

Rethinking Design Priorities: Towards Human Scale and Sustaining Culture in Disadvantage Neighbourhoods – A Case Study from Beirut

Abstract

This paper examines disadvantaged neighbourhoods, which are precariously built environments that serve as homes for vulnerable communities that hold significant cultural values. This study focuses on Sabra, a neighbourhood located south of Beirut's municipal borders as a case study exemplifying these conditions. A key objective of this study is to achieve the best set of Possible Spatial Improvements (PSIs) to serve as a design guideline based on the competence of architectural, urban, and eco-friendly solutions as a catalyst for positive transformation. This study adapts qualitative methods that emphasize engaging, reflective, and knowledge-rich approaches. It employs field and ethnographic observation, along with unstructured one-to-one interviews, to analyse the existing urban structure, housing conditions, and cultural identity of the Sabra neighbourhood, aiming to uncover its social and cultural significance. Recognizing the importance of development that preserves these specific values, the authors present three groups of PSIs at both architectural and urban scales. These initiatives build upon prior research findings, with a focus on enhancing housing environments and improving the quality of open spaces. This approach is further reinforced by a participatory decision-making process, incorporating a survey to assess residents' acceptance of the proposed PSIs. Ultimately, this research can direct efforts towards an ethical approach that emphasizes democratizing the power of spatial development in disadvantaged neighbourhoods by rethinking design priorities and addressing housing environments through a culture-based lens.

Keywords: disadvantaged neighbourhoods, residential quality, culture, human-centred design; residential identity; placemaking

1. INTRODUCTION

In the last century, urban processes were conditioned by factors such as rapid urbanization, industrialization, rural-urban migration, and internal and external conflicts followed by displacement (Mike, 2006). These events affected the emergence of precarious areas known as slums and informal settlements. Most cities around the world, particularly in the Global South, develop informally, producing poor urban areas in which people live in deprived conditions in violation of property laws, building codes, and zoning regulations (Roy, et al., 2014). This is the result of social injustice and inappropriate laws that must be addressed through planning. Usually, these settlements arise on unused public lands within the city structure or its borders. Over time, and due to the growth of cities, these areas become the focus of developers and government projects for economic purposes, meaning residents face threats of resettlement or eviction. Therefore, this becomes part of the urban disputes over social rights versus the value of the land (Harvey, 2007).

In recent years, the eruption of civil movements in many parts of countries, specifically in high-growth cities, has drawn attention to the human rights of poor urban residents (Caldeira, 2017) who build not only their own houses, but also frequently their neighborhoods. In this article, I use the notion of peripheral urbanization to analyze this way of producing cities that is quite

pervasive in the global south. I argue that peripheral urbanization refers to modes of the production of space that (a). Therefore, many specialists have worked extensively in these areas in the Global South, focusing on programs dedicated to solving 'Big-Ticket' policy issues closely related to social life, economy, environment, and health. Concepts such as on-site slum upgrading/site improvement programs such as participatory planning and community-led development empower people to make decisions about their lives (Abbott, 2002). Also, there have been some success stories, mainly through NGO interventions and self-help groups supported through external funding, but these efforts are still very few considering the enormity of the problem (Banks, et al., 2015).

Limited research focuses on poor urban areas, highlighting the need to restore the cultural significance of individuals living in disadvantaged neighbourhoods within development projects. Policymakers need to define the nature of the discussions needed to achieve this goal and direct urban development initiatives to the special role of preserving cultural knowledge and cultural diversity of skills within interconnected communities. Culture provided a context according to which the individual participated in daily activities. In this end, several key questions must be addressed: How do vulnerable communities make decisions about the development of their neighbourhoods? What is the

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development culture that empowers users to make decisions about their future living spaces? What impact does these communities' participation have on shaping their built environment? How can their cultural values unlock new potential?

