Dallal, the low price of the lot in comparison to other areas in Beirut is the key factor that attracted him to invest in Karantina. It is worth noting that an investor fenced the lot before the blast and transformed it into a parking space. He signed a contract with Dallal for three years with a minimal profit. After the three years, the contract between Mr. Dallal and the investor was not renewed, and the lot was used as a temporary work space with tents for the NGOs. The lot is currently vacant and appropriated by children.

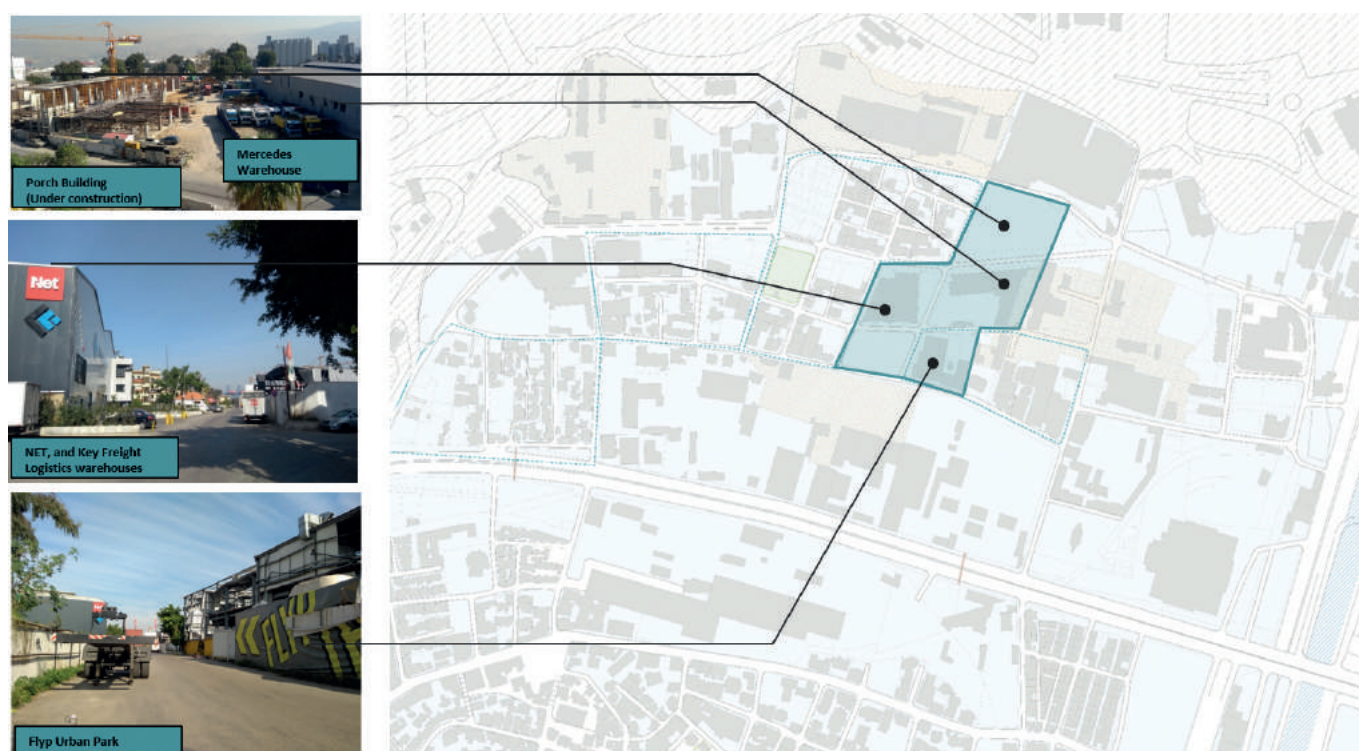
In addition to the 10 lots, the remaining 2 lots in the same block are small and serve as space for future expansion (Figure 20). Development is not possible in the adjacent lots unless they are pooled with the 2 lots that Mr. Dallal owns. Mr. Dallal also plans to attract car brands to Karantina, building on the trend of new business ventures in automobile showrooms in Karantina since 2018. It is important to note here that findings from the questionnaires and community meeting discussions showed that these new businesses are exclusive and do not hire employees from Karantina<sup>16</sup>.

<sup>16</sup> Responses to the questionnaires showed that 70% of the residents are unemployed. This does not take into account child labor.



## B.2 Waqf

As mentioned in the report on transversal issue II on Cultural and Economic Vitality in Karantina, the Maronite monasteries' endowment (Waqf) is a major landowner (Figure 9). Lots that are owned by the Waqf are managed by a mediator who is upscaling the area along Iben Sarjoun Street (Figure 21). This can contribute to the future socio-economic transformation in Karantina. Vacant lots and buildings that are owned by the Waqf are opportunities for strategic intervention that can host urgently-needed projects such as schools and affordable housing units.



**Figure 21:** Types of new businesses along the Iben Sarjoun Street. Source: Ali Ghaddar, 2021.

## A Brief Snapshot of the Profile of the Mediator

The relationship between the mediator and the Waqf dates to 1990 when members of the monastery approached him to resolve various property issues in appraisal and selling agreements. Later on, the Maronite monasteries appointed Naji Obeid to manage their Waqf land and properties in 1995. During the one-to-one interview, he explained that his interest in Karantina dates to the early 1990s, saying: “With the beginning of the relationship with the monasteries, I felt the importance of this area in the future.” As such, he implemented several development projects in the lots owned by the Waqf. In the 1990s, he planned to build a motel on the lot where the building owned by Electricity of Lebanon (EDL) is located (west Karantina). The agreement with the EDL was followed by a long-term tenure contract with Tanous Steel that constructed warehouses on lots along Iben Sarjoun Street. The warehouses transformed the stretch of the street into a hub for high industrial activities that attracted blue-collar workers. In 2014, the families that own the warehouses decided to relocate to Zgharta in the north of Lebanon. Accordingly, the mediator decided to redevelop the lots into high-end commercial activities that can attract logistic and car companies.

During the interview, he envisioned Karantina as an exclusively Industrial Zone due to the presence of industrial services and facilities and its proximity to the port. It would be dedicated to automobile showrooms, storage warehouses for the imported cars from the port, and logistic companies. He plans to

attract more car companies to Karantina, such as Nissan, Peugeot, Citroen, Renault, and BMW. Regarding the transactions, the mediator pointed out that he gets a commission on the number of transactions between the endowment and the second party as follows:

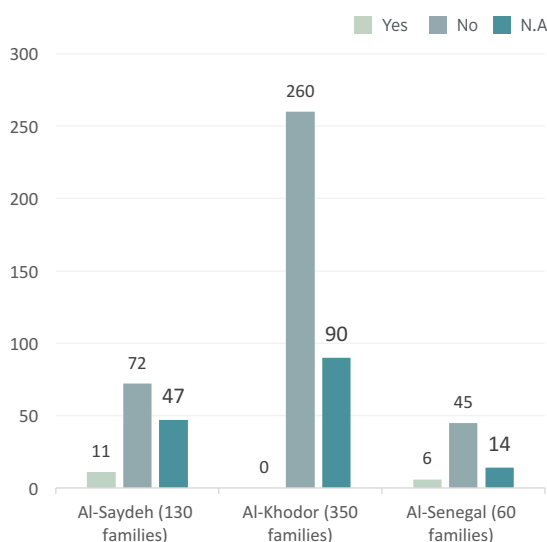
1. He takes 10% of the contract value if the lease contract is between the Waqf and a private investor.
2. He pays rent to the Waqf and then sublets the land to investors for higher price.

It is important to note that his interest in real estate is broad enough to include private lots owned by various Beiruti families in Karantina. He manages agreements in lease contracts to invest in lots for a period of time before they are released to new businesses or companies.

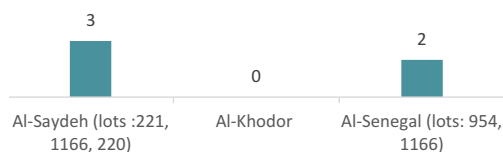
## Land and Properties that are Owned by the Waqf

A study conducted at the Lebanese University in 2013 showed that the Maronite Waqf owns 20 lots in Karantina mostly located in Al-Saydeh and Al-Senegal sub-neighborhoods (Figure 9). However, the answers to the questionnaires showed that the Waqf owns large lots in the Industrial Zone with a few buildings in the predominantly Christian sub-neighborhoods (Figures 22 and 23). These buildings are mainly used as residential units for low to middle-income residents.

### Does the apartment belong to "Waqf" ?



### Lots owned by the "Waqf"



**Figures 22 and 23:** Waqf property distribution among the different sub-neighborhoods by apartment (left) and lots (right), according to the answers of the questionnaires.. Source: The Beirut Urban Lab, 2021.

## B.3 Non-governmental Organizations (NGOs) and International Non-governmental Organizations (INGOs)

The role of NGOs and INGOs in the development of Karantina became more prevalent and intense after the port blast. The descriptive memory report showed three key socio-spatial modes of intervention that were adopted in the areas that were impacted by the blast including Karantina:



### **Immediate and short-term building repairs**

This type of intervention targeted households and included the following types of work: cladding and paint, repair of walls and openings, plumbing, and waterproofing among others. The aim was to fix the damaged parts of buildings so people can return as soon as possible. However, the absence of common criteria for repairs and coordination between the different NGOs and INGOs during the planning and implementation process resulted in an unequal distribution of efforts. Although some efforts were promising and effective, especially by the organizations that adopted a zone recovery intervention, however, the results of the questionnaires, one-on-one interviews, and observations in Al-Khodor sub-neighborhood show that residents were not satisfied with the quality of work. The unequal distribution of repair efforts, aid, and compensations resulted in tension among the residents.



### **Zone Recovery Intervention**

Some of the NGOs and INGOs preferred to upgrade a specific zone or cluster of buildings rather than implement punctual or short-term interventions. For example, Offre Joie worked on the repair and reconstruction of buildings in Zone 8 in Al-Saydeh sub-neighborhood. The centrality of actors in the repair and construction process was time effective but the type and quality of work was guided by minimum common standards. NGOs and INGOs were able to build trust with the local communities and attracted funds for renovating or constructing old buildings that were depilated before the blast. Some discrepancies can be observed in the quality of the work especially in old heritage buildings. Offre Joie's interventions were also limited to Al-Saydeh sub-neighborhood which are predominantly Christian and did not extend to other sub-neighborhoods which residents are predominantly Syrian refugees and residents from Arab tribes.

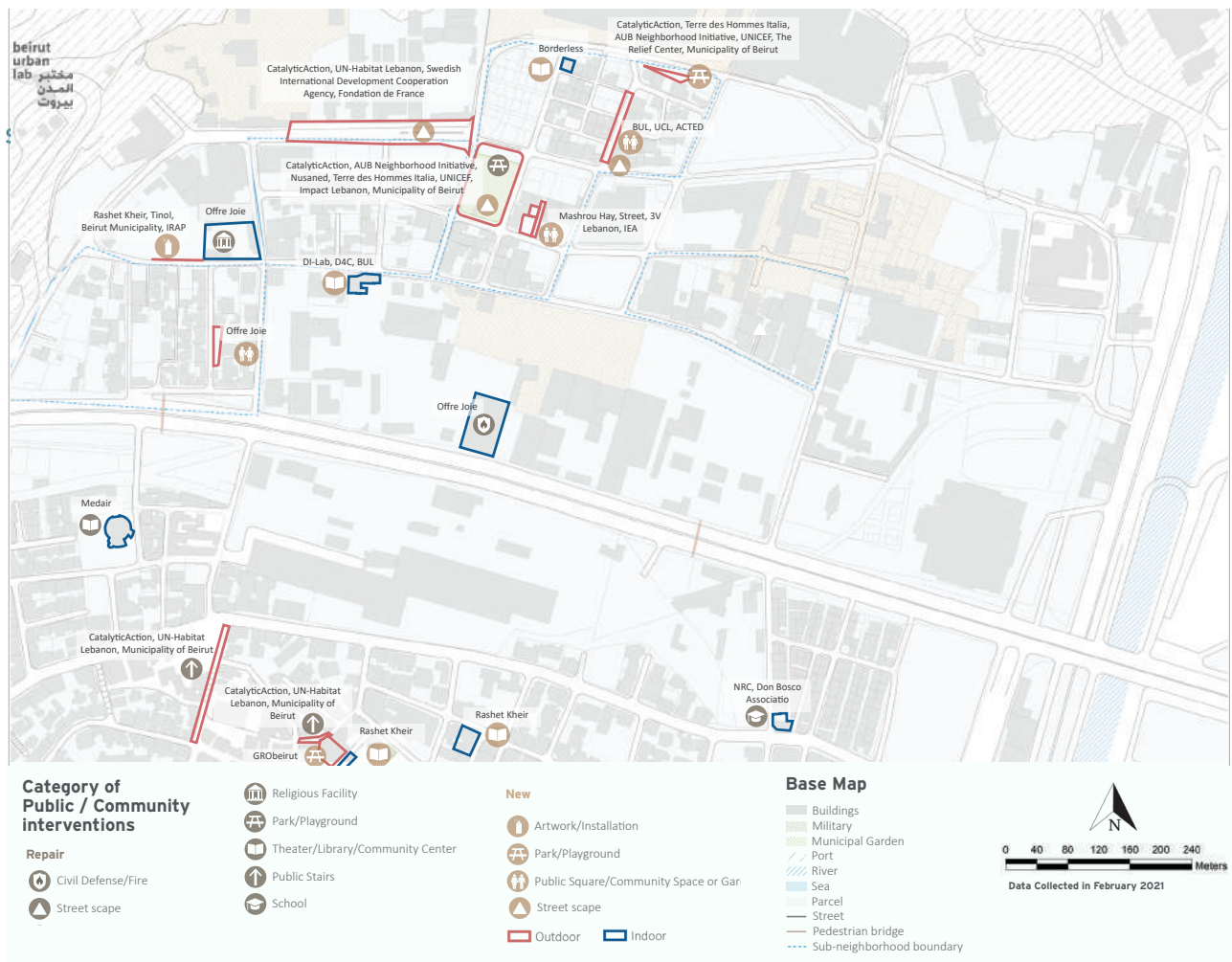


### **Long-term Recovery**

Two levels of intervention characterize urban recovery in Karantina. The first level of intervention is holistic at a neighborhood scale and adopts a multidisciplinary approach in proposing a community-led and long-term urban recovery - one that is all-encompassing and focuses on the physical, social, political, legal, and economic aspects of a place.

The second level of intervention is punctual and aims to intervene in specific areas of public space that would plug into a wider open space network. It should be noted that there are no urban design guidelines for the various actors that are intervening in the public spaces in Karantina. This impacts the consistency of the design elements from one location to another. Both levels of intervention are strategic and viable since they promote and enhance inclusive and sustainable development. They aim to recover the shared spaces that bring people together and improve the quality of life. They focus on the community rather than the household scale and succeed in maintaining socio-spatial practices in Karantina and activating the degraded shared spaces in the sub-neighborhoods. Figure 24 depicts examples of community projects by Civil Society Organizations, Non-Governmental Organizations, and International Non-Governmental Organizations.





**Figure 24:** Key actors who intervened on the public spaces in Karantina after the port blast. Source: Beirut Urban Lab, 2021.

## 5.2 INFRASTRUCTURAL PROJECTS AND POST-BLAST MASTERPLANS AND REGULATIONS

This section of the report provides a description of the types of projects that guided urban development in Karantina. Most of these projects are either infrastructural developments or amenities that serve communities. The aim of these projects is to increase trade opportunities and market activity, connect northern Lebanon to Beirut, and provide land for public services. However, other important planning initiatives such as providing more green spaces, upgrading the public realm, protecting the built and non-built heritage, and providing public services such as schools and community centers were absent before the port blast. The following section of the report presents some of the projects in Karantina and their impact on the social, economic, and environmental aspects in Karantina.

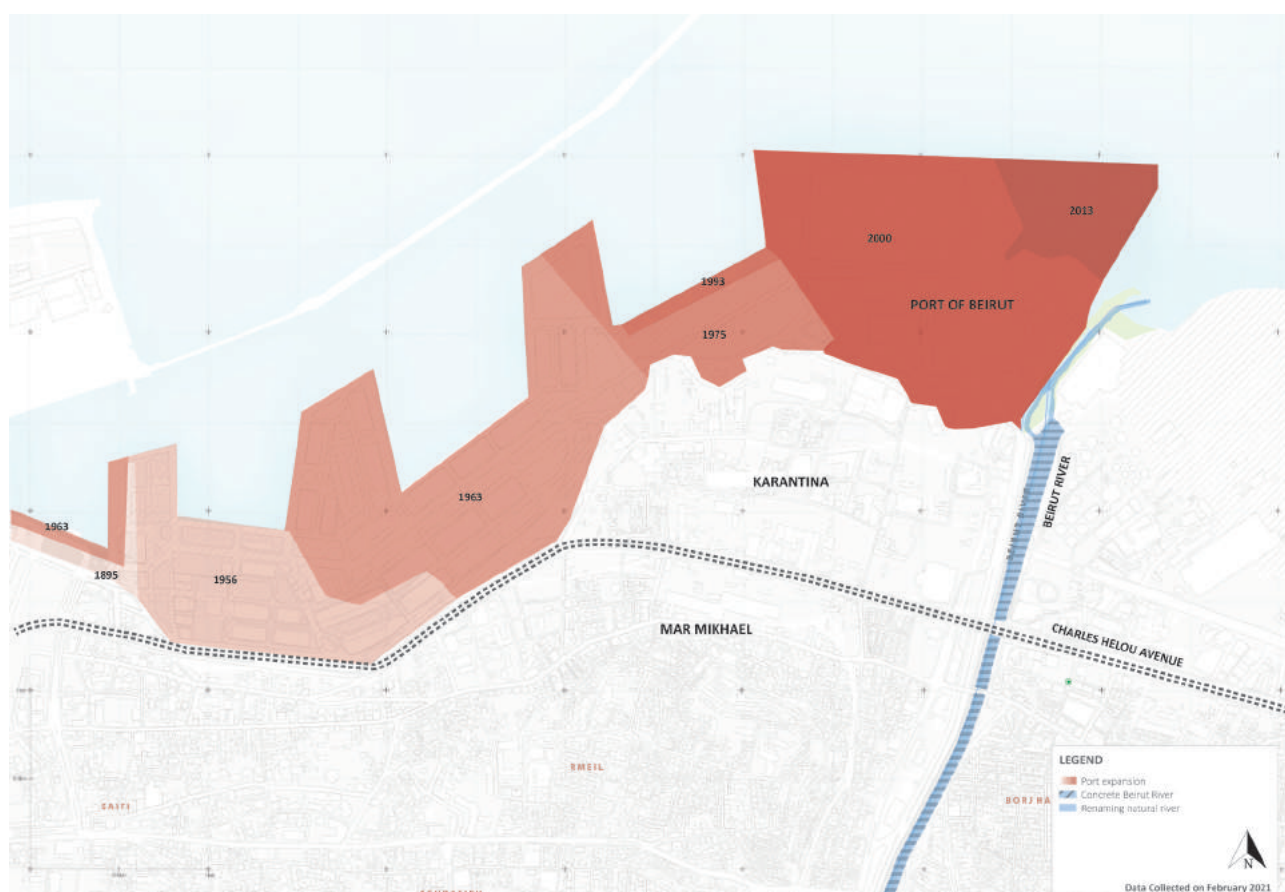
### A. Infrastructural Projects

#### A.1 The Port of Beirut

Since the 19th century, the Port of Beirut contributed to the urbanization and development of Beirut into an economic and commercial city. To date, the port is considered as one of the most important economic hubs in the Mediterranean region since it provides strategic links between different markets and trade routes especially at the regional level. The proximity of Karantina to the port affected its spatial, economic, and social development. It attracted light and heavy industries, freight and logistics businesses, and contributed to the formation of early settlements. As such, there was a significant population growth in lower-income settlements that attracted employment and business opportunities.

Additionally, the increased economic activity expanded the port in several phases, increasing its area from 26,500 meters-squared to 1,200,000 meters-squared (Port de Beyrouth, 2018) (Figure 25).

Due to the expansion in 1956, the General Directorate of Urban Planning issued a decree to freeze development in Karantina which prohibited any new construction. It prevented landowners from constructing apartment buildings and developing Karantina with services that support the port. In 2006, development in Karantina was no longer frozen, and landowners were able to obtain new construction permits (Lebanese University, 2016). However, Karantina is still considered as dominated by industrial uses although it is not classified as industrial in the zoning plan for Beirut. This is due to the industrial activities that are related to the port, and the presence of small, medium, and chain businesses such as the Bakalian Flour Mill and Sleep Comfort that serve customers from different regions<sup>17</sup>.



**Figure 25:** The expansion of the port over 40 years around Karantina.  
Source: The Beirut Urban Lab, 2021, based on diagrams from the port authority.

## A.2 Street Network According to the Ecochard Plan

As was previously mentioned, the district of Medawar where Karantina is located is a destination for a variety of activities. In addition to the port gateway and the slaughterhouse, the railway station previously played a vital role in local socio-economic development.

The station shaped the spatial development of Medawar from 1895 till its closure after the end of civil war in 1990s (Figure 26). Historically, the Mar Mikhael Railway Station occupied around 1800 meter-squares, and served as a coastal railway, the port railway, and an inner city tramway.



**Figure 26:** Map from 1936 showing the urbanization of Medawar along the peripheries of the Mar Mikhael Railway Station. Source: Bureau Topographique des Troupes Francaises du Levant. Beirut. 1936. Collection Rice University: Levant Iconography.

<sup>17</sup> Refer to the third transversal issue on Cultural and Economic Vitality in Karantina for more details on the types and sizes of businesses in Karantina.



