

BEIRUT URBAN LAB - AUGUST 2022

AN URBAN RECOVERY STRATEGY FOR POST-BLAST KARANTINA

STRATEGIC FRAMEWORK

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:

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Mohammad Al-Sattouf, Mohammad Amsha, Watfa El-Chehade, Carmen Jabboury,
Danielle Khadra, Michelle Khadra, George Tatarian*

Editor:

Abir El-Tayeb



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BEIRUT URBAN LAB 2020-2022

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STRATEGIC FRAMEWORK

The Strategic Framework was the third step of the urban recovery strategy of Karantina. It presented a recovery framework for post-port blast Karantina that aligned with the position of the Beirut Urban Lab on urban recovery that is people-centered and socially just. It was largely based on the strategic diagnosis of the five transversal issues that were identified in the Descriptive Memory report on Karantina.

The direct threads that pulled into this strategic framework were the specific strategic objectives generated by the diagnosis process and its five tracks of investigation of the transversal issues. These strategic objectives were consolidated into a more general set of objectives, which maintained the cross-cutting approach that was embedded in the identified transversal issues and in the diagnosis work. The strategic framework carries forward ten key assets derived from the vision for Karantina.

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1. INTRODUCTION

The strategic framework of Karantina that was formulated and presented in this report was the third step in the urban recovery strategy for Karantina. It presented a recovery framework for post-port blast Karantina that aligned with the position of the Beirut Urban Lab on urban recovery that is people-centered and socially just. It was largely based on the strategic diagnosis of the five transversal issues that were identified in the Descriptive Memory report on Karantina.

The direct threads that were pulled into this strategic framework were the specific strategic objectives generated by the diagnosis process and its five tracks of investigation of the transversal issues. These strategic objectives were consolidated into a more general set of objectives which maintain the cross-cutting approach that was embedded in the identified transversal issues and in the diagnosis work.

The five general objectives were:



A. Protect the existing affordable housing units in Karantina and provide a larger stock that is inclusive of a diversity of social and income groups.



B. Strengthen the socio-cultural, economic, and spatial connectivity of Karantina internally and externally with its surroundings.



C. Support, increase, and sustain cultural and economic vitality in Karantina.



D. Promote a sustainable development strategy that is participatory and phased over a period of time.



E. Improve the overall quality of the urban environment in Karantina.

Towards the articulation of the strategic framework step, the team conducted further research on the regulatory framework, best practices, and economic strategies that would be adequate for the local context. The team then developed the results of the diagnosis into a set of strategies that were intended to guide the elaboration of the action plans. The cross-cutting approach of the diagnosis allowed for some strategies to serve multiple strategic objectives within one comprehensive framework, thus, pursuing value-adding complementarities and synergies among different objectives that are related to different sectors. This approach allowed the framework to propose coalitions and enable coordination among the stakeholders who are active in different sectors, while providing each of them with guidelines that are relevant to their own priorities.

Another thread that was pulled between the diagnosis and the strategic framework was the vision for Karantina. During the process of articulating the strategic framework, the strategic objectives that resulted from the diagnosis were constantly validated and reworked where necessary through additional investigations, meetings with the community groups, and assessments against the vision that was crafted with the community. Such a process was intended to facilitate for a mission that is made up of strategic objectives that correspond to the vision before translating them into specific strategies and action plans.

The vision and mission were, therefore, both presented in this report.










2. VISION FOR KARANTINA

“ 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.

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











The strategic framework for the urban recovery of Karantina carries forward nine key assets which represent main drivers of urban recovery and, consequently, constitute the core structuring links that connect the strategies that are outlined in the framework that is presented below. These strategies should be understood as aimed to enable Karantina to valorize these assets towards recovering Karantina and achieving the crafted vision above. These drivers of recovery are represented in the framework by color-coded squares, and each one represents a key asset:

	A DEVELOPED AREA
	AN ECONOMICALLY PROSPEROUS AREA
	AN EMPOWERED AND INTERCONNECTED COMMUNITY
	AN EASILY ACCESSIBLE AREA
	A WELL-PLANNED AREA
	AN ENVIRONMENTALLY FRIENDLY AREA
	ADEQUATE SERVICES
	DECENT HOUSING UNITS
	PUBLIC AND SHARED SPACES









The objectives together with the strategies that are proposed in this report were intended to operate within a framework that is aligned with the vision while guiding the identification of future projects, both soft and hard and both urban and infrastructural, toward a people-centered and socially just urban recovery that unfolds and can be phased over time. These projects varied in scale, budget, and timeline. It is, therefore, advisable to revisit the strategic framework cyclically, every 5 years, to assess the feasibility of the proposed strategies and specific projects as well as their ability to achieve the set goals before reworking the plans that are currently presented within a flexible framework. The main strategic objectives, related to affordable and inclusive housing units, connectivity, economic and cultural vitality, sustainable development, and urban environment are the following:

3. MISSION FOR KARANTINA







A. Protect the existing affordable housing units in Karantina and provide a larger stock that is inclusive of a diversity of social and income groups.

-  1. Protect and expand the existing stock of affordable housing units.
-  2. Provide job opportunities for the residents of Karantina.
-  3. Improve the provision of public services in Karantina.
-  4. Provide access to new and inclusive housing units across a diversity of social and income groups.
-  5. Ensure that new developments meet inclusivity standards.
-  6. Limit the encroachment of the businesses into the residential sub-neighborhoods.
-  7. Decrease the vulnerabilities that are associated with informal practices.
-  8. Improve the livability and building conditions within the residential clusters.







B. Strengthen the socio-cultural, economic, and spatial connectivity of Karantina internally and externally with its surroundings.

-  1. Connect Karantina spatially with its surroundings.
-  2. Reconnect Karantina with the sea and the Beirut Central District.
-  3. Integrate Karantina into the city-wide transportation network.
-  4. Improve accessibility to the different areas within Karantina and between them.
-  5. Strengthen the role of economic drivers to connect Karantina to the city-scale economy.
-  6. Provide access to job opportunities in micro, small, and medium businesses.
-  7. Connect the different businesses within Karantina.
-  8. Enhance the public realm and provide shared facilities and spaces to promote social connection across the three sub-neighborhoods.







C. Support, increase, and sustain cultural and economic vitality in Karantina.

1.  Restore and strengthen the role of the key economic drivers in Karantina.
2.  Provide job opportunities for the residents of Karantina.
3.  Support the existing micro businesses and sustain their operations in Karantina.
4.  Increase the diversity and vitality of the traditional crafts and other manufacturers in Karantina.
5.  Support the growth of port-related businesses.
6.  Improve cultural vitality and leisure activities in Karantina.


D. Promote a sustainable development strategy that is participatory and phased over a period of time.

1.  Advance a development program for Karantina and remove existing obstacles to development.
2.  Safeguard Karantina against the threats of gentrification and displacement.
3.  Improve the overall quality of the built environment.
4.  Improve the local infrastructural services and amenities.
5.  Improve connectivity and accessibility to Karantina.
6.  Engage the residents of Karantina in local development programs and long-term shared visions.










E. Improve the quality of the urban environment in Karantina.

1.  Improve the physical quality of the damaged and degraded buildings.
2.  Reduce and contain hazardous wastes and harmful emissions.
3.  Reduce sound and air pollution.
4.  Improve the dilapidated water, sewage, and other infrastructural networks.
5.  Improve the quality and safety of the public domain which supports the existing socio-spatial practices across the three sub-neighborhoods.
6.  Protect and maintain the layer of landscape heritage.


4. THE STRATEGIC FRAMEWORK

General objective	Strategic objectives
 <p>A. Protect the existing affordable housing units in Karantina and provide a larger stock that is inclusive of a diversity of social and income groups.</p>	<p>A1 ■■■ Protect and expand the existing stock of affordable housing units.</p>
	<p>A2/C2 ■■■■ Provide job opportunities for the residents of Karantina.</p>
	<p>A3 ■■■■ Improve the provision of public services in Karantina.</p>
	<p>A4 ■■■■ Provide access to new and inclusive housing units across a diversity of social and income groups</p>
	<p>A5 ■■■■ Ensure that new developments meet inclusivity standards.</p>
	<p>A6 ■■■■ Limit the encroachment of the businesses into the residential sub-neighborhoods.</p>
	<p>A7 ■■■ Decrease the vulnerabilities that are associated with informal practices.</p>
	<p>A8 ■■■■ Improve the livability and building conditions within the residential clusters.</p>


Strategies	
	<p>A1.1 Regulate rents in Karantina.</p>
	<p>A1.2/A4.2/D1.1 Release frozen, militarized, and unbuildable privately owned lots, and facilitate the development of new housing units.</p>
	<p>A1.3 Facilitate the ownership of the existing stock of affordable housing units.</p>
	<p>A2.1/B6.1/C2.1 Build the capacities of the residents of Karantina and match them with job opportunities.</p>
	<p>A2.2/B6.2/C2.2 Match the skilled workforce with the businesses in the area and connect them with the job market at a larger scale.</p>
	<p>A2.3/B5.1/C1.1/C2.3 Revitalize three of the economic drivers: the slaughterhouse, the public market, and the fish market.</p>
	<p>A3.1/D4.2 Introduce services and facilities that are lacking in the area, such as schools, sports facilities, and affordable clinics.</p>
	<p>A3.2/B8.2 Facilitate access to existing public spaces, including the public park, and increase their number.</p>
	<p>A4.1 Diversify the typologies of housing units from studios to single family and multi-family apartments.</p>
	<p>A4.2/A1.2/D1.1 Release frozen, militarized, and unbuildable privately owned lots, and facilitate the development of new housing units.</p>
	<p>A5.1 Adopt an inclusive design approach when rehabilitating existing buildings or designing new housing units.</p>
	<p>A6.1 Regulate the transformations in the use of residential buildings.</p>
	<p>A7.1 Advocate for the rights of tenants to reduce vulnerabilities and improve living conditions.</p>
	<p>A8.1/E1.4 Regulate the density of people per residential units to counter overcrowding.</p>
	<p>A8.2/E1.1 Offer financial packages and incentives to support the landlords in rehabilitating their residential buildings and maintain the stock of affordable housing units.</p>

General objective	Strategic objectives
 <p>B. Strengthen the socio-cultural, economic, and spatial connectivity of Karantina internally and externally with its surroundings.</p>	<p>B1  Connect Karantina spatially with its surroundings.</p>
	<p>B2  Reconnect Karantina with the sea and the Beirut Central District.</p>
	<p>B3  Integrate Karantina into the city-wide transportation network.</p>
	<p>B4  Improve accessibility to the different areas within Karantina and between them.</p>
	<p>B5  Strengthen the role of economic drivers to connect Karantina to the city-scale economy.</p>
	<p>B6  Provide access to job opportunities in micro, small, and medium businesses.</p>
	<p>B7  Connect the different businesses within Karantina.</p>
	<p>B8  Enhance the public realm and provide shared facilities and spaces to promote social connection across the three sub-neighborhoods.</p>


Strategies	
B1.1/D5.1	Re-stitch Mar Mikhael with the southern side of Karantina through a pedestrian network across the highway.
B1.2/D5.2	Increase the permeability of the edges of Karantina with the city.
B1.3	Create socio-spatial hubs around the economic drivers in relation to the sea.
B2.1	Reclaim Karantina's old coastal line as a green promenade and revive it as a natural landscape heritage.
B2.2/B4.3/D5.3	Extend the sea promenade from the Beirut Central District to Karantina.
B2.3/D5.4	Relink Karantina to the sea through the port.
B3.1/D5.5	Establish points of connection with city-scale and wider mobility modes (buses, taxis, etc.).
B4.1/D5.6/E5.2	Remove all access restrictions to the public domain.
B4.2/D1.2	Subdivide the municipal lot and integrate it into plans for the development of Karantina.
B4.3/B2.2/D5.3	Extend the sea promenade from the Beirut Central District to Karantina.
B5.1/A2.3/C11/C2.3	Revitalize three of the economic drivers: the slaughterhouse, the public market, and the fish market.
B5.2/B7.1/C5.1	Network, protect, and strengthen the sustainable agility and capacity of port-related and other industrial businesses.
B6.1/A2.1/C2.1	Build the capacities of the residents of Karantina and match them with job opportunities.
B6.2/A2.2/C2.2	Match the skilled workforce with the businesses in the area and connect them with the job market at a larger scale.
B7.1/B5.2/C5.1	Network, protect, and strengthen the sustainable agility and capacity of port-related and other industrial businesses.
B8.1/D3.3/E5.1	Adopt an inclusive and integrated design approach while upgrading and rehabilitating existing public spaces and introducing shared facilities.
B8.2/A3.2	Facilitate access to existing public spaces, including the public park, and increase their number.

General objective	Strategic objectives
 <p>C. Support, increase, and sustain cultural and economic vitality in Karantina.</p>	<p>C1 ■■ Restore and strengthen the role of the key economic drivers in Karantina.</p>
	<p>C2 / A2 ■■ Provide job opportunities for the residents of Karantina.</p>
	<p>C3 ■■ Support the existing micro businesses and sustain their operations in Karantina.</p>
	<p>C4 ■■ Increase the diversity and vitality of the traditional crafts and other manufacturers in Karantina.</p>
	<p>C5 ■■ Support the growth of port-related businesses.</p>
	<p>C6 ■■■■ Improve cultural vitality and leisure activities in Karantina.</p>

Strategies	
	<p>C1.1/A2.3/B5.1/C2.3 Revitalize three of the economic drivers: the slaughterhouse, the public market, and the fish market.</p>
	<p>C2.1/A2.1/B6.1 Build the capacities of the residents of Karantina and match them with job opportunities.</p>
	<p>C2.2/A2.2/B6.2 Match the skilled workforce with the businesses in the area and connect them with the job market at a larger scale.</p>
	<p>C2.3/A2.3/B5.1/C1.1 Revitalize three of the economic drivers: the slaughterhouse, the public market, and the fish market.</p>
	<p>C3.1/C4.1 Offer financial incentives to micro and specialized businesses.</p>
	<p>C3.2 Connect the micro and specialized businesses with online platforms and services to enhance their operations.</p>
	<p>C4.1/C3.1 Offer financial incentives to micro and specialized businesses.</p>
	<p>C4.2 Train a new generation of craftsmen to sustain their crafts.</p>
	<p>C5.1/B5.2/B7.1 Network, protect, and strengthen the sustainable agility and capacity of port-related and other industrial businesses.</p>
	<p>C6.1 Activate the open spaces in Karantina to host occasional, weekly, monthly, and annual cultural and economic festivals.</p>
	<p>C6.2 Engage artists and designers to work, network, and complement the existing crafts and the activities of industries in Karantina.</p>

General objective	Strategic objectives
 <p>D. Promote a sustainable development strategy that is participatory and phased over a period of time.</p>	<p>D1 ■■■</p> <p>Advance a development program for Karantina and remove existing obstacles to development.</p>
	<p>D2 ■■■</p> <p>Safeguard Karantina against the threats of gentrification and displacement.</p>
	<p>D3 ■■■</p> <p>Improve the overall quality of the built environment.</p>
	<p>D4 ■■■</p> <p>Improve the local infrastructural services and amenities.</p>
	<p>D5 ■■■</p> <p>Improve connectivity and accessibility to Karantina.</p>
	<p>D6 ■■■</p> <p>Engage the residents of Karantina in local development programs and long-term shared visions.</p>

Strategies	
	<p>D1.1/A1.2/A4.2 Release frozen, militarized, and unbuildable privately owned lots, and facilitate the development of new housing units.</p>
	<p>D1.2/B4.2 Subdivide the municipal lot and integrate it into plans for the development of Karantina.</p>
	<p>D2.1 Regulate development in the residential and industrial areas of Karantina.</p>
	<p>D3.1/E1.3 Provide a legal enforcement measure for building rehabilitation.</p>
	<p>D3.2/E1.2 Channel funds through donors to vulnerable landlords for building renovation.</p>
	<p>D3.3/B8.1/E5.1 Adopt an inclusive and integrated design approach while upgrading and rehabilitating existing public spaces and introducing shared facilities.</p>
	<p>D4.1/E4.1 Upgrade and improve the performance and management of the existing infrastructural networks to respond to density demands and adopt emerging technologies.</p>
	<p>D4.2/A3.1 Introduce services and facilities that are lacking in the area, such as schools, sports facilities, and affordable clinics.</p>
	<p>D5.1/B1.1 Re-stitch Mar Mikhael with the southern side of Karantina through a pedestrian network across the highway.</p>
	<p>D5.2/B1.2 Increase the permeability of the edges of Karantina with the city.</p>
	<p>D5.3/B2.2/B4.3 Extend the sea promenade from the Beirut Central District to Karantina.</p>
	<p>D5.4/B2.3 Relink Karantina to the sea through the port.</p>
	<p>D5.5/B3.1 Establish points of connection with city-scale and wider mobility modes (buses, taxis, etc.).</p>
	<p>D5.6/B4.1/E5.2 Remove all access restrictions to the public domain.</p>
	<p>D6.1 Empower and strengthen the representation of different community groups in decision-making.</p>

General objective	Strategic objectives
 <p>E. Improve the quality of the urban environment in Karantina.</p>	<p>E1 ■■■ Improve the physical quality of the damaged and degraded buildings.</p>
	<p>E2 ■■ Reduce and contain hazardous wastes and harmful emissions.</p>
	<p>E3 ■■ Reduce sound and air pollution.</p>
	<p>E4 ■■ Improve the dilapidated water, sewage and other infrastructural networks.</p>
	<p>E5 ■■■■ Improve the quality and safety of the public domain which supports the existing socio-spatial practices across the three sub-neighborhoods.</p>
	<p>E6 ■■ Protect and maintain the layer of landscape heritage in Karantina.</p>

Strategies	
E1.1/A8.2	Offer financial packages and incentives to support the landlords in rehabilitating their residential buildings and maintain the stock of affordable housing units.
E1.2/D3.2	Channel funds through donors to vulnerable landlords for building renovation.
E1.3/D3.1	Provide a legal enforcement measure for building rehabilitation.
E1.4/A8.1	Regulate the density of people per residential unit to counter overcrowding.
E2.1	Regulate the management of the solid waste.
E2.2	Clean and green the Beirut River corridor.
E3.1	Manage the traffic of trucks, their access, and parking in the area.
E3.2	Regulate private generators, particularly the ones that are placed in proximity to residential buildings.
E3.3	Empower the Municipality of Beirut to monitor and coordinate efforts to protect the environment in Karantina.
E3.4	Reduce the negative impact of the highway as a source of noise and air pollution.
E4.1/D4.1	Upgrade and improve the performance and management of the existing infrastructural networks to respond to density demands and adopt emerging technologies.
E5.1/B8.1/D3.3	Adopt an inclusive and integrated design approach while upgrading and rehabilitating existing public spaces and introducing shared facilities.
E5.2/B4.1/D5.6	Remove all access restrictions to the public domain.
E6.1	Develop a legal framework for the identification and the protection of landscape heritage.

5. OBJECTIVE A

PROTECT THE EXISTING AFFORDABLE HOUSING UNITS IN KARANTINA AND PROVIDE A LARGER STOCK THAT IS INCLUSIVE OF A DIVERSITY OF SOCIAL AND INCOME GROUPS.

“ I hope for a safe housing in Karantina that meets the economic and social needs¹
أتمنى المسكن الآمن في الكرتينا الذي يتوفر فيه الاحتياجات الاقتصادية والاجتماعية

“ I hope that Karantina becomes a safe area, that fosters coexistence among the people²
أتمنى أن تكون الكرتينا منطقة آمنة وتعايش مشترك بين الأهالي



As was indicated in the descriptive memory and strategic diagnosis reports, Karantina hosted a stock of affordable housing units throughout its history for vulnerable groups, including low-income Lebanese families, refugees, and migrant workers. However, housing provision in Karantina reached a vulnerable state due to the multiple traumas the area experienced, ending with the most recent port blast and economic crisis in Lebanon. Increased threats of evictions and displacement of vulnerable groups were recorded in Karantina, especially after the port blast. This increase was largely due to rent hikes that rendered the area less affordable to its residents. Additionally, the dilapidated condition of the urban and built environment grew more acute over time with limited access to public spaces and services. These factors made access to 'decent housing - سكن لائق' even more challenging as desired by the residents when crafting the vision of Karantina.

Although Karantina has a diverse social fabric across nationalities, religions, age groups, and educational backgrounds, it cannot be described as inclusive. Residents tend to aggregate within enclaved sub-neighborhoods based on kinship and religious ties. Furthermore, inclusivity in Karantina is challenged in terms of physical accessibility to the stock of housing units for elderly people and people with physical disabilities. The aim, therefore, is to protect and increase the availability of affordable housing units while providing a larger stock that is inclusive of a diversity of social and income groups.

1 A.Y.A.I, (2021-February-13), (Wael Al-Saeed - Interviewer)

2 G.A.T, (2020- December-12), (Daniel Khadra - Interviewer)



A1. PROTECT AND EXPAND THE EXISTING STOCK OF AFFORDABLE HOUSING UNITS

Karantina is one of the few areas in Beirut that provides affordable housing units and responds to the critical growing demands in the affordable housing sector. The main objective is to sustain the affordability for the current housing units in Karantina and to increase the supply of affordable housing at the scale of the city.