Issues and threats – Disadvantaged neighbourhoods experience greater spatial and socio-economic exclusion from the benefits and opportunities of the broader urban environment. They suffer from persistent discrimination and deprivation characterized by geographical marginalization, lack of basic services, limited access to land and property, and precarious livelihoods (Opačić, 2021). In terms of threats, these settlements are threatened by interventions, such as eviction and displacement, that have proven costly and socially destructive but are still popular in some countries. Markets, neighbourhoods, and walled cities are threatened by the liberal movement and capitalist market, mainly because lands are now considered a valuable commodity. With the entry of foreign investment, wet and informal markets are demolished to make way for shopping centres, and street food vendors selling traditional fast foods are being replaced by Western chains (Patel, 2016). Many have criticized the so-called 'site and services' approach for leaving families in generally worse conditions than they would otherwise be (Brakarz et al., 2002).

The geographic scope – This research is specifically limited to a disadvantaged neighbourhood known as Sabra, located in the southern suburbs of Beirut. This area is chosen due to the lead author's primary research interest in transforming disadvantaged neighbourhoods within Greater Beirut area, where the case of Sabra is seen as a microcosm of broader issues related to urban poverty, marginalization, housing, refugee and migrant populations, as well as political and sectarian tensions, which could make the findings more impactful or widely applicable. Moreover, it can provide a unique opportunity to explore the core issues of this research due to its complex urban structure, historical significance, diverse demographics and community cultural background, and socio-economic challenges that are displayed in most cases in Beirut but on a different scale.

Aims – Envisioning a new urban future requires a fundamental shift in how we perceive disadvantaged neighbourhoods. This research challenges the narrative of neglect and portrays areas like the Sabra neighbourhood as a hub of resilience, innovation, and cultural richness. It aims to reveal the neighbourhood's unique physical structure and cultural essence, offering a comprehensive understanding of its spatial and social characteristics. The study also emphasizes the importance of restoring the cultural significance of residents within development initiatives. The primary objective of this study is to present a series of best

Possible Spatial Improvements (PSIs) that serve as a design guideline grounded in architectural, urban, and eco-friendly design solutions, acting as a force for positive change. A detailed explanation of the sources of these design solutions is provided in the introduction to the research methodology, **Section 3**. Additionally, this research advocates for a democratic development approach through a participatory decision-making approach, utilizing a survey to assess users' acceptance of the proposed PSIs. Comprehensive explanations of the assessment method are addressed in **Subsection 3.4**.

Challenges – Conducting this research encounters several challenges for the authors due to the context-sensitive nature of the study, for instance, the lack of support from local authorities, which hinders the process of obtaining necessary permissions and appointing ex-patriates (security personnel) to assist in the field study, which is crucial for navigating the complex and

potentially hostile environment where residents may be suspicious of outsiders. The absence of official maps also complicates the task of identifying specific areas and buildings. In addition, residents are often reluctant to share information or fill out any documents, as they may not trust local authorities and academic researchers for fear of repercussions or in the hope of receiving benefits.

Structure of the Paper – The remainder of this paper is organized as follows: **Section 2** discusses the cultural value in poor urban areas, highlighting residents' daily practices and activities. It highlights the importance of incorporating cultural value as a vital element in spatial development. **Section 3** describes the research design and methodology. **Subsection 3.1** presents the case study consisting of the historical background and municipal perspective regarding its location and geographical boundaries, which has led to the development of a new map. **Subsection 3.2** presents the analysis results of the urban structure and cultural essence of the Sabra neighbourhood. Subsequently, **Subsection 3.3** presents the interview participants' responses that reveal their sense of belonging, daily life practices, social interactions, and future aspirations. **Subsection 3.4** presents the survey results, assessing the acceptance of the proposed PSIs at three levels. **Section 4** is the final section, in which the authors summarize the main findings of the research and pose new challenges that respond to the topic of this paper. This opens up a new field of interdisciplinary research.