The opening of the railway station and the implementation of the Charles Helou Highway impacted the morphology of the lots and the spatial development of Medawar. Local neighborhoods grew around the station which enhanced development along key streets such as the Armenia Street in Mar Mikhael. However, in the 1960s, the implementation of the Charles Helou Highway had divided Medawar into two zones: Karantina to the north and Mar Mikhael to the south. As a result, the highway changed the spatial development of Medawar by isolating Karantina from its surrounding and the rest of Beirut (Figure 27). It contributed to its stigmatization as an industrial area that hosts undesirable activities such as the solid waste management facility and the slaughterhouse. During the thematic group discussions on several of the transversal issues, the residents insisted that they are marginalized and that Karantina lacks any form of equitable development.



**Figure 27:** Map from 1959 showing how the implementation of the Charles Helou highway divided Medawar. Source: Le Service Géographique (1959). Retrieved from [https://library.artstor.org/asset/SS7731849\\_7731849\\_12987666](https://library.artstor.org/asset/SS7731849_7731849_12987666)

### A.3 Suspended Transportation Projects

#### LINORD Project

The Charles Helou Highway is the primary vehicular entrance to the Beirut Central District from the eastern side of Greater Beirut. It creates daily heavy traffic congestion points. To resolve this problem, the Lebanese Council for Development and Reconstruction proposed the LINORD project in the 2000s. The project proposed a network of highways that connect Beirut to Dbayeh and the north by cutting across Karantina. Figure 28 shows how the implementation of the LINORD project will subject Karantina to another process of socio-spatial and socio-economic fragmentation. The project proposes segmenting Karantina into three distinct spatial zones. The development of lots that intersect with the planned highway are also affected.

Transversal issue II revealed that the implementation of the Charles Helou Highway caused a deep fragmentation of Karantina with enduring consequences. Yet, the implementation of the LINORD project will cause a deeper fragmentation on the social, spatial, and economic fabrics of Karantina. It was designed around important pre-existing facilities and services such as the solid waste management facility, the Governmental Hospital, the new slaughterhouse, the Bakalian Flour Mills, the fish market, and the Port of Beirut. It is projected to cause socio-spatial division and isolation between Al-Khodor and Al-Saydeh sub-neighborhoods. Therefore, the LINORD project dismisses the presence of the residents and communities in Karantina and envisions the area as a transit juncture that can solve the congestion problem to the east of Beirut.



**Figure 28:** The LINORD project. Source: The Lebanese University, 2016.



## Transit Terminal for a Sea Bridge

Another transport project is the proposed national highway that links Tabarja with Jiyeh through Karantina. It is projected to turn Karantina into a daily transit node (Figure 29, 30 and 31). In 2016, the Ministry of Public Works and Transportation agreed to a proposed project that enlarges the highway of Jounieh from Naher Al-Kalb to Tabarja. The project proposed to add a lane on both sides of the highway to increase its capacity by 33% and reduce the high levels of daily congestion (Ajaka, 2016). Nevertheless, many people opposed the project since it does not solve the congestion problem but provided an opportunity for people to become more car dependent. Additionally, many property owners along the highway rejected the project since it required expropriation of many lots. Accordingly, the Design Engineering Partners proposed an alternative sea bridge that links Tabarja, near the Casino du Liban, with Beirut through Karantina. The sea bridge is 15.75 kilometers long, 20 meters wide, and 10 meters high (Ajaka, 2016). It was designed to accommodate 30,000 cars per hour; this means that it can accommodate in 5 hours half of the original number of cars commenting from Jounieh to Beirut.

This transportation proposal will negatively affect the quality of life in Karantina especially with the absence of a comprehensive planning strategy. As stated in the fifth report, Karantina is already suffering from high levels of pollution. Residents are exposed to polluted air from the landfill, the Charles Helou Highway, and port. The passage of a large number of cars, as suggested in the plan, will further degrade the quality of the urban environment and negatively affect the health of the residents.



**Figure 29:** Proposal for a sea bridge between Tabarja and Beirut. Source: [www.jassemajaka.com](http://www.jassemajaka.com).



**Figure 30:** The general layout of the bridge. Source: <https://blogbaladi.com/someone-wants-to-build-a-tabarja-jiyeh-sea-bridge/>



**Figure 31:** Three-dimensional illustration of the proposed highway bridge from the Harissa hill. Source: <https://blogbaladi.com/someone-wants-to-build-a-tabarja-jiyeh-sea-bridge/>

## B. Public Utility Projects

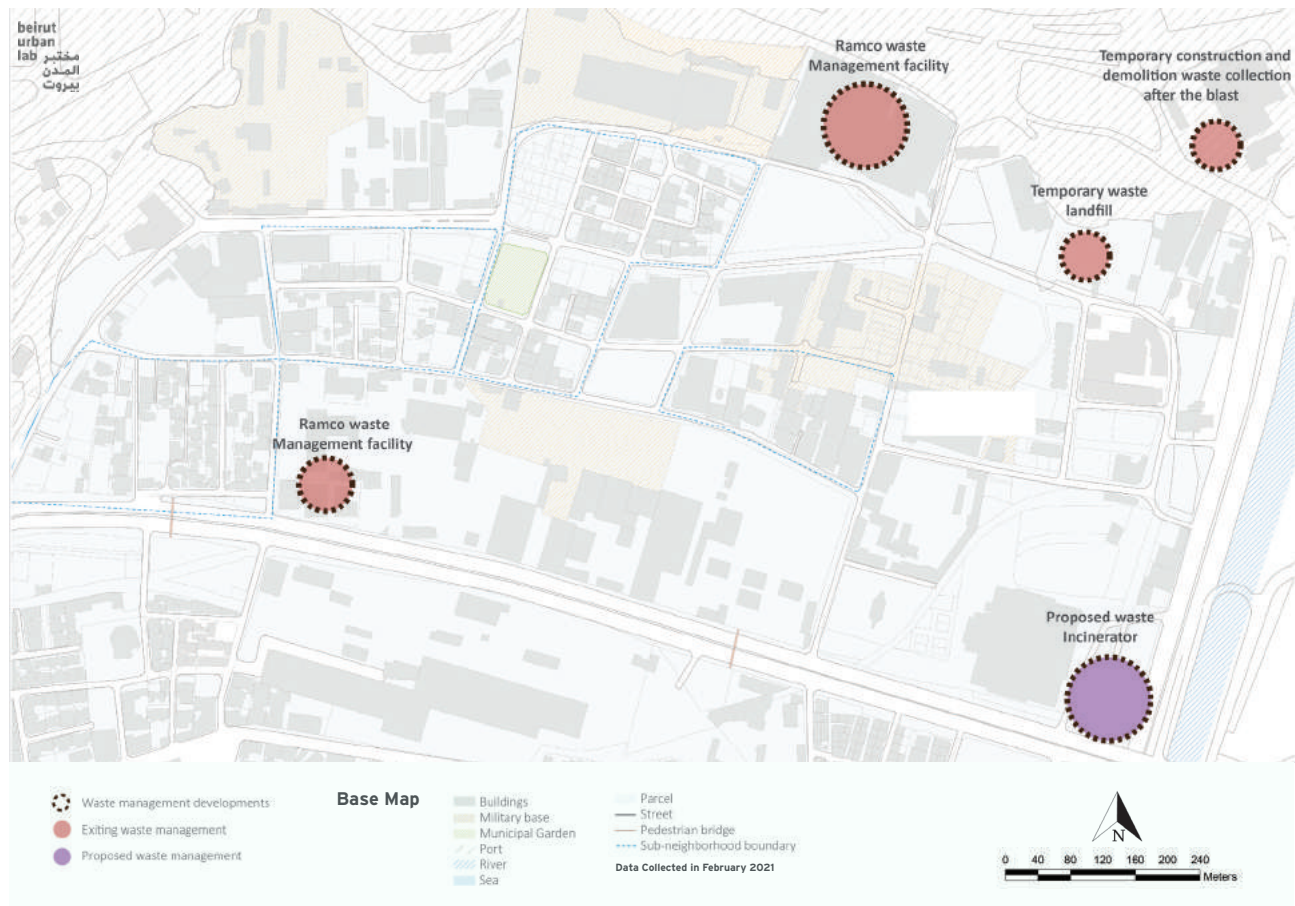


We want Karantina, an area where there is no SUKLEEN company, not even a landfill from which diseases and unpleasant odors spread<sup>18</sup>.

نريد الكرنطينا منطقة لا يتواجد فيها شركة السوكلين ولا حتى المكب التي يصدر منها الأمراض والروائح الكريهة

### B.1 Waste Incinerator (waste-to-energy plant)

Some of the major development projects in Karantina and its surroundings further deteriorate the urban environment by promoting public facilities that serve Beirut and beyond. As such, Karantina hosts two solid waste management facilities and a landfill, and is a site for a proposed incinerator. These types of development projects are negatively affecting the livelihoods of people in Karantina (Figure 32).



**Figure 32:** The distribution of waste management facilities in Karantina and the location of the proposed incinerator in red.  
Source: The Beirut Urban Lab, 2021.

18 A.SH. (29-12-2020), (Yihyah Saadeh, Interviewer)



In August 2017, the Beirut Municipal Council discussed the proposal of placing lot number 1382 - Medawar in Karantina - owned by the Lebanese government - at the disposal of the Municipality of Beirut to open a waste incinerator that can address the garbage crises of 2015 (Hamdan, 2017). The mayor of Beirut supported the project. However, the residents of Karantina voiced their concerns and pointed out that that site of the project has always been described as a “mazbaleh,<sup>19</sup> مزبلة” of Beirut. During the thematic group discussion on the Quality of the Urban Environment, the residents mentioned that Karantina unfortunately developed to serve as the backyard of Beirut. Figure 32 shows that many municipal or state-owned lots in Karantina are used for public utilities that serve Beirut and other municipalities such as the solid waste management facilities of Sukomi and JCC<sup>20</sup> (formerly known as SUKLEEN). Additionally, a designated landfill north of the Bakalian Flour Mills was established to accommodate the wastes after the blast. As such, these development projects are not sustainable and contribute to the deterioration of the urban environment and increase pollution levels.

The residents of Karantina were specifically concerned about airborne pollutants from the incinerator. Environmental experts explain that incinerators will not solve the waste problem in the absence of an integrated solid waste management strategy (Azzi, 2017). Incinerators pose serious environmental risks as they pollute the air, soil, and water quality through the released ash and smoke. As such, the proposed incinerator in Karantina will contribute to the deterioration of green spaces and reduce the quality of the environment. It will also lead to further displacement and socio-economic transformations in the livelihoods of people, especially that the area includes many public and private facilities such as flour mills, fish markets, and public hospitals. The former mukhtar, Jean Saliba, also indicated that the implementation of such development in the area will reduce land prices, “The price per square meter is expected to drop to more than \$3000, which is its current price, while in Saifi [Saifi district] the price per square meter is more than \$10,000” (Hamdan, 2017).

The proposal is currently on hold after some of the members in the municipal council, environmental experts and NGOs opposed the project, and activists have organized several anti-incineration protests<sup>21</sup> (Naharnet, 2019). According to the Environmental Justice Atlas (2019), it is not the first incinerator that was proposed in Karantina. In 1997, the government planned a similar incinerator that the residents rejected (Masri and Dwarkasing, 2019). Several activists pointed out that the Jihad Al-Arab company Al-Jihad for Commerce & Contracting (JCC) brought back the project and was among the pre-selected bidders (Masri and Dwarkasing, 2019). The CDR previously commissioned JCC to complete several public projects such as JCC solid waste management facility (formerly known as SUKLEEN) in Karantina, the Normandy landfill, the Amrousieh waste sorting plant, and the Coral composting facility in Burj Hammoud (Figures 33 and 34). All of these projects were publicly criticized for their mismanagement and corruption. For more information on the multiple sources that affect the health and wellbeing of residents, refer to Transversal Issue V on the Quality of the Urban Environment in Karantina.



**Figure 33.** The solid waste management facility JCC, previously known as SUKLEEN. Source: Ali Ghaddar, 2021.

<sup>19</sup> Mazbaleh comes from the Arabic term 'Zibalah' that people use to describe a location to dispose of waste.

<sup>20</sup> Al Jihad for Commerce & Contracting (J, refers to the contractor Jihad Al- Arab)

<sup>21</sup> <https://www.naharnet.com/stories/en/262239>





**Figure 34.** The panel at the entrance of the solid waste management facility mentions the collaboration with the LINORD Project.  
Source: Ali Ghaddar, 2021.



## C. Post-Port Blast Masterplans and Regulations

### C.1 The Post-blast Port Masterplan: The German Proposal

During a conference in April 2021, a group of German private investors led by Hamburg Port Consulting and Colliers presented a multi-billion-dollar masterplan for reconstructing the port under the name of the St. Michel District. The project aims to rebuild the port of Beirut and surrounding neighborhoods (Figure 35). The proposed post-blast masterplan will redevelop more than 100 hectares (247 acres). It will shift the first three basins of the port to the east and rebuild the adjacent surrounding by creating new residential and commercial areas, a leisure center, a central park, and a city beach promenade with a new sandy beach (Figure 36) (Aljazeera, 2021 and Naharnet, 2021).

During the conference, the managing director of Colliers Germany Mr. Hermann Schnell stated that the main objective of the project is to provide affordable housing units for families, green space, and good infrastructure. However, Lars Greiner of Hamburg Port Consulting stated that the concept behind the proposed project is to “develop the port precinct of Beirut into a world class, state-of-the-art port” (Naharnet, 2021). It was also mentioned that the project will make 30 billion US dollars of indirect profits and create 50,000 permanent jobs over a period of 30 years.

The funding of the project will be channeled through the formation of a project trust called the St. Michel Trust. The project suggests that the supervisory board of the St. Michel Trust will include members from the European Investment Bank and the International Monetary Fund with the support of the European Investment Bank (Figure 37).

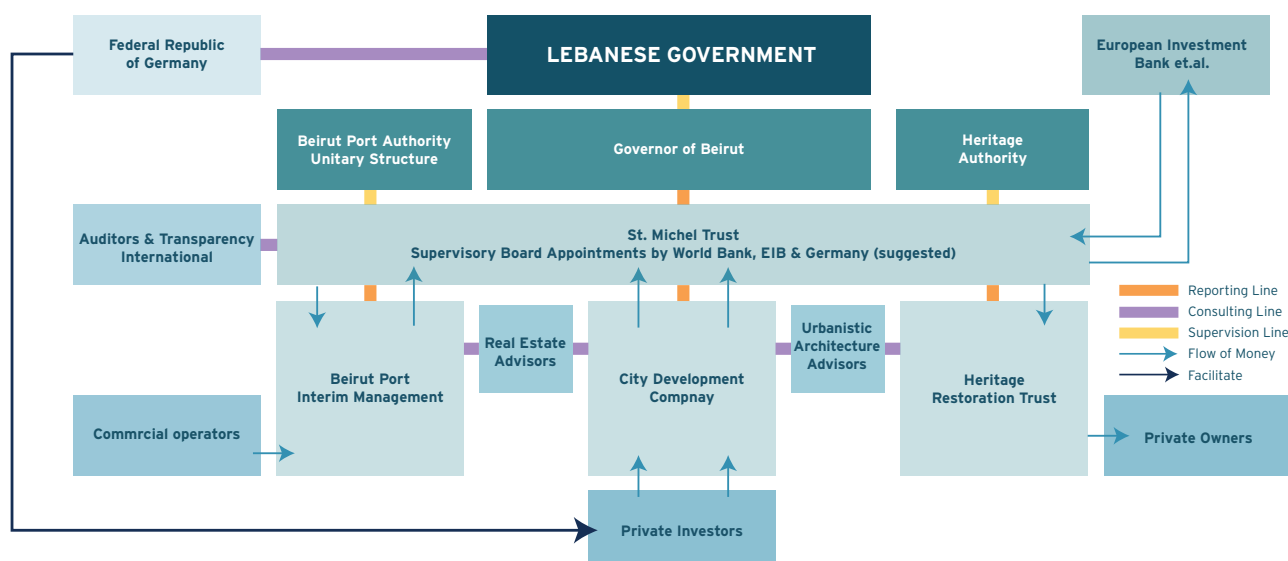


**Figure 35.** Proposed masterplan for the St. Michel District and the reconstruction of the areas that were affected by the blast.  
Source: www.ginosblog.com.



**Figure 36.** The masterplan for the St. Michel District.  
Source: <https://blogbaladi.com>.

## OVERALL ORGANIZATION CLEAR GOVERNANCE | TRANSPARENT FLOW OF MONEY



**Figure 37.** Proposed institutional setup. Source: <https://ginosblog.com/port-of-beirut-plans-by-german-investors-renders-more-c2e6813339c5>, re-visualized by The Beirut Urban Lab, 2021.

The proposed masterplan raised many concerns among the residents of Karantina. During the first community meeting on 11 August, a few days after the launch of the German project, many residents pointed out that the redevelopment plan for the area will negatively affect Karantina and threaten its residents with displacement. Additionally, one of the residents said: “This project is imposed on Lebanon and the port. It negatively affects the surrounding areas and neighborhoods that were damaged by the blast and it does not consider us in their vision”. While other residents found similarities between the proposal and the post-civil war masterplan for the Beirut Central District (BCD) by the Lebanese real estate company Solidere<sup>22</sup>. The masterplan for the BCD follows the institutional setup of urban renewal through a private real estate company. It attracted capital and empowered local and international elites while displacing many of the original residents of the BCD. It also compromised the historic quarters.

**One of the residents who felt afraid from the project said:**

“ We are afraid of the German Project in Karantina. People are happy with the idea that Germany wants to implement a project but fear that it may be a replica of the Solidere plan. Germany is not an NGO and can take over our small properties.

نحن خائفين من المشروع الألماني في الكرتينا. الناس مبسوطين  
بفكرة أنو ألمانيا بدها تنفذ مشروع بس خيفة أنه يكون نسخة طبق الأصل من  
سوليدير. ألمانيا ليست منظمة غير حكومية ويمكن إنو تاخذ ممتلكاتنا الصغيرة.

////////////////////////////////////

<sup>22</sup> Solidere is a private real estate company that is in charge of the planning and redeveloping the Beirut Central District after the war. It was set up by former Prime Minister Rafik Hariri in the 1990s.



## C.2 Law 194/2020

The Lebanese parliament recently approved the new Law No. 194/2020, the only available law to regulate post-blast recovery (Fawaz et al., 2021). The law placed the areas that were impacted by the port blast under study (قيد الدراسة) which prevented property owners from demolishing or selling buildings. The law focuses on two things: it protects the affected neighborhoods and provides guidelines for reconstruction processes. Articles No. 3, No. 5, and No.6 in the law protect residents and the built fabric that was impacted by the blast. Article No. 3 prohibits transferring properties for two years and requires the Ministry of Culture to submit a restoration plan of buildings with heritage value (Fawaz et al., 2021). Article No. 5 extends rental contracts for one year, including the residents under verbal contracts. Article No. 6 exempts reconstruction fees and taxes on imported construction material.

### However, the law has the following limitations:

- 01 The law empowered the owners who control the repair process at the expense of the tenants who were either under the threat of eviction or not having their houses repaired (Fawaz et al., 2021).
- 02 The law was not clear on the criteria for repairs, including the responsibilities, types, and mechanisms of the process. This was especially relevant to the selection process of rehabilitating heritage buildings.
- 03 The law did not specify alternative housing arrangements for people who lost their property or whose property became uninhabitable and they required temporary relocation.
- 04 The law did not address the need for heritage protection in the areas that were affected by the port blast, especially with the absence of a clear classification system for buildings that have heritage value and need to be preserved or renovated.





## 5.3 COMMUNITY PARTICIPATION IN PLANNING

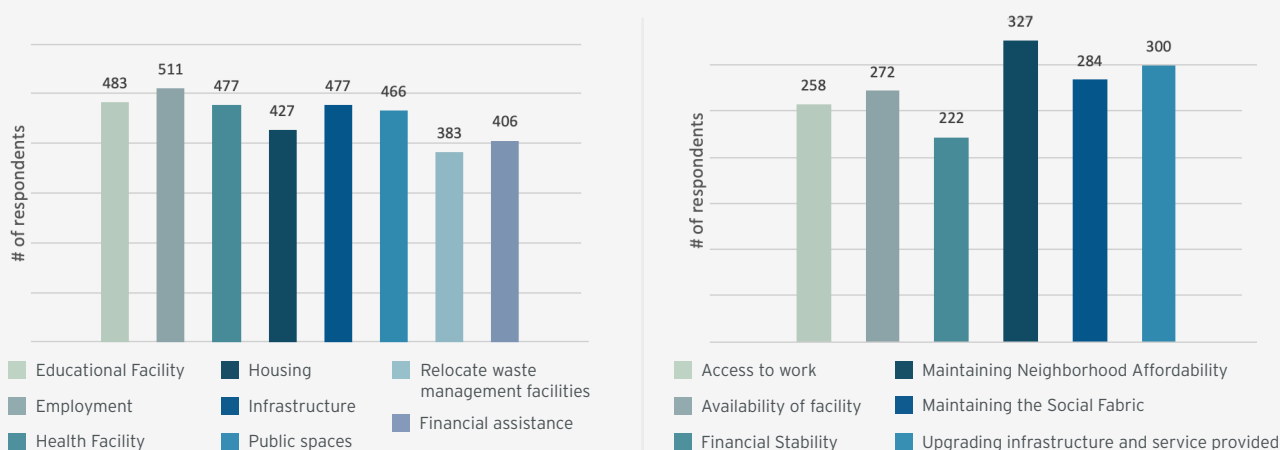
The current planning tools lack a mechanism to involve people in decision-making on development matters; the focus of development is on profit-making through laissez-faire economic policies. As a result, the city is understood as a construction site for developers (Marot, 2018) rather a place for people to live and work.

The absence of a state-led approach to repair and recovery after the port blast increased the marginalization of people. People relied on the support of Non-governmental Organizations (NGOs) and International Non-governmental Organizations (INGOs) with limited resources. As a result, aid from NGOs and INGOs was unequally distributed among households and businesses in Karantina who, according to the one-to-one interviews, relied mostly on their social networks and savings for repairs.