The housing market in the capital city of Beirut is characterized by rising unaffordability and high vacancy rates. Large high-end urban developments are causing such high vacancy rates, as these developments do not cater to the growing demand of the low- to middle-income residents or respond to the low percentage of affordable housing units.

In Karantina, the increase in rents after the port blast, coupled with job loss and high unemployment rates, have resulted in increased evictions in the sub-neighborhoods and subjected tenants to forced displacement. This issue is pressing since around 73% of the residents are tenants, compared to 22% being owner-occupiers (5% are hosted for free). In addition, most tenants are paying more than 30% of their income in rent; in Al-Saydeh, 56% of the surveyed households paid more than 30% of their income in rent, in Al-Senegal 80%, and in Al-Khodor 92%. Therefore, the existing stock of affordable housing units needs to be protected to safeguard the residents of Karantina from displacement.



Figure 1. Residential buildings in Al-Khodor sub-neighborhood
Source: Batoul Yassine, 2021.



Figure 2. Residential buildings in Al-Senegal sub-neighborhood
Source: Rami Shayya, 2022.

Additionally, a significant number of residents who were displaced during the civil war are unable to return to Karantina. Also, a growing number of Syrian refugees are resorting to Karantina as a place to work and live, mainly in Al-Khodor sub-neighborhood. Since they are mostly low-income groups, they are increasing the demand for more affordable housing units. Thus, the aim is to protect and expand the existing stock of affordable housing units to meet the urgent and growing needs in Karantina and the city. To meet these needs, several strategies were identified. These strategies cannot be considered separately; rather, they should be mutually reinforcing and complementary to each other. The strategies include regulating rent rates in Karantina, releasing frozen, militarized, and unbuildable privately owned lots, promoting the development of new housing units, and facilitating the ownership of the existing stock of affordable housing units.

A1.1 Regulate rents in Karantina.

Access to housing units for tenants in Karantina was through formal and informal arrangements. The findings of the diagnosis report showed that 22% are owner-occupiers, 5% are hosted for free, and 14% are on old rental agreements, while 59% are on new rent. 77.5% of those who are on the new rent have informal agreements, while only 22.5% have rental contracts. Therefore, most tenants on the new rent access the housing sector informally. Additionally, Karantina has been facing uncontrolled adjustments in rents beyond that of the residents' economic capacities. In the aftermath of the port blast, as renovations were taking place, it was noted that in Al-Saydeh, 14.1% of the tenants either received a rent increase or were threatened by it, and 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, and 6.1% of the residents received an eviction suit or eviction threat. These numbers varied considerably in terms of rental tenure with it being more likely to happen to residents under the new rent than the old rent because of the protections the latter arrangement provided and because many new rental arrangements are informal.

Thus, rent regulation can protect vulnerable tenants from sharp increases by setting a cap on rent increases from year to year and can make formal practices in accessing housing units a more viable and secure option for the residents. The rent increase will be limited by a formula, or a set of criteria that are related to the costs of living in relation to the socio-economic conditions of the tenants. Although this strategy needs to be adopted on a national scale, Karantina can be key if treated as a pilot, or if defined as a special zone for applying this rent regulation.

This strategy translates into several action plans. The action plans include the revision of the 2017 rental law and the addition of an addendum to it that elaborates on the rent increase considerations and relevant criteria. It also establishes a housing monitor that is supported by legal counseling services for tenants to protect their rights.

A1.2/A4.2/D1.1

Release frozen, militarized, and unbuildable privately owned lots, and facilitate for the development of new housing units.



Figure 3. Unbuildable lots in Al-Khodor sub-neighborhood. Source: Ali Ghaddar, 2021.

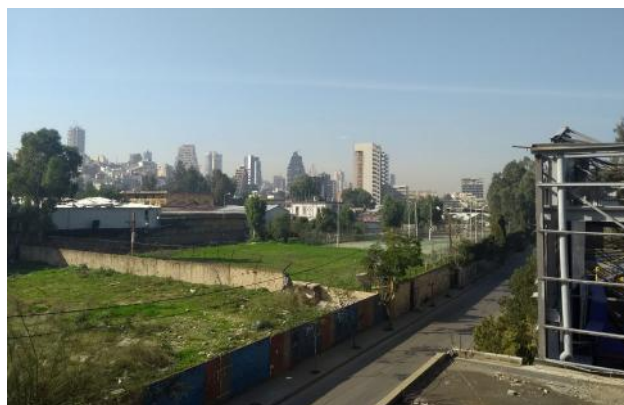


Figure 4. The walled municipal lot that is adjacent to Charles Helou Highway. Source: Ali Ghaddar, 2021.

Expanding the stock of housing units in Karantina is one of the main objectives that requires facilitation for new developments. The findings of the diagnosis report showed that many factors are impeding the development including spatial and legal considerations. These include the suspended LINORD project, the occupation of the military of private and public lots, the unbuildable lots given the current zoning law that specifies minimum area and dimensions of buildable lots, and the expansion of the shareholders' network on some of the lots due to multi-generation inheritance over time. These factors have limited the stock of housing units from growing and, thus, prevented the return of displaced residents from Karantina during the civil war as well as second and third generation residents, refugees, and other low- to middle-income groups from residing in Karantina. Therefore, land must be released for local development to increase the number of affordable housing units as well as accommodate a diversity of social and income groups within Karantina and the city of Beirut.

This strategy requires a set of action plans that would complementarily release land for the development of new affordable housing units in Karantina. These action plans include assessing the feasibility of the LINORD project and understanding its impact on the lots that fall within its scope, forming a neighborhood committee to negotiate with the army to remove their encroachments over the private properties, and proposing public-private partnerships to develop the group of un-buildable lots in Al-Khodor sub-neighborhood.

Providing tax exemptions for multi-shareholders to ease access to develop their lots in addition to financial incentives for developers to build affordable housing units can be another action plan that can facilitate new developments to expand the housing stock in Karantina.

A1.3 Facilitate the ownership of the existing stock of affordable housing units.

As was mentioned earlier in the report, 73% of the residents in Karantina are tenants of which 14% are on old rental contracts. Most of these tenants have been living in Karantina for over 30 years. Besides the old tenants, new tenants comprise 59% of the tenants in Karantina, many of whom have been living in the same apartment for over five years, reaching 10 years in some cases. Given the chance, many low-income tenants, whether old or new, have acquired assets and become more financially secure. Therefore, facilitating the ownership of the existing stock of affordable housing units for some of these tenants would respond to the set objective of protecting the stock of affordable housing units in Karantina and protect the social fabric from evictions and displacement. Studies have shown that there are social benefits to promoting homeownership for low-income groups, especially tenants. This would generate more incentives for the tenant to invest in the apartment and the neighborhood, thus, promoting civic engagement and enforcing their attachment to the neighborhood.

This strategy would be viable through proposing a reform to the new public housing loans that are provided by the Housing Bank, to revise the eligibility criteria and include Karantina in its scope, and set a reasonable amount of the housing loan that would allow tenants to buy the houses they live in.



A2. PROVIDE JOB OPPORTUNITIES FOR THE RESIDENTS OF KARANTINA

Karantina has been facing an economic decline, and its residents have been subjected to massive job losses due to the economic crisis that started in 2019 coupled with the pandemic, and recently the port explosion in 2020, in addition to the closure of the key economic drivers that include the port, the slaughterhouse, and the fish and public markets. This decline has impacted the socio-economic conditions of the residents, increased vulnerabilities, and restricted their access to housing, including the stock of affordable housing units in Karantina itself.

The strategic diagnosis showed that these factors have caused a soaring increase in the rate of unemployment to reach 70% in 2021 even though the residents of Karantina had a wide range of educational backgrounds and skill-based expertise. The working group in Karantina has 1.7% post-graduates, 7% vocationally trained, 20% with university degrees, and the other 67% have received either elementary, secondary, or high school education (6% did not provide an answer).

The analysis also showed that 33% of those who are currently unemployed used to work before. 54% of them lost their jobs in the last 3 years because of the economic crisis and the pandemic, while 27.5% lost their jobs forcibly because of the port blast. 11.5% of the currently unemployed and used to work at the port while 32% worked inside Karantina. It is also noteworthy that only 34% of those who are employed work for businesses in Karantina, most of whom are non-skilled workers.

These numbers signify that there is an urgent need to provide job opportunities for the residents of Karantina to improve their socio-economic conditions by building further capacities in them, matching them with job opportunities in the area, connecting them with the job market, and revitalizing the economic drivers that would generate more job opportunities. This will further empower them to create what they described in the vision as an empowered and interconnected community “مجتمع متمكن ومتربط”.

A2.1/B6.1/C2.1

Build the capacities of the residents of Karantina and match them with job opportunities.

Historically, most of the residents of Karantina used to work at the port, the public and fish markets, and the slaughterhouse, especially the residents of Al-Khodor sub-neighborhood. After the closure of these economic drivers, the residents tended to open daily shops (groceries, butcheries, and barbershops among others) or in-house businesses such as crafts (sewing) or food making (mooneh). They also sought jobs in other sectors that required new skills and capacities, such as management and administration, banking and business sectors, healthcare, and education. However, the residents faced challenges in meeting the demands and skills of the job market either because they lacked exposure to the available opportunities or lacked the required skills and expertise. Therefore, there is a need to build the capacities of the residents of Karantina to be matched with available job opportunities.

This strategy would be feasible by establishing a career and guiding center that would invest in workforce training programs that are aimed toward current and future cultural and economic activities and to match them with economic and cultural hubs and businesses in Karantina and elsewhere.

A2.2/B6.2/C2.2

Match the skilled workforce with the businesses in the area and connect them with the job market on a larger scale.

There is diversity within the existing businesses in Karantina by type and size. These businesses range from mechanics, garages, machine repairs, art galleries, showrooms, design offices, retail companies, car sales showrooms, and port-related businesses such as freight, logistics, and shipping services companies. There are very few leisure and recreational spaces that are limited to small gaming and hookah shops while the large spaces closed after they were damaged by the port blast, such as FLYP and BO18. Smaller micro daily businesses are many in Karantina and are concentrated within the residential sub-neighborhoods. Despite this variety, only 34% of the employed residents work for businesses in Karantina, most of whom work for micro-businesses such as retail shops, mini markets, butchery shops, bakeries, and small mechanics workshops. However, the owners of medium business chains tend to employ skilled people who live in the city and Greater Beirut. Therefore, there is a disconnection between the larger micro, small, and medium businesses, and the residents of Karantina although there is a considerable percentage of university degree holders and skilled workforce in Karantina who would meet the demands of these businesses.

Additionally, out of the 30% of employed residents in Karantina, 51% work in Beirut, 34% work in Karantina, and only 13.5% work outside Beirut (2% did not provide an answer). These percentages signify that there is a limited connection between the residents of Karantina and the job market on the city scale. Therefore, linking the skilled workforce in Karantina to the job market whether within Karantina or on the city scale would increase the number of job opportunities for the residents and further increase their financial capacities. This strategy would be applicable through establishing a business and training center that would identify and engage local skilled workers and connect them with job opportunities in Karantina and beyond.

A2.3/B5.1/C1.1/C2.3

Revitalize three of the economic drivers: the slaughterhouse, the public market, and the fish market.

The three economic drivers - the slaughterhouse, the public market, and the fish market - are key assets for Karantina. These public facilities need to be brought back to life and must operate sustainably to full capacity. Their structures need to be restored and enhanced. Their surroundings need to be activated and made welcoming to users and workers. And their operations need to be resuscitated but managed with effective and durable management practices. Wide-encompassing benefits would be expected including the strengthening of Karantina's spatial and economic connectivity to city-wide and country-wide scales, the regeneration of socio-economic and cultural practices, and the increase in opportunities for the Karantina residents, increasing their income and, thus, their ability to afford housing units.

For instance, the slaughterhouse must be reopened, but this requires the rehabilitation of its structure as well as the remediation of its lot, currently used as a dump for rubble from demolished buildings. Nonetheless, the Municipality of Beirut, which oversees this facility, must adopt reformed, efficient, and ecologically-sound operation and management systems, while abiding by international standards of hygiene and sanitation. This will restore the slaughterhouse's economic and cultural benefits to the Karantina residents, but in a healthy and durable way.

The public markets' structures also require rehabilitation, and so does the ample space surrounding them that is currently left littered and underutilized. Reopening the popular market, enhancing the fish market's performance, expanding them programmatically, and consolidating them into a socio-economic hub will rebuild and intensify economic and social networks around them, locally, regionally, and nationally. Additionally, transforming the abandoned open space around the markets into a lively public space that is easily accessible and well-connected to the natural elements around it, such as the sea, river, and estuary, will elevate the market hub into an urban node. However, the success of these transformations hinges upon an effective management and operation scheme that requires an assessment of the roles and needs of the Public Authority for Consumer Markets in overseeing the markets and coordinating with the other involved public institutions.



A3. IMPROVE THE PROVISION OF PUBLIC SERVICES IN KARANTINA

Karantina suffers in terms of the provision of public services because of the lack of public spaces that the area offers to its residents, additionally, accessibility to the currently offered services is restricted and threatened. The lack of schools, healthcare, public and shared space, and the level of services contribute to the area's level of unaffordability because the residents must incur additional costs to access these services. Prior to the civil war, the area had one Catholic School, and one UNRWA School which closed by the end of the war. There was also a public school which kept its doors open until 2014. Currently, there is a small school in Al-Saydeh which was built in 2021 and accommodates only 10-12% of Karantina's pupils. The closure of the schools in the area meant that children must face the challenge of transportation and incur extra costs to attend schools in areas outside of Karantina.

Furthermore, there is only one hospital in Karantina that is governmental, and it services patients from across Beirut but is rarely used by Karantina's residents because they feel as reported that it is under-serviced. In addition, the Karantina Park that was rehabilitated in 2016, was renovated after the port blast but has since been closed due to COVID-19. Instead, common social practices include children playing in the streets and in empty lots that lack basic security and safety measures, while the adults engage in social practices in streets that lack lighting, shading, and basic urban furniture. Thus, the aim is to improve, enhance, and grow these public services. This is possible through the introduction of services that are lacking in the area, such as schools, recreational facilities, and affordable clinics and facilitating access to the already existing amenities.

A3.1 Introduce services and facilities that are lacking in the area, such as schools, sports facilities, and affordable clinics.

As was mentioned above, there is limited or no access to public services such as schools, public parks, and healthcare facilities within Karantina due to the absence of some of the services such as schools, or the closure of others such as the public park, or due to issues of connectivity. Therefore, these factors decreased the level of unaffordability in Karantina since residents must pay for additional costs to access these services elsewhere.

Firstly, Karantina was home to three schools which provided education to 2,097 students, of whom a great percentage was from Karantina. Two of the schools closed during the war whereas the public school closed in 2014. These closures affected nearly 170 households. After the closure of all three schools in the area, the residents began enrolling their children in schools nearby in Achrafieh and Burj Hammoud, often further away owing to the presence of two public schools in these areas. Recently, a prefabricated school was built in 2021 on the municipal lot in Al-Saydeh sub-neighborhood through Spanish funding. The school currently accommodates only 10-12% of the children in Karantina. Additionally, there are no after-school programs, specialized programs for English education, and libraries, often leaving the children at a disadvantage in their future.

Secondly, although the area hosts the Karantina government hospital which services patients across Beirut, the residents are often unable to benefit from the services due to financial strain. Before the civil war, the hospital used to employ Lebanese residents in the area, but recently, the residents described feeling like second-class citizens who are not prioritized in employment nor in service provision. The answers to the household questionnaire reported that 73% of the residents considered the hospital under-served, 41% said it was very expensive, and 50% mentioned that it is poor in quality and bad for medical treatments. There is one clinic for the Maronite league that provides low consultation prices and services to the residents, but still many residents displayed a preference for other affordable hospitals and clinics in Beirut and the suburbs.

Thirdly, the area lacks sports and recreational spaces. Leisure spaces are mostly limited to a few coffeshops, one gaming shop that closed after the port blast, and the FLYP leisure center that was heavily damaged by the port blast and never restored its operation. Therefore, these missing services need to be re-introduced in Karantina to facilitate access to affordable housing units that are well serviced. This strategy would be feasible through establishing a multi-purpose complex for public services that includes a public school, an affordable family clinic, and a sport or recreational center.

A3.2 Facilitate access to existing public spaces, including the public park, and increase their number.



Figure 5. Children from Karantina asking the guard to let them access the park. Source: Batoul Yassine, 2021.



Figure 6. Residents sitting on the sidewalk in front of the public park that is closed. Source: Batoul Yassine, 2021.

Karantina has one only one public park that remains closed most of the time. It is located in the middle of the neighborhood and was first established in 1956. The park was rehabilitated in 2016 and had been used for community engagement workshops. The park includes amenities such as water fountains, a playground, and sand floors. However, the park was renovated after the 2020 port blast and closed to the public due to COVID-19. While speaking with the residents, they reported countless occasions on which the children had to resort to a nearby asphalt parking lot or Malaab El Ramel (ملعب الرمل), which is located on the unbuildable lots, to play and engage in sports activities.

Very rarely do children seek leisure facilities outside of Karantina because they cannot afford the commute costs. It is essential that the Municipality of Beirut facilitates access to the existing public park and introduces new parks in the sub-neighborhoods.

To do this, a new management and operation plan for the existing parks in Karantina must be designed, an integrated urban design plan for an open space network that includes upgrading existing spaces and reforming operation and management systems should be proposed, and finally, a subdivision project of the municipal lot that opens and reprograms it to enhance the connectivity and the services for Karantina through public recreation and play areas must be designed and implemented. The municipal lot has to be opened and reprogrammed to enhance connectivity and services in Karantina. All in all, these plans will improve the provision of public services in Karantina.



A4. PROVIDE ACCESS TO NEW AND INCLUSIVE HOUSING UNITS ACROSS A DIVERSITY OF SOCIAL AND INCOME GROUPS

Karantina's demographic makeup is diverse in nationality, religion, income, age, and mobility. The data from the answers to the questionnaires demonstrates a high concentration of Lebanese residents that constitute 53.1% and Syrians that constitute 45.3% in Karantina, with a few Ethiopian and Palestinian residents. Generally, the religious distribution across Karantina is 77% Sunni, 13.8% Maronite Christian, and 2.8% Shiite, with small percentages of Armenians, Greek Catholic Christians, and Greek Orthodox Christians. 93.7% of Al-Khodor and 52.3% of Al-Senegal are composed of Sunnis, whereas the majority of Al-Saydeh are Christians (53.7%). Despite the diversity across Karantina, there are evident forms of exclusion where residents tend to aggregate within the enclaved sub-neighborhoods based on their kinship and religious ties, and landlords withhold access to housing units based on these factors as well as nationality in some cases.

Furthermore, these exclusive practices are also demonstrated in the lack of physical accessibility for elderly people and people with physical disabilities across the built fabric. 43 households reported at least one member living with a disability. Additionally, 9% of Karantina's population is over the age of 64. These limitations do not only affect their ability to get in and out of their homes, but it also affects the exclusivity of the existing stock of housing units. Conversely, Karantina lacks diversity in the distribution of income groups given that the average household income is 827,645 Lebanese Lira (this number was derived in February of 2021, the value of the Lebanese Lira has since drastically changed), deeming the majority of Karantina's residents as low-income. All in all, these nuanced forms of exclusion pose a threat to the diversity and inclusivity of the social and housing network as they keep individuals enclaved and promote the isolation and separation of social and cultural practices across the sub-neighborhoods. Additionally, Karantina fails to be inclusive of individuals from different socio-economic backgrounds. For this reason, the aim is to provide access to inclusive housing units across diverse social and income groups by facilitating new developments and diversifying the typologies of housing units that can accommodate a diversity of social and income groups.

A4.1 Diversify the typologies of housing units from studios to single family and multi-family apartments.

In the assessment of housing units across Karantina, it was apparent that most of the typologies are single apartments that are built on small lots with three- to four-story walk-up apartments, except for one in-fill condo typology that was built in 2006. Furthermore, in the diagnosis report, the unit area that was reported by residents ranged from 12 sq. m to 285 sq. m, with an average area of 80 sq. m and 1-2 bedrooms. Only 7 of the assessed buildings across the area were reported as having an elevator.

Informal rent pooling practices are common among residents across Karantina. The data from the diagnosis report showed that in Al-Saydeh, 35.7% of Syrian households reported sharing a house with at least one family. This figure was higher in Al-Khodor at 41.8% and in Al-Senegal at 57.1%. These figures were significantly different for Lebanese households whereby the number was highest in Al-Khodor at 11.2%. Some residents reported using the common areas to sleep. The number of household members living in one apartment reached 20 people in some cases.

Diversifying the typologies of housing units to range from studios to multi-family apartments will increase inclusivity by providing access to housing across a diversity of social and income groups. This strategy can be reached by developing the unbuildable lots through a public-private partnership and by designing financial incentives and penalty taxation packages that include tax exemptions, low-interest loans, density bonuses, and vacancy penalty taxation to promote development in Karantina.