Additionally, Law No. 194/2020 that addressed post-disaster conditions did not provide guidelines for a people-centered approach to urban recovery and was solely focused on the physical reconstruction of buildings that were damaged during the port blast. People were also not involved in the drafting of the law or consulted on the criteria for compensation (Public Works, 2021). Additionally, the assessment criteria for the distribution of the work of NGOs and INGOs across the sub-neighborhoods of Karantina were not communicated to the public.

As such, the work of some NGOs and INGOs that are affiliated with different political parties and religious groups resulted in uneven opportunities for the residents to access support to repair their houses. As a result, the residents with limited resources were locked in a cycle of development that reproduced power hierarchies and exacerbated existing vulnerabilities after the port blast. This is evident in some of the recent studies on Karantina (see Public Works Studio, 2021) that explored the role of religious organizations and their NGOs/INGOs in the distribution of aid. For example, the new Coordinating Committee for Survey of Damage, Relief and Compensation<sup>23</sup> did not include members who are residents of the impacted neighborhoods, including Karantina.

Figure 38 and 39 classify the urgent needs of the residents of Karantina. Most of the respondents to the questionnaires highlighted similar needs for health care facilities, employment opportunities, and housing units. Accordingly, the majority of the respondents highlighted the importance of maintaining neighborhood affordability and upgrading the infrastructural service. They also stressed the need for job opportunities over financial aid. One of the residents mentioned during an informal conversation: “We don’t need money, we have dignity, we are not beggars, we want jobs so we can recover”.



**Figures 38 and 39.** The primary needs of the surveyed households (left) and incentives to remain in Karantina (right). Source: The Beirut Urban Lab, 2021.

<sup>23</sup> A representative of the Ministry of Defense/Army Command. It includes a representative of the Ministry of the Interior (the Governor of Beirut and the Beirut Municipality), the Ministry of Public Works (the General Directorate of Urban Planning), the Ministry of Finance (the General Directorate of Real Estate Affairs), the Ministry of Culture, the Council for Development and Reconstruction, the Public Housing Corporation, the High Relief Commission, and a representative from the Order of Engineers and Architects in Beirut.

Karantina suffers from the lack of equitable and inclusive development opportunities and environmental protection. This negatively impacts the quality of life and increases the marginalization of people. Additionally, local landowners in Karantina suffer from restricted access to development opportunities due to the militarization of space, urban regulations, and suspended planned projects. This report concludes with the following findings:

- 01 Landowners in Karantina cannot develop their own lots due to legal and spatial considerations: the regulations of the zoning plan, the presence of multiple shareholders, the vision of the caretakers of the Waqf properties the suspension of infrastructural projects such as LINORD, and the army occupation of the old slaughterhouse and private lots.
- 02 There are large lots owned by the municipality which are unused and underserved. These lots have the potential for inclusive and sustainable developments which can serve residents of Karantina.
- 03 Law No. 322/1994 wasn't applied to Karantina, thus, preventing many residents from rebuilding their homes after the civil war. The law exempted displaced people from paying taxes and fees to restore buildings in villages and towns but not in Beirut. Accordingly, many residents never came back after the civil war.
- 04 Karantina as a site for polluting city services renders it undesirable for residential developments.
- 05 The Industrial Zone is under threat from real estate developers and mediators upscaling to high-end commercial zones, especially since 2018 in the lots that the Waqf owns.
- 06 Absence of participatory planning that ensures the engagement of the community in the decision making process (infrastructural projects, post-blast reconstruction projects)
- 07 The Directorate General of Urbanism placed Karantina "under study" after the port blast, temporarily freezing any demolition or development activities. Placing an area under study, however, does not result in a process of long-term urban recovery and increases the vulnerability of tenants for the benefit of land and building owners.
- 08 The outdated urban regulations, and the absence of an effective heritage preservation policy, led to the demolition of heritage buildings in Karantina.
- 09 Although real estate development in Karantina is slow compared to the rest of Beirut, it is changing the character of the place, especially within the residential clusters.

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A faint, light gray background map of the Karantina area in Manila, Philippines. The map shows a network of streets, including a prominent diagonal road and a horizontal road. Several circular nodes are marked on the roads. Text labels on the map include "Ministry of health at karantina" in the upper right, "Maryoel" in the center, and "Tarluna" in the lower center. The overall tone is light and minimalist.

**Transversal issue V**

# Quality of the Urban Environment in Karantina



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# 1. INTRODUCTION

This report presents the strategic diagnosis of the quality of the urban environment in Karantina, one of the five transversal issues that were identified in the descriptive memory report. The descriptive memory report provided a general understanding of the key environmental problems in Karantina and their negative impacts. This report provides a more focused understanding of the quality of the urban environment by analyzing physical, social, and environmental practices and their impact on livability and sustainability in Karantina.

## Position

In the context of this report, urban infrastructure is studied in relation to attributes that can impact the well-being of Karantina and its users. These attributes include geographic location, the provision of services by local authorities, problems that are associated with poor governance, weak resource availability, loose development regulations, and a non-cohesive social structure. This includes principle elements, practices, and operational systems that form the built environment such as buildings and structural foundations for public services and public spaces such as streets, water, sewer, and waste systems, and electricity networks. This report diagnoses the status of infrastructural services not from a purely technical perspective; rather it attempts to situate infrastructure within the larger context of the urban environment. The aim is to emphasize the links between the provision of infrastructural services, the quality of the urban environment, and the capacity of community groups to cope with urban problems.

## Hypothesis

The interface of Karantina with the port, Beirut River, and the Charles Helou Highway is negatively affecting the quality of its urban environment. The presence of military bases, a municipal waste facility, a garbage landfill, unregulated industries, and underserved public and shared spaces stigmatized the perception of Karantina as an unwelcoming urban environment. As the result of the neglect and absence of municipal management for the area, the quality of the urban environment deteriorated after the blast. As a result, this can potentially have negative impacts on the health and well-being of residents and local users.



## 2. METHODOLOGY AND DATA COLLECTION

Urban environmental quality is a multidimensional and multi-disciplinary subject. The assessment of the quality of the urban environment requires considering a variety of components. Thus, the information presented in this report includes both objective and subjective measures and adopted a mix of qualitative and quantitative methods.

The methodology assessed three components of the urban environment: the outdoor environment, the indoor environment, and the experiences of the dwellers. The dwellers were considered as 'local experts' on Karantina and its conditions. This was emphasized by Bush et al. (2001) who stated that "experiences of environmental pollution (referring to air) can vary dramatically at local levels therefore it is particularly important to acknowledge and respond to local knowledge" (Bush et al., 2001).

Additionally, the methodology also followed Jan Gehl's 2013 guidelines for field observations to study public life and assess the relationship between the physical qualities of a public space and how people interact with it (e.g., how many, who, were, what, and how long).

### SOURCES OF DATA COLLECTION PRIMARY DATA

The analysis of the quality of the urban environment is based on the analysis of the primary data from the household questionnaires, the one-to-one interviews, the town hall meetings, the thematic group discussions, and mapping that was carried out between January and April 2021.

#### 1. Thematic Focus Group Discussions:

The research team planned two town-hall meetings; the first meeting was on 11 April and the second was on 30 June. In addition, a thematic focus group discussion on the quality of the urban environment was held on 20 May 2021 (Figure 1). It discussed some of the critical issues that emerged from the descriptive memory report and questionnaires, such as the stigmatization of Karantina as a polluted area, the poor quality of the infrastructure, municipal services, business activities, and, as a result, the hazardous risks that the residents are exposed to daily.



**Figure 1.** Thematic group discussion on the quality of the urban environment on 20 May 2021. Source: Abir Cheaitli, 2021.

#### 2. One-to-one interviews:

The interviews were held with an employee who previously worked in the old slaughterhouse. The aim was to understand and validate the various rumors surrounding this facility, its role in Karantina, and how it impacts the quality of the environment, social life, and the economy.



### 3. Questionnaires

The research was supported with data from the household and building questionnaires that the citizen scientists administered in Karantina. Many of the questions and answers were represented in graphs and charts to support the findings.

### 4. Field mapping and field observations:

The relevant data was collected through site visits, field observations, walk-through assessments, photographic analyses, and informal conversations. The collected data mainly included the condition of buildings, security elements, greenery, and urban furniture. Subsequently, the collected data was discussed with the research team members to further validate the findings.

## SECONDARY DATA

The sources included online databases and literature reviews of scholarly articles, dissertations, and books that used various methodologies to assess the quality of the urban environment, negative sustainable practices, private and public spaces, livability, and levels of social well-being.

## METHODS OF ANALYSIS

This section of the research relied on the statistical analysis of findings from the questionnaires to explore the quality of the urban environment and measure the level of people's satisfaction with municipal services and public spaces that are conducive to socio-spatial practices. Benchmarking the analysis to the pool of literature on the acceptable levels of pollutants and toxins and the recommended percentages of green and open spaces per capita was also useful for the analysis of the findings of this section.

Comparative analysis was also crucial to pinpointing the differences in access to public services and the concentration of socio-spatial practices across the three sub-neighborhoods. Additionally, content analysis was important in the research to understand the perception of the residents of public spaces, likes and dislikes about Karantina, and their feelings of safety and belonging to Karantina. The collected data were tabulated using Microsoft Excel and spatialized using the mapping software ArcGIS.



## 3. PRELIMINARY FINDINGS FROM THE DESCRIPTIVE MEMORY REPORT

The existing natural and infrastructural elements – for example, the Beirut River, the Charles Helou Highway, port – and the unregulated land-use activities and developments over the years have affected the physical infrastructure and environmental quality of Karantina, including noise, air, water, and soil.



### Multiple Regional And National Crises

The multiple regional and national crises around displacement and economic decline have intensified the level of informality in Karantina and compromised the quality of life due to the level of overcrowding per apartment. Overcrowding, in particular, led to poor indoor environmental quality.



### Deteriorating Spaces

Most of the vacant, residual, and leftover spaces are deteriorating and causing a decline in livability in Karantina.



### Development Challenges

Development challenges have led to the high level of abandonment and decay of buildings.



### Public Spaces

The status of the public spaces – including streets and sidewalks – is negatively affected by the port activities (truck transportation), militarization (encroachment on shared spaces), and neglect from the Municipality of Beirut.



### Outdated Infrastructure

The outdated infrastructure and poor municipal services like electricity, water, sewage, and waste management led to many environmental problems such as flooding during the winter season.



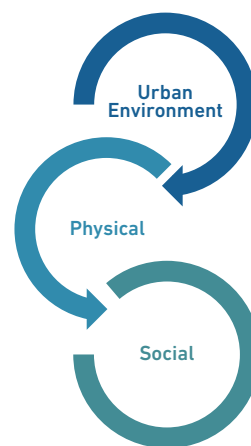
## 4. PROBLEM DEFINITION

The descriptive memory report revealed that the built environment in Karantina creates numerous challenges to the local communities.

The data gathered on the physical infrastructure (streets, buildings, empty lots, and landscape features), environmental factors (noise, odor, air, water, soil, and waste), and social practices and behaviors indicate that the urban environment in Karantina is polluted and degraded, as well as intimidating and unwelcoming to people. Therefore, this negatively affects the quality of life and comfort, collective, and individual well-being, as well as the landscape and ecology of Karantina.

Furthermore, the underserved, closure, and limited accessibility to public spaces have driven the community to gather on the streets, especially children in unsafe urban conditions. Nevertheless, these unregulated public spaces are considered an essential element for cultural heritage and values, where residents conceived these shared spaces as places to socialize and create a sense of belonging.

The physical, economic, and social aspects of the urban environment will be further discussed in the following section of the report. Each section of the analysis elaborates on how some urban patterns and trends affect aspects of the urban environment and the public. The report concludes with a set of proposed recommendations that will be further developed in the strategic framework step.



**Figure 2.** The report examined 3 overlapping trajectories: urban environment, physical, and social. Source: Abir Cheaitli, 2021.





## 5. DIAGNOSIS TRACKS

“ No one cares about the area, and it has suffered from great deprivation<sup>1</sup>  
 ما حدا بيتطلع بالمنطقة، عانت من حرمان كبير



In general, the built environment in cities provides a platform to strike the right balance between social, cultural, economic, and environmental components. The relations between these components have a direct impact on the sense of place, cultural heritage and values, and sustainable practices, hence, the quality of life of residents and users (Davos Declaration, 2018). In 2018, the European Ministers of Culture, along with other institutions and NGOs, highlighted in the Davos Declaration that “a high-quality built environment makes a crucial contribution to achieving a sustainable society, characterized by a high quality of life, cultural diversity, individual and collective well-being, social justice and cohesion, and economic efficiency” (Davos Declaration, 2018).

The following section of the report explores the quality of the urban environment in Karantina by examining the quality of the built fabric (building, public spaces, municipal infrastructure, and land-use activities), social practices (household arrangements and socio-cultural practices), and public health.

### 5.1 QUALITY OF THE BUILT FABRIC

#### A. Buildings

Historically, the area of Karantina witnessed several national crises that damaged its built fabric, specifically its buildings. Two of the major incidents include the 1976 massacre and the 2020 port blast, not to mention many years of deterioration due to government negligence.

During the Lebanese civil war, Karantina was an area that witnessed armed conflicts between local militias (Fregonese S., 2020). As a result, many buildings were abandoned, demolished, or highly damaged (Figure 3).



**Figure 3.** The physical condition of abandoned buildings, Karantina. Source: Abir Cheaitli, 2021.

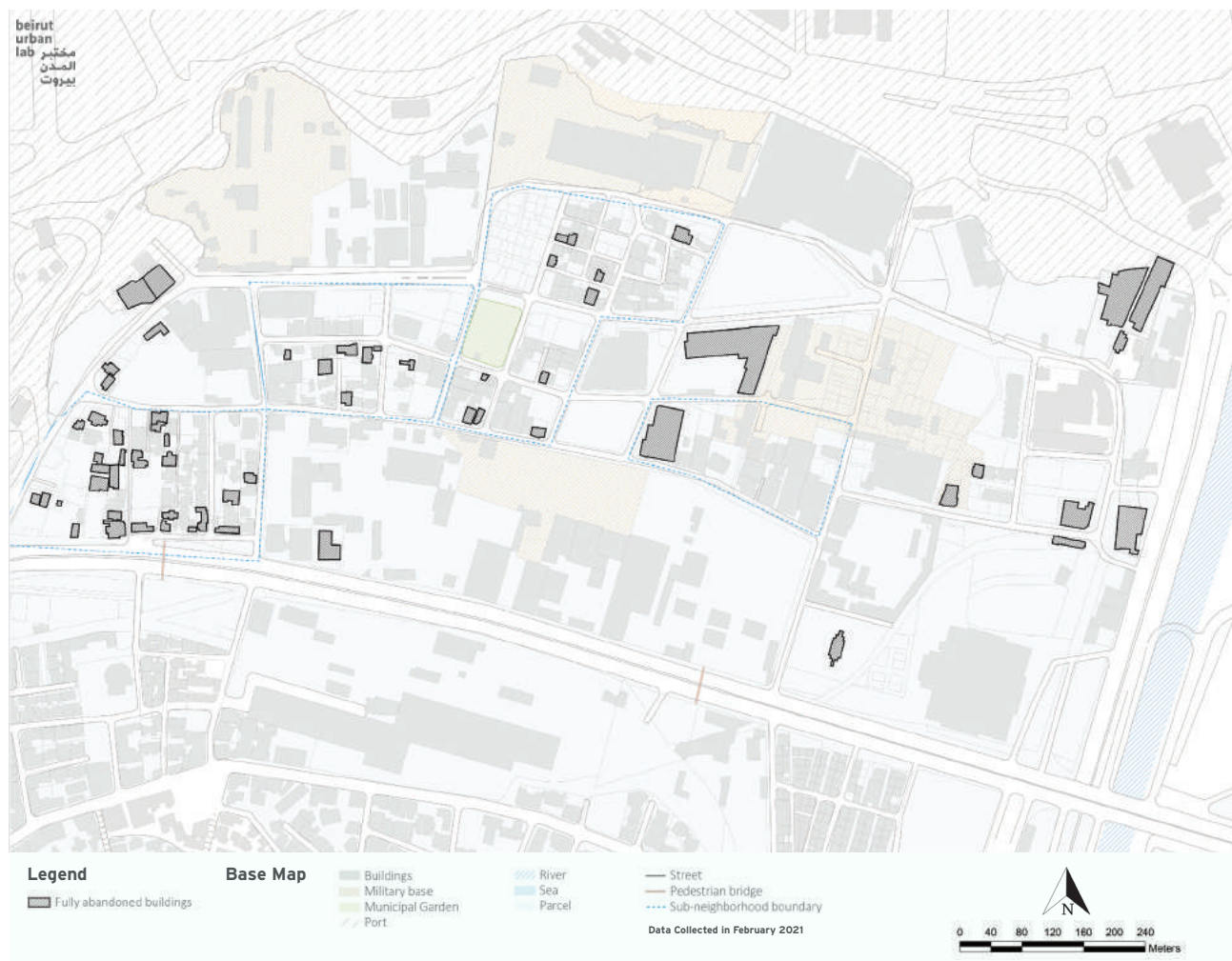
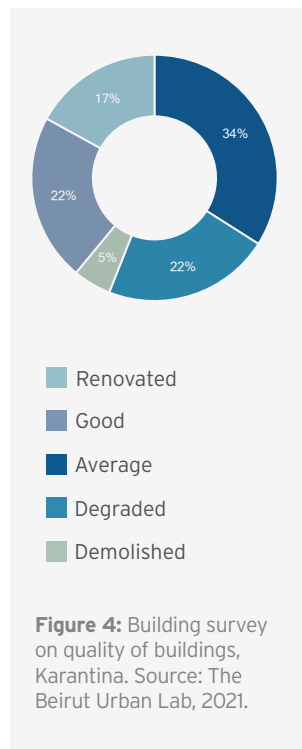
Currently, the area has 364 buildings. The building questionnaire showed that out of 252 buildings that were assessed, only 22% are in good condition, 34% are in average condition, and 22 % are degraded (Figure 4). As for abandoned buildings, 78 buildings were found to be fully abandoned (Figure 5); the majority were vacated since the end of the civil war and after the port blast. Even though there was no data in this research to explain the relationship between abandoned buildings and the environmental problems in Karantina, previous studies showed that there are several environmental risks that are associated with vacant buildings and apartments, such as pollution, health problems, property value decline, waste of resources, crime, and vagrancy (Akindele, 2013).

<sup>1</sup> A.H.,(2020-December-12), (Yehya al Said- Interviewer)

Building maintenance and upkeep are crucial since they directly impact the building's quality and lifespan. If buildings are not routinely maintained, repaired, and improved, they may reveal concrete cracks, decaying roofing, or clogged sewer pipes. Eventually, this may cause early aging of buildings and structural deterioration, resulting in full or partial building failures.

In addition to the physical deterioration, poorly maintained and abandoned structures affect the indoor quality of buildings. Abandoned buildings trigger leaks from plumbing pipes, appliances, and any chemicals or lubricants stored on-site. As a result, this leads to moisture, mold growth, toxic fumes, and repulsive smells (Akindele, 2013, Duncan, 2013, & Environmental Protection Agency, 2020). Mold grows faster in warm and moist environments—including bathrooms, basements, under carpeting, inside walls, and HVAC ducts—and can easily spread throughout a commercial, retail, or residential structure (Duncan, 2013). In Karantina, signs of decay are visible in abandoned and inhabited buildings and apartments.

Photo surveys (Figure 6 and Figure 7) show that the interior and exterior elements of the buildings in Karantina have traces of moisture, water stains, and peeled paint. This was likely caused by the wrecked and deteriorated facades, ceilings, walls, columns, leaking pipes, aging structures, window frames, roofs, and terraces. Thus, these buildings, suffering from mold growth and humidity, are considered a health threat for any inhabitant, especially children and women who spend most of their time indoors.



**Figure 5:** Mapping of abandoned buildings, Karantina. Source: The Beirut Urban Lab, 2021.





**Figure 6:** The images above were taken from inside the residential buildings, showing traces of severe mold, humidity, and dampness. Source: Abir Cheaitli, 2021.



**Figure 7:** The images above show the exterior conditions of residential buildings. Source: Abir Cheaitli, 2021.

After the port blast, the conditions of many buildings became worse, and a few buildings were in danger of collapsing (Figure 8). Damages to buildings varied according to their pre-blast status. The Beirut Municipality and UN-Habitat rapid building assessment categorized the damage as follows: total collapse, unsafe/evacuate, restricted use, and safe/minor damages<sup>2</sup> (UN-Habitat, 2020).



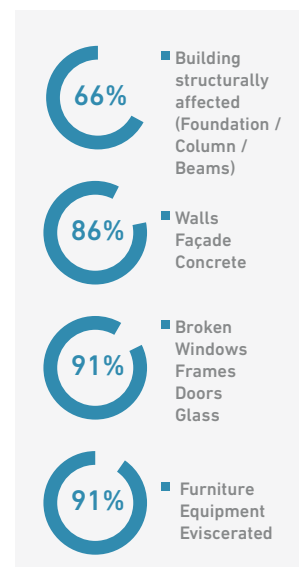
**Figure 8:** Collapsed buildings after the port blast in Karantina. Source: Abir Cheaitli, 2021.

<sup>2</sup> Building categories in the Rapid Assessment by the Municipality of Beirut and UN-Habitat (2020): Total collapse: Buildings that had experienced total structural failure. Unsafe / evacuate: Buildings that are structurally unsound and require evacuation. Restricted use: Buildings that were subjected to considerable damages in their architectural components (falling architectural elements that might affect public safety). Safe / minor damage: Buildings that were subjected to minor defects, such as broken glass. Buildings that were not affected at all also fall under this category.

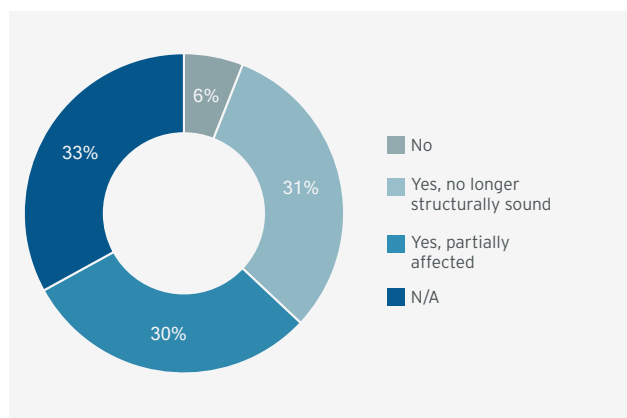


The results of the household questionnaires showed that 66% of the residents of Karantina mentioned that their buildings were structurally affected by the port blast, 86% had cracks in concrete walls, and 91% had broken windows and doors (Figure 9). When asked about any structural damage, 31% of the residents of Karantina mentioned that their houses are no longer structurally sound, and 30% said that they were partially affected (Figure 10). During the interviews, many of the residents mentioned that after the port blast, leakage and humidity increased inside the living spaces during rainy days due to the existing poor building conditions.

Repair works further deteriorated the condition of some of the buildings. As mentioned during the interviews, many residents complained about the bad quality and incomplete repair works. Figure 11 shows a resident who complained about the poor installation of the doors in her house. She added, “I do not have the financial capacity to fix the bad work done by the NGOs”<sup>3</sup>. Furthermore, the economic condition of the residents of Karantina prevented them from repairing their houses or relocating elsewhere. Even 5 months after the blast, 67 % still didn’t finish repairs (BUL, 2021). Many residents had to remain in Karantina while their houses were being painted, exposing them to hazardous volatile organic compounds<sup>4</sup> emissions which could result in health symptoms such as headaches, dizziness, nausea, trouble breathing, and exposure to mold infections that might generate allergies and irritations.



**Figure 9:** Results from the household questionnaires on the level of damage to people's home. Source: The Beirut Urban Lab, 2021.

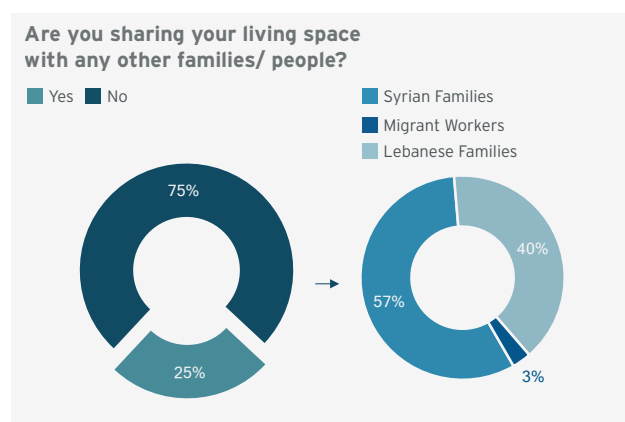


**Figure 10:** Answers to the household questionnaire regarding structural damage to buildings. Source: The Beirut Urban Lab, 2021.



**Figure 11:** The interior of a residential building showing the poor installation of a door after the port blast. Source: Abir Cheaitli, 2021.

Moreover, overcrowding worsens the indoor air quality in buildings. As mentioned in the descriptive memory report, one of the major observations is the overcrowding of households in one apartment. This was mainly observed with the Syrian families. Numbers showed that 50 Syrian households out of 197 live in shared apartments with a range of 8 to 15 individuals living in one apartment (Beirut Urban Lab, 2021) (Figure 12). These types of living arrangements are already common in the Syrian culture but were further enforced in Lebanon as a result of the economic collapse and the deteriorating financial situation of the Syrian refugees when they arrived in Lebanon after the start of the war in Syria in 2011.



**Figure 12:** Answers to the household questionnaire regarding the common use of living space between families and individuals. Source: The Beirut Urban Lab, 2021.

<sup>3</sup> KH, I. A., (2020-November-10), (Abir Cheaitli- Interviewer)

<sup>4</sup> Volatile organic compounds are emitted as gases from certain solids or liquids and include a variety of chemicals, some of which may have short- and long-term adverse health effects (Environmental Protection Agency, 2021)

Furthermore, the behavior of the landlords who allow for rent pooling to maximize economic profits has favored the practice of overcrowding. From an environmental quality perspective, low-income overcrowding households are more likely to suffer from environmental hazards and poor indoor air quality. Consequently, hazards from biological pathogens have the most serious impact on human health. According to Brebbia (2009), “Crowded conditions, poor sanitation, and inadequate water supplies, poor facilities for preparing and storing food, and inadequate hygiene, contribute to biological pathogen-induced ill health” (Brebbia, 2009, p.273).

## B. Open and Public Spaces

### B.1 Streets and Sidewalks

“ The streets are unorganized and dirty due to the neglect from the municipality<sup>5</sup>  
الشوارع غير منظمة ومتسخة من وراء إهمال من البلدية

Public spaces are a vital part of everyday urban life (Jacobs, 1961; Whyte;1980; Hillier, 1996; Campos, 1997 and 1999, Carmona, 2004; Gehl, 2010 and 2011). Streets, sidewalks, parks, and residual spaces are physical and social environments for daily practices and interactions. The descriptive memory report indicated that most of the public spaces in Karantina need major enhancements, repairs, and upgrades. The fieldwork revealed that the poor quality of the public and shared spaces is the result of government negligence, the appropriation of the public and private spaces by the army, exploitive economic land-uses like industrial activities, and common negative habits like littering.

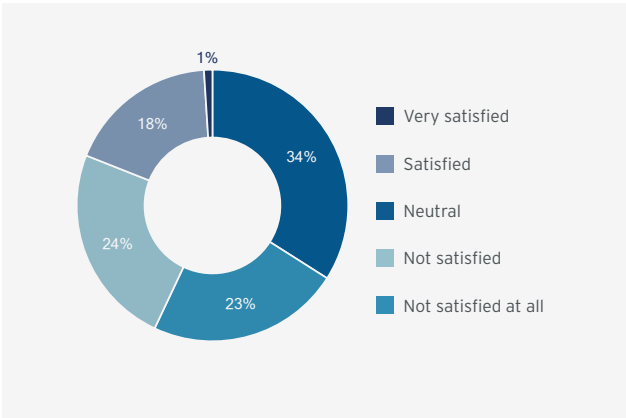
“ Kids play on the streets because they don't have another option<sup>6</sup>  
ما في مكان يلعبوا في الاولاد وبضلع بالشارع

Accordingly, the answers to the household questionnaire showed that 50% of the households in Karantina were not satisfied with the quality of the public and shared spaces and 72% avoided using these spaces in their free time (Figures 13 and 14). Furthermore, the answers also revealed that the elderly were not satisfied with the quality of the public spaces, as 42% preferred to spend their time indoors (Figure 15).

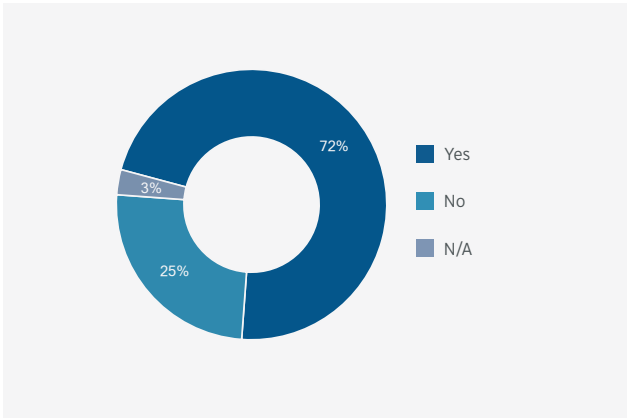
The dissatisfaction with the quality of public spaces is due to the underserved and deteriorated condition of the streets and sidewalks. The lack of proper maintenance by the Municipality of Beirut has led to the decline of these public amenities. Figures 16, 17 and 18 from the fieldwork show that Karantina lacks adequate landscape and streetscape elements such as urban furniture (benches, streetlights, and trash bins), traffic signs, speed calming measures, and pedestrian crosswalks. The residential sub-neighborhoods suffer the most as these public amenities are essential to creating livable environments.

<sup>5</sup> I.M.H., (2020-December-12), (Mohammad Amsha- Interviewer)

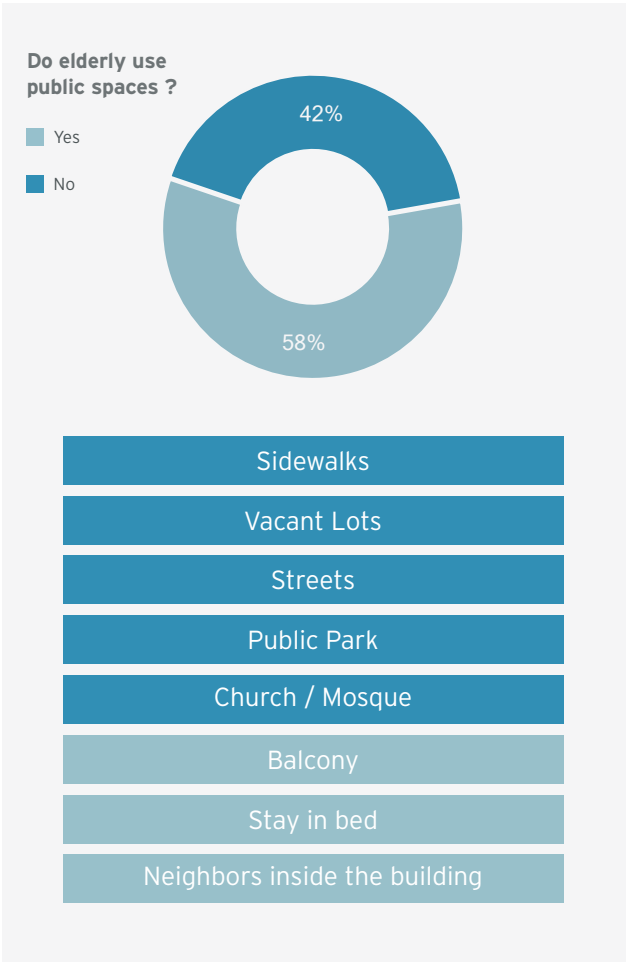
<sup>6</sup> A.S.H., (2020-December-12), (Yehya al Said- Interviewer)



**Figure 13:** Answers to the household questionnaire regarding the level of satisfaction with the quality of the public spaces. Source: The Beirut Urban Lab, 2021.



**Figure 14:** Answers to the household questionnaire regarding the amount of time people spent in public spaces. Source: The Beirut Urban Lab, 2021.



**Figure 15:** Answers to the household questionnaire regarding the elderly use of public spaces. Source: The Beirut Urban Lab, 2021.

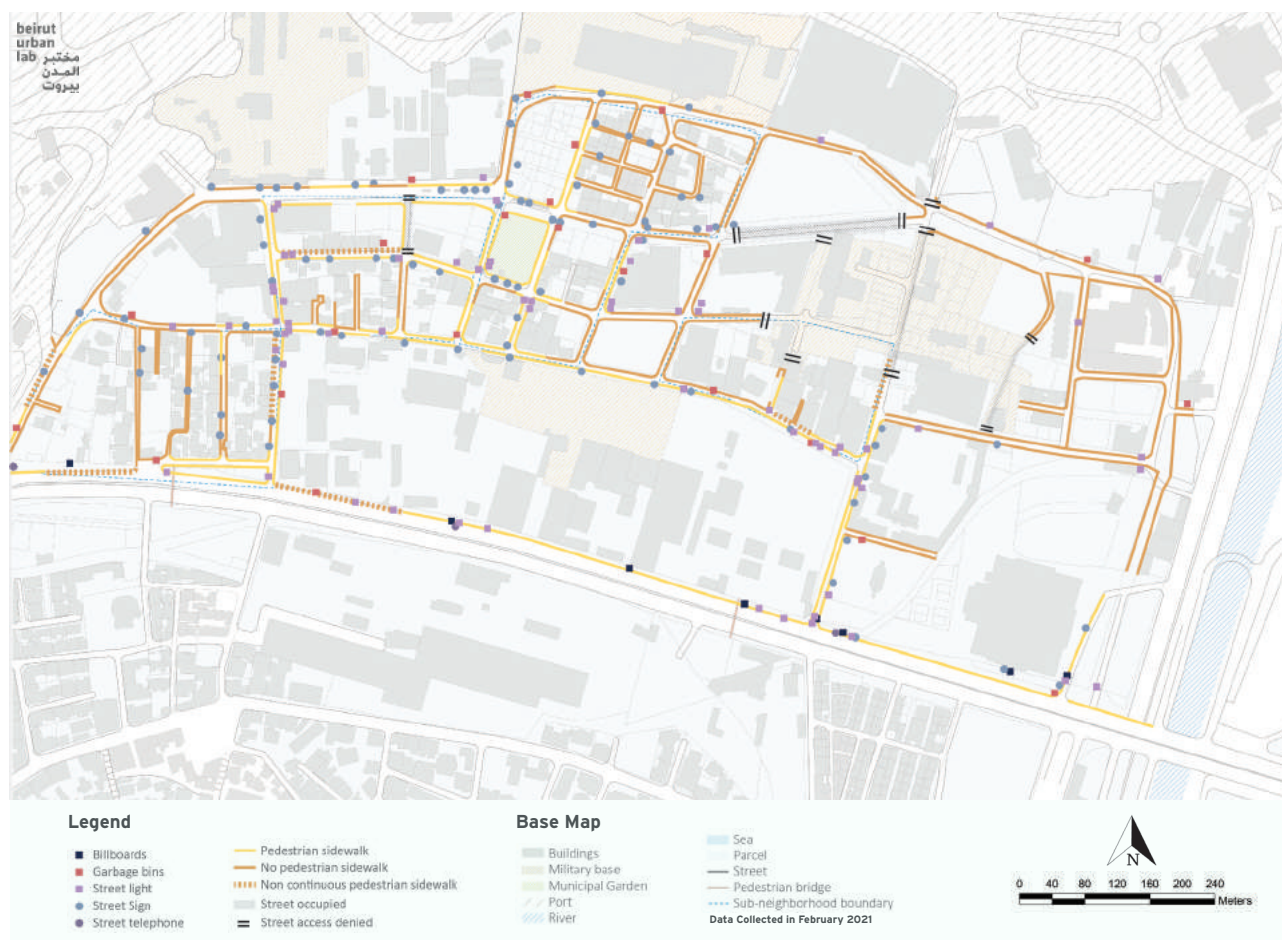


**Figure 16:** Streetscape intersection in Al-Khodor sub-neighborhood that lacks traffic and safety measurements for vehicles and people. Source: Abir Cheaitli, 2021.



**Figure 17:** The street entrance to Karantina showing an underserved streetscape with wrecked sidewalks. Source: Abir Cheaitli, 2021.





**Figure 18:** Mapping of the urban furniture and sidewalk availability in Karantina. Source: The Beirut Urban Lab, 2021.

Furthermore, accessibility and walkability in Karantina were hindered due to the militarization of some streets and sidewalks and thus, further degrading their physical conditions. Figures 19 and 20 show that the military barriers and checkpoints caused the closure of some streets and sidewalks, in the process, preventing vehicular circulation and pedestrian mobility. Encroachments have blurred the boundaries between what is public and what is private property. However, some residents and business owners claimed during the interviews that the presence of the military in Karantina provided them with a sense of security and safety; thus, bargaining their right to public access over the security provided by the military.

These problems compromised the quality of public and shared spaces that accommodated daily practices of the local communities, rendering these spaces unsafe, unwelcoming, unhealthy, and unfriendly for different user groups like children and elderly people.



**Figure 19.** Security elements and encroachments by the military. Source: Abir Cheaitli, 2021.

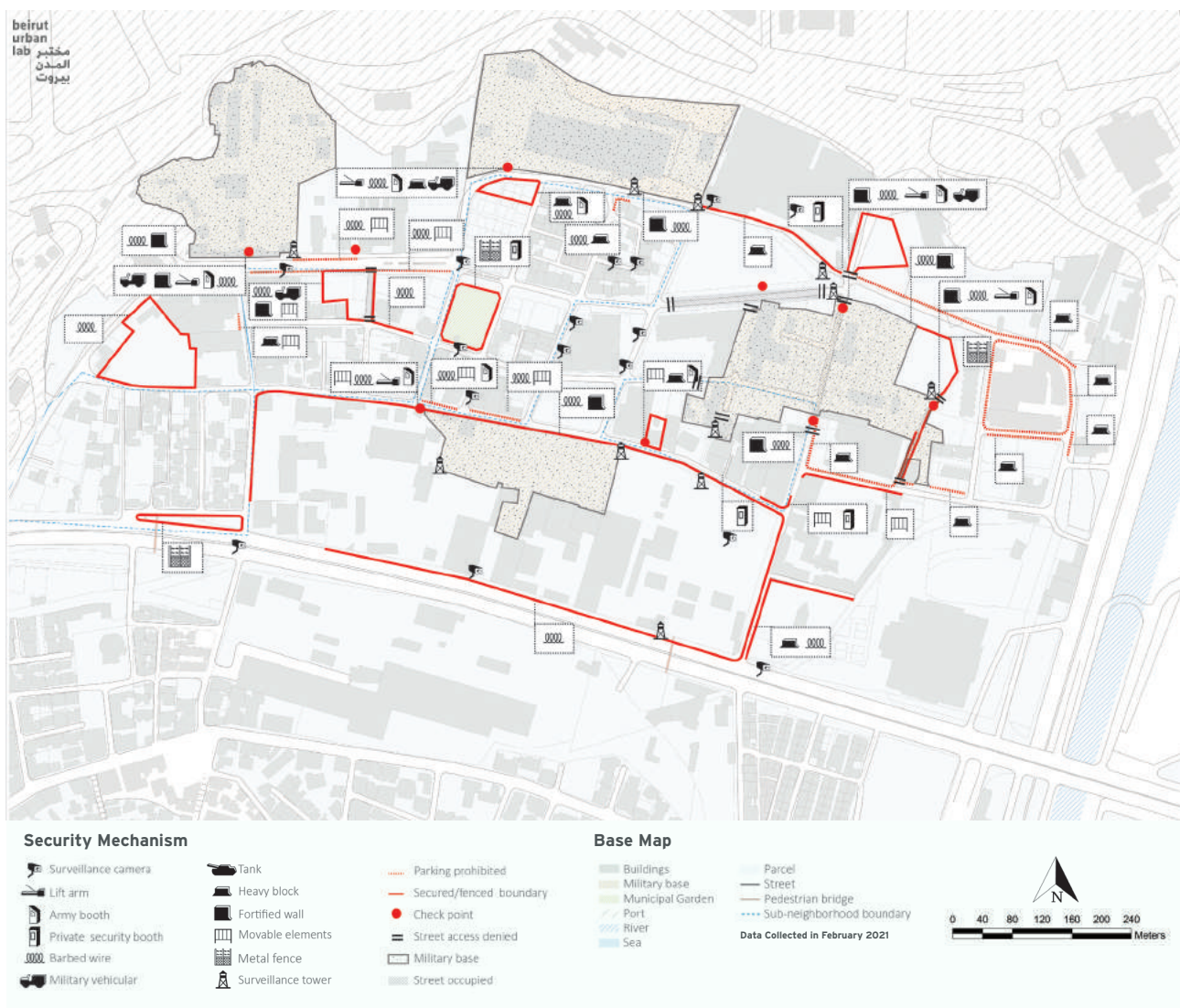


Figure 20: Mapping of the security mechanisms in Karantina. Source: The Beirut Urban Lab, 2021.

## B.2 Public Parks

“ There are no public parks for us to use, the only one in the area is always closed<sup>7</sup>  
 ما في اماكن عامة نقعد فيها غير الحديقة العامة يلي هي أصلاً بتضل مقفلة

Public spaces in Lebanon face several challenges that range from the lack of proper urban planning regulations, the high prices of land in Beirut, the lack of maintenance policies by local authorities, and the limited public awareness on the use and importance of these spaces (Nahnoo, 2018).

Karantina has two public parks that are currently closed. One is located midway between Al-Khodor and Al-Saydeh sub-neighborhoods called 'Karantina's play garden', and the other one is located at the interface between the Charles Helou Highway and Al-Saydeh sub-neighborhood called 'the Autostrad park' (Figure 21).

<sup>7</sup> B.A.I, (2021-January-26), (Yehya al Said- Interviewer)



Officials say that the closure is because of the pandemic, while the residents argue that the Municipality of Beirut is unable to maintain and operate the parks. The residents complained during the town hall meetings<sup>8</sup> that the park rangers have been using the space after the port blast to eat and socialize while limiting access to people.

This has generated a feeling of exclusion among the residents from public spaces. Around 70% of the responses gave negative explanations when asked about their feeling towards the garden. This had mainly to do with the presence of guards, the limited accessibility, and the closure of the park by the municipality (Figure 22).

In addition, many residents, especially those living in Al-Saydeh sub-neighborhood, considered the Karantina play garden remote from their surroundings. Out of the 50 households that answered yes, they go to Karantina's play garden, only 3 respondents were from Al-Saydeh, 2 from Al-Senegal, and 45 are from Al-Khodra (34 were Syrian and 11 were Lebanese). The residents of Al-Saydeh conveyed their reservation on the Karantina park during in-depth interviews claiming that the park serves more the residents of the Al-Khodra sub-neighborhood as well as the Syrian refugees living there and consider that the presence of the Arab tribes and the Syrian refugees creates unsafe environments for their kids.

Furthermore, inaccessibility to public parks is not the only issue in Karantina, the minimum green space per capita is way below the recommended area by the World Health Organization that is a 9 square-meters of accessible, safe, and functional green space. Beirut has only 0.8 sq. m per person (Nazzal & Chinder, 2018), while Karantina has 1.4 sq. m per person (Beirut Urban Lab, 2021)<sup>9</sup>.

### B.3 Heritage Landscapes

A mapping of green spaces and landscapes - including landscape heritage attributes - by The Beirut Urban Lab team (Figure 23) showed that monumental trees are distributed across Karantina either as clusters around the old slaughterhouse and military bases or as single standing trees in the residential sub-neighborhoods. Some of these trees in the residential clusters are points of encounter for social gatherings and are considered major landmarks in Karantina. During an interview, one of the residents said that "under this tree, members of the community gather, hold meetings, or just chat"<sup>10</sup>.