A5. ENSURE THAT NEW DEVELOPMENTS MEET INCLUSIVITY STANDARDS.

Inclusivity aims at creating healthy and socially friendly environments for all people regardless of their age group, physical or cognitive abilities, or different body shapes and forms. This includes the built spaces as well as streets and public spaces. In Lebanon, inclusivity is challenged in terms of physical accessibility to the stock of housing units for elderly people and people with physical disabilities (inclusivity to public spaces is addressed in Strategy B8.1). In Karantina, 43 households reported at least one member living with a disability, 27 cases reported in Al-Khodor alone, 11 in Al-Saydeh, and 5 in Al-Senegal. Additionally, 403 households reported at least one family member having a chronic illness, mostly heart diseases and irregular blood pressure were recorded, and 17 cases have serious or life-threatening illnesses. Besides, elderly people constitute around 9% of the population in Karantina. Therefore, Karantina has a considerable percentage of its population living with some form of physical challenge; whether they are elderly people, people with physical disabilities, or people with health problems that can affect their physical performance. In terms of physical accessibility, there are only seven buildings in Karantina with elevators, making the area less inclusive to wheelchair users and to elderly people.

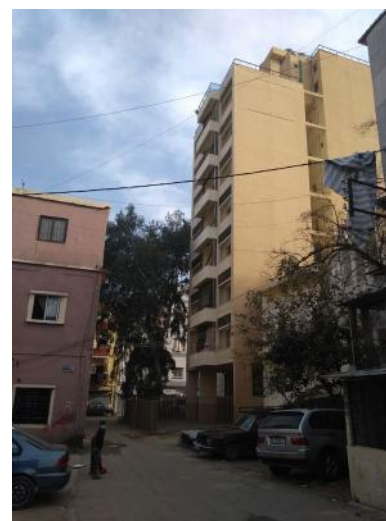


Figure 7. A newly constructed building in Al-Khodor sub-neighborhood. Source: Abir Cheaitli, 2021.

There was also a notable absence of wheelchair ramps in the entire area. Additionally, the near-home environment is another factor that affects inclusivity, particularly for the elderly and disabled people. They mostly prefer staying inside their houses or spending some time on the sidewalks in front of their houses that are not adequately equipped to accommodate their needs. Therefore, inclusivity standards need to be met with existing and new developments to allow for the accessibility of this group to the housing units and public and shared spaces. To meet this objective, an inclusive design approach needs to be adopted when rehabilitating existing buildings or designing new housing developments.

A5.1 Adopt an inclusive design approach when rehabilitating existing buildings or designing new housing units.

As was mentioned above, Karantina has a considerable percentage of elderly people and people with physical disabilities who face challenges in accessing safe, healthy, environmentally, and socially friendly built spaces as well as streets and public spaces. In particular, access to housing units and shared spaces is a major issue of concern to this group. This is due to the lack of inclusive services and facilities within the existing built environment that has evolved into its current conditions because of the building law. The building law does not provide inclusive standards for new constructions, particularly residential constructions.

The 2004 building law that is currently in effect does not specify design guidelines for inclusive constructions. Rather it provided public safety measures that ensure structural stability against the threats of earthquakes and fires. It was until 2005 when decree number 14293 was issued and elaborated on the

mandatory approval of technical audit offices as a condition for the order of Engineers and Architects to issue construction permits. The audit office relies on international standards for large-scale constructions, including standards for public safety and design requirements for the disabled. The latter includes requirements for building access through ramps, walkways, and elevators, and particular services with specific dimensions for the disabled such as toilets. The design standards for the disabled are only applied to non-residential constructions, mainly buildings for public use.

Therefore, the above strategy would be viable by reforming and expanding the scope of the building law to incorporate the inclusive standards and requirements within the law and applying it to all types of constructions, including residential buildings. The law needs also to address, in addition to new constructions, retrofitting existing structures to accommodate people with physical disabilities or are visually impaired.



A6. LIMIT THE ENCROACHMENT OF THE BUSINESSES INTO THE RESIDENTIAL SUB-NEIGHBORHOODS.



Figure 8. A residential house that was transformed into a logistics business in Al-Saydeh Sub-neighborhood.
Source: Ali Ghaddar, 2021.

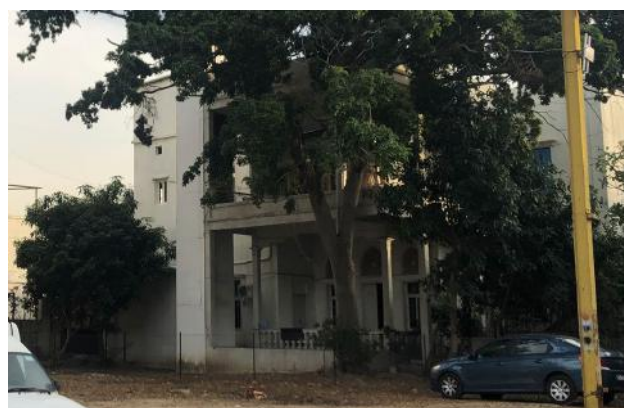


Figure 9. A residential house that was transformed into a logistics business in Al-Senegal Sub-neighborhood.
Source: Ali Ghaddar, 2021.

As was discussed in section A1, the post-port blast reality and the current economic crisis in Lebanon have led to evictions and rent increases and, as a result, impacted the stock of affordable housing units in Karantina. This condition was further exacerbated by the encroachment of the businesses into the residential sub-neighborhoods and the conversion of some residential units into offices. These businesses consider rent in the residential clusters cheaper than other areas in Karantina. Their encroachment into residential buildings is threatening people with rent hikes and further limiting the stock of housing units. As a result, there is a risk that Karantina, which has historically welcomed low-income populations seeking to live and work in the city, will lose its social diversity, social networks, and housing affordability.

The competition between businesses for rent is also linked to an increase in vacancy rates since some landowners would rather not rent apartments unless it is for businesses. The diagnostic report revealed that the reason for Karantina's high vacancy rate is that landlords are hesitant to rent out their properties given the current state of the economy. One of the interviewees said that he is worried that the landowner will rent out the vacant apartments in his building because he used to "rent out 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." He put up a 'for-rent' sign on the building stating "for rent, office space available"³. This trend is explained by the intention and preference of landlords to attract enterprises and NGOs, which could ultimately result in a shortage of affordable housing units in Karantina. The diagnosis report showed that the trend of converting apartments to office spaces is largely taking place in Al-Saydeh, but also to a lesser degree in Al-Senegal and in Al-Khodor.

The area is in danger of losing its socioeconomic diversity of residents and access to affordable housing units because of the evictions and disruptive behaviors of landlords following the port blast. This is despite efforts by some NGOs that requested from landlords to sign a pledge not to raise rents in exchange for free renovation. Only long-term policy solutions and legal frameworks delivered and implemented by the government can truly alleviate these concerns. Therefore, measures should be taken to protect and increase affordable housing units, while also providing a larger stock of housing units that is inclusive of a diverse range of social and income groups. The aim is to limit the encroachment of the businesses into the residential sub-neighborhoods. This is achieved by regulating the transformations in the use of residential buildings.

A6.1 Regulate the transformations in the use of residential buildings.

Since the zoning regulation does not address land use, several businesses are buying or renting apartments to use as offices in the absence of any guiding restrictions. Affordability and social networks may be impacted negatively by this trend in residential areas. The rent market is to a great extent based on contractual agreements that can be oral, flexible, and largely unregulated. The practices of landlords renting out apartments to businesses that pay higher rents put current and long-term tenants in a vulnerable position. Businesses take advantage of the relatively low rent within the residential clusters. The goal is not to prohibit the mix of land uses within clearly delineated areas, but rather to regulate these transformations to protect the stock of housing units and the social integrity of the residential clusters. This concern should not be limited to the existing stock, but should be extended to new developments.

The strategy is to regulate the transformation in the use of residential buildings. This strategy is fulfilled by reforming and elaborating the planning law or proposing an addendum to it that guides and regulates existing and future land uses and developments. Stakeholders involved in studying the proposal and its consequences include municipal officials, planners, and architects. To this effect one could consider limiting the use of the ground floor and the first floor units of residential buildings to logistics, service businesses, and offices.



A7. DECREASE THE VULNERABILITIES THAT ARE ASSOCIATED WITH INFORMAL PRACTICES.

Karantina is characterized by the prevalence of informal rental arrangements, which increases access to housing for vulnerable groups but leaves them with minimal legal protection and bad living conditions. As was previously mentioned in the report, 73% of the residents in Karantina are tenants, among which around 35% have no formal contracts. Such informality is the most pronounced in Al-Khodor sub-neighborhood which recorded the highest percentage of informal rents among its tenants with 89.7%, while Al-Senegal and Al-Saydeh recorded around 10% each.

Informality of this kind is a mode of inclusivity as it allows socio-economically underprivileged groups to acquire accommodations and benefits that are otherwise inaccessible. This is well-illustrated in Karantina with the fact that most Syrian households had to access housing through informal agreements. This arrangement allows for the possibility of rent-pooling and dividing rent among several families. It is noted that this also benefits landlords who opt for renting out to groups of families instead of single families taking advantage of the vulnerability of Syrians and increasing rent prices. This translates to much higher percentages of Syrian families sharing a house with at least one other family, reaching 35.7% in Al-Saydeh, 41.8% in Al-Khodor, 57.1% in Al-Senegal, in contrast to 2.3%, 11.2%, and 6.4%, respectively for Lebanese families. Consequently, high levels of overcrowding are recorded in Karantina; for instance, 20% of the households in Karantina are overcrowded, with Syrian households accounting for 65% of the total 20%. On another note, tenants with no formal contracts will be more vulnerable against the trend of evictions and rent hikes in the area after the port blast and economic crisis, as was evident in strategy A1.1. A clear illustration of this is the fact that 100% of the rent hikes in Al-Khodor sub-neighborhood were received by households with no formal contracts. Hence, to reduce these vulnerabilities and improve the living conditions of the Karantina residents, strategies that aim at advocating for the rights of tenants are of paramount importance.

3 E.C., (2020-October), (Mohamad El Chamaa- Interviewer).

A7.1 Advocate for the rights of tenants to reduce vulnerabilities and improve living conditions.

Following the port blast and the ongoing economic crisis, tenants in Karantina, accounting for most of the residents, are facing manifold hardships, poor living conditions, and threats to their housing security. Moreover, many tenants, especially those with informal rents, are unaware of possible legal actions they could take to protect their rights. For example, legal experts revealed to residents during the thematic focus group discussion on 29 April 2021 that there is the possibility of countering evictions in courts if residency can be proven using an electricity receipt, water bill, or proof of residency from a mukhtar. From here, tenants need to be empowered with the tools needed to fend off rent hikes and eviction threats. This requires reinforcing their collective awareness about their shared struggles, providing them with the knowledge about their legal rights and protections, and supplying them with the needed legal counseling and support, be it from governmental or non-governmental actors. Accordingly, the establishment of monitoring and registry systems, covering both formal and informal housing tenure systems and conditions, would aid in securing legal protections and controlling detrimental living conditions.



Figure 10. The indoor quality of a residential house in Al-Khodor sub-neighborhood. Source: Batoul Yassine, 2020.



Figure 11. The outdoor quality of a residential house in Al-Khodor sub-neighborhood. Source: Batoul Yassine, 2020.



A8. IMPROVE THE LIVABILITY AND BUILDING CONDITIONS WITHIN THE RESIDENTIAL CLUSTERS.

Karantina's built environment has been degraded due to multiple factors, including the multiple traumas that the area went through, the high percentage of old tenancy that renders landlords incapable of maintaining and improving the quality of their properties, and the overcrowding within the residential units that worsened the conditions of buildings. As a result, the dilapidated physical conditions within the residential units have compromised the living conditions of people. The assessment of 252 out of the 364 buildings in Karantina revealed that 22% are in good condition, 34% are in average condition, and 22% are considered degraded. The old rental value coupled with rents being fixed at the pre-hyperinflation rates, rendered landlords with no financial capacity to maintain or improve their buildings. In addition, damages from the port blast left buildings with traces of moisture, water stains, and peeled paint, causing mold growth and humidity and creating a health threat for residents. Though many repair efforts were undergone, many residents reported bad or incomplete repair work. In some cases, the tenants reported that their landlords declined to repair the infrastructure of the building, blocking water irrigation systems, and neglecting the aesthetic of the building to drive them away so they can rent out to other people at higher rates. Additionally, the area faces many issues with overcrowding within the residential units; this is especially prevalent in Al-Khodor which is the densest of the three sub-neighborhoods. Overcrowded households are more likely to suffer from environmental hazards and poor indoor air quality. Thus, it is essential that the living and building conditions are improved by regulating the density per residential unit to counter the overcrowding, and by offering financial packages and incentives to support the landlords in rehabilitating their residential buildings to maintain the stock of affordable housing units without compromising the current tenants.

A8.1 Regulate the density of people per residential unit to counter overcrowding.

Karantina faces many issues of overcrowding within the residential clusters. Informal rent pooling practices are commonly used by landlords to exploit tenants, hence, subjecting single-family households to unfair accessibility to housing and bad living conditions for the families in multi-family households. These practices disproportionately affect Syrian households. In Al-Saydeh, 37.5% reported sharing a house with at least one other family, and this figure was even higher in the other sub-neighborhoods of Al-Khodor (41.8%) and Al-Senegal (57.1%). As opposed to the Lebanese residents, only 2.3% shared their houses with other families in Al-Saydeh, 6.4% in Al-Senegal, and 11.2% in Al-Khodor. Therefore, density per the residential units needs to be regulated to counter overcrowding. This strategy would be viable through establishing a monitoring and municipal taxation system that is set up for buildings that fail maintenance and upkeep to ensure public safety and security.

A8.2 Offer financial packages and incentives to support the landlords in rehabilitating their residential buildings and maintain the stock of affordable housing units.

Karantina is one of the neighborhoods in Beirut that offer affordable housing, but the stock of housing units in the area is limited and threatened. As was mentioned earlier in the report, 73% of the residential units are occupied by tenants, of which 14% are on old rental contracts. This factor, along with the limited financial capacities of the landlords, contributed to the degradation of many of these buildings. Besides, years of neglect, compounded by several national crises and the 2020 port blast, damaged Karantina's built fabric and left 78 buildings abandoned. Additionally, the post port blast recovery efforts resulted in poor repair works that were sponsored by NGOs and worsened the living conditions within some apartments. These poorly maintained and unused structures often cause environmental problems, including the release of chemicals and leakages, and they pose additional health threats to the residents. Eventually, the abandoned structures would expand the stock of housing units if renovated and re-used, and the rehabilitation of the occupied units would maintain the affordability of the stock of housing units. Therefore, the aim is to offer financial packages and incentives to support the landlords in rehabilitating their residential buildings and maintain the existing stock of affordable housing units. This strategy translates into two action plans: create a registry platform to match donors, NGOs, and construction companies with landlords for rehabilitation, and activate incentive based financial packages to landlords and developers to rehabilitate and upkeep their buildings.

6. OBJECTIVE B

STRENGTHEN THE SOCIO-CULTURAL, ECONOMIC, AND SPATIAL CONNECTIVITY OF KARANTINA INTERNALLY AND EXTERNALLY WITH ITS SURROUNDINGS

“ I want Karantina to be better developed and open to the neighboring areas, and at its best⁴

أريد ان تكون الكرنطينا بشكل أفضل متطورة ومنفتحة
على المناطق المجاورة وبأفضل حال من أحوالها



Karantina's position in Beirut was reduced to that of a backyard area that is contained between several infrastructural breaks. It is evident from the strategic diagnosis report that Karantina suffers from an enclaved socio-spatial condition whereby its urban fabric is detached from the rest of the city. The neighborhood is confined between harsh borders such as the Charles Helou Highway, the port, and the river, which form impermeable edges and limit accessibility. Over time, Karantina lost its connection with Mar Mikhael after the construction of the Charles Helou Highway was completed. It also lost its connection with the sea due to the expansion of the port and the militarization of the northern edge. The shift in the port dynamics upon its expansion and its disconnection from the city further separated Karantina from the Beirut Central District.

This enclaved condition is exacerbated by the absence of a transportation plan that networks Karantina with the rest of the city. The physical and spatial rupture is paralleled by a socio-cultural one between Karantina and the rest of the city, particularly the solid network it had with Mar Mikhael. Furthermore, there is an economic disconnection due to the weakening and closure of the major economic drivers, including the slaughterhouse, the public and fish markets, and more recently the port.

Similarly in the inner fabric, block typologies and heavy military presence contributed to internal spatial fragmentation. This fragmentation is reflected in the socio-economic conditions of the residential clusters. Although there are three residential clusters, they remain isolated from each other and socio-culturally distinct from one another.

Furthermore, fragmentation also occurs with the businesses. Despite the presence of several economic magnets in the area, they remain isolated as separate economic islands with missing spatial and economic connections between them. Considering the vision for an easily accessible urban fabric in Karantina "سهولة الوصول" with its people empowered and interconnected "مجتمعا متمكنا ومترابط", the aim is to strengthen the socio-cultural, economic, and spatial connectivity of Karantina internally and externally with its surroundings.

⁴ J.A.A, (2020-December-12), (Hassan Ali Aswad - Interviewer)

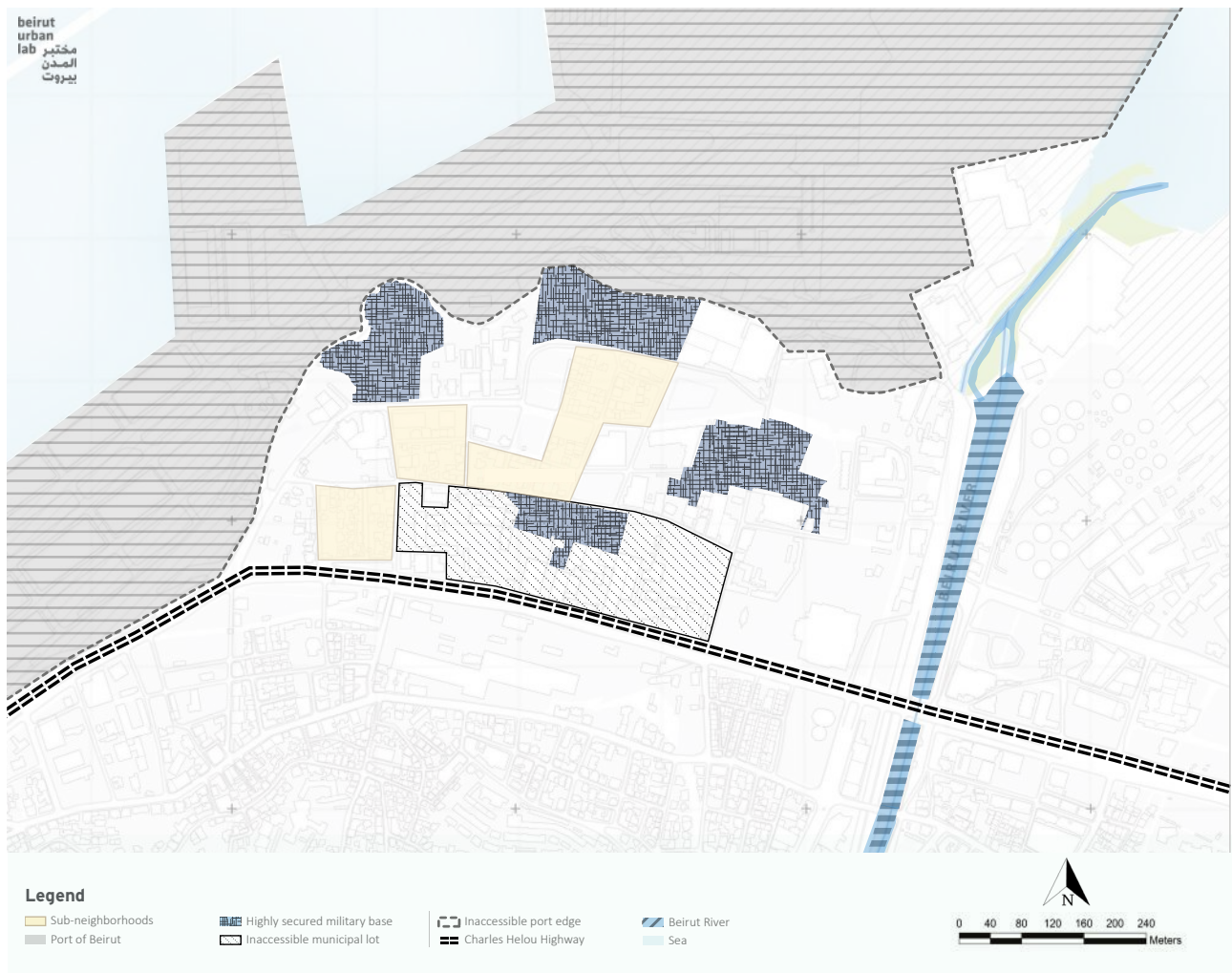


Figure 12: The boundaries of Karantina and the inaccessible areas within it. Source: The Beirut Urban Lab, 2022.