Another resident continued "we bring our coffee and plastic chairs and have our morning chats with neighbors under this tree"<sup>11</sup> (Figure 24). When another resident was asked what she likes the most in her sub-neighborhood she said, "a tree that is 200 years old"<sup>12</sup>. Nevertheless, many trees seemed to be left unmaintained and unprotected (Figure 25), thus increasing the risk of being cut down. The recent removal of monumental trees was noticed during a site visit in May 2021. The tree was located inside a residential house and was cut down without any previous notice or permission from the concerned authorities (Figure 26).

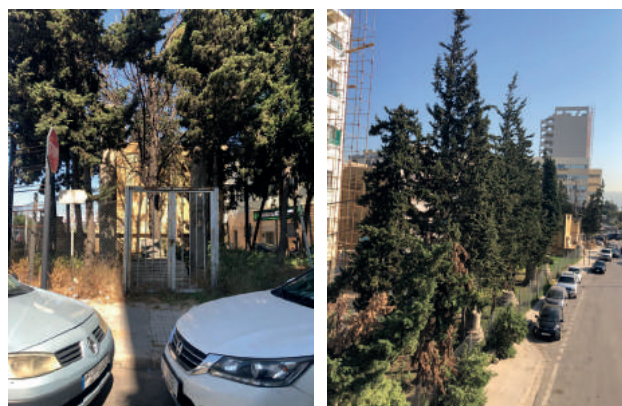


Figure 21. The Autostrad Park. Source: Abir Cheaitli, 2021.

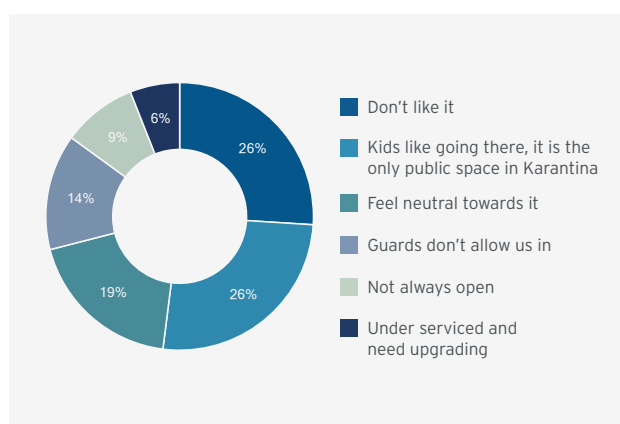


Figure 22: Answers to the household questionnaire regarding how people feel about Karantina's play garden. Source: The Beirut Urban Lab, 2021.

<sup>8</sup> The first town hall meeting on 2021-April-11, and the second town hall meeting on 2021-June-30. Both were initiated by the BUL at the Karantina play garden.

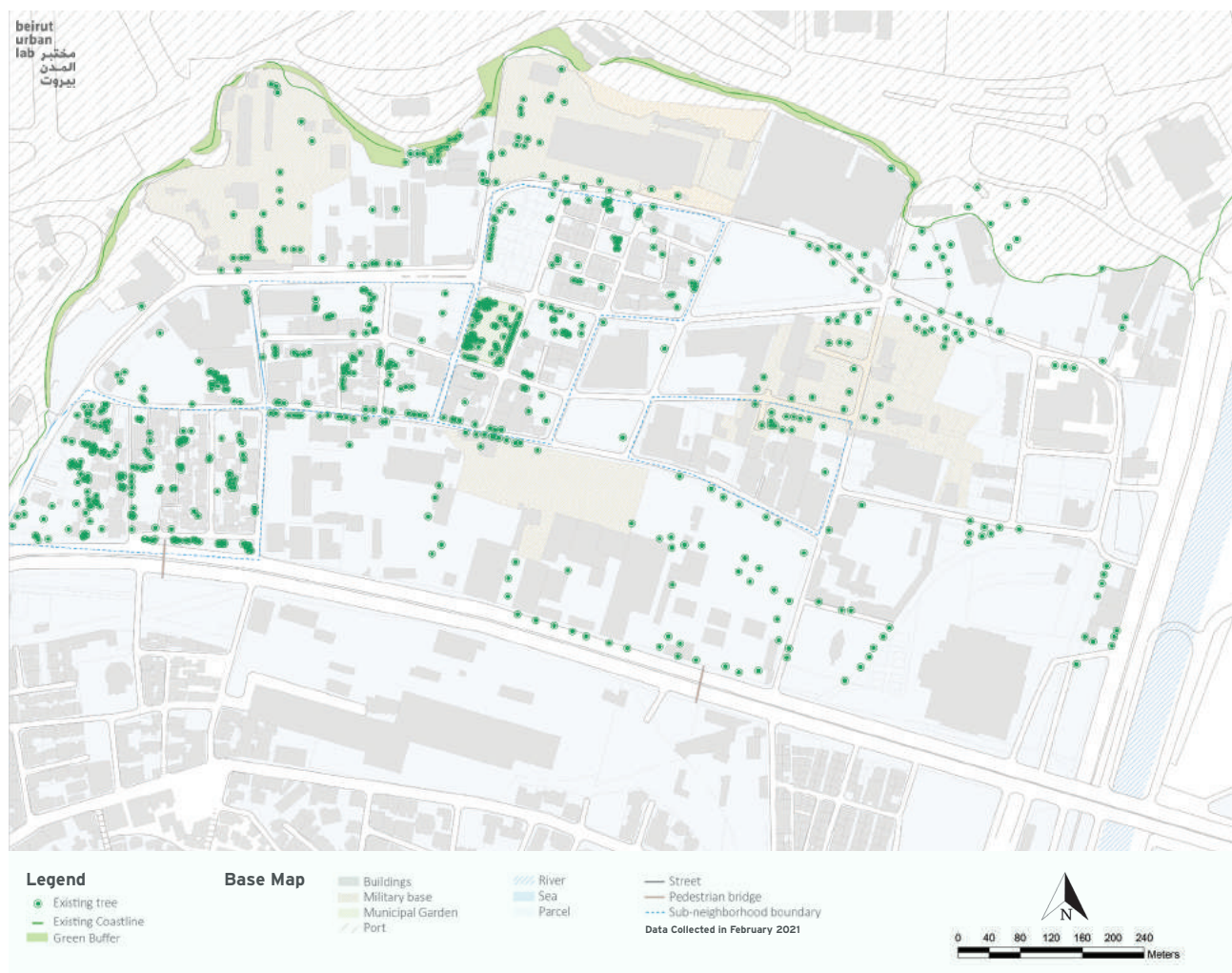
<sup>9</sup> 3,716 (total area of parks in Karantina) / 2000 (population of Karantina)

<sup>10</sup> M.M., (2020-November-10), (Abir Cheaitli- Interviewer)

<sup>11</sup> K.H.I.A., (2020-November-10), (Abir Cheaitli- Interviewer)

<sup>12</sup> B.S., (2021-January-18), (Daniel Khadra- Interviewer)





**Figure 23:** Existing open spaces and heritage trees in Karantina. Source: The Beirut Urban Lab, 2021.



**Figure 24.** A heritage tree that is considered a landmark in Al-Khodor sub-neighborhood. Source: Abir Cheaitli, 2021.



**Figure 25.** Existing heritage trees in Karantina. Source: The Beirut Urban Lab, 2021.



Unlike the rest of the surrounding neighborhoods, Karantina hosts a diversity of trees and vegetation. However, the existing greenery is not sufficient to purify the air quality given that the area accommodates different industrial and economic activities - including the slaughterhouse and waste management facilities. Studies show that the lack of greenery correlates with poor air quality, high air temperatures, and a poor urban environment (Zupancic, Westmacott, & Bulthuis, 2015)<sup>13</sup>.



**Figure 26.** Photos showing the same area before and after cutting down a monumental tree in Al-Khodor sub-neighborhood.  
Source: Abir Cheaitli, 2021.

## C. Municipal and Infrastructural Services

The development and management of infrastructures such as water, sanitation, electricity, cleanliness, in addition to the removal of waste, are all under the responsibility of the government. The service provision, refurbishment, and maintenance of infrastructure require technical and professional expertise which is not provided in Karantina by the local authorities. Residents from the three sub-neighborhoods demand more attention from the Municipality of Beirut to provide adequate infrastructure and the required maintenance. Answers to the household questionnaire showed that Al-Khodor sub-neighborhood suffers from floods during winter, some say that “it is an area that is forgotten from all services and infrastructure”<sup>14</sup>, or “the infrastructure is inadequate when winter season starts, the streets are flooded with water”<sup>15</sup>. While residents from Al-Saydeh, in addition to complaining about street floods, had concerns about the cleanliness of the streets, saying that “the streets are not clean or well maintained”<sup>16</sup> or “the municipality has fallen short of cleaning the streets and maintaining the sewage systems”.<sup>17</sup>

“ Electricity and water are always available in the area, which means here it is better than other areas in this regard<sup>18</sup>  
الكهرباء والمياه المتوفرين دائماً بالمنطقة  
يعني هنا أفضل من غير مناطق من هذه الناحية

////////////////////////////////////

<sup>14</sup> M.M.H., (2021-January-02), (Mohammad al-Satouf- Interviewer)

<sup>15</sup> W.F.J., (2021-January-31), (Yehya al Said- Interviewer)

<sup>16</sup> M.K., (2021-January-19), (Gorge Antoun Tatarian- Interviewer)

<sup>17</sup> A.O., (2021-January-12), (Gorge Antoun Tatarian- Interviewer)

<sup>18</sup> W.F.K.H., (2021-January-31), (Yehya al Said- Interviewer)



## C.1 Electricity

The Electricity of Lebanon (EDL) has a building in Karantina occupying a large area near Al-Saydeh sub-neighborhood (Figure 27). Yet before the port blast, Karantina suffered from daily cuts in electricity like any other neighborhood in Beirut with a shift of electrical rotation of 3 hours per day. However, since the explosion, the residents of Karantina have been receiving continuous electricity service from the EDL.<sup>19</sup>

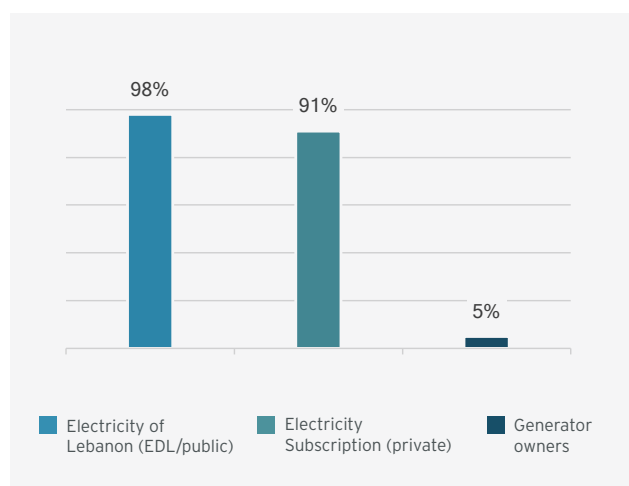
According to the answers to the household questionnaire, 91% have subscriptions to private diesel generators and 98% get electricity from EDL (Figure 28). Nevertheless, the purchase of diesel generators to replace the constant electrical shortage is common in Lebanon, and Karantina is not an exception. Karantina is expected to hold larger generators to cover all the industries in the area.

During the fieldwork, electrical generators were noticed and were installed in an unregulated manner on sidewalks, streets, buildings, residual spaces, and building entrances (Figure 29). Many of those generators are in proximity to residential buildings (Figure 30), thus exposing the residents to high levels of air pollutants.

Their stack exhaust heights were also unregulated and placed in an ad-hoc manner between the ground level and the top of the nearest building. According to Shihadeh et al. (2018), exposure to diesel exhaust is associated with “heart and lung disease, neurological and developmental disorders in children, and a variety of cancers.” Moreover, “the use of diesel generators for only 3 hours per day accounted for 38% of the daily carcinogen exposure in the Hamra area of Beirut, and it accounts for 40% of airborne Pulmonary Arterial Hypertension” (Shihadeh et al., 2018).



**Figure 27.** The EDL building in Karantina. Source: Ali Ghaddar, 2021.



**Figure 28:** Answers to the household questionnaire regarding access to electricity. Source: The Beirut Urban Lab, 2021.



**Figure 29a:** The electrical generator of the Bakalian flourmills. Source: Abir Cheaitli, 2021.

<sup>19</sup> The electrical supply in Karantina became limited to few hours per day similar to other areas in Lebanon after the economic crises intensified by the end of 2021.





**Figure 29b.** Generators that serve residential houses.  
Source: Abir Cheaitli, 2021.



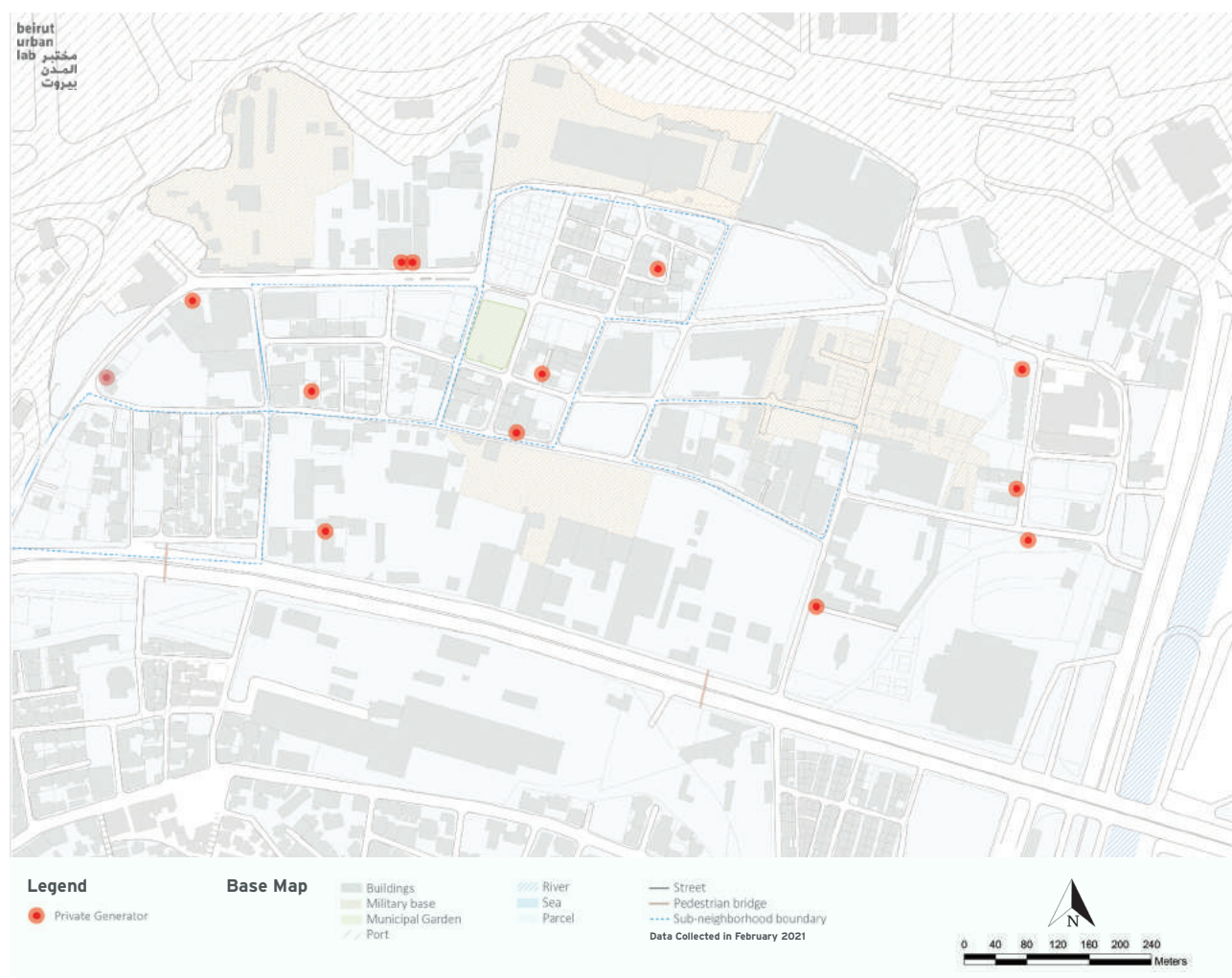
**Figure 29c.** Two private generators that are located at the top floor of a building because of the lack of space on the ground level. Source: Abir Cheaitli, 2021.



**Figure 29d.** Private generators providing electricity to warehouses that are used to store medicine for the governmental hospital. Source: Abir Cheaitli, 2021.







**Figure 30:** Mapping of private generators on public spaces, Karantina. Source: The Beirut Urban Lab, 2021.

## C.2 Public Water Systems

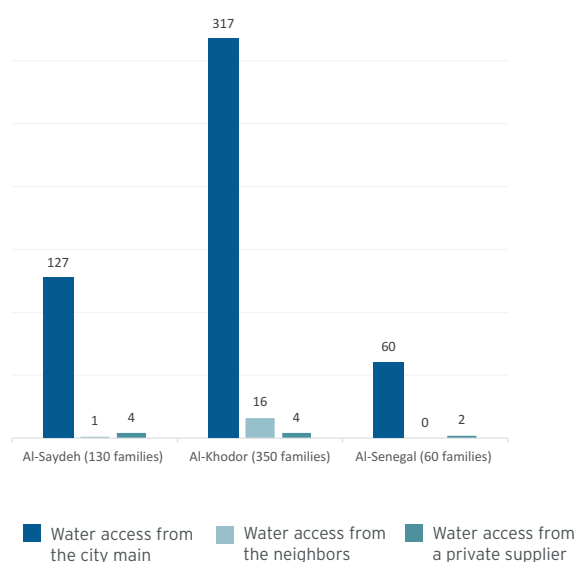
One of the few services that residents are satisfied with is water provision. 54 residents mentioned that water is available most of the time and it is one of the things that they most like about Karantina. Water is distributed in the Medawar area through two networks, one that is an old pipe grid and needs major enhancements, and the second is a new grid implemented in 2008 (Figure 31).

As claimed by the Mukhtar Francois Jalakh, the water company assigned by the authorities in Beirut has issued warnings to residents that it will stop distributing water through the old grid, and residents must submit a request to be networked to the new grid. This was problematic to some residents as the water company owe pending payments since 1975, even though most of the residents in Karantina were displaced during the civil war years (Lebanese University, 2016). Thus, till now there are apartments that are connected to the old water systems, and others informally get water through hook-ups to their neighbor's connection.

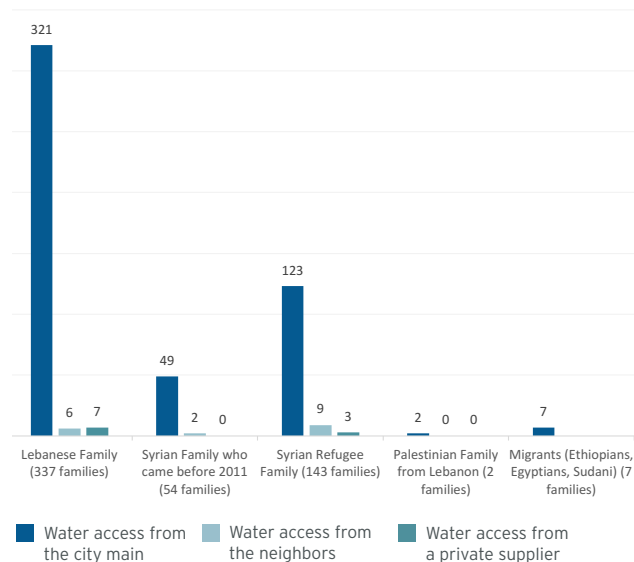
The analysis of the data showed that in Al-Khodor, 317 families out of the 350 surveyed families are connected to Beirut's main water grid, and 16 families get water informally from their neighbors. While in Al-Saydeh, 124 out of the 130 surveyed families are connected to Beirut's main water grid, and 1 family gets water from its neighbors. Informalities were mostly among Syrian refugee families, whereby 6% of the families are hooked to their neighbors in comparison to the Lebanese families which is 1% (Figures 32a and 32b).



**Figure 31:** Water grid in Karantina. Source: The Beirut Urban Lab, 2021.



**Figures 32a.** Answers to the household questionnaire regarding access to water services by sub-neighborhood. Source: The Beirut Urban Lab, 2021.



**Figures 32b.** Answers to the household questionnaire regarding access to water services by nationality. Source: The Beirut Urban Lab, 2021.



### C.3 Rain and Wastewater Management

“ Most of the streets flood on rainy days<sup>20</sup>  
الطرقات اغلبا بطوف بالمي وقت تشتي الدنيي

In the absence of a drainage system for collecting and directing rainwater in Medawar, the falling water during the winter seasons flows through a natural pathway that heads towards the sea. However, there is an old pipeline in Burj Hamoud that collects a portion of the Achrafieh rainwater and channels it into the Beirut River, but it requires major enhancements and maintenance (Lebanese University, 2016).

During fieldwork in January 2021, a rainy season in Lebanon, puddles of water on public spaces were noticed especially on streets (Figure 33). The interviews with the residents revealed that during the winter season, the streets become unsafe to drive on since they are flooded with water, and people with vehicles need to wait for the water to dry to use the streets.

As for wastewater, Karantina is connected to an old and degraded sewage system that channels the wastewater into the Beirut River without any treatment (Lebanese University, 2016) (Figure 34). Thus, sewage from residential buildings, industrial and commercial buildings, and other facilities such as the hospital end up in the concrete river, exposing Karantina and its residents to various environmental hazards.



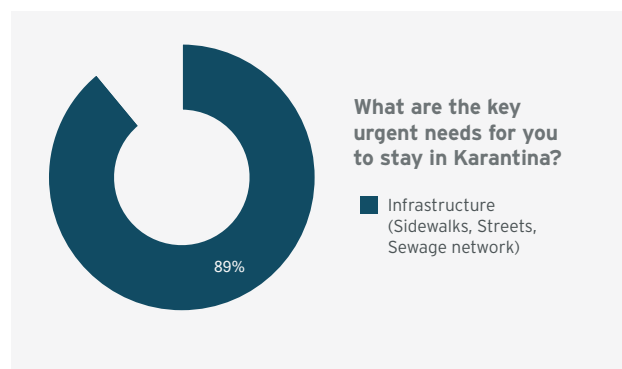
**Figure 33.** Wastewater discharged on streets and vacant lots. Source: Abir Cheaitli, 2021.

<sup>20</sup> A.H., (2021-January -01), (Yehya al Said- Interviewer)



**Figure 34:** Wastewater pipeline. Source: The Beirut Urban Lab, 2021.

During the thematic group discussions, specifically on the quality of the urban environment<sup>21</sup>, the residents mentioned that they collectively take initiatives to open and clean clogged storm sewer inlets at their own expense in fear of potential flooding. On other streets where inlets are not cleaned and opened, wastewater flood on the surface of streets and open spaces. The residents of Karantina are aware of the environmental risks of wastewater. The answers to the household questionnaire regarding the major needs in Karantina showed that approximately 89% of respondents emphasized the necessity of a proper sewage infrastructure (Figure 35).



**Figure 35:** Answers to the household questionnaire regarding the infrastructural needs of people. Source: The Beirut Urban Lab, 2021.

Wastewater contains hazardous biological contaminants, chemical compounds, and gases that may have direct impact on the surrounding environmental air quality. In addition, hazardous sources from floods are dangerous to the health, hygiene, and comfort of households since they can infiltrate the human ecosystem (World Health Organisation, 2012).

<sup>21</sup> Thematic group discussion on the quality of the urban environment was held on 2021-May-21.



## C.4 Municipal Solid Waste Management

The descriptive memory report mentioned that the streets of Karantina are partially clean; every three days Ramco garbage collectors clean the streets. Nevertheless, during the one-to-one interviews, the residents complained about littering and insufficient and improperly placed garbage bins. Many criticized the cleanliness of public spaces and the accumulation of garbage on the streets, sidewalks, and leftover spaces. They mentioned that some of the residents and businesses discharge garbage into these spaces without taking into consideration the public good (Figure 36).

In some spots there is an attempt to encourage the habit of recycling solid waste among residents by placing sorting bins, in other locations this initiative is absent. (Figure 37). However, continued littering and lack of clean public spaces is affecting the quality of the public realm. It can also cause air, land, and water pollution. In addition, poor collection and disposal of urban solid waste can cause flooding by clogging sewer openings.



**Figure 36.** Littering on residual spaces. Source: Abir Cheaitli, 2021.



**Figure 37.** Waste bins in Karantina. Source: Abir Cheaitli, 2021.

“ We are living in a polluted area after the blast<sup>22</sup>  
 في تلوث عايشين في خلق من ورا الانفجار

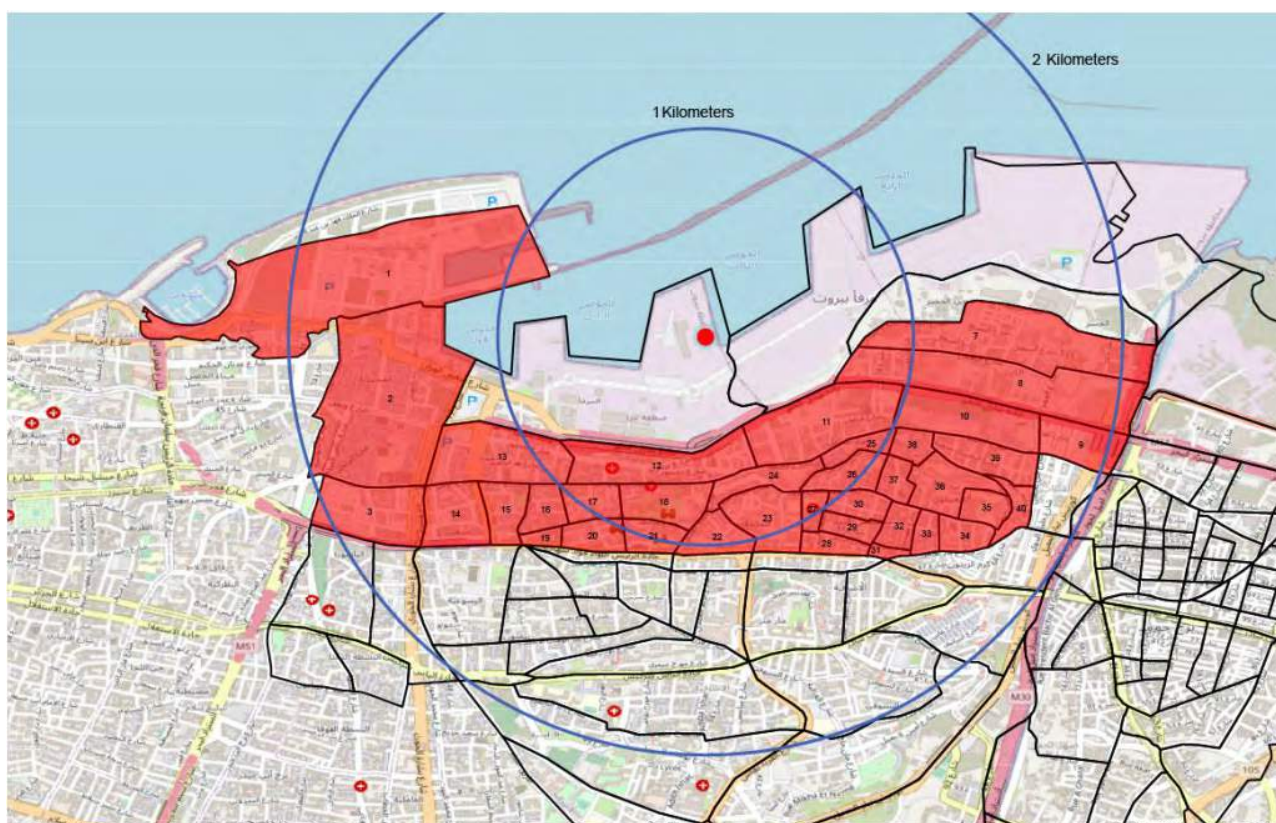
Furthermore, fieldwork and informal conversations showed that the construction and demolition waste (C&DW) from the port blast was disposed in the temporary slaughterhouse and current landfill in Karantina (Figure 38). According to the UNDP's assessment (2020), the volume of the C&DW from the port blast itself and the potential demolition activities in Beirut (excluding the clearance of the Port of Beirut Port) was estimated at 657,386 cubic meters in the red zones (Figure 39).



**Figure 38.** C&DW from the port blast disposed in the new temporary slaughterhouse. Source: Batoul Yassine, 2021.

<sup>22</sup> R.H., (2021-January -18), (Micheal Khadrah- Interviewer)

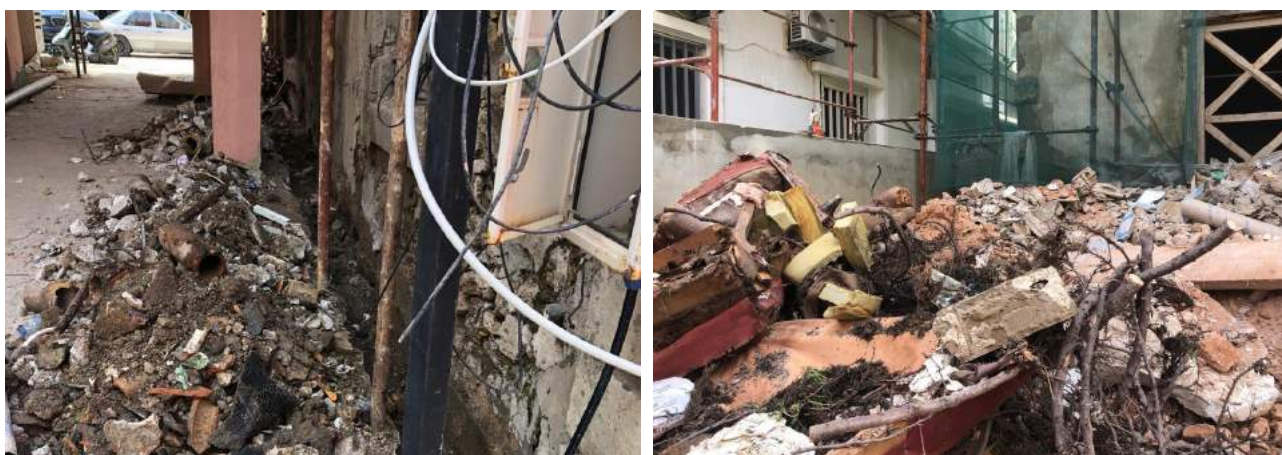




**Figure 39:** C&DW assessment in the red zones. Source: UNDP Lebanon, 2020.

In Karantina, piles of rubble from the port blast and the reconstruction works were observed in multiple locations near residential buildings (Figure 40). The debris of the destroyed and damaged structures poses additional environmental risks to the public health and livability in the area. The UNDP (2020) report explains that asbestos<sup>23</sup>, known to have a carcinogen risk, was found in damaged structures and rubble piles that were not safely disposed of. (UNDP Lebanon, 2020)

The residents expressed their concerns about the debris even though there has been an initiative co-lunched by UN-Habitat directly after the blast, to properly manage the contaminated post-disaster debris. The proposals aim to enhance the activities of sorting, storing, and crushing operations in a safe, fenced, and contained environment, convert the C&DW into multipurpose material, rebuild quarries and rehabilitate mountains. However, residents believe that the reason C&DW from the port blast was dumped in the new slaughterhouse was to keep it closed.



**Figure 40.** Construction and demolition waste from the port blast. Source: Abir Cheaitli, 2021.

<sup>23</sup> Asbestos is commonly found in corrugated cement roofs and pipes.



## D. Impact of Surroundings and Internal Land-use Practices

“ Pollutants are being emitted from the many factories in the area<sup>24</sup>

يوجد تلوث صادر من كثرة المعامل في المنطقة

“ The sounds coming from the factories and the trucks is very bothering<sup>25</sup>

يزعجني الضجيج الصادر من المعامل والشاحنات



Air quality, acoustic comfort, visual, and thermal comfort are considered as essential parameters to assess environmental quality (U.S. Green Building Council, 2014). Many hazards that affect the environmental quality are the result of land-use practices that could be inside the designated area or around its peripheries. Common hazards could be chemical pollutants such as lead, lethal wastes, and ambient air pollution, and common physical hazards could be accidental fires and poisonings, floods, or traffic accidents (U.S. Environmental Protection Agency, 2021).

As mentioned in the neighborhood profile, Karantina's geographical location and natural edges created harsh borders (the highway, the port, and Beirut River) that resulted not only in its isolation from the rest of Beirut but also in the degradation of the quality of the urban environment and its parameters. Additionally, the closed slaughterhouse, the fish market, the waste management facility, and the temporary garbage landfill have played a major role in projecting pollutants and degrading the quality of the urban environment. They are posing continuous threats to the physical, social, and environmental characteristics of Karantina. When residents were asked to name three things that they most dislike about their urban environment in Karantina, most of the answers revolved around environmental factors. Figure 41 shows that the residents disliked the degradation of the infrastructure and the smells that are generated from business activities, the port, the circulation of trucks, and the waste management facility. Many of the land-uses also contribute to levels noise pollution, especially from ships, trucks, steel modeling, and other industrial activities that negatively impact the residents.

During the second town-hall meeting, The Beirut Urban Lab research team presented a preliminary vision for the community. Most of the residents insisted that the vision should be reworked to include healthy environments as one of its main premises. Thus, the vision was rewritten to incorporate parameters for health and well-being.

<sup>24</sup> Z.H., (2020-December-24), (Mohammad Amsha- Interviewer)  
<sup>25</sup> K.H.R., (2020-december-24), (Mohammad Amsha- Interviewer)



Qualities of the urban environment	Severe Problem	Serious Problem	Minor Problem	Total
Underserviced and decaying infrastructure	69	55	50	174
Floods during winter	13	12	33	58
Cleanliness of public spaces (streets, sidewalks, residual spaces)	25	25	14	64
Pollution in general (air, water)	19	36	7	62
Smells (port, landfill, river)	79	56	30	165
Noises (port/industries/ everyday social practices)	50	42	27	119
Waste bins cleanliness and location	30	18	4	52
Presence of the waste management facility in the area	76	29	17	122
Presence of the landfill in the are	16	7	2	25
Lack of public spaces	7	26	17	50
Truck activities	25	39	42	106
Stray dogs	28	36	25	89

**Figure 41.** Answers to the household questionnaire regarding the elements of the urban environment that the residents dislike the most. Source: The Beirut Urban Lab, 2021.

## D.1 Slaughterhouse

The presence of slaughterhouses in Medawar was recorded as far as 1862 according to the Mansell Map (Figure 42). In the 1910s, slaughterhouses began to cluster more within the current boundaries of Al-Khodor in Karantina. The practice became an important economic asset for the area and a part of its heritage that is deeply rooted in the community. In 1964-1965, a German company built a formal slaughterhouse facility that operated under international health guidelines (The Daily Star, 2014). The facility was closed during the civil war (1975-1992) and reopened in its current location in 1994. Since 2014, the slaughterhouse has been closed.



**Figure 42:** Map of Medawar by A.L. Mansell which dates to the 1862 showing the first location of slaughterhouse in red. Source: A.L. Mansell. Beirut: The Ancient Berytus. 1862. Map. The National Archives, Kew.

The slaughterhouse posed many risks to the residents of Karantina for a long time as a result of failing to meet health requirements and hygienic standards. Moreover, the unprofessional treatment and slaughter of animals exposed employees to a high range of pollutants such as wastewater contaminants and improper animal waste disposal (Th Daily Star, 2014).

As a result, in 2014, the Ministry of Public Health took the decision to permanently shut down the slaughterhouse. Nevertheless, the former governor of Beirut promised the residents that another location inside Karantina would be selected for the new slaughterhouse which would be administered under strict regulations. The new warehouse was never opened because of the port blast despite being in the process of getting refurbished (Figure 43).





Figure 43. The temporary slaughterhouse. Source: Abir Cheaitli, 2021.

Although many residents and workers were against the closure of the old slaughterhouse, others supported the decision; the latter viewed the slaughterhouse as a risk to their lives and the health of their children. In 2015, the minister of health filed a lawsuit that claimed, “19 workers at the Beirut slaughterhouse had died of cancer over seven years. “It is extremely worrying as the total number of slaughterhouse employees was only 70” (eco-centra, WordPress, 2015). Due to the lack of research, health problems in Karantina cannot solely be attributed to the slaughterhouse because of many polluted land-use activities and the dilapidated built fabric as mentioned previously in this report.

## D.2 Municipal Waste Management Facility and Landfill

“ Sukleen is the only catastrophe<sup>26</sup>  
سوكلين الكارثة الوحيدة

“ Unpleasant odor is being emitted from the landfill that  
affects our health and the health of our kids<sup>27</sup>  
في روائح بتطلع من المكب بتأثر على صحتنا وصحة ولادنا

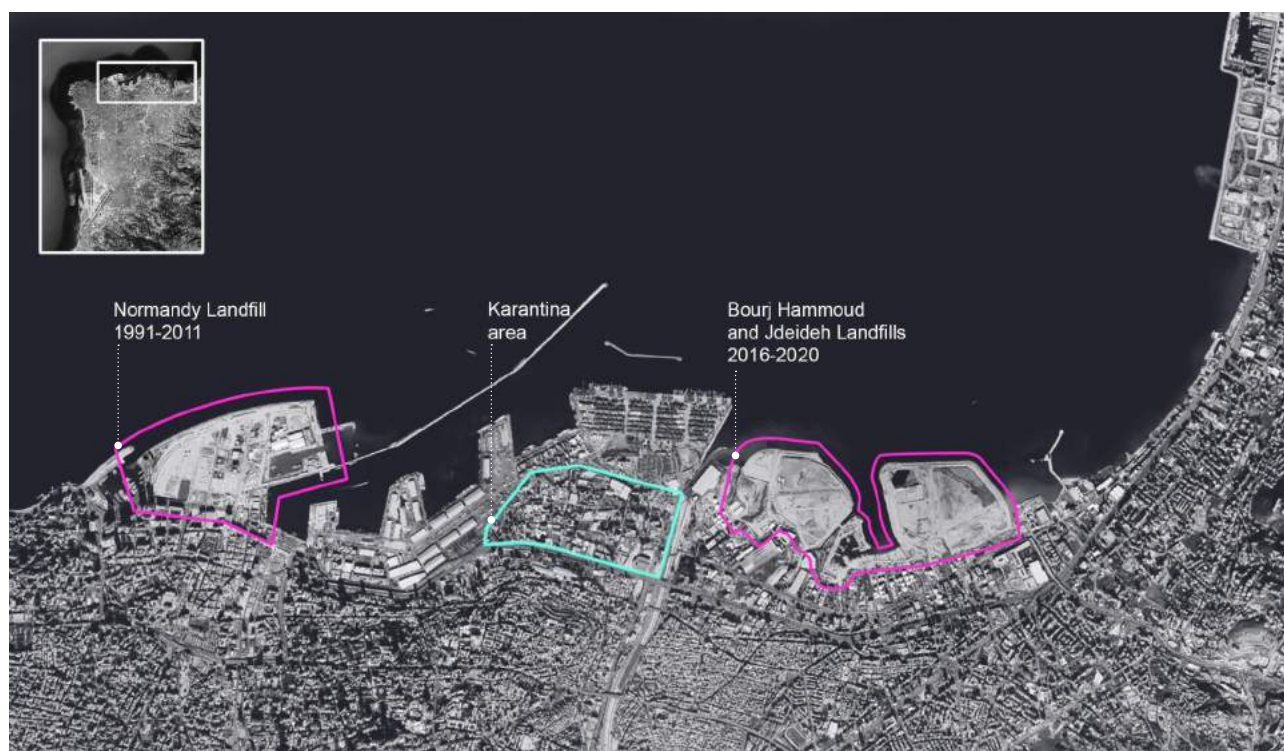


In addition to the waste landfill in Bourj Hammoud that poses major impacts on the environmental air quality of coastal Beirut, another temporary garbage landfill is found in Karantina. The temporary landfill threatens the quality of the urban environment (Figure 44).

In 2015, after officials closed Lebanon's primary landfill in Naameh, the governor of Beirut instructed the contractor SUKLEEN to begin storing garbage in Karantina on a site across the Bakalian Flour Mill (Figures 45 and 46) (Issa, 2016). The garbage landfill in Karantina was supposed to be a temporary solution to the 2015 trash crisis. The governor of Beirut promised that the trash would be removed once an alternative location was found, but until now, the landfill is still open.

<sup>26</sup> N.M.KH., (2020-December-30, (Mohammad Awad al Sattouf-Interviewer)

<sup>27</sup> B.Z.S., (2021-January-12), (Yehya al Said- Interviewer)



**Figure 44:** Bourj Hammoud and Jdeideh municipal solid waste landfills. Source: <https://massispost.com/>.



**Figure 45.** Karantina's waste landfill in 2016. Source: [www.voanews.com](http://www.voanews.com), 2016.



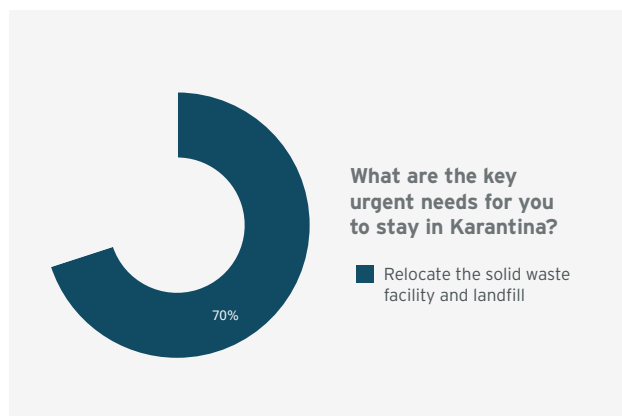
**Figure 46.** Karantina's waste landfill in 2021. Source: Abir Cheaitli, 2021.

SUKLEEN was responsible for collecting and treating waste at Karantina and Amrousieh since 1994, whereas SUKOMI was responsible for the treatment and disposal of waste in Naahmeh (Azzi, 2017). During the thematic group discussion on the quality of the urban environment, it was mentioned that the emitted smells were considered tolerable when SUKLEEN oversaw the waste facility. However, after Ramco took charge of waste collection in 2018, foul smells covered the whole area of Karantina with residents describing it as unbearable.

The port blast caused serious damage to the waste management facility (Figure 47). Its roof and walls collapsed and most of the machines were damaged. The facility is currently not operating. Garbage is collected and piled in the designated landfill. As a result, unsorted waste has been accumulating without any proper treatment. The answers to the household questionnaire revealed that around 165 households complained about the repugnant odor from the waste management facility and the landfill (Figure 41). In addition, 70% of the residents have demanded that the temporary garbage landfill be relocated due to the strong smells that Karantina is suffering from, especially at night (Figure 48).



**Figure 47.** An interior view of the waste management facility after the port blast. Source: Ali Ghaddar, 2021.



**Figure 48:** Answers to the household questionnaire regarding the urgent needs of the residents concerning the relocation of the waste facility and landfill. Source: The Beirut Urban Lab, 2021.

They noted that each night smoke comes out of the landfill, indicating that the waste is being burnt instead of being treated. They were highly worried about the constant inhalation of smoke from the open burning of garbage and its consequences on their health and well-being of their children. This was especially evident during both town hall meetings (11 April and 30 June).