B1. CONNECT KARANTINA SPATIALLY WITH ITS SURROUNDINGS.

The construction of the Charles Helou Highway in the late 1950s radically compromised accessibility into Karantina and affected its spatial connectivity with its surroundings. Historically, Karantina was strongly connected with Mar Mikhael through the two vertical spines: Ibrahim Pacha Street and Al-Khodor Street. Residents used to commute frequently to Mar Mikhael to run some errands, go about their daily shopping, and engage in leisure activities. A religious network was also at the core of this connection as the Muslim community was linked to Al-Khodor Mosque, and the Christian community was attached to Mar Mikhael Church. When a 2.5 kilometers long highway was constructed, it created a physical rupture between these two neighborhoods, a condition that was strongly emphasized in several town hall meetings. Two pedestrian bridges were added after many incidents of people dying on the highway, a solution that is still perceived as unsafe by the residents. The highway also cuts through a large municipal lot that hosted the train station and a French army base. Currently, the northern part of the lot occupies around 8 hectares, equivalent to 12% of Karantina's total area. The rectangular-shaped lot, demarcated by high walls, extends over 1.25 kilometers in the linear perimeter. The vacuum created by this spacious but inaccessible lot further reduced permeability and affected porosity at the urban edges of Karantina.

The enclaved spatial condition is also impacting the economic drivers of the area. Despite the several economic magnets present at the northern periphery of Karantina, such as the slaughterhouse, the fish market, and the public market, there is a missing spatial connection between them and the inner neighborhoods. A frustration from this spatial condition was sensed among the residents of Karantina as they frequently described the area as an isolated space "منطقة معزولة". Responding to the objective of strengthening Karantina spatially with its surrounding, the following proposed strategies are aimed at re-stitching the area with Mar Mikhael to the south through a pedestrian network, increasing the permeability of the urban edges, and creating socio-spatial hubs around the economic drivers.

B1.1/D5.1. Re-stitch Mar Mikhael with the southern side of Karantina through a pedestrian network across the highway.

As was stated in the previous section of the report, the Charles Helou Highway caused a physical rupture between Karantina and Mar Mikhael. Reversing the drawbacks of this rupture requires re-stitching the torn neighborhoods together and bringing back the lost connection between them. Spatial connectivity then becomes a key catalyst for reconnecting communities socially and economically. Accordingly, this strategy proposes re-stitching Karantina with Mar Mikhael at its southern edge through a pedestrian-friendly network of roads and open spaces. Achieving this strategy requires redesigning Charles Helou Highway as an urban boulevard with multiple pedestrian crossings into Mar Mikhael. This action plan should be studied through a comprehensive urban design plan for an open space network that includes upgrading existing spaces, introducing new spaces, and reforming operation and management systems.



Figure 13. The pedestrian bridge that runs over the Charles Helou Highway. Source: Abir, Cheaitli, 2021.

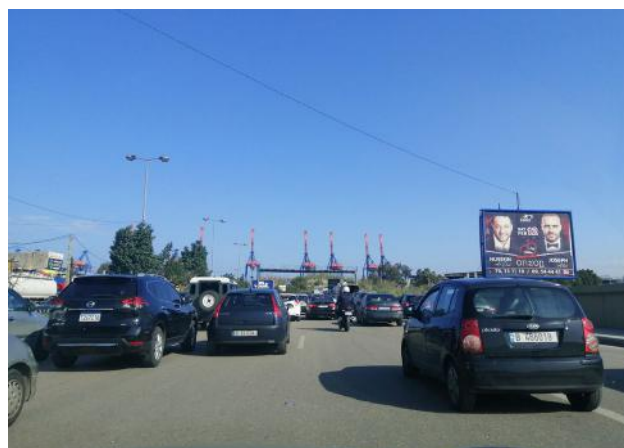


Figure 14. Traffic on the Charles Helou Highway. Source: Weam Haddad, 2021.

B1.2/D5.2. Increase the permeability of the edges of Karantina with the city.

Occupying around 12% of Karantina's total area, the municipal lot at the southern edge contributes to Karantina's physical isolation from its surroundings. This lot resulted from the construction of the Charles Helou Highway that cut across a 20-hectare municipal lot in the late 1950s. The lot used to host the train station, presently in Mar Mikhael's side, in addition to a French military base. Currently, the space is utilized for many economic and municipal services such as the fire station, a local department for the Municipality of Beirut, and other municipal services. A military base is also present, occupying 15% of the area. The high walls delineating its borders act as barriers that prevent pedestrian and vehicular accessibility and visual connectivity. This strategy aims to increase the permeability of this edge so that it becomes an integral part of Karantina instead of an isolated and peripheral area. Edge permeability increases when people can move freely with little restrictions and have an ample variety of routes to take. Thus, enhancing permeability will ease vehicular and pedestrian movements and strengthen connectivity between Karantina and its surroundings.

Once it is accessible, there is potential for this lot to host public amenities and new developments that can cater to the people of Karantina and its surrounding neighborhoods. Therefore, this strategy is vital to revive the socio-cultural vitality of Karantina and trigger new developments in the area. This strategy translates into an action plan that will design and implement a subdivision project of the municipal lot. With the Municipality of Beirut as the main stakeholder, the project should open and reprogram the municipal lot into public recreation and play areas.

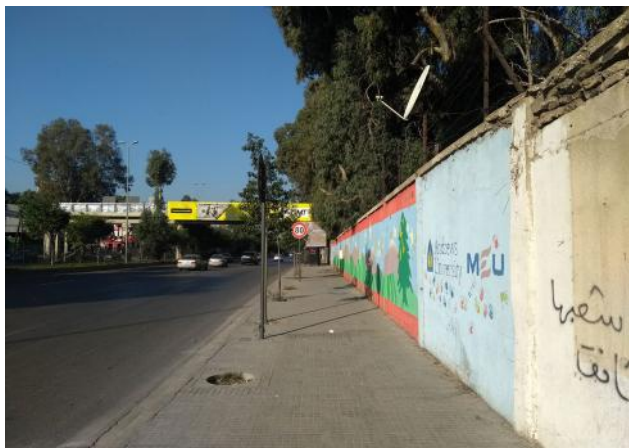


Figure 15. The inaccessible wall of the municipal lot from Charles Helou Highway. Source: Abir Cheaitli, 2021.



Figure 16. The inaccessible wall of the municipal lot from Al-Rehban Street. Source: Abir Cheaitli, 2021.

B1.3. Create socio-spatial hubs around the economic drivers in relation to the sea.

Although there is a diversity of economic activities in Karantina, the findings in the diagnosis report showed that the main economic drivers perform as isolated islands. Particularly, the key active magnets such as the slaughterhouse, the fish market, and the popular market that formed economic ties between Karantina and its surroundings. By establishing connections with a network of services, capital, and human flow, these active magnets contributed to the economic welfare and better livelihoods of low-income residents in Karantina. The fish market, for example, located at the northern periphery of Karantina, provided job opportunities for the residents, particularly those from the Arab tribes. However, a spatial connection remains missing between these active magnets and the inner neighborhoods of Karantina.

This strategy aims to create socio-spatial hubs around the economic drivers where related activities and cultural practices can be centralized. This will amplify the exposure of these drivers at the local and city scales. Given their proximity to the sea, the hub can be designed to benefit from the waterfront area and create a more attractive space for the users. However, restoring the functions of these economic drivers is a prerequisite for this step. Therefore, when translated into an action plan, the following steps should be considered: rehabilitating the public and fish markets, revising their operation and management standards, and reconfiguring their programs to act as active socio-economic hubs that are part of the green and blue networks.



B2. RECONNECT KARANTINA WITH THE SEA AND THE BEIRUT CENTRAL DISTRICT.

The seaside edge, the coastline, and the natural setting that shaped the landscape of Karantina have contributed to the local uniqueness of this coastal area. This unique setting and the proximity to the port provided Karantina with a strategic location on the Mediterranean Sea. The socio-spatial practices that are tied to the sea, such as fishing, swimming, and promenades along the seashore, used to add to the distinctiveness of the place. Many of these practices are still present in the collective memory of the residents of Karantina. However, this strong socio-spatial connection with the sea was lost as the port started expanding gradually during the late 1950s and completely took over the seashore by the turn of this century.

Ever since this expansion took place, the port started performing as a separate entrepreneurial entity that pushes public life away from the sea. Therefore, not only did this expansion physically isolate Karantina from the sea, but it also deprived the residents of much-needed public space in a context that has a scarce number of public spaces. In addition, Karantina lost a prominent landscape heritage feature as the coastline became incorporated into the built fabric. Currently, the coastline is abandoned, not easily accessible, and not connected to the sea promenade that is linked to the Beirut Central District. Responding to the objective of reconnecting Karantina with the sea and the Beirut Central District, the following strategies were proposed: reclaim Karantina's old coastal line as a green promenade and revive it as landscape natural heritage, extend the sea promenade from the Beirut Central District to Karantina, and advocate for public access to the sea through the port.



Figure 17. The estuary of the Beirut River.
Source: Mariam Bazzi, 2022.



Figure 18. The seaside view from the Beirut River estuary.
Source: Mariam Bazzi, 2022.

B2.1. Reclaim Karantina's old coastal line as a green promenade and revive it as a natural landscape heritage.

Karantina's old coastal line has unique topographic and geomorphological features. Situated on a coastal cliff that protrudes into the Mediterranean Sea, the wavy edge is elevated from the seashore. Scattered vegetation covers the bedrock embodying a distinctive Mediterranean character. Stairs and informal pathways were used to connect people to the sea, adding a socio-cultural layer to the distinctiveness of the site. Therefore, the coastal line represents an important natural landscape heritage site that can become a vital asset for Karantina. The importance of reclaiming Karantina's old coastline as a green corridor is twofold. Firstly, the promenade will bring back the visual connection with the sea that was lost with time, thus, rekindling the strong relationship between the people in Karantina and the sea. Secondly, utilizing these landscape components will reinforce the uniqueness and importance of the landscape heritage site, thus, paving the way for its protection and valorization. This strategy could be applicable through an urban design intervention that reclaims the coastline to serve as an amenity landscape with multifunctional public spaces. Furthermore, this urban design intervention should be developed as part of a larger open space network that connects, upgrades, and expands on the existing public spaces.

B2.2/B4.3/D5.3. Extend the sea promenade from the Beirut Central District to Karantina.

As a consequent of the civil war, the reconstruction project of the Beirut Central District focused on the downtown area with little importance given to its connection with the surrounding neighborhoods. Exacerbated by the gradual expansion of the port, the physical continuity between the Beirut Central District and Karantina was disrupted. Therefore, extending the coastline corridor, as was proposed in B2.1, can have an additional impact. Not only would the coastline corridor highlight the natural heritage and provide a visual connection to the sea, but it can accentuate the link to the Beirut Central District and provide an extension to the corniche. Thus, the corridor can revive the connection between Karantina and the downtown area and re-stitch the two areas together. The promenade can offer an extension to the Beirut Central District while being accessible from adjacent neighborhoods. Besides connectivity, this corridor can include multifunctional spaces for public recreation. This strategy translates into an action plan that incorporates an urban design intervention that reclaims the coastline as a green corridor.

B2.3/D5.4. Relink Karantina to the sea through the port.

Although the port currently acts as a vital economic magnet for Karantina, an adequate spatial connection between them is still missing. Before the first expansion of the port, a strong relationship between the port and the city was evident, and physical permeability was maintained. The port was strongly anchored in the city, with networks of alleyways that connect people to its roads and docks. At that time, the port was a strong asset to urban public spaces, and the port activities were part of the social identity of the city and a source of living for a wide range of community groups, including the people of Karantina. Socio-spatial activities that are tied to the sea like fishing, swimming, and promenades along the seashore are still present in the collective memory of the residents of Karantina. Nonetheless, after its gradual expansion in the late 1950s, the city and port dynamics changed. Public life was pushed away as the port became a purely economic zone and an entrepreneurial entity that functions independently from the city's dynamics. Being close to the port, Karantina was affected by the physical rupture that was caused by the expansion.

Therefore, as the sea makes up an integral part of the place identity of Karantina and the collective memory of its residents, access to the sea should be available to everyone. This access can only be achieved if the relationship between the port and Karantina is reconfigured, where a defined space for the public is curated. This strategy will reinforce the Karantina-port interaction by infusing pedestrian mobility into the port and activating part of its waterfront for public to induce new opportunities such as leisure activities, recreation, and new job creation. Advocating for public access to the sea through the port is timely and urgent, especially since many port reconstruction proposals are under development after the August 2020 blast. Given the currently restricted access to the port and the complex political circumstances that may further obstruct this access, advocacy is a key to its success. Therefore, this strategy requires establishing a coordinating body that includes the Ministry of Public Works and Transport and donor agencies that are working on the port reconstruction.



B3. INTEGRATE KARANTINA INTO THE CITY-WIDE TRANSPORTATION NETWORK.

Before the civil war, Karantina used to have a bus stop that was part of an old transportation network that linked several areas in Beirut. However, the public transport system was gradually discontinued after the war and replaced by an informal one. These informal modes of transportation, such as taxis and informal buses, do not pass through Karantina but operate along its edges. As the findings of the diagnosis report showed, only 11% of the people commuting to work outside Karantina use informal buses, while 30% use private cars. This low dependence on informal transportation is partly due to the difficulty of walking to the bus routes or the lack of trust in these buses. Many residents complained about Karantina's exclusion from the transportation network and described their challenges while commuting to work. "نحننا منعاني للوصول إلى" "أشغالنا". Therefore, integrating Karantina into the city-wide transportation network is pivotal to overcoming the enclaved spatial condition of the area. Accordingly, the following strategy was proposed: establish points of connection with city-scale and wider mobility modes, such as buses and taxis.

B3.1/D5.5. Establish points of connection with city-scale and wider mobility modes (buses, taxis, etc.).

The absence of transportation nodes inside Karantina contributes to its isolation from the rest of the city. Transportation is vital for improving living standards, especially for marginalized communities. By enhancing their mobility, the residents in Karantina can access better jobs and services, commute to a wider buffer area around Karantina, and engage in public and social life. As a result, people in Karantina can become more included in the city. Hence, it is essential to ensure that people in Karantina have access to transportation networks that are linked to several areas within Beirut. For this reason, this strategy intends to establish points of connection inside Karantina that are linked to city-scale and wider mobility modes (buses, taxis, etc.). A transportation study can inform this strategy.

The study should determine and propose the best points of connection in Karantina to the existing modes of transportation and road networks within Karantina, and advocate for the inclusion of stations in Karantina to connect it with new modes of transportation including train and sea taxis. Additionally, it should expand the existing truck parking at the port to accommodate the existing number of trucks and design a traffic scheme for Karantina that addresses density, timing, and rerouting of trucks away from the residential areas.



B4. IMPROVE ACCESSIBILITY TO THE DIFFERENT AREAS WITHIN KARANTINA AND BETWEEN THEM.

As was discussed in the strategic diagnosis report, heavy militarization and some of the block typologies are restricting internal accessibility inside Karantina and further aggravating spatial fragmentation. The history of the militarization of Karantina dates to the beginning of the Lebanese civil war in 1975. The neighborhood witnessed intense fighting and was heavily bulldozed to eradicate undesirable populations by powerful militias at the time. The Lebanese Army replaced these militias in Karantina after their withdrawal at the end of the civil war. This militarization was further reinforced after 2001 when a post-9/11 global militarization of port sites trend prevailed. Currently, four military bases occupy huge pieces of land at the edges of Karantina. The military occupation of these pieces of land is a source of frustration among the residents, while some of them claim ownership of some of these lands. As was observed during the fieldwork, many sidewalks and streets have been encroached on by physical security elements, such as cement barriers, metal meshes, signs, and speed bumps. In many places, sidewalks and streets are blocked, and the flow of public circulation is interrupted. In addition to the heavy military presence, the block typology of lots inside Karantina causes spatial fragmentation. The impermeable physical edges of blocks are limiting connectivity and restricting accessibility, thus, increasing isolation between the sub-neighborhoods. The most glaring example is the municipal lot at the southern edge of Karantina that was discussed in B1.2. The Maronite Waqf also has a significant share of large lands, especially in the industrial area. Responding to the objective of improving accessibility to the different areas within Karantina, the following strategies were proposed: remove all restricted access to the public domain, subdivide, and integrate the municipal lot into the development of Karantina, and extend the sea promenade from the Beirut Central District to Karantina.



Figure 19. Military concrete fenced walls in Al-Khodor sub-neighborhood. Source: Abir Cheaitli, 2021.



Figure 20. Other military concrete fenced walls in the industrial area. Source: Abir Cheaitli, 2021.

B4.1/D5.6/E5.2. Remove all access restrictions to the public domain.

To boost spatial, economic, and social connectivity in Karantina, this strategy proposes removing all restricted access to the public domain. For this purpose, physical obstacles that hinder pedestrian mobility in streets and sidewalks should be removed. More importantly, public pieces of land should be freed from military occupation. These pieces of land can be repurposed for public use like social housing, public schools, or a public destination. This strategy calls for negotiations with concerned stakeholders, especially the military body and the Municipality of Beirut, to facilitate this process. For this strategy to become feasible, a neighborhood committee should be formed between these entities to negotiate removing encroachments on public pieces of land.



Figure 21. Concrete blocks on the public domain in Al-Khodor sub-neighborhood. Source: Abir Cheaitli, 2021.



Figure 22. Inaccessible concrete walls on the sidewalks in the industrial area. Source: Abir Cheaitli, 2021.

B4.2/D1.2. Subdivide the municipal lot and integrate it into plans for the development of Karantina.

Not only does the municipal lot at the southern edge contribute to the external isolation of Karantina from its surroundings, but it also causes a spatial fragmentation in the inner fabric. The lot which occupies around 12% of Karantina’s total area, currently hosts a combination of economic and municipal services such as the fire station, a local department for the Municipality of Beirut, the center for the internal security forces, parking space of the municipality, private institutions, and a military base. 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, such as cement blocks and metal obstacles. In addition, the lot includes other municipal facilities such as several warehouses. In line with strategy B1.2, this lot should be subdivided and integrated into the development of Karantina. This strategy translates into an action plan that will design and implement a subdivision project of the municipal lot. With the Municipality of Beirut as the main stakeholder, the subdivision should open and reprogram the municipal lot into public recreation and play areas.

B4.3/B2.2/D5.3. Extend the sea promenade from the Beirut Central District to Karantina.

Refer to strategy B2.2.



B5. STRENGTHEN THE ROLE OF ECONOMIC DRIVERS TO CONNECT KARANTINA TO THE CITY-SCALE ECONOMY.

Many of the economic activities in Karantina that contribute to its connectivity with the rest of Beirut are deteriorating due to the crisis-ridden context. The port, a major transport infrastructure and economic catalyst near Karantina, prompts the formation of businesses that are associated with its operations. While some of the businesses like shipping and warehouse facilities act largely as isolated economic islands, employing non-local professionals and barely attracting visitors to the neighborhood, other port-related businesses like mechanic shops and garages intensify external economic connections to the area. They are the most prevalent business types in Karantina. They bring in a wide range of customers from different locations—Karantina, Greater Beirut, Lebanon, and beyond—and from different socio-economic backgrounds. For example, some of them offer repairs for luxurious cars as well as high-quality services that require high-end technologies and technical skills. Also, some light industries and crafts like carpentry and steel lathing attract customers from within Karantina and beyond. However, as will be discussed in strategic objectives C4 and C5, such craft businesses, as well as the mechanic shops and garages, are highly vulnerable and suffer from a decline in their activities.

As for government facilities like the slaughterhouse and the fish market, these are key economic drivers and important connectors of Karantina to the wider-scale economy. The slaughterhouse was the largest in Beirut, and its integration into the city economy could be best illustrated by how its workers boast for being renowned as “the best butchers in Beirut who provided good quality, service, and price”. As for the fish market, it is a central wholesale and retail market that attracts visitors from outside the neighborhood and provides fresh and frozen fish to restaurants throughout the city. However, these facilities, especially if not abiding by adequate environmental standards, could contribute to increasing pollution levels and, thus, increasing stigmatization. Consequently, such stigma could repel visitors and decrease their connections with Karantina. Besides, the fact that these key economic drivers are either closed or under-functioning—their situation is detailed in strategic objective C1—leads to the impairment of their potential as inducers of connectivity.

Accordingly, to establish strong connections between Karantina and the wider-scale economy, the port-related businesses, alongside other industrial uses, need to be strengthened, and the government facilities, being key economic drivers, need to be revitalized in a sustainable manner.

B5.1/A2.3/C1.1/C2.3. Revitalize three of the economic drivers:the slaughterhouse, the public market, and the fish market.

Refer to strategy A2.3

B5.2/B7.1/C5.1. Network, protect, and strengthen the sustainable agility and capacity of port-related and other industrial businesses.

It is imperative to support the businesses in Karantina and encourage their cooperation, particularly in the current context of rising vulnerabilities. And given the convergence in the functions of many businesses in the neighborhood, networking and coordination becomes vital. They can integrate one another in their production processes, or they can alternatively support each other by sharing resources, information, innovation, and knowledge.

For instance, port-related businesses can be more synergetic by creating arrangements among each other that are mutually beneficial, timely, and cost effective, especially considering their proximity. Additionally, these businesses could benefit from networking with mechanic shops and garages that can maintain their constructed capital like vehicles and appliances, while themselves benefitting from such transactions. In this sense, these port-related businesses would increase their economic spillovers into Karantina. On a similar note, grocery shops, bakeries, and other retail shops from the smaller micro business category can create cooperatives, share capital, and exchange knowledge about profitable supply chains. Local artisans can benefit from similar forms of exchange and support each other by sharing expertise and economic knowledge. They can also collaborate with art galleries and showrooms to promote their crafts and products.

Thus, this strategy must be translated into the development of plans for cooperation, innovation, and transfer of knowledge, alongside the creation of a business and career training center as a space for connection and collective learning.



B6. PROVIDE ACCESS TO JOB OPPORTUNITIES IN MICRO, SMALL, AND MEDIUM BUSINESSES.

Although there is diversity of businesses in Karantina by type and size, only 34% of the employed residents work for businesses in Karantina, most of whom work for micro businesses such as retail shops, mini markets, butchery shops, bakeries, and small mechanic shops. Micro, small, and medium sized businesses such as retail companies, car sales and showrooms, and logistics and shipping services tend to employ skilled people who live in the city and Greater Beirut, with almost a negligible percentage of the residents of Karantina. This reveals a disconnection between these businesses and the residents of Karantina of whom a considerable percentage hold university degrees and mastered diverse skills that can cater for the demands of these businesses. Therefore, the residents of Karantina need to be connected to the job opportunities provided by these businesses by matching them with the businesses in the area and further building the capacities of the residents of Karantina to be matched with available job opportunities.

B6.1/A2.1/C2.1

Build the capacities of the residents of Karantina and match them with job opportunities.

Refer to strategy A2.1

B6.2/A2.2/C2.2

Match the skilled workforce with the businesses in the area and connect them with the job market at a larger scale.

Refer to strategy A2.2



B7. CONNECT THE DIFFERENT BUSINESSES WITHIN KARANTINA.

The relationship among various businesses in Karantina is fragmented since they operate as isolated islands with little interaction with one another. The analysis of the answers to the questionnaires conducted during the diagnosis phase showed that in addition to the disconnection between the types of businesses and the community groups in the neighborhood, there is poor communication and networking among the businesses themselves. This is despite the fact that many of the economic activities of these businesses coincide, overlap, or complement each other. For instance, grocery shops and mini markets account for 12% of the Karantina businesses and belong to the smaller micro business category, employing 0-2 workers each.

Their size points to their high vulnerability⁵ in the face of the ensuing hardships, suggesting a dire need for solidarity. Additionally, the old manufacturers and artisans⁶ along with the newer art and design businesses account for 18% of the Karantina businesses. While they vary considerably in size, scope, and resources, their functions can be complementary, and their customer groups can possibly overlap. Likewise, port-related businesses⁷ share great similarities and complementarities but are still disconnected. These account for around 28% of the Karantina businesses, and this high percentage highlights the untapped mutual benefits and upscaling potentials of their coordination. From here, it is evident that strategies aimed at enhancing networks among businesses are vital for their protection and improvement.

⁵ The state of micro businesses is further discussed in strategic objective C3.

⁶ The state of old manufacturers and local artisans is further discussed in strategic objective C4.

⁷ The state of port-related businesses is further discussed in strategic objective C5.

B7.1/B5.2/C5.1.**Network, protect, and strengthen the sustainable agility and capacity of port-related and other industrial businesses.**

Refer to strategy C5.1


B8. ENHANCE THE PUBLIC REALM AND PROVIDE SHARED FACILITIES AND SPACES TO PROMOTE SOCIAL CONNECTION ACROSS THE THREE SUB-NEIGHBORHOODS.

As was mentioned in the strategic diagnosis report, the analysis of the spatial connectivity revealed that Karantina is also socially fragmented. Three sub-neighborhoods in Karantina were identified: Al-Khodor, Al-Saydeh, and Al-Senegal. Although they share strong ties, there is still social segregation across the sub-neighborhoods. The residents' perception of their sub-neighborhoods shows a connection between conceived spatial boundaries and the social makeup of the sub-neighborhoods. The analysis of the household questionnaire showed strong social connectivity at the scale of each sub-neighborhood but not at the scale of Karantina as a whole. Most residents referred to their sub-neighborhood as the boundary that hosts their social group or the community where they belong. A reading of the sub-neighborhoods showed that they are segregated according to religious and familial ties. The analysis of the answers to the questionnaires also showed that the sense of belonging to the neighborhood is at its highest in Al-Khodor sub-neighborhood (71%). Al-Saydeh and Al-Senegal sub-neighborhoods shared similar percentages at 58% and 52% respectively.



Figure 23. An alleyway in Al-Khodor sub-neighborhood.
Source: Batoul Yassine, 2020.

The lack of shared and open spaces between the three sub-neighborhoods contributed to this social disintegration. Karantina has a gated public park that is inaccessible on most days due to restricted access by the Municipality of Beirut. Children and adults engage in socio-spatial practices in the streets of Karantina without adequate lighting, urban furniture, landscape, and safety measures. Building on the notion that open and shared spaces are catalysts for social recovery, this proposal intends to enhance the public realm and provide shared facilities and spaces. Accordingly, the following strategies were proposed: adopt an inclusive and integrated design approach while upgrading and rehabilitating existing public spaces and introduce shared facilities, facilitate access to existing public spaces (the public park), and increase their number.

B8.1/D3.3/E5.1.**Adopt an inclusive and integrated design approach while upgrading and rehabilitating existing public spaces and introducing shared facilities.**

Social ties and a keen sense of belonging in the sub-neighborhoods are vital social assets for Karantina. It is important to capitalize on these assets by enhancing the residents' use and experiences in public and shared spaces and boosting social cohesion between the sub-neighborhoods. In a post-port blast context, the rehabilitation of the shared spaces in the public realm is also crucial for a holistic recovery.

Toward this end, this strategy intends to adopt an inclusive and integrated design approach to upgrade and rehabilitate existing public spaces and introduce shared facilities. An inclusive design approach aims at improving mobility for all pedestrians from different age groups, gender categories, and with any disabilities. The residents from the three sub-neighborhoods should be able to participate in designing their public spaces, express their desires and needs in the public domain, and locate their preferred sites for design intervention. To make the streets and open spaces more inclusive, a holistic approach must be adopted. This approach should improve the whole journey people take from one destination to another and enhance the overall access and the means of transportation people use to get to their work, schools, medical health centers, shops, and cultural and entertainment destinations. To implement this strategy, the following set of action plans was further proposed:

1. Design and build a community center in a strategic location that is accessible to the residents of the three sub-neighborhoods.
2. Propose an urban design plan for an open space network that includes upgrading existing spaces and reforming operation and management systems.
3. Develop a multi-purpose complex for public services including a public school, an affordable family clinic, and a recreational sports center that can share the same structure and be located on municipal land.

B8.2/A3.2.

Facilitate access to existing public spaces, including the public park, and increase their number.

Refer to strategy A3.2

7. OBJECTIVE C

SUPPORT, INCREASE, AND SUSTAIN CULTURAL AND ECONOMIC VITALITY IN KARANTINA

“ I see Karantina as the Shanghai of Lebanon because it is in the heart of the capital and close to the port. The area should include commercial companies, services, and warehouses. However, it should keep the residential sub-neighborhoods. It also must have a train station that connects the port to the south and north of Lebanon.⁸

بشوف الكرنطينا شنغهاي لبنان لأن هي قلب العاصمة و قريبة للمرفأ. لازم كلها تكون شركات تجارية و خدمات و مستودعات كبيرة بس ما بيمنع يكون فيها أحياء سكنية. و لازم يكون في قطار من المرفأ للجنوب و الشمال.

“ I would like to see a strong labor market in the Karantina, and a heavy customer flow into the area⁹

بحب شوف سوق العمل قوي بالكرنتينا والزباين إليها إجر أكثر عالمنطقة.

“ I hope that Karantina will be a developed area and full of talents, where its inhabitants are well educated and have all the necessities of life¹⁰

آمل أن تكون الكرنطينا منطقة متطورة ومليئة بالمواهب وسكانها مثقفة متعلمة ويتواجد فيها كل مقومات الحياة.



⁸ Z.C., (2021-February-10), (Ali Ghaddar- Interviewer)

⁹ H.M., (2021-January-05), (Yahya Al Sayed - Interviewer)

¹⁰ A.S.S., (2020- December-29), (Mohamed Amsha - Interviewer)

Karantina's cultural and economic potentials are ample, but they have been compromised throughout the years and were profoundly set back by the recent crises. Being a low-rent area in strategic proximity to the port and the Beirut Central District, Karantina was able to foster diverse and multiscale economic activities. Within it, industrial functions, storage facilities, and freight services thrived. Key economic drivers such as the slaughterhouse and the public markets used to bring in people and supply products to areas beyond the neighborhood and city scales. Besides, Karantina witnessed a recent trend of new cultural land uses springing up and drawing in new user groups, potentially expanding Karantina's cultural vitality beyond the locally bound socio-economic and socio-spatial practices. However, this trend, along with the long-established economic activities—many of which were already suffering from closure, neglect, or mismanagement—were severely impacted by the port blast, the financial and economic crisis in Lebanon, and the COVID-19 pandemic.

In this context, many micro enterprises closed their facilities or have been struggling with threats of closure. And while the port blast had a heavy toll on all businesses in Karantina, port-related businesses suffered particularly a sharper impact following the disruption in the port's operation and output. Similarly, the fish market underwent a drastic decline in activity, while the other key economic drivers, like the slaughterhouse and popular market, were inactive even before the start of the crisis. All this translates to a growing unemployment rate that was already high due to the discrepancy and incoordination between the local businesses and workforce skills.

On another note, the phase-out of the socio-economic practices that were previously blossoming around these economic activities weakened the already feeble cultural vitality in Karantina. Add to this that the cultural and creative businesses inflow trend was thwarted, while it could have been increasing cultural magnets in the area. As for the local socio-spatial practices, mostly anchored around the residential fabric, they are being threatened by the high-end businesses that were able to take hold in the neighborhood's residential clusters. Accordingly, and in line with the vision of an economically prosperous Karantina “منطقة مجتمعتها متمكنة” “with an empowered population” “مزهرة اقتصادياً” the aim is to revitalize, strengthen, and sustain the businesses, economic drivers, and cultural functions in the area, while supporting the neighborhood's citizens and integrating them actively into the local and city-wide economy.



C1. RESTORE AND STRENGTHEN THE ROLE OF THE KEY ECONOMIC DRIVERS IN KARANTINA.

The slaughterhouse, public market, and fish market were government facilities in Karantina that acted as key economic drivers, inducing chains of economic activities across multiple scales and developing cultural vitality within the neighborhood. The Karantina slaughterhouse was the largest in Lebanon and attracted trade and commerce activities from all over the country (Ecocentra, 2015). Established in the first decade of the last century to the north of Al-Khodor sub-neighborhood, the slaughterhouse developed incrementally until its closure during the civil war. Later, in 1992, it reopened in its current location on the periphery of Karantina but closed again in 2014 since it did not meet minimum health and hygiene standards and requirements. Following pressure from some of the residents of Karantina, it was planned to reopen in 2020; however, these plans were suspended following the destruction from the port blast and the debris dumping activities next to the slaughterhouse. The slaughterhouse used to employ many Karantina residents, especially from the Al-Khodor Arab Tribes that were historically tightly linked to activities like animal husbandry and slaughter¹¹. Accordingly, not only did shutting down the slaughterhouse leave these residents unemployed and stripped of their primary source of income, but it cut off ingrained cultural practices. Furthermore, the economic web of customers, workers, businesses, and professionals that was generated around the slaughterhouse—and included local traders, sub-traders, monopolists, suppliers (butcheries), anchored businesses (food dyeing industry) among others was broken with the closure of the slaughterhouse, further eroding the cultural and economic vitality in Karantina.

¹¹ This is where they get what is considered a pejorative designation, “Arab al-maslakh” [Arabs of the slaughterhouse].

The public and fish markets are currently located on the northeastern edge of Karantina. The public market was initially opened in 1996 and operated for four years before shutting down. And in 2014, it reopened again but closed shortly after. On the one hand, the market had the capacity to welcome 350 traders or investors (Chbaro, 2019). while also employing administrators, cleaners, security guards, and other kinds of workers. According to Fakir al-din Shihadeh, it employed several residents from Karantina, including women who used to sell their own products or were hired to run the shops of other people¹². On the other hand, the central wholesale and retail fish market, which opened in Karantina in 1995, is still operating. However, given the devaluation of the local currency, the fall in people's purchasing power, and the increase in transportation costs, in parallel to strong competition from large supermarkets, the sustainability of the fish market is intensely threatened. It is already suffering from more than 80% decline in activity: daily fish sales dropped from 20-30 tons to 5-6 tons, opening hours decreased by 5 hours, and the number of active retail stations and wholesale booths fell from 65 to 20. This illustrates how the deteriorating situation of the fish market and the continued closure of the popular market deprive the residents of Karantina of potential jobs, income, and commercial and social activities. Thus, it is necessary to revitalize these economic drivers to benefit from their full potential in ensuring cultural and economic vitality.



Figure 24. The fish market in Karantina.
Source: Rami Shayya, 2022.



Figure 25. The public market in Karantina.
Source: Rami Shayya, 2022.

C1.1/A2.3/B5.1/C2.3.

Revitalize three of the economic drivers: the slaughterhouse, the public market, and the fish market.

Refer to strategy A2.3



C2. PROVIDE JOB OPPORTUNITIES FOR THE RESIDENTS OF KARANTINA.

Refer to strategic objective A2.

C2.1/A2.1/B6.1

Build the capacities of the residents of Karantina and match them with job opportunities.

Refer to strategy A2.1

C2.2/A2.2/B6.2

Match the skilled workforce with the businesses in the area and connect them to the job market at a larger scale.

Refer to strategy A2.2

C2.3/A2.3/B5.1/C1.1

Revitalize three of the economic drivers (the slaughterhouse, the public market, and the fish market).

Refer to strategy C1.1



C3. SUPPORT THE EXISTING MICRO BUSINESSES AND SUSTAIN THEIR OPERATIONS IN KARANTINA.

Enterprises with 0-2 employees and those with 3-10 employees, which the report designates respectively as smaller or larger micro businesses, play a critical role in Karantina's economy but are suffering heavily with the unfolding crisis in the country. These enterprises are the most prevalent in Karantina, accounting for 82% of the total number of businesses. Such businesses like retail shops, mini markets, butcheries, bakeries, mechanics shops, hookah stores, and others are essential for Karantina's economic and cultural vitality for several reasons. These types of businesses are mostly owned by long-standing residents in the neighborhood and 91% of the business owners in Karantina consider their businesses to be their only source of income. Besides, micro businesses are responsible for employing most of the people who work and live in Karantina. This shows that micro businesses are pivotal in sustaining the livelihoods of the Karantina residents including business owners, workers, and their families. Alongside providing them with income, it anchors them in the neighborhood and upholds their socio-spatial and socio-economic practices.

However, with the hyperinflation and economic crisis in Lebanon, these businesses are barely surviving. Many are threatened with potential displacement due to the increases in rent prices and eviction claims. With the fuel shortages, businesses are putting up with more frequent power cuts that are mostly felt by micro businesses that do not own private generators and cannot afford to pay subscription fees to local providers. Furthermore, with the waning demand, the economic activities of these businesses shrink, and their resiliency is undermined by the inability to use non-conventional tools for managing and sustaining their businesses, like computers and internet. On another note, while many of these businesses received aid after the port blast, most micro businesses in the industrial area did not receive any support and encountered difficulties in accessing money.

Accordingly, to provide micro businesses with the direly needed support, several strategies are suggested like providing businesses with financial incentives and enhancing their operations by connecting them to online platforms.

C3.1/C4.1. Offer financial incentives to micro enterprises and specialized businesses.

Micro-scale enterprises and the craft businesses in Karantina must be supported financially to overcome the critical conditions in the country. Firstly, regarding the port blast, notwithstanding the aid received by many businesses, most businesses had to mainly rely on their savings and loans from their social networks: around 27% of the businesses reported utilizing their savings, and 31% relied on money from family, friends, or neighbors. Some businesses even received no aid, such as the mechanic shops in the industrial area. Also, most businesses were not able to access governmental support funds that were channeled through the Chamber of Commerce (CCIA-BML) since more than 66% of the Karantina businesses are not registered in it; let alone that the CCIA-BML issued a time-limited announcement that went unnoticed by many eligible businesses.

Additionally, the fact that 19 of the micro businesses that were surveyed were partially operating, and 5 had already closed, suggests considerable difficulties for the micro businesses to replenish their stocks and cover production costs. And given the combination of the lack of access to information and knowledge about funding opportunities on one hand, and the high barriers to borrowing from financial institutions, especially with the absence of collateral on the other hand, these micro-businesses can barely secure credit. So, to protect these vulnerable businesses, financial support and incentive packages must be designed and made easily available for them. This would help support them in covering pending repairs, compensate them for other costs that are related to the port blast, rebuild stocks, and better withstand the inflation in the prices of key services. Hence, micro businesses would be able to sustain and even upscale their operations, and maintain the business diversity in Karantina, as well as their essential role in generating income, jobs, and cultural productions.



Figure 26. Dukkan in Al-Khodor sub-neighborhood. Source: Batoul Yassine, 2020.



Figure 27. Another small dukkan in Al-Khodor sub-neighborhood. Source: Weam Haddad, 2022.

C3.2. Connect micro and specialized businesses with online platforms and services to enhance their operations.

Many of the owners of micro businesses, especially those who do not have higher academic degrees, rely on conventional tools and methods for managing their businesses. They do not use computers or the internet and, as a result, they cannot benefit from access to e-commerce and online services to buy and sell products. Thus, it is vital to support these businesses and provide them with the skills that are needed to benefit from these technologies, thus, facilitating their commercial transactions, and expanding their outreach to a wider consumer base. This requires capacity building workshops that are tailored for increasing digital literacy, and can be supplemented with the provision of tech support services when needed. Hence, establishing a center that provides guidance, advice, and training for these micro enterprises and specialized businesses would be highly advantageous for their viability and the economic vitality of the area.



Figure 28. A car repair shop that has been opening in Karantina for over 10 years. Source: Batoul Yassine, 2020.



Figure 29. Another car garage being renovated after the port explosion. Source: Batoul Yassine, 2020.



C4. INCREASE THE DIVERSITY AND VITALITY OF THE TRADITIONAL CRAFTS AND MANUFACTURERS IN KARANTINA.

There is a wide variety of economic activities in Karantina that range from industrial manufacturing of steel to micro-scale shops that sell arts and crafts; however, this diversity is threatened as are many culturally vital businesses. This economic diversity in Karantina allows it to attract and cater for different types of consumers and users with different needs. However, manufacturers in Karantina, who work in carpentry, furniture, and tailor-made fabrics bring in additional layers of value. Not only are they income generators, but also their products and particular fabrication processes can be regarded as cultural assets. They spread across Karantina's three sub-neighborhoods, and some of them go back as far as the pre-civil war period, proving their vitality and entrenchment in Karantina. These businesses are mostly micro-scale, which leaves them vulnerable in the face of the more competitive and larger businesses coming into the neighborhood, and their impact is current compounded by the fact that larger businesses adapt better to situations of crisis. Accordingly, the necessity to support these businesses and augment their capacity to withstand these challenges becomes evident. Given that the closure of some of these businesses has already been observed, it is crucial to set strategies that prevent their further decline and, thus, protect the cultural value they produce and economic diversity they foment. These strategies must include providing existing artisans with financial support and forming new generations of craftsmen.

C4.1/C3.1

Offer financial incentives for micro and specialized businesses.

Refer to section C3.1

C4.2 Train a new generation of craftsmen to sustain their crafts.

As per UNESCO, the knowledge and skills of crafts production are part of the intangible cultural heritage (UNESCO, 2003). In Karantina, handicrafts and micro-scale manufacturers working in carpentry, furniture, and tailor-made fabrics incarnate such heritage in their products, methods, and techniques. On another note, the less alienating production process of craft-making relative to mass production adds further value to these practices. Also, the products themselves can reflect certain local qualities that can generate more significance to the consumer. Around these dynamics of value production, a community that is anchored in a local crafts culture is more likely to prosper.

To protect such cultural assets, artisanship and the associated expertise need to be spread and passed onto future generations of craftsmen. This will allow for the sustenance of crafts in Karantina and their longevity across generations. New craft businesses can also grow, reproduce, and enrich this craft culture. And, simultaneously, this strategy can promote these crafts as more people get exposed to them. Therefore, this strategy can be viable through the establishment of a facility that provides space for learning, sharing, and the transfer of knowledge of craft making.