Experts assert that any landfill that does not comply with the international best practices and does not carry out an Environmental Impact Assessment may impose dangerous health risks on nearby residents. In 2017, Human Rights Watch studied the health risks from increasing open waste burning instead of a holistic and effective waste management strategy in Beirut. They stated that “residents in the areas where waste was being dumped and burned reported health problems including chronic obstructive pulmonary disease, coughing, throat irritation, skin conditions, and asthma. Air pollution from open waste burning has been linked to heart disease and emphysema and can expose people to carcinogenic compounds” (MassisPost, 2020).

“ There are a lot of stray dogs during the day and night and their barking doesn't let us sleep all night<sup>28</sup>  
 في كلاب داشرة أثناء النهار والليل وما بخلونا نام بالليل من كثرة أصواتن

On another note, while conducting fieldwork for the household questionnaire, many residents mentioned that recently, and especially after the port blast, stray dogs were spotted in Karantina. This led to complaints from the residents that they are not able to sleep at night because of the barking. They also mentioned that there has been an increase in the number of mosquitos in Karantina in the wake of the port blast. Research has shown that there is a correlation between the increase in the number of stray dogs and mosquitos in littered public spaces or landfills with inefficient and inadequate waste management operations (Wright, Nicolette, et al., 2021). Open garbage landfills serve as a food source for free-roaming dogs, and they also serve as habitats for “the proliferation of disease-carrying vectors such as flies, mosquitoes, and rodents that are directly or indirectly may have an adverse effect on public health” (Nor Faiza, et al., 2019).

Although Lebanon lacks mandatory recycling law, it has a national waste strategy for garbage collection and disposal not yet implemented. Therefore, the residents are worried that the current landfill in Karantina will remain open for a long period.

28 I.M.H.H., (2020-December-30), (Mohammad Amsha- Interviewer)



### D.3 The Port of Beirut

“ After the explosion, I do not feel safe living near the port<sup>29</sup>  
وجود المرفأ بعد الانفجار بطل عم يطمني

The port used to carry 60% of Lebanon's imports and store medicine and food. It was considered as an essential economic artery with huge transportation and logistics services for Lebanon and the Gulf (Figure 49). The modern port dates back to the 1880s and back then, it contributed to the development of Beirut into a commercial and economic center. In the 20th century, “Beirut became a key seaport serving the oil trade and related passenger and cargo movements in the Levant and the Gulf” (Fregonese, 2020). Nevertheless, the proximity of the port to Karantina negatively affects the quality of life of the residents, endangers their health, and imposes life-threatening risks.



Figure 49. Port of Beirut. Source: Ali Ghaddar, 2021.

Experts claim that ports pose public risks from the on-port property and off-port property accidents. It is known that “port terminals, freight transportation corridors, intermodal facilities, trans-loading facilities, container inspection facilities, container storage yards, warehouses, distributions centers, marine fuel, oil, and gas storage terminals, and hazardous cargo, pose significant public safety hazard risks” (Envhealthcenters, 2012, p.6).

A major example that is relevant to Karantina is the 2020 port blast that was equivalent to a 3.5 magnitude earthquake and believed to be caused by 2,750 tons of ammonium nitrate stored in the warehouse at the port (USA Today, 2020). Since the buildings in Karantina do not follow any safety standards, and with their proximity to the port, the explosion caused catastrophic effects. Regulations in the zoning plan for Beirut do not specify any adequate public health and safety measurements to protect residents from the risks of an explosion.

On the other hand, one-to-one interviews with the residents revealed that the economic activities, practices, and transportation systems in the port are in constant operation. Therefore, ships may be an additional source of pollution to the several sources in the area (Envhealthcenters, 2012). However, the residents of Karantina were more concerned with the truck activities.

“ The streets are filled with trucks, they cause accidents, air pollution and a lot of noise<sup>30</sup>  
كميونات البور ملئة بل شوارع وتسبب بحوادث سير

“ A large number of trucks leads to pollution, noise, and traffic in the area<sup>31</sup>  
كثرة الشاحنات في المنطقة تؤدي إلى تلوث و ضجيج وعجقة

29 E.M., (2021-Janaury-07), (Yehya al Said-Interviewer)

30 A.B.H., (2020-December-30), (Mohammad Awad- Interviewer)

31 KH.W., (2020-December-29), (Mohammad Amsha- Interviewer)

During the thematic group discussions on the spatial, economic, and social connectivity and the quality of the urban environment, many residents mentioned that they are disturbed by the sounds of horns in Karantina. Moreover, trucks contribute to the deterioration of the physical and environmental quality, and as well as pose a threat to the children who frequently play in the streets.

The shortage of designated parking spaces for transit trucks in the port and surrounding areas led truck drivers to park their vehicles in the shared spaces in the neighborhood (sidewalks, streets, and residual spaces) and along the Charles Helou Highway, causing traffic and appropriation of public space (Figures 50, 51, and 52)



**Figure 50.** Trucks parking on an empty lot.  
Source: Abir Cheaitli, 2021.



**Figure 51.** A driver waiting beside his truck for the next operation.  
Source: Ali Ghaddar, 2021.

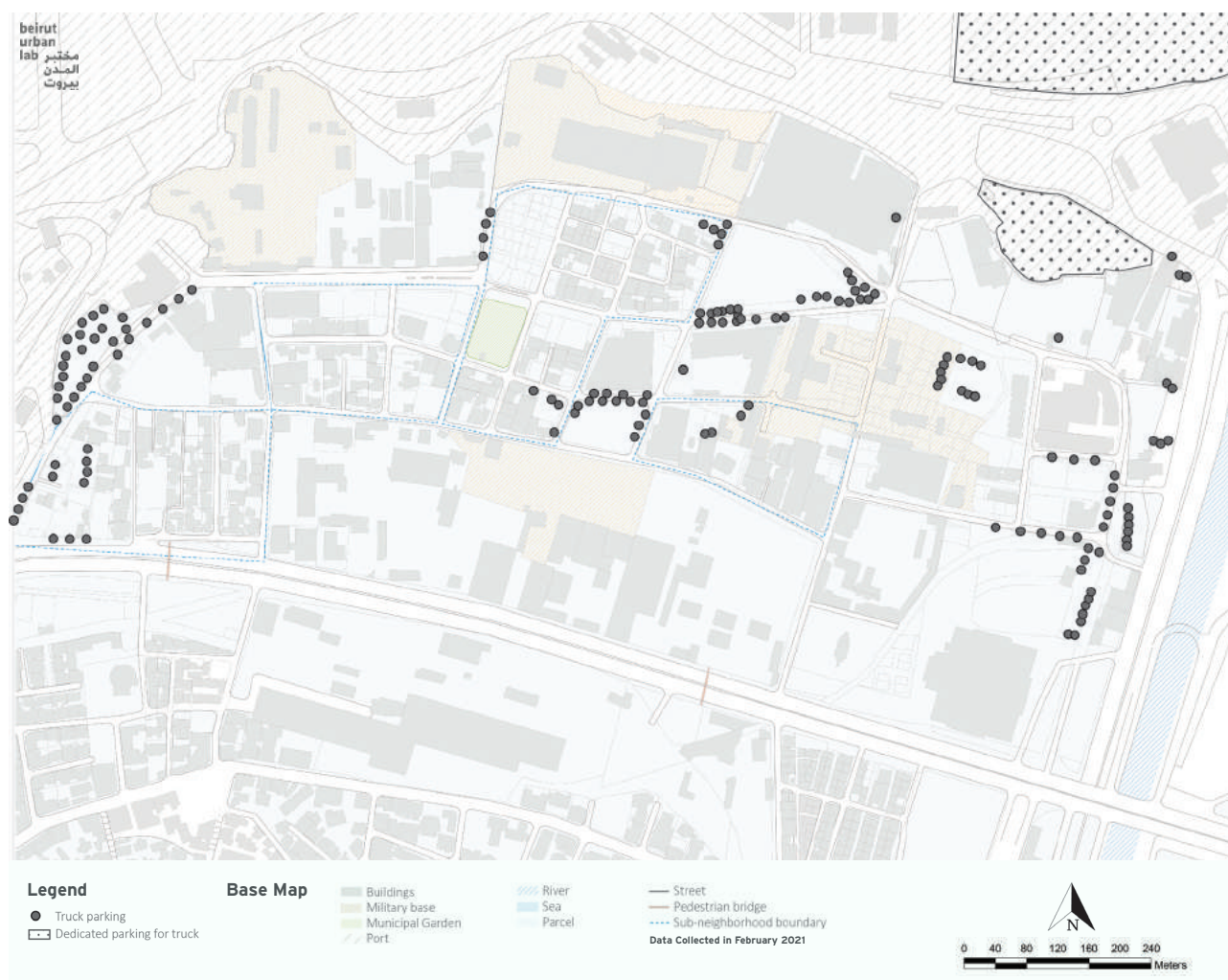


Karantina is home to several warehouses which are used for storage and distribution. These are magnets for cargo trucks that transport goods all over Lebanon. Most of the routes that the truck drivers use to supply the port and the warehouse are within the residential boundaries of Karantina. Based on the thematic group discussions on the quality of the urban environment, trucks use inner routes within the residential sub-neighborhoods to operate during non-working hours and avoid public officials. This resulted in damage to private and public property, the creation of potholes, and the removal of asphalt from the streets, posing a threat to children and elderly.

During the discussion, a resident mentioned that “trucks that enter from and to the port decide to pass inside this area while they can pass from the outer roads. They are closing in the traffic in the morning, damaging our cars, and their smoke is causing a lot of pollution, especially that they pass near houses”<sup>32</sup>. Another resident from Al-Saydeh mentioned that a group of residents including him tried to prevent trucks from using inner streets by placing cement blocks that only allow access to small vehicles. However, the truck drivers later removed the cement blocks.

<sup>32</sup> A resident in Al-Saydeh mentioned during the thematic group discussion on Quality of the Urban Environment (2021-May-21)





**Figure 52:** Mapping of truck parking in Karatnina. Source: The Beirut Urban Lab, 2021.

Regarding the environmental concerns, many residents complained that a heavy smell of diesel accompanies the constant movement of trucks, and the smell reaches inside the buildings (Figure 53). Another practice that resulted in emitting heavy smells is the transport and loading of livestock that occurs twice a month in the port (Figure 54). Many residents from Al-Khodor mentioned in the answers to the household questionnaire that the smell of animals is toxic and strong. Houses are not properly equipped to seal outdoor smells or pollutants; thus, the residents must endure the high level of discomfort.

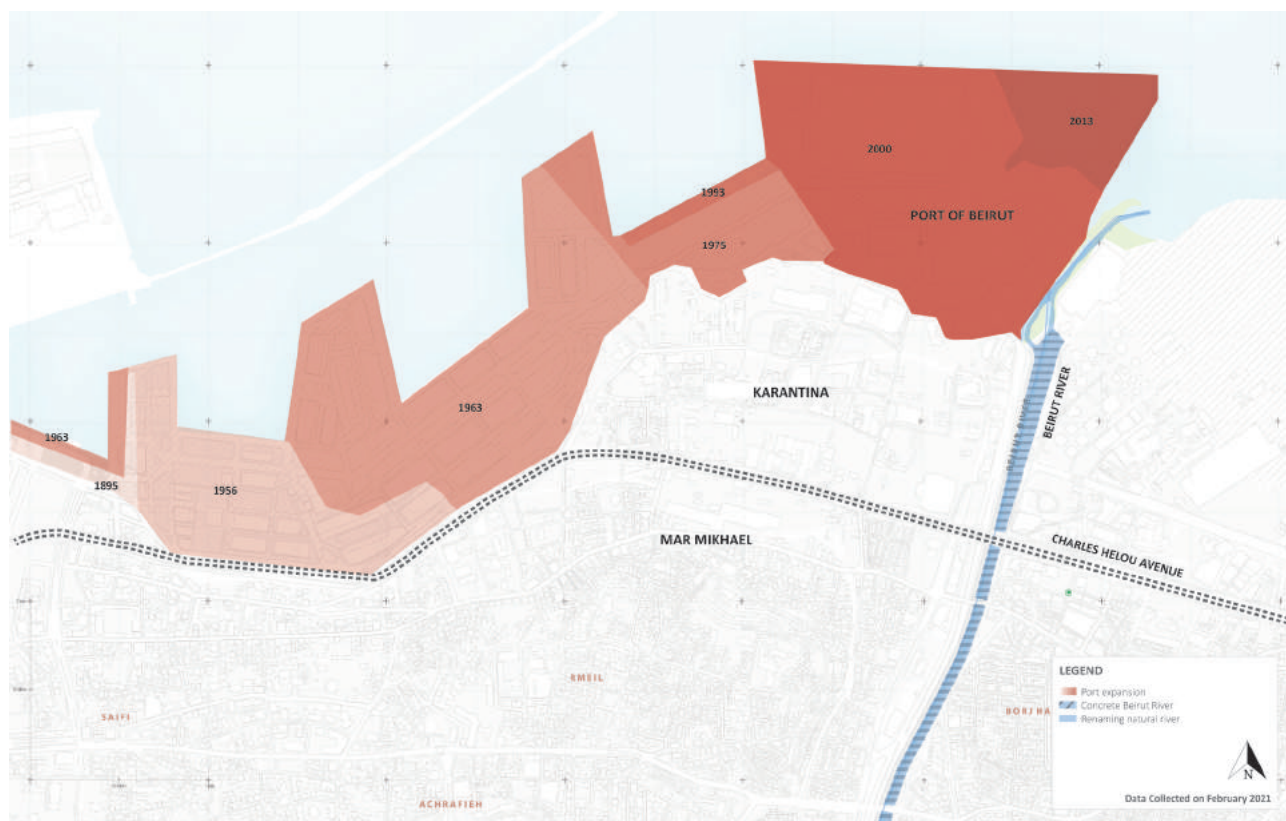


**Figure 53.** Daily emissions from the load of truck in Karatnina. Source: Abir Cheaitli, 2021.



**Figure 54.** Truck cargo with cows coming from the port. Source: Ali Ghaddar, 2021.





**Figure 55:** The expansion of the port over 40 years around Karantina. Source: The Beirut Urban Lab, 2021.

The port also affected the aesthetic and natural view from Karantina. The residents recalled how their houses used to overlook the Mediterranean Sea. The coastline used to operate as a public amenity and public space for leisure, where residents came to fish, play, and swim. However, this changed after the end of the civil war and the expansion of the port facility in the 1990s. The port underwent a major renovation of its infrastructure and extended its territory to include a new container terminal that can increase its productivity (Port of Beirut, 2021) (Figure 55). The port currently occupies over 1.2 million square meters and, as a result, Karantina currently overlooks ships, smoke chimneys, cranes, and stacked containers (Figure 56).



**Figure 56.** View of shipping cranes from a residential house in Karantina. Source: Ali Ghaddar, 2021.

During the thematic group discussion on the quality of the built environment, a resident stated that “We have a beach next to us, and it is a great place that we can use; however, we are not able to benefit from it because it is closed by the public authorities. It would be great if you can do something about this”.<sup>33</sup>

<sup>33</sup> A resident in Al-Sayde mentioned this during the thematic group discussion on Quality of the Urban Environment (2021-May-21)

## D.4 The Charles Helou Highway

The Charles Helou Highway that borders Karantina to the south also has negative impacts on air quality (Figure 57). It is a major transportation artery that remains heavily congested during the day with vehicles commuting to and from Beirut, increasing the levels of pollution. Initially, the highway was constructed to reduce travel time, allow the surrounding neighborhoods to develop economically, promote the housing market, and lower the cost of transportation. However, it resulted in high levels of sound, air, and visual pollution, as well as physical, social, and economic ruptures<sup>34</sup>.



**Figure 57.** Traffic on the Charles Helou Highway.  
Source: Sima Diab, 2019/www.wired.com.

A two-year research study on air pollution by the American University of Beirut and Saint Joseph University between 2008 and 2010, in collaboration with the National Council for Scientific Research, concluded that “about 93% of Beirut’s population is exposed to high levels of air pollution” (Wadvalla, 2011). The study demonstrated that in 2010, across Beirut, “the average concentration of nitrogen dioxide, a harmful air pollutant resulting from the combustion of fuel, was 58 micrograms per cubic meter of air.” According to the World Health Organization, anything above 40 micrograms per cubic meter of nitrogen dioxide is considered unsafe (Wadvalla, 2011). Despite the importance of this study, the transportation system of Beirut became worse, with higher levels of traffic that expose the residents of Beirut to hazardous air pollutants.

The following section of the report discusses the quality of the social realm and everyday behaviors to understand the alternative practices of the residents to compensate for living in a degraded, neglected, constrained, and abused urban context.

## 5.2 THE QUALITY OF SOCIAL PRACTICES

### A. Socio-cultural Environments and Everyday Social Practices

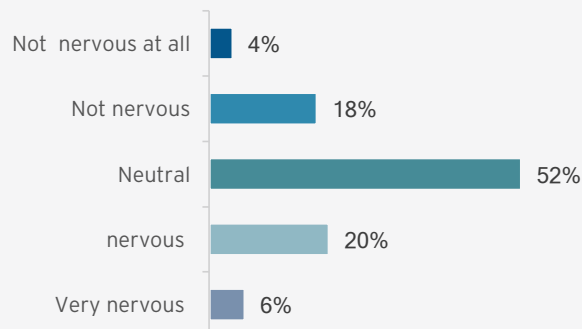
Socio-spatial practices are essential when considering the quality of the urban environment. Everyday practices are influenced by the physical, social, and environmental qualities of the urban context (Carmona, 2019). Karantina has evolved into a village-like with sub-neighborhoods where people live, grow up, interact, and spend quality time with each other. It has few designated public parks and no community centers; thus, the residents practice their daily socio-spatial activities on streets, sidewalks, and vacant lots that are unsafe and underserved.

The collected data revealed that 66% of the surveyed households like their sub-neighborhoods, 53% are satisfied with their environment, and only 26% feel nervous about living in Karantina (Graph 58). The residents shared with the research team that they feel nervous because of several factors, one of which is the port blast and the general unsafety of living close to the port. Some of residents in Al-Saydeh sub-neighborhood also shared their concern about the increase in the number of Syrian refugees in Karantina after the economic crisis.

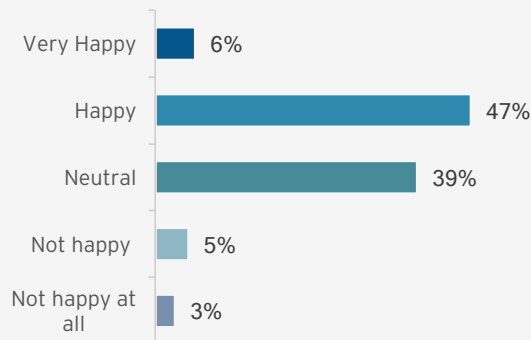
Feelings of safety and security in public and shared spaces in Karantina are not attributed to service provision that is limited, but rather to the social connections that developed between the residents. The analysis of the answers to the household questionnaire regarding the feeling of safety and security in Karantina showed that around 77% of residents feel safe during the day and 71 % feel safe during the night (Figure 59). A group of women in Al-Khodur sub-neighborhood mentioned in an informal conversation that they feel safe to walk on streets during the day and night because they are surrounded by their relatives, family members, and trusted neighbors.

<sup>34</sup> This idea will be further elaborated in the “spatial, economic, and social connectivity” transversal issue.

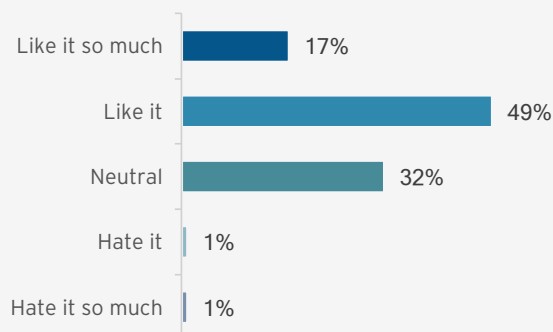
**To what extent does your neighborhood make you feel nervous- furious?**



**To what extent does your neighborhood make you feel happy?**

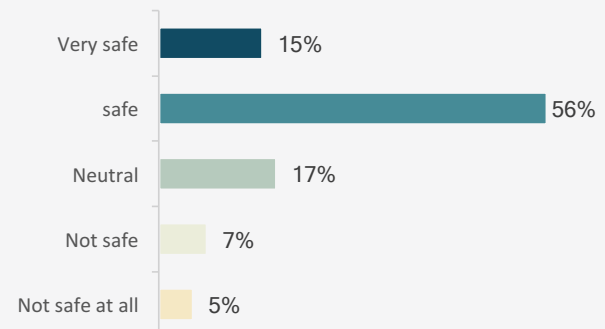


**To what extent do you like your neighborhood?**

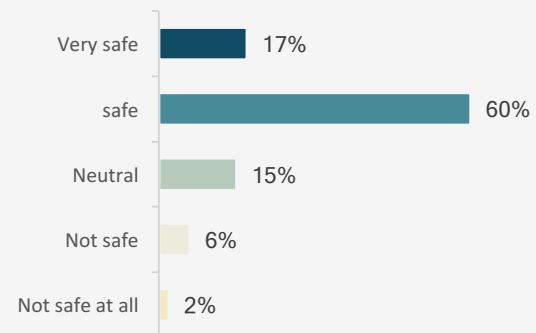


**Figures 58.** Answers to the household questionnaire regarding the feeling of the residents towards the neighborhood. Source: The Beirut Urban Lab, 2021.

**To what extent do you feel safe in your neighborhood during the night?**

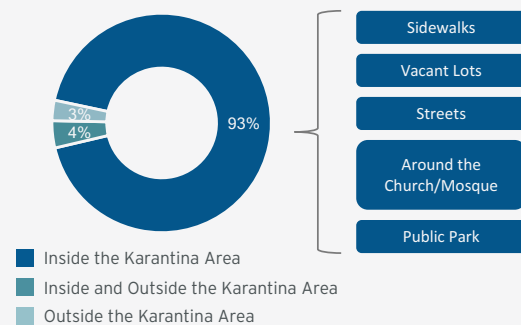


**To what extent do you feel safe in your neighborhood during the day?**



**Figures 59.** Answers to the household questionnaire regarding the feeling of safety of the residents during the day and night. Source: The Beirut Urban Lab, 2021.