C5. SUPPORT THE GROWTH OF PORT-RELATED BUSINESSES.

Port-related businesses used to thrive in Karantina, yet their contributions to its economic vitality, as well as their agility and resilience, vary considerably. The port accommodates around 60% of Lebanon's imports and is a vital economic artery with huge transportation and logistics services for Lebanon and the Gulf region. It naturally resulted in a growth in the number of nearby businesses that are closely tied to its operations, such as freight, logistics, and storage facilities. These would in turn propel a growth in other related businesses like mechanic shops and garages.

For the first category of businesses that are related to shipping and logistics, Karantina is a highly attractive area, since these businesses benefit from its close location to the port and the Charles Helou Highway. Moreover, these businesses took advantage of the typology of the large lots in the industrial area to set up their warehouses and other large structures; for instance, more than 60% of these businesses occupy an area that exceeds 500 sq. m. Five of these businesses are present in the industrial area of Karantina, while the remaining two are in Al-Senegal sub-neighborhood. The port blast and the economic crisis caused severe devastation and disruption to the port's operations, and the repercussions on the port-related businesses were aggravated by the delay in the port reconstruction and the temporary partial operation. While the small to medium size businesses were able to overcome these challenges, repair their structures with savings from their bank accounts abroad, and recover their operations, many of the micro businesses were more negatively impacted by the costs of the repairs, incurred major losses in the number of clients, and even faced partial or total closure. It is also important to note that several businesses, namely the small to medium-sized ones, barely attract clients and visitors to Karantina. Instead, 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. They also do not employ workers from Karantina but rely mostly on skilled professionals from outside of the area.

In contrast, the other types of businesses that are more rooted in Karantina and secondarily associated with the port are the mechanic shops and garages. These are spread throughout the area and account for 18% of the total number of businesses. They are mostly micro in scale and employ non-skilled workers from the neighborhood. They are strongly connected to the functioning of the above-discussed freight, logistics, and shipping facilities. However, they are more vulnerable to the crises that are taking place in the country. Similarly, several mechanic shops and garages lost their vehicles or other tangible assets from the post blast and were hardly operating; they were not compensated by the Lebanese government or from insurance companies. And more generally, even though these port-related businesses have a similar scope of work, they mostly operate in isolation with no adequate coordination or networking. Therefore, to sustain the agility and capacity of these port-related businesses—and in turn the economic vitality they create they need to be supported, strengthened, and incentivized to network among each other.



Figure 30. A small logistics service that is opening in Al-Senegal sub-neighborhood. Source: Batoul Yassine, 2020.



Figure 31. Key Freight services in the industrial area. Source: Batoul Yassine, 2021.

C5.1/B5.2/B7.1.**Network, protect, and strengthen the sustainable agility and capacity of port-related and other industrial businesses.**

Refer to strategy B5.2



C6. IMPROVE CULTURAL VITALITY AND LEISURE ACTIVITIES IN KARANTINA.

Prior to the port blast and the economic crisis in Lebanon, Karantina experienced an influx of new cultural functions with immense potential, albeit with several shortcomings. These functions included cultural, creative, and leisure activities like nightclubs, entertainment venues, art galleries, ateliers, and showrooms. From the survey of businesses in Karantina around 70% mentioned low rent prices as a reason for settling in the neighborhood, and 85% stated that the strategic accessible location was the reason. These two reasons largely explain the increasing number of new cultural functions that constitute around 10% of the businesses in the area. These businesses acted as cultural magnets and attracted people with various interests and from different age groups. Leisure and entertainment venues like BO18 and KED engendered the engagement of younger generations in the area. Similarly, Forum de Beyrouth and the art galleries attracted artists, exhibitors, and visitors from Lebanon and abroad. Such a trend can improve Karantina's connection with the rest of the city and make it attractive to a wider and more diverse set of users. However, this trend was severely disrupted following the port blast. Some of these businesses closed and others are awaiting for compensations for repairs like Forum de Beyrouth and FLYP, while the currently open businesses are facing prospects of closure due to the ongoing economic crisis.

Although these businesses increased the pedestrian flow into the area, enhanced Karantina's connectivity with the outside, and had great potential in invigorating cultural vitality, their direct positive effects on the residents were very underwhelming. Many of these businesses were spatially fragmented and isolated from the local community groups. Most of them do not even cater to the needs of these community groups, be it for their relative expensiveness or incompatibility with the prevalent local lifestyles, nor do they provide residents with employment opportunities. Thus, the residents are left with minimal cultural and recreational venues. They are scarce and limited to 3 coffee shops, 1 computer gaming shop, 1 hookah store, and 1 Karting training track. Additionally, public spaces are either inaccessible or compromised due to their militarization, the encroachment of trucks, pollution, and mismanagement. Hence, most of the local cultural practices are confined within residential spaces or workplaces and limited to everyday socio-spatial practices. Given these problems, it is necessary to enact strategies that activate open spaces in Karantina culturally and economically and attract designers to work in the and engage with the local community groups.

C6.1. Activate the open spaces in Karantina to host occasional, weekly, monthly, and annual cultural and economic festivals.

The weakened state of cultural practices that are currently available for the Karantina residents suggests a need for activating and culturally animating open spaces in the area. There is no shortage of open spaces in Karantina, especially with the large number of public lands that are owned by the Municipality of Beirut or the government. However, as was explained in the strategic objective D1, most of these lands are inaccessible, undeveloped, underserved, or militarized.¹³ Furthermore, the degraded physical and environmental qualities of the public domain discourage the usage of open public spaces. For example, strategy E3.1 discusses how trucks occupy and damage streets, sidewalks, and other public spaces. Consequently, as was mentioned in strategic objective D3, most of the residents of Karantina avoid using these spaces in their free time.

¹³ Other restrictions on the public domain are further elaborated in strategies B4.1 and B4.8.

Thus, in addition to improving the conditions of these spaces, the public authorities must be actively animating them with cultural events in Karantina. The events can include festivals, fairs, souks, artistic installations, and others. They can also be hosted occasionally, weekly, monthly, seasonally, or annually. While these kinds of events appeal to people from outside Karantina, they can also be popular and accessible to the Karantina residents and be conceivably inclusive of their cultural practices and lifestyles. This strategy translates to the following action plan: establish a unit in the Municipality of Beirut in partnership with the cultural sector to organize and promote cultural events in Karantina.



Figure 32. The military playing courts in the municipal lot on the Charles Helou Highway. Source: Batoul Yassine, 2021.



Figure 33. The interior of the Karantina public park. Source: Abir Cheaitli, 2021.

C6.2. Engage artists and designers to work, network, and complement the existing crafts and the activities of industries in Karantina.

The trend of artists and designers seeking Karantina as a destination prior to the port blast and the economic crisis was recorded in the research. Such a trend was reversed upon the port blast and needs to be revitalized as a catalyst of an inclusive form of cultural development. Currently, most artistic practices in Karantina are commercial or limited to private homemade crafts; thus, it is rare for them to act as a collective shared practice that brings people together through communal gatherings and exhibitions. While artists from outside the area were able to come together within the Karantina art galleries—two of which were still active in 2021, Sfeir Gallery and KED—as well as the Forum de Beyrouth, their exchanges could have been more intense and fruitful since Karantina was able to provide a space to incubate artistic practices.

Hence, this strategy aims to nurture cultural production and create networks between designers that can transform their practices to become more communal and sustainable on the long term. At the same time, local artists and artisans from Karantina, must be integrated into this potential community of artists, to teach, learn, share, and promote their artistry and craftsmanship. To this end, a creative design lab or hub can be established in Karantina.

8. OBJECTIVE D

PROMOTE A SUSTAINABLE DEVELOPMENT STRATEGY THAT IS PARTICIPATORY AND PHASED OVER A PERIOD OF TIME.

“ I would love to see Karantina much better than this, in terms of buildings, streets, infrastructure, and public places¹⁴
 بحب شوف الكرنطينا أحسن من هيك بكثير من ناحية
 الابنية والشوارع، وبنى تحتية، والأماكن العامة.

“ I see Karantina a well-developed area socially and culturally, and its streets are beautiful and complete streets with health and educational services¹⁵
 أرى الكرنطينا منطقة متطورة حضارياً وإجتماعياً وثقافياً،
 وشوارعها أجمل و متكاملة في الخدمات الصحية والتعليمية.



Historically many impediments stood in the way of the development of Karantina. After the First World War, Karantina sheltered refugees and migrant workers in informal settlements that covered a significant percentage of the area. Infrastructural facilities in Karantina (the quarantine station, the train station, the port, and gas works) preceded residential growth. Considering this reality, all urban plans that were proposed at the time envisioned Karantina as an industrial area. During the 20th century, although the residential sub-neighborhoods were developed, Karantina mostly remained an area of informal settlements and industrial facilities. During the civil war, in 1976, Karantina became the site of a massacre after which many of the area's residents were displaced, all informal settlements were cleared up, and several buildings were demolished. From that time onwards, and due to its geographical location, Karantina became a permanent base for military operations. The militias' occupation of private lots during the war was partially transferred to the Lebanese Army. The army still occupies private and public land in Karantina and uses them as bases. After the civil war, the industrial sector showed steady improvement, especially in the last decade. While growth in the commercial sector fluctuated with national trends, residential development remained relatively stagnant, and even showed signs of decline. Currently, the zoning regulations allow for mid-density developments in comparison with other areas in Beirut. Yet, these regulations do not specify development by use.

Until today, Karantina has not shed the stigma of a marginalized, neglected, and under-serviced area weighed down by a traumatic past. Though this stigma had a negative impact on development, which still prevails until today, it spared Karantina from the large-scale of uncontrolled developments that other parts of Beirut had witnessed. Although this protected Karantina from such developments, the local community groups were sidelined from sharing their views on the area's future. During the last decade, several galleries and leisure venues opened in Karantina. This emerging trend contributed to the cultural diversity of the area. Because of the port blast, this trend came to a halt, and in some cases, its impacts were reversed. Other factors also impacted the development potential in Karantina including accessibility, environmental conditions, and poor infrastructure. In sum, the overall quality of life in Karantina was negatively impacted because the area lacked equitable and inclusive development opportunities. Considering the vision of Karantina as a developed area “منطقة متطورة” with adequate services “خدمات ملائمة” and whose residents are empowered “مجتمع متمكن”, the aim is to promote sustainable and participatory developments that are phased over time.

¹⁴ M.I.K, (2020- December-12), (Yahya Al-Saeed - Interviewer)

¹⁵ M.M. I, (2020- December-29), (Hassan Ali Aswad - Interviewer)



D1. ADVANCE A DEVELOPMENT PROGRAM FOR KARANTINA AND REMOVE EXISTING OBSTACLES TO DEVELOPMENT.

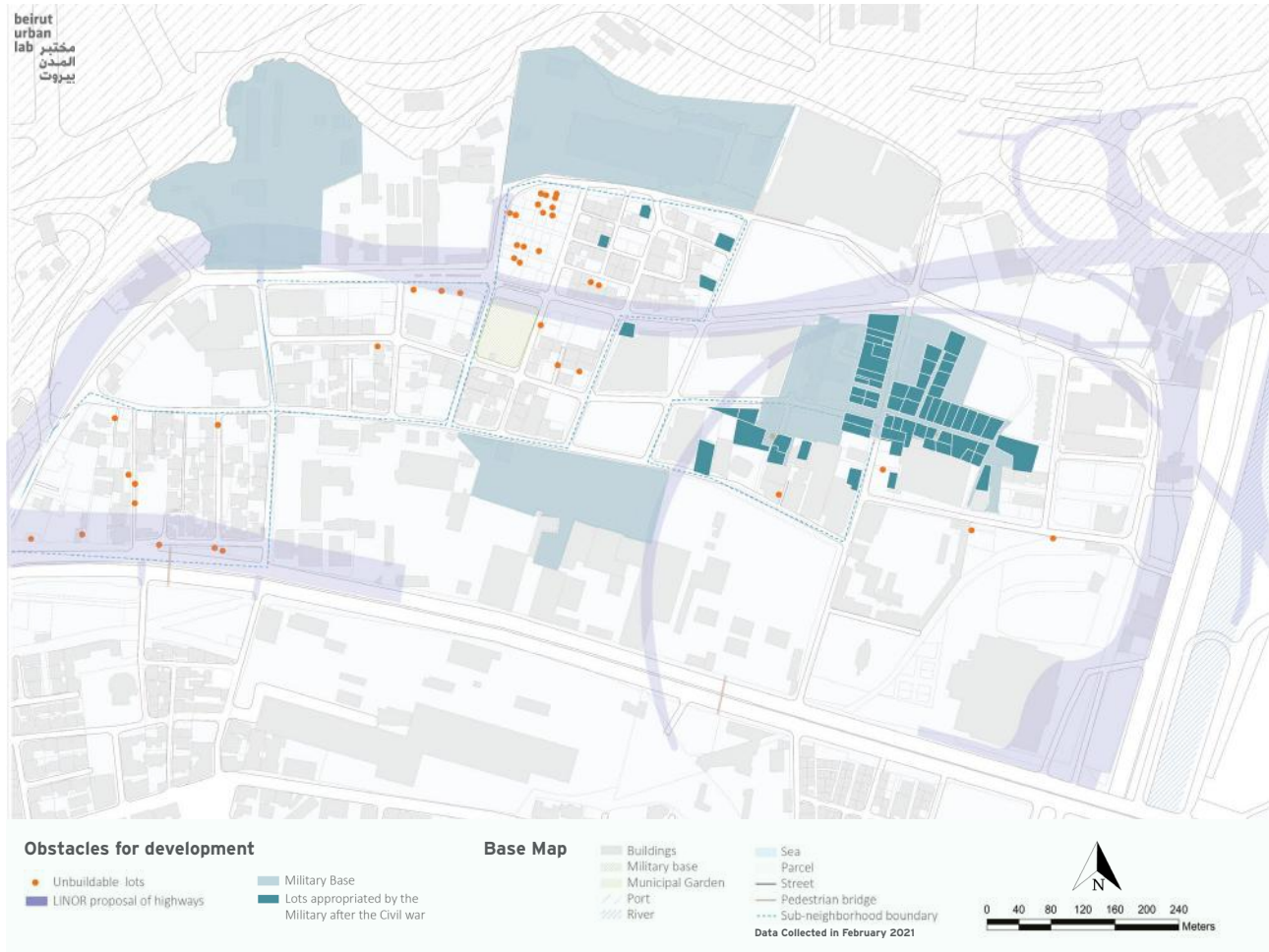


Figure 34: Restrictions on development in Karantina. Source: The Beirut Urban Lab, 2022.

Despite the availability of land in Karantina, the unbuilt pieces of land are made up of large and inaccessible sections of public properties and small lots that are not constructible according to the zoning law. The obstacles to development in Karantina can be divided into those affecting public properties or private lots. The diagnosis report showed that large lots are owned by the Municipality of Beirut (the northern section of the old train station ~ 9 ha, slaughterhouse ~ 3 ha) or the government (old quarantine station 3.4 ha) and are underserved or occupied by the military. These lots have a potential for redevelopment to improve the public domain and serve the residents of Karantina. The Maronite Waqf also has significant ownership rights, especially in the industrial area. Given these rights, the Waqf has the potential to play a more active role in inducing local development. Currently, the largest Waqf owned lots are being developed by car dealerships.

The diagnosis report showed that the residents of Karantina did not benefit from law number 322/1994 which gave the displaced people during the civil war exemptions to rebuild and repair their houses. Many small unbuilt lots still have multiple shareholders, a condition that complicates their pooling or development processes. In Karantina, there are 42 lots that are classified as unbuildable since they do not meet the minimum required dimensions and areas as per the zoning law. The data from the answers to the questionnaires showed that the highest concentration of unbuildable lots was in Al-Khodor sub-neighborhood where many old buildings were destroyed during the civil war. The Lebanese army occupies several private lots in the eastern part of Al-Khodor (along Al-Khodor Street) whose buildings were demolished during the civil war.

The military bases prevented landlords and residents from returning to their buildings or developing their lots since the civil war. Additionally, there are other private lots that cannot be developed because of the suspended LINORD project. Of the three sub-neighborhoods, Al-Khodor is the most affected by these conditions. Thus, it is essential to remove the impediments and unleash development to the benefit of the landowners and the residents in general. To meet this objective, a number of strategies were identified to remove current obstacles and facilitate development. The strategies are to release frozen, militarized, and unbuildable privately owned lots, facilitate the development of new housing units, and subdivide and integrate the municipal lot to be redeveloped in Karantina.

D1.1/A1.2/A4.2

Release frozen, militarized, and unbuildable privately owned lots, and facilitate the development of new housing units.

Refer to strategy A1.2

D1.2/B4.2

Subdivide the municipal lot and integrate it into plans for the development of Karantina.

Refer to strategy B4.2



D2. SAFEGUARD KARANTINA AGAINST THE THREATS OF GENTRIFICATION AND DISPLACEMENT.

After the port blast, Karantina was placed 'under study' for two years by law number 194/2020, thus, 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. Before the port blast, Karantina witnessed the arrival of different galleries for arts and crafts and leisure venues such as pubs, restaurants, and urban parks. The zoning law in Beirut does not specify development by use and leaves the potential of businesses taking over residential areas an open and unregulated issue.

After the duration of the law ends, a potential wave of gentrification may occur in Karantina. Its vulnerable state may attract real estate developers to replace old buildings with gated ones and, as a result, displace residents and alter the socio-spatial fabric of Karantina. Thus, the aim is to safeguard Karantina against gentrification and displacement. This is achieved by regulating new developments in the residential and industrial areas of Karantina.

D2.1. Regulate development in the residential and industrial areas of Karantina.

Karantina has a complex land use pattern, with distinct yet overlapping zones that vary in density. This pattern and the transformation trends within it have a major influence on development. The descriptive memory report showed that development or re-development is not possible in some of the vacant lots and buildings. As was presented in the diagnosis report, the landowners of the unbuildable lots who attended the thematic focus group discussions mentioned that, unless the zoning law is amended, they prefer to sell their lots to a developer who can afford the administrative costs of lot pooling. Although this position may be widespread, the pace of pooling small lots in Karantina is still slower in comparison to other areas in Beirut. Developers in Beirut have not been active in acquiring vacant, small, or unbuildable lots in Karantina. Yet, because the zoning law does not deal with land use regulations, there are several businesses that are acquiring residential apartments for office use. This trend inside residential areas is undesirable and impacts the affordability of housing units and the integrity of the social networks.

Alterations to use of residential units is mostly occurring in Al-Saydeh sub neighborhood in which 9 buildings had their ground floor re-purposed from residential to office space. 6 buildings in Al-Senegal had their ground floor uses altered, and 2 of the buildings witnessed the same change in its upper floors. This pattern was also observed to a lesser extent in Al-Khodor sub-neighborhood. Additionally, a 17.4% vacancy rate was recorded in Karantina that increased because of changes in land uses from residential to offices. This is due to the preferences of landlords to rent out to businesses instead of residential use to collect higher rents. Therefore, some apartments end up vacant for long periods of time.

Furthermore, from an environmental perspective, there are industrial businesses that cause noise and air pollution, thus, have multiple impacts on residents and making the area less appealing for development. Therefore, it is important to revisit the planning law to regulate land uses and development and protect the integrity of the residential sub-neighborhoods. This strategy can be possible by reforming and elaborating the planning law or proposing an addendum to it that guides and regulates existing and future land uses and developments.



D3. IMPROVE THE OVERALL QUALITY OF THE BUILT ENVIRONMENT.

Karantina is characterized by a dilapidated urban environment. Historically, Karantina witnessed several traumas that damaged its built fabric, specifically its buildings. Two of the major incidents include the 1976 massacre and the 2020 port blast, not to forget the many years of deterioration due to neglect and the lack of rehabilitation and development plans. Many buildings were abandoned, demolished, or highly damaged during the civil war, especially in Al-Khodor sub-neighborhood. Limited compensation was offered to the residents of Al-Khodor upon their return in 1993. Although the municipality has the responsibility of monitoring building conditions as prescribed by law, this requirement is seldom enforced. This meant that most buildings in Karantina, many of which are rented or owned by low-income families, were left to decay. However, some businesses were able to keep up with building maintenance, including Sleep Comfort and various storage hangars that service the port activities.

After the port blast, the conditions of many buildings became worse, and a few buildings were in danger of collapsing. Since a limited amount of compensations were distributed by the army to the affected households, many NGOs (Non-governmental Organizations) mobilized to help in the renovation of the damaged buildings. While Al-Saydeh sub-neighborhood largely benefited from these efforts, less investment was put into the other sub-neighborhoods. Some buildings were properly rehabilitated and other repair works only masked the deteriorated condition of some buildings. As was mentioned in the interviews, many residents in Al-Khodor sub-neighborhood voiced their complaints about the substandard quality and incomplete repair works.

The recovery efforts were not limited to repairing buildings but also dealt with the public realm. Public spaces are a vital part of everyday urban life. The diagnosis report showed that 50% of the households in Karantina were not satisfied with the quality of the existing public and shared spaces and 72% avoided using these spaces in their free time. Open spaces - including sidewalks and streets - are either deteriorated or inaccessible because of the military encroachment on public space. The limited number of streetlights, the poor condition of roads, and their blockage make the open public realm uninviting the user. To promote sustainable development, it is necessary to make sure that the physical conditions of buildings and public spaces are up to the standards. Thus, the aim is to improve the overall quality of the built environment. This is achieved by providing a legal enforcement measure for building rehabilitation, channeling funds through donors to vulnerable landlords for building renovation, and adopting an inclusive and integrated design approach while upgrading and rehabilitating existing public spaces and introducing shared facilities.



Figure 35. The degraded quality of the sidewalks in Karantina.
Source: Abir Cheaitli, 2021.



Figure 36. Vacant lots and dead ends in Karantina.
Source: Abir Cheaitli, 2021.

D3.1/E1.3 Provide a legal enforcement measure for building rehabilitation.



Figure 37. Poor quality of a residential building in Karantina.
Source: Batoul Yassine, 2021.



Figure 38. A structurally damaged residential apartment in AL-Khodor sub-neighborhood by the port blast.
Source: Batoul Yassine, 2021.

The diagnosis report counted 364 buildings in Karantina. Many of these buildings require extensive internal and external renovation due to deteriorating facades, ceilings, walls, and columns, leaking pipes, old structures, and broken windows and roofs. The condition of some of these buildings was further exacerbated by the port blast. Damage to the structure created dangerous and hazardous living conditions. Numerous apartments suffered from high humidity levels, which had an impact on the health and overall well-being of the residents. Article number 74 of legislative decree number 118 /1977 (the municipal law) states that in Beirut the governor is responsible to “demolish dilapidated buildings and [or] repair them at the expense of their owners in accordance with the provisions of the Building Law” - هدم المباني المتداعية . وإصلاحها على نفقة أصحابها وفقاً لأحكام قانون البناء . However, the requirements of this article are seldom applied, and the procedure, standards, and assessment process should be revised.

A considerable number of buildings in the areas that were affected by the port blast, including Karantina, have heritage value. The impacted areas received a thorough damage assessment and heritage building classification by the Directorate General of Antiquities (the DGA) following the port blast. In Al-Saydeh sub-neighborhood, the lead actor (Offre Joie) had to coordinate with the DGA on the restoration specifications, such as building materials and finishes. The DGA also played a role in the repair of some of the destroyed heritage buildings. Article number 3 of law number 194/2020 requires the Ministry of Culture to submit a restoration plan for buildings with heritage value. The law did not explicitly address the need for heritage protection in the areas that were affected by the port blast, especially with the absence of a clear heritage designation and definition criteria, including what should be preserved or renovated. The absence of an effective heritage protection policy led to the demolition of some heritage buildings in Karantina.

Thus, providing legal enforcement measures for building rehabilitation should help improve the quality of the built environment. This is possible through a monitoring and municipal taxation system on buildings that fail regular maintenance and upkeep to ensure public safety, security, and limit overcrowding.

D3.2/E1.2

Channel funds through donors to vulnerable landlords for building renovation.

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 a substantial number of deteriorated and demolished buildings due to the port blast. The descriptive memory report showed that many residents in Karantina welcomed the collapse of their buildings that will enable them to sell their properties, especially that renovations are costly and beyond their financial capacities.

In most cases, renovating buildings has far proven to be a challenge. The savings of the owners were limited, and the help provided by NGOs and INGOs (International Non-governmental Organizations) were in many cases uneven and badly implemented. To address these inconsistencies, it is necessary to channel funds through donors to vulnerable landlords for building renovations. Thus, to achieve this strategy it is paramount to follow the action plan of creating a registry platform to match donors, NGOs, and construction companies with building units that need additional rehabilitation through a clear system of application, prioritization, and awards.

D3.3/B8.1/E5.1

Adopt an inclusive and integrated design approach while upgrading and rehabilitating existing public spaces and introducing shared facilities.

Refer to strategy B8.1



D4. IMPROVE THE LOCAL INFRASTRUCTURAL SERVICES AND AMENITIES.

The diagnosis report showed that Karantina suffers from dilapidated infrastructural networks and lacks public amenities and services. This has made the area less appealing to new developments and limited its capacity to host new constructions. 89% of the answers to the household questionnaire stated that for people to stay in Karantina, it is a priority to have a proper and functioning infrastructure (sidewalks, streets, and sewage networks). On average, almost all households in Karantina have access to basic sanitary facilities. The area does not suffer from a shortage in the supply of daily water, yet the sewage network requires significant maintenance. During the winter, the neighborhood is commonly flooded with wastewater.

Karantina hosts a diverse range of vegetation and trees, of which most cover public spaces. However, the existing greenery is not sufficient to purify the air quality given the presence of industrial activities, truck traffic, and private generators. Private diesel generators, as well as the generators of commercial facilities, are placed on sidewalks, streets, and in residual spaces.

Many of the generators are not only encroaching on the public domain, but are also close to residential units, exposing the residents to elevated levels of air pollution and risks of fires. After the port blast, Electricité du Liban provided electricity for 24 hours a day. This was for a couple of months to support repair works. Since then, daily power cuts are as common as in other areas in Lebanon, making private generators the only available source of electricity. As a result, elevated levels of pollution and congestion have rendered Karantina an unhealthy place to live.

The diagnosis report showed that Karantina lacks key services such as transport networks, schools, teaching centers, sports and recreational facilities, and public spaces. Although a public school was constructed through a Spanish funding on the municipal lot in Al-Saydeh sub-neighborhood, most of the students are from Karantina. Furthermore, some NGOs created children programs such as Borderless which provides an activity program for children; however, this program remains limited in its scope and user groups. Karantina also hosts a governmental hospital, but it lacks affordable medical clinics. Many residents are not able to benefit from the hospital's services due to their financial circumstances. The area also lacks sports and recreational facilities. The urban park FLYP, which was destroyed by the port blast, used to welcome people for a fee. The only standing facility is the public park, which remains closed.

To lay the groundwork for sustainable development, one must make sure that the infrastructural networks and basic services are in place and running. Tackling the infrastructural problems in Karantina should consider the existing infrastructural networks and find ways to upgrade their performance. Thus, the aim is to improve the infrastructure and services in Karantina. The strategies proposed to attain this objective are to upgrade the performance and management of the existing infrastructural network to match new technologies and density demands, and to introduce services that are lacking in the area like schools, sports, and affordable clinics.



Figure 39. Informal electrical hook-ups on an electrical pole. Source: Batoul Yassine, 2021.



Figure 40. Waste water on streets in AL-Khodor sub-neighborhood. Source: Batoul Yassine, 2021.

D4.1/E4.1. Upgrade and improve the performance and management of the existing infrastructural networks to respond to density demands and adopt emerging technologies.

The existing infrastructure of Karantina requires upgrading in order to protect the environmental assets of the area, improve the overall quality of life of the residents, and increase the equity in the distribution of services. All sub-neighborhoods meet a basic level of needs: residents have food, water, shelter, and electricity. Albeit in the case of the latter, the provision of these services relies on a dual system between the government and backup generators. The answers to the household questionnaire show that almost all residents have EDL subscriptions across all sub-neighborhoods. When it comes to private electricity subscriptions it differs from one neighborhood to the other: 93% of the households in Al-Saydeh have electrical subscriptions to private generators, 73% in Al-Senegal, and 42% in Al-Khodor. These subscriptions are usually for the 19 generators that are found across the area. Additionally, most households reported that they have water subscriptions; 99% in Al-Senegal, 98% in Al-Saydeh, and 91% in Al-Khodor. However, some of the interviews showed that some households benefit from the subscription of their neighbors. It was also mentioned during the interviews that the main concerns of the residents were the old sewage system and the poor condition of the public spaces in Karantina.

Hence, to improve the infrastructure and public services in Karantina, the performance and management of the existing infrastructural network needs to be upgraded to match new technologies and density demands. To do this, a development plan for Karantina that incorporates the Municipality of Beirut should be designed to provide, upgrade, and maintain the municipal infrastructure. This can be done by directing public investments to a point where the municipal infrastructure is capable of meeting present and future demands with new technologies, evaluating the effectiveness of the current network, and creating an appropriate monitoring and evaluation process for infrastructure. Accordingly, the above strategy is translated into the following action plans: design and implement an integrated sewage and water management plan and design and implement alternative energy and greening solutions.

D4.2/A3.1

Introduce services and facilities that are lacking in the area, such as schools, sports, and affordable clinics.

Refer to strategy A3.1



D5. IMPROVE CONNECTIVITY AND ACCESSIBILITY TO KARANTINA.

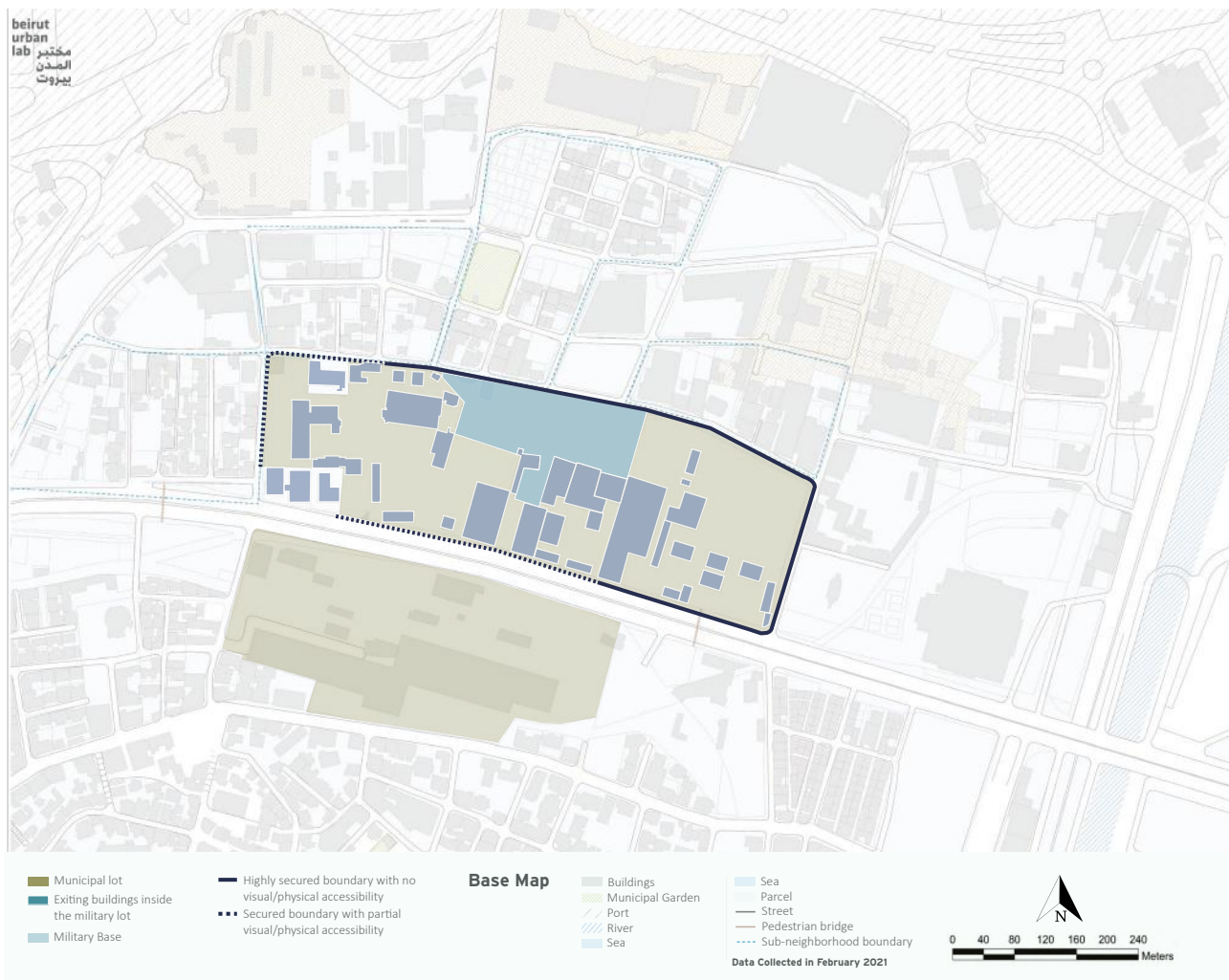


Figure 41: A map showing the impact of the Charles Helou Highway on the large municipal lot that in turn is acting as a buffer area separating Karantina from the surrounding. Source: The Beirut Urban Lab, 2022.

As was elaborated in strategic objective B1, due to several factors and historic events, Karantina stands today as an isolated island in relation to its immediate surroundings and the rest of Beirut. The historic link with Mar Mikhael Church and Al-Khodor Mosque, two landmarks for the residents of Karantina, is now limited to two pedestrian bridges over Charles Helou Highway. The walled off municipal lot greatly restricts any link to the south, while the sea and port are practically inaccessible. Internally, Karantina suffers from an enclaved condition socially and spatially. It is also heavily impacted by the presence of four military bases that restrict accessibility to sidewalks and streets.

Additionally, transportation networks in Beirut bypass Karantina altogether. The area is not connected to the rest of Beirut, and this includes a public transportation system and the informal transportation networks. To commute outside Karantina, residents must walk to the highway to take a bus or a taxi. The existence of port gates in and around Karantina and, subsequently, the traffic on Charles Helou Highway, render entering this area undesirable.

The area's economic vitality is also impacted by the enclaved spatial condition. This is despite the fact that several economic magnets, including the fish market, the slaughterhouse, and the public market are located at the northern edge of Karantina. The downside is that these magnets are located well beyond the residential areas, and the latter two are currently closed. Thus, the aim is to improve connectivity and accessibility to Karantina. This is achieved by re-stitching Karantina with Mar Mikhael to the south through a pedestrian network across the existing highway and increasing the permeability of the edge with the city through the highway and the large inaccessible municipal lot. This can also be achieved by extending the sea promenade from the Beirut Central District to Karantina, advocating for public access to the sea through the port, establishing points of connection with city-scale and wider mobility modes (buses, taxis, etc.), and removing the restricted access to the public domain.

D5.1/B1.1

Re-stitch Mar Mikhael with the southern side of Karantina through a pedestrian network across the highway.

Refer to strategy B1.1

D5.2/B1.2

Increase the permeability of the edges of Karantina with the city.

Refer to strategy B1.2

D5.3/B2.2/B4.3

Extend the sea promenade from the Beirut Central District to Karantina.

Refer to strategy B2.2

D5.4/B2.3

Relink Karantina to the sea through the port.

Refer to strategy B2.3

D5.5/B3.1

Establish points of connection with city-scale and wider mobility modes (buses, taxis, etc.).

Refer to strategy B3.1

D5.6/B4.1/E5.2

Remove the access restrictions to the public domain.

Refer to strategy B4.1



D6. ENGAGE THE RESIDENTS OF KARANTINA IN LOCAL DEVELOPMENT PROGRAMS AND LONG-TERM SHARED VISIONS.

In Lebanon, most plans for development are characterized by a top-down approach, and this also applies to Karantina. Karantina was and still is home to marginalized and vulnerable groups including low-income Lebanese families, refugees, and migrant workers. Excluding the residents from planning decisions results in plans that do not consider some of the more serious issues on the ground and the major demands of the different community groups. Following the port blast, the marginalization of people was made worse by the lack of a strategy for recovery and reconstruction. Households and businesses in Karantina mostly relied on their social networks and savings for repairs. Aid from NGOs and INGOs was limited and unevenly distributed among the residents. Due to their limited resources, the residents became trapped in an imposed process for the reconstruction of their homes and businesses that increased their vulnerability.

A strategy for urban recovery was absent from law number 194/2020. The law only addressed the rehabilitation of areas and buildings that were damaged by the port blast. The residents were not consulted or included in the drafting process of the law nor were they represented in the Coordinating Committee for the Survey of Damage, Relief and Compensation. However, some assessments gave room for the residents to express their concerns and explain their vision for the area. Many answers to the household questionnaire mentioned that residents have shared concerns for housing affordability, career possibilities, and access to health care facilities and public spaces. Most of the answers emphasized the significance of maintaining the affordability of Karantina and improving the infrastructural and public services. They also emphasized the importance of having access to job opportunities over financial aid. One of the residents stated: “We don’t need money, we have dignity, we are not beggars, we urge for job opportunities so we can recover.” This shared vision is compromised in the absence of a clear strategic development plan for Karantina. Any inclusive and sustainable strategy will be fundamentally challenged by the current regulatory framework, the security measures, and the suspended infrastructure projects.

It was evident in the research that the current measures do not ensure a long-term inclusive urban recovery. The latter can be achieved through engaging the different community groups in the planning and decision making process. The aim is, therefore, to engage the residents of Karantina in local development programs and in crafting long-term shared visions. Thus, to achieve this objective, it is necessary to adopt a strategy that empowers and strengthens the representation of the community groups in the decision making processes.



Figure 42. A co-design workshop held by the Beirut Urban Lab in AL-Khodor sub-neighborhood towards designing a community space. Source: Batoul Yassine, 2021.



Figure 43. A town hall meeting held by the Beirut Urban Lab in the public park to craft a vision for Karantina with the community groups. Source: Batoul Yassine, 2021.

D6.1 Empower and strengthen the representation of different community groups in decision-making.

It is crucial to understand that each sub-neighborhood in Karantina has its social, economic, and cultural layers that correspond to the residents' daily practices. The key here is to build strategic and social networks that can empower people in Karantina and promote an environment of equal participation. The establishment of community facilities and landmarks can mitigate social fragmentation, enhance a sense of belonging, and promote cultural diversity across the area. The sub-neighborhoods need to be better integrated as a whole and provided with equal access to the resources they require to engage in the decisions that impact their lives.

The goal is to create a people-centered, socially just, and place-specific urban recovery and development. The involvement of local community groups to advocate for their local needs and interests is an important incentive to take collective action on local issues with investors and government departments. This goes hand in hand with building communal networks and building local capacities. This network is central to an urban recovery that goes beyond physical repair to sustain the development of the area and the wellbeing of the community. Therefore, the representation of the community in the decision-making process needs to be empowered and strengthened. This strategy can be implemented through a neighborhood committee that participates with the different stakeholders in development plans.

9. OBJECTIVE E

IMPROVE THE OVERALL QUALITY OF THE URBAN ENVIRONMENT IN KARANTINA

“ I wish for a future that has a clean environment, without bad smells and wastes¹⁶
أتمنى مستقبل بيئية نظيفة، من دون رائحة كريهة ونفايات

“ I hope that Karantina has a space for elderly people like me, and a space of entertainment for children so they do not play on the streets anymore¹⁷

بتمنى إنه يصير في الكرنتينا مكان للكبار بالسن يلي متلي ويروحوا يرفهوا عن أنفسهم في، وإنه يصير في مكان ترفيهي للأولاد لما يضلوا بالشارع



The preliminary findings in the descriptive memory report noted that Karantina suffers from a dilapidated and polluted urban environment. The findings were further verified by the in-depth data collection and analysis of the strategic diagnosis report. The report showed that this was caused by multiple existing conditions and practices, including the operations and management processes.

The existing natural and infrastructural elements that border Karantina at its peripheries such as the Beirut River, the Charles Helou Highway, and Port of Beirut contribute to high emissions and pollution levels from the noise and air quality that directly impact the quality of the urban environment in Karantina. Internally, some uses and practices, such as the old slaughterhouse and the solid waste management facilities, have contributed to the spread of malodorous smells. This is in addition to the ongoing waste landfill that was supposed to be a temporary solution to the waste crisis in 2015 and has exceeded its capacity after the port blast and the temporary closure of the waste management facility in Karantina. Therefore, piles of waste are accumulating without any sorting process and are being openly burned.

At the level of municipal services, the area suffers from an outdated infrastructure and poor municipal services like electricity, water, sewage, and waste management that are not enough to meet the increasing needs of people in Karantina. The status of the public spaces (vacant, residual, and leftover spaces) has deteriorated because of the practices by cargo trucks, military vehicles, the lack of maintenance, and street littering. The streets and sidewalks are deteriorated and unsafe because of the unregulated activities of the trucks that circulate the streets in Karantina and the transportation of cargo and goods to and from the port.

Public spaces are also affected by military occupation and the use of military trucks, encroachments, and restrictions on accessibility. In terms of the physical conditions of the built environment in relation to structural forms of the buildings, there was a notable level of abandonment and decay of buildings because of the restrictions on developments and the local regulations. Responding to the vision for an ‘environmentally conscious “نظيفة بيئياً” urban setting and better environmental management, the aim is to improve the overall quality of the urban environment in Karantina.

¹⁶ A.S., (2020- December-24), (Mohamed Amsha - Interviewer)

¹⁷ D.A., (2020- December-23), (Yahya Al-Saeed - Interviewer)



E1. IMPROVE THE PHYSICAL QUALITY OF THE DAMAGED AND DEGRADED BUILDINGS.