**Where do your kids play?**



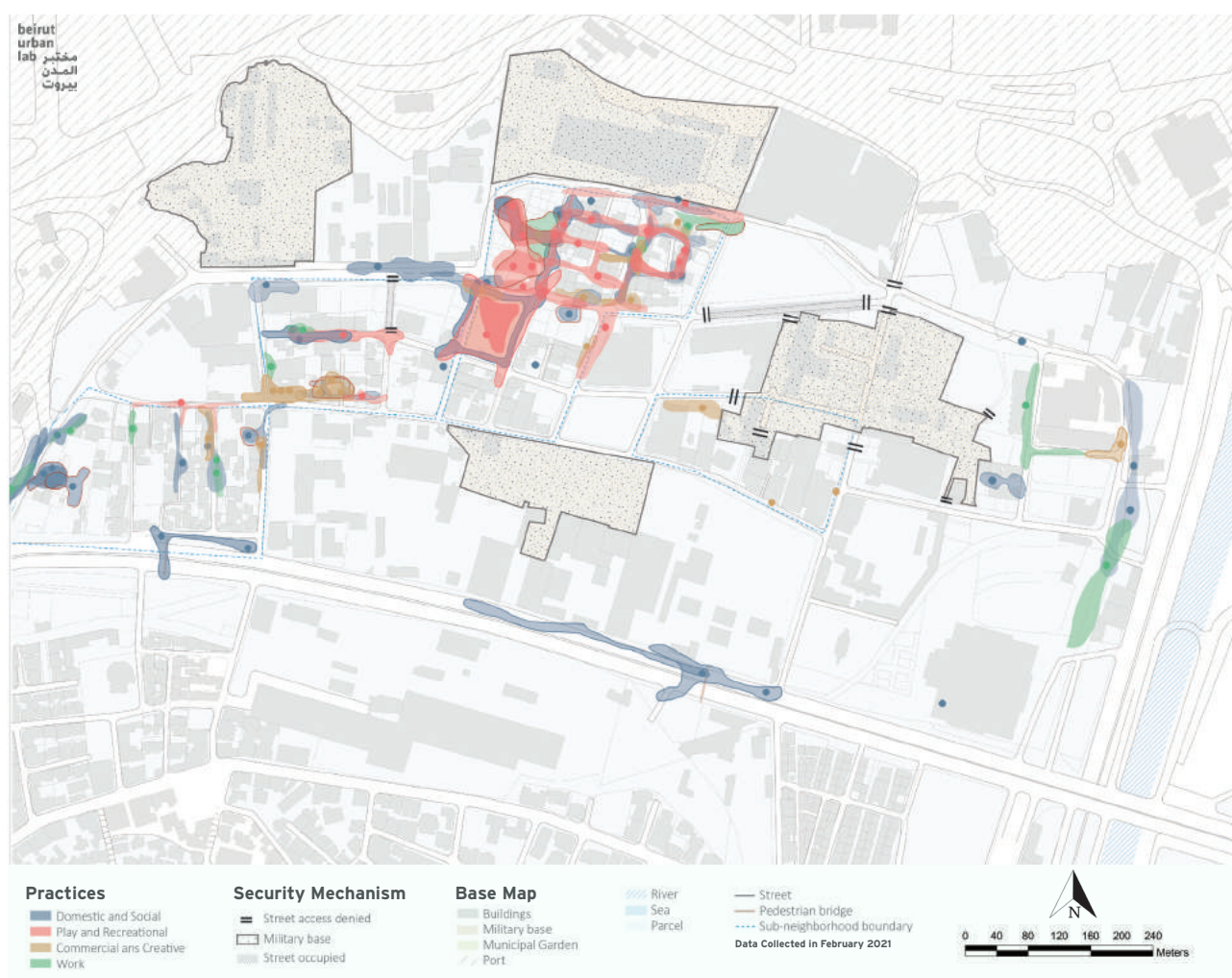
**Figure 60:** Answers to the household questionnaire regarding areas for children to play. Source: The Beirut Urban Lab, 2021.

Additionally, parents in Karantina feel comfortable to allow their children to play outside, despite the danger from the truck circulation and the underserved streets. 93% of the surveyed households reported that their kids enjoy playing in public and shared spaces such as sidewalks, vacant lots, streets, around the church and mosque, and inside the public parks when they are accessible (Figure 60).



“ We gather on the streets due to the lack of public spaces<sup>35</sup>  
 من قلة الأماكن العامة بالمنطقة منظر نقعد بالشارع

The research team mapped concentrations of socio-spatial practices in Karantina . The practices were categorized as follows: play and recreational practices, domestic and social practices, commercial and creative light industries, and temporary working spaces. The observation and documentation of the socio-spatial practices were then rendered and overlapped with a series of heat maps (Figure 61).



**Figure 61:** Heat map showing the concentrations of socio-spatial practices in Karantina. Source: The Beirut Urban Lab, 2021.

The maps show that the agglomeration of play, recreational, and domestic practices have a strong presence within the residential sub-neighborhoods, particularly in Al-Khodor sub-neighborhood. One explanation for that is that Al-Khodor sub-neighborhood has the densest population among the three residential clusters and is within closer proximity to the public park. Children use the streets, sidewalks, and the empty lots surrounding the park to play, especially that the park is closed most of the time (Figure 62). However, the socio-spatial practices in the industrial zone are limited to the truck drivers who usually appropriate the sidewalks and the vacant land especially on the western entrance of the port that is degraded and underserved.

<sup>35</sup> M.A.H., (2021-January-25), (Yehya al Said- Interviewer)



Figure 62. Everyday practices in Karantina. Source: Abir Cheaitli, 2021.

### 5.3 THE QUALITY OF PUBLIC HEALTH

“ We live in an infested area; it is portrayed as such<sup>36</sup>  
نحن بمنطقة موبوءة، موصوفة بالبؤساء

As the previous sections of this report demonstrated, the quality of the built environment in Karantina faces many physical, social, and environmental challenges that directly or indirectly impact public health and well-being. Data from the household questionnaire found that 51% of the surveyed households mentioned that at least one family member suffers from chronic illness while 32% did not mention any illness. 4% of the households surveyed reported physical disabilities and 1% suffer from mental health problems. The household survey also focused on vulnerable members of households, mainly women. Data showed that 3% of the families include pregnant women and 4% include women who are lactating (Figure 63).

The residents also attributed poor quality of life to indoor and outdoor air pollutants. A resident from the thematic group discussion stated that “We live in a polluted area. The highest number of cancer cases is present here. Multiple sources are causing this including the sewage in the Beirut River water which throws in here and the waste factory that was supposed to work only for Beirut, but it appears it’s working for many areas in Lebanon”. They also problematized the lack of access to health services; 78% of residents mentioned that they do not have access to public or private health insurance and services. (Figure 64).

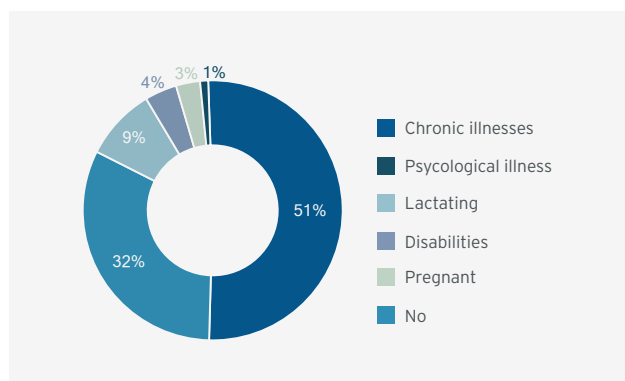


Figure 63: Answers to the household questionnaire regarding the well-being of people. Source: The Beirut Urban Lab, 2021.

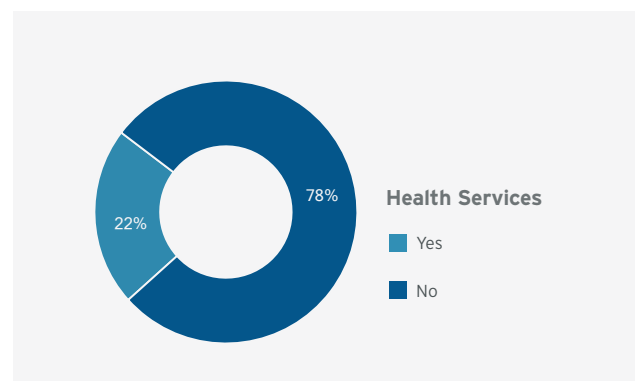


Figure 64: Answers to the household questionnaire regarding access to health insurance. Source: The Beirut Urban Lab, 2021.

<sup>36</sup> A resident during the thematic group discussion on Quality of the Urban Environment (2021-May-21)

During the thematic group discussion on the quality of the urban environment and the first town hall meeting, many residents mentioned that “there are no proper health centers in Karantina, and Karantina’s public hospital is only by name a public hospital.” They suggested that the services of the hospital are still expensive. Another resident said: “There is no dispensary or free medication provided in the area. If a child gets sick one must pay 200,000 Lebanese pounds to the doctor; how can we afford this while most of us are unemployed?”

Therefore, low-income families in Karantina face major challenges in accessing adequate healthcare and are subject to difficult conditions that risk their health, comfort, and well-being.

## 6. SYNTHESIS AND RECOMMENDATIONS

This report was based on an understanding of how various practices influence the quality of the urban environment. It examined a range of components that define the quality of the built fabric, such as buildings, open and public spaces, municipal infrastructure, and land-use activities and the quality of the environment. It also examined the quality of social practices, such as household arrangements, socio-cultural activities, and everyday practices, in addition to the quality of public health.

The assessment of the abovementioned aspects, and concerns about the urban environment, revealed that Karantina suffers from a poor, degraded, and intimidating urban environment. It is polluted, lacks green spaces, has weak streetscapes, is unsafe for children, and is risky for the elderly to navigate. The research process also encouraged the residents to openly communicate their feelings and concerns about the things that bother them in Karantina (Figure 65). Most of the concerns were about the quality of the urban environment, which highlights the general importance of the subject.



**Figure 65:** Answers to the household questionnaire regarding the concerns of the residents about the quality of the urban environment. Source: The Beirut Urban Lab, 2021.



## FINDINGS

- 01 Unsustainable and non-environmentally friendly land-use practices by micro businesses (key-freights, logistics, and mechanical garage), governmental facilities (waste management, hospital, fish market), and industries (food production and metal welding) cause significant and overlapping physical, social, and environmental threats to the inhabitants and dwellers. The edge condition of Karantina, which is bordered by the highly contaminated Beirut River, the congested Charles Helou Highway, and the unsafe Beirut Port, also decreases the quality of the urban environment. These practices have caused air pollution, vegetation destruction, water waste, soil contamination, and waste without proper sorting. For example, activities in the old slaughterhouse were considered unsustainable; various studies on Karantina revealed that it has negatively influenced the environment by causing sources of pollution and health complications for a high percentage of employees. Many residents felt relieved when the slaughterhouse closed in 2014 while others disagreed. The practice of slaughtering animals is considered an economic asset in Karantina and a cultural and heritage practice for many residents. The Governor of Beirut planned to open a new temporary slaughterhouse near the fish market; nevertheless, the port blast caused severe damage to the newly built facility.
- 02 Another example is the unmonitored and unregulated activities of the municipal waste management facility and the temporary landfill that reduced the quality of the urban environment in Karantina. The landfill was a temporary solution to the garbage crisis in 2015. However, it is still operating and is filled with construction and demolition waste from the port blast. Piles of rubble are accumulating without proper management and assortment. The presence of rubble piles in close proximity to residential areas contributes to multiple health risks and environmental hazards. Furthermore, the waste management facility was demolished after the port blast and has been out of service since last year. As a result, according to several residents, the collected solid waste is burnt on site. This results in air, soil, water pollution, unpleasant sight, in addition to an increase in the number of stray dogs and mosquitos.
- 03 Physical Environment: The “conditions in the environments in which people are born, live, learn, work, play, worship, and age, affect a wide range of functioning, and quality of life outcomes and risks” (Schilling, & de Leon, 2017, p.3). In Karantina, years of deterioration, negligence, and national economic and political crises have caused the degradation of the physical structures of many buildings. Karantina has around 364 buildings, many of which need major interior and exterior architectural rehabilitation ranging from deteriorated facades, ceilings, walls, and columns, or leaking pipes, aging structures, window frames, roofs, and terraces. The port blast further damaged several degraded buildings. Structural damages result in threatening and unhealthy living environments such as high levels of humidity, thus affecting the health and well-being of the inhabitants. After the port blast, several organizations tried to repair the physical elements of the buildings; some did comprehensive repairs while others negatively impacted the interior living conditions through incomplete and ineffective repairs.
- 04 The existing poor living conditions are exacerbated by overcrowding, which is prominent in Karantina due to the economic crises and flexible rental arrangements. Therefore, good indoor quality is a crucial living condition to maintain a healthy urban environment for the inhabitants. Abandonment of apartments and buildings is another factor that affects the urban environment in Karantina. The decaying structures and infrastructures of the vacant buildings and apartments have been proven to cause multiple public health problems with living near vacant and abandoned buildings or vacant lots, including higher rates of chronic illness, mental health problems, and homicide (Schilling, & de Leon, 2017).

- 05** Negligence from public officials: The physical quality of the streets, sidewalks, and municipal infrastructure is in a degraded condition since Karantina receives little attention from public officials. Provisioning, refurbishment, maintenance of municipal infrastructure, waste management, and the cleanliness of public spaces are practices that are absent in Karantina. Streets and sidewalks require major enhancements, repairs, and upgrades as they are unsafe, intimidating, unclean environments for people, especially for kids and elderly. The decaying public infrastructure (inlets, channels, and sewage systems) exposes the public realm to wastewater floods, especially in winter seasons. As a result, wastewater mixed with stormwater, flood on the surface of public spaces.
- 06** Another practice that is deteriorating the quality of public spaces is littering and the lack of proper cleanliness of streets, sidewalks, and leftover spaces. Improper behavior from the public, inadequacy in the placement of garbage bin, and shortage of collection services are some reasons for littering. Nevertheless, these spaces are regularly used by residents to practice their daily socio-spatial activities. The residents and children use these unsafe spaces because of the closure of existing public parks after the port blast, and they were already scarce in number.
- 07** The mapping of the data shows that Karantina hosts a rich variety of old heritage trees that the residents have been using as their social focal points. As stated in this report, Karantina suffers from high levels of pollution, and the clustering of trees helps to clean the air. Trees provide invaluable ecosystem services such as the creation of microclimate, shelter for wildlife, the release of oxygen, carbon sequestration, and soil conservation, offer shade, enhance the aesthetic quality of streetscapes, and encourage eco-tourism (Turner-Skoff, & Cavender, 2019, Down-to-earth, 2018). In addition, trees can create adequate cultural and ecological environments for people to meet, socialize, and perform their everyday activities. However, public officials do not maintain the trees and, as a result, many of them are being removed.
- 08** Appropriation and encroachment: Lefebvre (1992) emphasizes how “people should own the city, have a take in its process of spatial production and claim it as a right, through their practices and experiences, especially in the cities’ open spaces” (Lefebvre, 1992, cited in Harb, 2017). Another practice that has negatively affected the urban environment is truck drivers, the military, and the owners of private generators appropriating and encroaching on public spaces. Heavy trucks circulate within Karantina without a set schedule or dedicated routes. As a result, they cause physical damage to the public spaces such as streets, roads, vacant lots, and private property such as cars and front gates. Additionally, in the absence of designated parking spaces, the drivers leave their trucks in empty open spaces, either on sides roads or vacant roads.
- 09** The appropriation of public spaces was also evident in the security mechanism that the military imposes on Karantina. Dikeç (2002) explains how “ruling authorities develop narratives, strategies, and mechanisms to naturalize their domination over the city and its public spaces, and their exclusion of ordinary dwellers, especially poor and marginalized groups. Possibilities for diverse and multiple spatial practices and experiences within such spaces become constrained and contingent” (Dikeç, 2002, cited in Harb, 2017). In addition to closing several streets and sidewalks, cement blocks, checkpoints towers, wire-mesh, and other security mechanisms are placed in an ad-hoc manner either on private or public properties.

- 10 The presence of a military base to the west side of Karantina, in addition to the expansion of the port throughout the years have prevented residents to access the coastline. The coastline used to operate as a public amenity and space for leisure, where residents used to fish, play, and swim.
- 11 The owners of private generators also impact the use of private and public spaces in Karantina. The electricity crises in Lebanon required that residents and commercial facilities purchase diesel generators and locate them in an unregulated manner, on sidewalks, streets, buildings, residual spaces, and building entrances. Many of the generators not only have appropriated public spaces but also are close to residential homes, exposing residents to elevated levels of air pollutants and airborne carcinogens.
- 12 Everyday social-spatial practices: The “urban forms and features of the built environments influence social cohesion in local neighborhoods” (Dempsey, 2009, p.1). Several of the socio-spatial practices that were documented in the research influenced the residents of Karantina directly or indirectly. The differences between the sub-neighborhoods in Karantina are evident even when there is no clear division between residential clusters. Interviews, mappings, and fieldwork showed that Al-Khodor, Al-Saydeh, and Al-Senegal sub-neighborhoods evolved into three small residential villages over time. During several conversations, the residents used the term village to describe their residential clusters and everyday practices and experiences.

However, closure of public spaces, the land-uses and commercial activities, the quality of the infrastructure, and the historical events generated independent sub-neighborhoods and exacerbated the fear of the other. This fear was translated physically and socially into the urban fabric through the formation of small residential villages. Nevertheless, the analysis of the socio-cultural practices showed that despite the poor quality of the urban environment, residents experience a strong sense of belonging and social cohesion in Karantina. Social ties and community engagement in the sub-neighborhoods are vital<sup>37</sup>. They provided the residents with a sense of safety and security.

## RECOMMENDATIONS

- 01 A livable city develops urban services that bring its inhabitants better well-being, health, and comfort (Aldairi et al., 2017). The complex nature of the urban environment, with its multitude of concerns, requires a holistic approach that focuses on the interrelationship between the environment, economy, and society, and stresses both research and policy outcomes. An effective urban environmental sustainability policy should control pollutant emissions, enforce waste management, and encourage the production of clean energy and water consumption.

This policy should not only be directed to the business district but also to the residents that contribute to creating a livable Karantina. Through a sustainable development approach that incorporates the future and the present short, medium to long-term goals, Karantina will be more livable. The strategy should meet “the needs of the present, without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development, 1987). It should also provide tools and techniques to facilitate and support communication between residents and professionals around environmental issues, which will assist in the creation of action plans and recommendations for Karantina. At the same time, it should encourage public participation in research.

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<sup>37</sup> This finding are detailed in the report on Transversal Issue II: Spatial, Economic, and Social Connectivity in Karantina.



- 02** Rehabilitation strategies for buildings, incentives for reusing structures, and imposing vacancy tax are recommended to mitigate the negative environmental impacts, albeit minimal, of vacancies and abandonment. Reducing overcrowding is a goal for the local governments since there is a need to “build and refurbish housing, subsidize social or public housing, regulate private rental housing, implement tax and planning policies that encourage the building of affordable housing, and work with community leaders in informal settlements” (World Health Organisation, 2018, p.29). This will also reduce the number of vacant lots, buildings, and apartments in the area, and it will decrease urban overcrowding.
- 03** Public officials should be held accountable for neglecting their responsibilities to maintain and manage public spaces and the infrastructure in Karantina. The 4U Anti-Corruption Unit Center<sup>38</sup> and Transparency International<sup>39</sup> advocate for incorporating mechanisms into local government structures to counter public corruption and mismanagement. This can be achieved through digital complaint mechanisms, legal counseling services, media-based accountability platforms, and participatory budgeting (U4 Anti-corruption resource center, 2019). For example, formal methods or a digital platform can be useful; they can operate as a space for communication that residents can use to file complaints, request government information, and whistle-blow on corruption. They require a multi-faceted approach that focuses on the individual’s responsibility towards public spaces and the preservation of physical and ecological attributes.
- 04** Assistance from NGOs in environmental health can aid in organizing activities and awareness campaigns to inform citizens of the harmful consequences of cutting trees and littering on the urban environment. The government can enact a special law to restrict the removal of heritage trees. Additionally, landowners can be rewarded with incentives to preserve these trees.
- 05** For Karantina to reclaim its public spaces, a strategy should be drafted to involve public officials, developers, residents, and civil society to prevent any kind of encroachment and appropriation. Regarding truck activity, the strategy should require the port officials and private industries to provide a study of truck parking requirements. Public officials also need to initiate regulations and policies to mandate the provision of parking while considering the factors that necessitate truck transportation such as the port, supply chains, and logistics. There is a need for law enforcement to prevent truck drivers from circulating inside Karantina using illegal parking tickets.
- 06** Private generators should also be prohibited near residential or business areas since they cause significant environmental and health problems. The Municipality of Beirut needs to provide a designated area for private generators, especially for the business district. As for the military’s encroachments and appropriations of private and public spaces, Harb (2017) advocates for consulting with civil society groups that are engaged in a variety of public issues such as the environment and public spaces. They are known to mobilize these cases through voicing their opinions on legal platforms, social media, and awareness campaigns.
- 07** Strategies that promote social goals in the built environment need to remove any physical and social barriers that can reduce the participation of people in daily practices. Providing equal access to services, facilities, economic activities, and affordable housing can enhance social cohesion. The design of the streets should reinforce livability through a safe environment by providing urban furniture and traffic calming measures. Setting up cultural centers in civic buildings and providing public spaces can promote daily interaction between the different sub-neighborhoods that is conducive to a harmonious relationship. Also, ensuring secure rent rights and property ownership through the relevant legislation can provide a level of stability for vulnerable groups in Karantina.

<sup>38</sup> The U4 Anti-Corruption Resource Centre is a permanent, donor-funded center that promotes a better understanding of anti-corruption issues and approaches in international development.

<sup>39</sup> The Transparency International is a global citizen organization and global coalition against corruption.

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