The physical conditions of buildings greatly impact the quality of the urban environment. It was evident from the strategic diagnosis that there is a concerning number of degraded and abandoned buildings in Karantina. The data showed that out of the 252 buildings that were surveyed, 5% were fully demolished due to the port blast, 22% were in a degraded physical condition, 34% were in an average condition, only 22% were in a good condition, and 17% were being renovated. The answers to the questionnaires also showed that 30% of the buildings were fully abandoned. The degradation of the quality of buildings resulted from the aftermath of the civil war, the neglect of owners and their inability to perform maintenance work, and the port blast that exacerbated their deteriorating physical condition.

Poorly maintained and unused buildings are characterized by concrete cracks, decaying roofs, clogged sewer pipes, and broken sprinklers. They are, therefore, sources of contamination that produce mold growth and toxic fumes. They can cause leaks from heating systems, pipes, and appliances, as well as any chemicals or lubricants that are stored on site, therefore, contaminating the air, the groundwater, and the soil at the level of the building itself as well as the surrounding buildings. In addition, the poor physical condition of the buildings contributes to the decline in property values and disincentivizes development.

With the aim of enhancing the physical conditions of the buildings and mitigating environmental risks to create a safe environment for the users, the following strategies are proposed: offer financial packages and incentives to support the landlords to rehabilitate their residential buildings and maintain the affordability of the stock of housing units, channel funds through donors to vulnerable landlords for building renovations, provide a legal enforcement measure for the rehabilitation of buildings, and regulate the density per residential unit to counter overcrowding.



Figure 44. Abandoned buildings in Karantina. Source: Abir Cheaitli, 2021.

E1.1/A8.2

Offer financial packages and incentives to support the landlords in rehabilitating their residential buildings and maintain the stock of affordable housing units.

Refer to strategy A8.2

E1.2/D3.2

Channel funds through donors to vulnerable landlords for building renovations.

Refer to strategy D3.2

E1.3/D3.1**Provide a legal enforcement measure for building rehabilitation.**

Refer to strategy D3.1

E1.4/A8.1**Regulate the density per residential unit to counter overcrowding.**

Refer to strategy A8.1



E2. REDUCE AND CONTAIN HAZARDOUS WASTES AND HARMFUL EMISSIONS.

Lebanon lack of a comprehensive solid waste management strategy, and this puts at risk many of the country's environmental assets and natural resources, causing significant environmental and public health problems. Since 1994, 'Lebanon's waste management policy has consisted of implementing a series of emergency plans, each partially and poorly executed, and extended until a new crisis emerged. Devoid of any measures to move to long-term, sustainable planning, these local emergency fixes to the lingering waste crisis have incurred high financial costs for citizens as well as negative environmental, health, and safety impacts' (Khalil, 2022).

In addition to the solid waste landfill in Bourj Hammoud, another temporary solid waste landfill is found in Karantina. In 2015, after public officials closed Lebanon's primary landfill in Naameh, the governor of Beirut contracted the company SUKLEEN to store garbage in Karantina on a site across the Bakalian Flour Mill. The solid waste landfill in Karantina was supposed to be a temporary solution for the 2015 trash crisis. The governor of Beirut vowed that the trash will be removed once an alternative location was found, but until now, the landfill is still open. After the port blast, the waste management facility in Karantina was heavily damaged and temporarily closed; therefore, unsorted waste was accumulated without any proper treatment in the landfill. Furthermore, the lack of a comprehensive waste management plan for Greater Beirut and beyond has affected the Beirut River that is an infrastructural element that borders Karantina to the south. Throughout the years, the degradation of the Beirut River was the result of polluting activities; many local companies used the stretch of the river and its immediate surroundings as dumping sites for industrial and slaughter waste. Therefore, to reduce and prevent emissions and hazardous waste, the following strategies are proposed: regulate the management of the existing waste and clean and green the Beirut River corridor.

E2.1 Regulate the management of solid waste.

The answers to the questionnaires showed that around 165 households complained about repugnant smells from the closed waste management facility and the existing landfill, and they described it as unbearable. They were increasingly worried about the smoke from the open burning of garbage and its impact on their health and well-being. However, the accumulated waste in the area includes construction and demolition waste (C&DW) from the port blast and the reconstruction efforts after the blast. Piles of rubber were being dumped on the municipal lot number 1343 but also on the municipal lot that was reserved for the new slaughterhouse. According to the UNDP's assessment report (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 sq. m. The report also mentioned that asbestos, known to have a carcinogen risk, was found in damaged structures and rubble piles that were not disposed securely (UNDP Lebanon, 2020).

Immediately after the port blast, UN-Habitat launched a project called ‘Rubble to Mountains’ to “Support the proper management of Beirut Port explosion generated waste by reusing construction and demolition (C&D) and glass waste in quarry restoration and the production of useful city-scape items for Beirut and coordinating the recycling of all recyclable waste” (UN-Habitat, 2021). The governor of Beirut provided the project with a permit to limit the sorting, storing, and crushing operations to a lot next to the Bakalian Mills from the port site, plot number 1343, for 2 years. However, the project has been delayed due to the pandemic lockdowns, the absence of a government since August 2020, and the discovery of asbestos in the ruins. This delay is putting at risk the quality of the urban environment and the public health. Hence, the strategy aims to regulate the management of the existing waste through the following action plan: design and implement a solid waste management plan.



Figure 45. Piles of wastes dumped at the waste management landfill. Source: Abir Cheaitli, 2021.



Figure 46. Demolition debris piled in front of a building after the port explosion. Source: Batoul Yassine, 2020.

E2.2 Clean and green the Beirut River corridor.

The Lebanese law provides a clear legal framework for the protection of river domains to prevent pollution of aquifers and marine resources. Law number 221/2000 states that “water resources need to be protected from waste and pollution by setting up texts and taking the necessary measures and procedures to prevent pollution and return them to their natural quality.” Additionally, decision number 130/1998 by the Ministry of Environment classifies the corridor of Beirut River as a natural site and states that “the precincts of these areas are defined from the source to the estuary in length and within a distance of five hundred meters from the middle of the river course and towards the two banks in width for the various works and constructions”. The decision further specifies permitting considerations for any new construction within the required buffer zone, stating “the Ministry of Environment, in coordination with the Directorate of Urban Planning, determines the permitting conditions for any construction or projects in the aforementioned site within the framework of the protection measures that the Ministry deems necessary.” However, as riverbanks are public property, there has been several encroachments from buildings and the dumping of solid waste into the fluvial domain of the river. The problem lies in the absence of legal enforcement and the various uncontrolled practices that negatively impact the river. Problems also include the unclear decision making process and overlapping responsibilities among the several institutions that are involved in the water sector. The key, therefore, is to enforce the application of the existing legal framework to protect this urban asset from pollution and infringements.

The river was transformed into a concrete block in 1968 to manage its flooding and its banks were later used for road infrastructure. This led to the alteration of the river’s natural morphology, the removal of green spaces, and the disruption of ecosystems and natural habitats. Furthermore, the path of the river runs through several municipalities and public institutions have not taken any actions to protect the river domain from urban development, deforestation, and water pollution (Dada, A. 2020). Once the water reaches the city limits of Greater Beirut, it brings sources of pollution and is a foul-smelling reservoir of filth and contamination. Contamination is caused by factories dumping their industrial waste along the river, saline groundwater, and domestic solid waste.

During the summer season, due to low water levels and high temperatures, certain organic wastes break down more quickly. As a result, the foul odor becomes worse and significantly compromises the air quality that affects not just Karantina but also the surrounding neighborhoods.

Therefore, government regulation is a sound foundation for not only protecting rivers and streams but also to re-conceptualize them as green amenity corridors. A legal framework for the Beirut River, the revising and implementation of existing greening and rehabilitation studies, and awareness campaigns are key to reducing the amount of waste that is dumped into the river. Accordingly, this strategy translates into the following action plan: revitalize the Beirut River.



Figure 47. The Beirut River. Source: Weam Haddad, 2022.



E3. REDUCE SOUND AND AIR POLLUTION.

In general, Karantina and other neighborhoods around face severe environmental pollution related to air, noise, and odor. According to 2004 Greenpeace International research, the former slaughterhouse, the port, and the solid waste management facility were the main contributors to Karantina's ranking as one of Beirut's most polluted areas (Chahine, 2004). However, after 18 years from the date of the Greenpeace International study, the strategic diagnosis report revealed that Karantina remains one of Beirut's most polluted areas because of the port-related businesses and activities, land-use activities, and the infrastructural systems that border Karantina such as the Beirut River, the Charles Helou Highway, and the Port of Beirut.

Due to its location near the port and the presence of numerous warehouses and industrial enterprises that directly service the port, Karantina experiences a high load of incoming traffic from truck drivers. Even though the trucks serve the business activities in the area, their constant presence and unregulated circulation inside Karantina negatively impacted the physical and environmental quality.

As was mentioned in strategic objective E2, land-uses in Karantina include waste management and the temporary solid waste landfill. The port blast severely damaged the waste management facility that was forced to close. As a result, unsorted waste was piled in the landfill without being properly managed and was even burned, therefore, emitting pollutants into the environment. Another land-use practice is the unregulated installation of diesel generators to make up for daily power outages, contributing to the decline of environmental quality through rising levels of noise and air pollution.

Furthermore, in addition to the contaminated Beirut River to the east of Karantina, the heavily congested Charles Helou Highway borders Karantina to its south. This highway has both contributed to its isolation and alienation from the rest of Beirut, and its environmental state became worse since traffic congestion increases vehicle emissions and degrades the ambient air quality.

To meet this objective, several strategies were identified. These strategies cannot be considered separately; rather they should align with strategic objective E2 to effectively reduce air and sound pollutants and other emissions. The strategies that are proposed are: manage the traffic of trucks, their access, and parking in the area, regulate private generators, particularly the ones that are placed in proximity to residential buildings, empower the role of the Municipality of Beirut as a monitoring and coordinating agency for the environmental qualities in Karantina, and reduce the negative impact of the highway as a source of noise and air pollution.

E3.1 Manage the traffic of trucks, their access, and parking in the area.

Trucks circulate within Karantina with no set schedule nor dedicated routes. They use inner streets within the residential sub-neighborhoods to park during their non-working hours. The cargo truck activity damages the asphalt of the streets, causes potholes, harms public places like roads and vacant lots as well as private property like vehicles and front gates, creates congestion and noise, and endangers pedestrians, especially young children and elderly people. It also contributes to the air pollution in the area with the heavy smell of diesel and smoke and repugnant odors from livestock transport, and their effects are made worse by the fact that many of the apartments in the Karantina are not designed to effectively seal out pollutants or odors from the outside.

To control the numerous negative impacts on the physical and atmospheric qualities of the urban environment, a traffic plan must be developed to manage the accessibility and circulation of cargo trucks in Karantina. A carefully drafted timing schedule should consider the port's operational requirements, the turnover of trucks, and nearby port-related activities. To decrease congestion and maintain efficiency, the strategy should contain methods (automation and technology) to control the schedule and traffic flow of deliveries that are required by cargo vehicles. Parking areas for cargo trucks waiting for their operation processes should be included in the plan. In addition, to prevent the cargo trucks from damaging Karantina's residential clusters, the strategy should also incorporate traffic control measures. Therefore, the above strategy translates into the following action plan: conduct a thorough transportation study.



Figure 48. The encroachment of parking trucks on sidewalks and streets. Source: Abir Cheaitli, 2021.

E3.2 Regulate private generators, particularly the ones that are placed close to residential buildings.

Since Lebanon's biggest financial crisis hit in late 2019, the public provision of electricity has been on the verge of collapse, which increased the length of the power outages and raised the demand for private generators. This is mostly due to Lebanon's reliance on fossil fuel for operating the power plants and the government's inability to afford importing or subsidizing fuel because of the currency devaluation and the economic crisis. According to the answers to the household questionnaire in Karantina, 91% of the households have access to private diesel generators. Additionally, out of the 83 businesses that were surveyed, 18 mentioned that they have electricity from private generators. Electricity generators were noted on sidewalks, roadways, buildings, vacant lots, and building entrances, exposing the locals to high concentrations of air pollutants and airborne carcinogens.

There is a need to regulate the proximity of private generators to residential buildings. All the generators should include air filters to filter the emissions of toxic air pollutants such as Particulate Matter (PM) and Oxides of Nitrogen (NOx) which are harmful to humans and the environment. Additionally, soundproofing measures must be included to lessen noise pollution. Efforts should also aim at diversifying the energy supply and reducing dependence on imported fuels by harnessing solar energy through photovoltaic technologies. Therefore, the strategy results in the following action plan: design and implement alternative energy and greening solutions.



Figure 49. Private generators placed near residential buildings. Source: Abir Cheaitli, 2021.

E3.3 Empower the Municipality of Beirut to monitor and coordinate efforts to protect the environment in Karantina.

Municipalities play a key role in the management and protection of a city's urban environment. This is done through the regulation and planning of land uses. However, it can also be done through direct local changes that reduce the trajectory of greenhouse gas emissions, thus, enhancing the quality of the urban environment. Therefore, an environmental monitoring coordination council for Beirut that operates under the Municipality of Beirut must be established for it to become a leader and advocator for a better management, protection, and monitoring of the city's environment and well-being. For this purpose, the council should:

- Empower the Municipality of Beirut to operate as a coordinating agency that monitors the local environmental quality.
- Expand the enforcement of laws for the purposes of environmental protection and management.
- Advocate for the implementation of local low-emission solutions that are focused on buildings.
- Enable the use of creative financing tools (such as loans that are repaid in property taxes or utility bills) to encourage the adoption of energy-efficient or renewable energy technologies.
- Explore ways to collaborate and leverage monitoring efforts, locate environmental data, and provide assistance with environmental monitoring equipment and methods.
- Monitor the progress towards achieving environmental targets and publish statements about the progress.

This strategy is possible through the establishment of a technical office in the municipality that can oversee the alternative energy systems.

E3.4 Reduce the negative impact of the highway as a source of noise and air pollution.

The Charles Helou Highway is a major transportation artery in Beirut that remains heavily congested during the day with vehicles commuting to and from Beirut. The highway was first built to speed up travel time, cut transportation costs, and enable economic growth. However, it resulted in severe physical, social, and economic disruptions as well as excessive levels of noise, air, and visual pollution.

Reducing the negative impact of the highway as a source of pollution is linked to strategy B1 'Connect Karantina spatially with its surroundings' which proposes redesigning and activating the Charles Helou Highway as an urban boulevard with multiple pedestrian crossings into Mar Mikhael. The proposal calls for redesigning the highway with multiple pedestrian crossings into Mar Mikhael, wide sidewalks, and slow travel lanes. A three-lane roadway that is heavily car-oriented and has high speeds will become a pedestrian-friendly corridor by narrowing it down to two lanes. The removed lanes will be transformed into lush parklands and urban areas that can accommodate bikes and pedestrians. The boulevard will become a green space that enhances urban cohesion and re-stitches Karantina and Mar Mikhael and improves the environmental urban quality of areas surrounding the highway.

The above strategy translates into the following action plan: propose an urban design plan for an open space network that requires upgrading existing spaces and reforming operation and management systems.



E4. IMPROVE THE DILAPIDATED WATER, SEWAGE, AND OTHER INFRASTRUCTURAL NETWORKS.

Municipal infrastructural services significantly affect how well a city functions. In Karantina, the drainage, sewage, and street lighting systems require significant renovations and upgrading in some locations and they are missing in other locations. Additionally, there is no adequate drainage infrastructure to collect and direct rainfall. Therefore, the rainwater flows through natural pathways that head towards the sea (Lebanese University, 2016). According to the residents, the roads flood during the winter and become inaccessible. This is due to the clogging of the sewage inlets because of the lack of proper maintenance. 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). Furthermore, many streets, especially inside the sub-neighborhoods, lack lighting, while in other locations they are insufficient and need maintenance. As a result, at night, public spaces become inactive and unsafe.

Therefore, to improve the dilapidated water, sewage, and light infrastructural networks, the following strategy is proposed: upgrade the performance and management of the existing infrastructural networks to incorporate new technologies and match the current density demands.

E4.1/D4.1

Upgrade and improve the performance and management of the existing infrastructural networks to respond to density demands and adopt emerging technologies.

Refer to strategy D4.1



E5. IMPROVE THE QUALITY AND SAFETY OF THE PUBLIC DOMAIN WHICH SUPPORTS THE EXISTING SOCIO-SPATIAL PRACTICES ACROSS THE THREE SUB-NEIGHBORHOODS.

The findings from the strategic diagnosis report showed that 77% of the residents feel safe during the day and 71% feel safe at night. However, the feeling of safety and security in public and shared spaces in Karantina is not attributed to the limited service provision, but rather to the social ties and connections between the residents.

The spatial mapping showed that Al-Khodor, Al-Saydeh, and Al-Senegal sub-neighborhoods grew into three detached residential “village-like” clusters where people live, grow up, interact, and spend quality time with each other. The word “*ضبعة*” village was frequently used by the residents to describe their residential clusters, as well as their everyday practices and experiences. However, due to the few designated and inaccessible public parks and the lack of community facilities in Karantina, the residents often engage in their everyday socio-spatial activities on unsafe and underserved streets, sidewalks, and vacant lots. Among the three residential clusters, Al-Khodor sub-neighborhood has the highest population count and, consequently, hosts the majority of play, recreational, and domestic practices. However, due to the closure of the Karantina public garden, kids play on the nearby streets, sidewalks, and vacant lots. The poor quality of the urban environment compromises the safety and security of the residents. This includes the unregulated land-use practices from the port-related activities and the circulation of trucks, the dilapidated streets and sidewalks, and the lack of traffic calming measures and urban furniture.

Therefore, to improve the quality and safety of the public domain, which supports the existing socio-spatial practices across the three sub-neighborhoods, the following strategies are proposed: adopt an inclusive and integrated design approach, while upgrading and rehabilitating the existing public spaces and introducing shared facilities, and remove all the restricted access to the public domain.



Figure 50. Daily socio-spatial practices in Al-Khodor sub-neighborhood. Source: Batoul Yassine, 2021.

E5.1/B8.1/D3.3

Adopt an inclusive and integrated design approach while upgrading and rehabilitating existing public spaces and introducing shared facilities.

Refer to strategy B8.1

E5.2/B4.1/D5.6

Remove the access restrictions to the public domain.

Refer to strategy B4.1



E6. PROTECT AND MAINTAIN THE LANDSCAPE HERITAGE LAYER.

Landscape heritage sites are significant assets in Karantina. They include institutional green and open spaces like the garden of Al-Saydeh Church or spaces that are associated with a profound collective memory like the site of the old slaughterhouse. Natural elements are also integral to landscape heritage, as their topographic and geomorphological features shape the unique character of the natural setting. The most prominent feature is the old coastline. Being elevated on a high bedrock with scattered vegetation, it represents a unique Mediterranean setting. This landscape is an example that has been taken over by the built fabric, with little of it remaining. Currently, this landscape is inaccessible as military bases block the accessibility towards the coastal edge. The dense vegetative cover that is rich in monumental eucalyptus and ficus trees, presumably planted by the French during the mandate period, is also of great value. These trees, sometimes exceeding 15 meters in height, are distributed around Karantina as clusters or as single-standing trees. Their canopies provide adequate shading, which makes them attractive for social gatherings and public interactions. They are public property, hence, under the custody of the Municipality of Beirut. Although this vegetative layer is a vital environmental resource that provides myriad ecosystem services, it is subject to neglect and abuse. It was noted during the fieldwork that incidents of tree cutting took place on private properties without any previous notice or permission from the relevant authorities. Another case took place in a public area, where the Municipality of Beirut cut a huge eucalyptus tree on a sidewalk due to the infrastructural damage it was causing. Other landscapes, such as the coastline, are abandoned, with little awareness of their importance. Towards this end, the following strategy was adopted: develop a legal framework for the identification and protection of landscape heritage elements.

E6.1 Develop a legal framework for the identification and the protection of landscape heritage.

Although they are a vital asset for Karantina, heritage landscapes are abandoned and neglected. Therefore, a legal framework for their valorization and protection is necessary. However, this should be preceded by a phase that identifies these landscapes according to a set of criteria that considers their spatial, urban, cultural, and environmental value. Natural landscape heritage is well recognized in Lebanon, where protected areas are identified, and their ecological, patrimonial, and cultural legacy is protected. However, there are no precedents for a legal setup that protects landscapes and the vegetative cover in urban settings. In the case of urban trees, they are considered part of the public realm, where their protection and maintenance are under the custody of the municipality. However, the law is rarely enforced to protect the public realm from vandalism or abuse. Therefore, the proposed law should protect the identified heritage landscapes and prohibit the removal of designated monumental trees on public or private properties. Unless it is proven that irreversible damage is caused to infrastructure or public safety, a penalty should be applied for cutting down these trees without an official permit from the municipality. This strategy translates into the following action plan: apply the UNESCO study guidelines to identify landscape heritage in Karantina and propose a law to enforce the protection of landscape heritage elements.



Figure 51. Heritage trees inside the sub-neighborhoods. Source: Abir Cheaitli, 2021.

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