2. CULTURAL ESSENCE AND DEVELOPMENT IN DISADVANTAGED NEIGHBOURHOODS

Culture gives quality and value to the meaning of everyday life and is fundamental in the development of societies. Poor urban areas have piqued the strong interest of researchers and experts from various fields because of their complex nature. This complexity acts as the centre of everyday life, from social and economic networks to homes. So, what is crucial in this process is the recognition that these communities have their local knowledge that is embedded in daily practices and is not formally defined or learnt in a formal setting. To emphasize this, we bear witness to Bansal and Gandhi (2012), who published stories in their book, *Poor Little Rich Slum*, about people living in one of the largest slums in India, Dharavi, with a population of 1 million. The authors developed this book based on interviews and several slum walks. The real stories written in this book imply a strong sense of belonging to a place. It also highlighted some facts associated with the different interventions (improvement, clearance, and redevelopment) in Dharavi and addressed findings and feedback towards these interventions. This critically demonstrates a better understanding of the cultural value in such spaces and draws attention to the goal of this research in terms of the relationship between delivering a quality-built environment through transformation activities and user satisfaction and how it can be achieved. Furthermore, we bring evidence relying on the Can Xue (2020) novel, *I Live in the Slums*, in which the writer presents a collection of stories set in the slums. The narrators in the novel craft a unique picture of the lifestyles of slum dwellers in different types of spaces. As a result of the daily struggle for survival, various human activities and practices seemed to respond appropriately to the nature and conditions of these places. This culture seems to be the essence of survival and continuity in slums. Planning standards and practices identify buildings, neighbourhoods, and heritage sites and work to protect them. Disadvantaged neighbourhoods are complex neighbourhoods that evolve

and change. Their ability to become viable neighbourhoods depends on the state's participation in aiding and supporting this process, as the poor who live in city centres compete against the elite in the struggle for the power of the vertically structured commercial house and land market that permeates their neighbourhoods.

Goal 11 of the United Nations Sustainable Development Goals (SDGs) pledges to make cities 'inclusive, safe, resilient, and sustainable' (United Nations, 2022). Achieving this vision requires more than technical solutions; it demands thoughtful planning that fosters a strong sense of place and belonging. Aligned with this, UNESCO advocates for the application of Historic Urban Landscape (HUL) approach, which integrates urban heritage conservation with broader social and economic development goals. This holistic method considers the full human environment, including the entire human environment, embracing both tangible and intangible cultural dimensions (UNESCO, 2013).

In response to the contemporary urban crisis, Habitat III, in cooperation with UNESCO, emphasized the need for a new paradigm in urban development. Their joint paper, *Urban Culture and Heritage*, calls for rehumanizing cities by addressing environmental vulnerabilities and reinforcing human-scale design and social connections. His approach aims to enhance social cohesion, reduce spatial and social inequalities, and ensure equitable access to urban resources (United Nations, 2016). As noted by Duxbury et al., (2016), Culture is now firmly recognized by the international community as a key component of strategic urban planning and a key innovation defining a new urban agenda.

The Indian economist and philosopher Amartya Kumar Sen (1999) in his book, *Development as Freedom*, explores the relationship between freedom and development and how freedom is both a basic constituent of development in itself and an enabling key to other aspects. Sen emphasizes the importance and intuition of local culture as it provides individuals with the ability to restore values and meaningfulness to their lives. Dominant values can also influence the presence or absence of corruption and the role of trust in economic, social, or political relations. Sen concludes that the exercise of all freedoms is mediated by values and speaks of culture as central to the genesis of the ethics and values intrinsic to the overarching goals of human development.

3. RESEARCH DESIGN AND METHODOLOGY

This research adopts qualitative analysis methods that produce noteworthy results. Due to the need to visualize and analyse the spatial configuration of the Sabra neighbourhood, and in the absence of existing data and maps, the first method used is collaborative mapping. This involved engaging with the Ghoubeyri municipality, integrating local knowledge and perspectives to create maps that define the geographical boundaries and area names of the neighbourhood. This method involved using an audio recorder to record the discussion and initial hand drawings of the map. Further, to understand the urban structure and cultural values, field and ethnographic observation methods are employed alongside unstructured one-to-one interviews as a phenomenological approach on-site alongside the observational study. These methods involve capturing visual data and photographs, taking field notes, and conducting interviews with residents during in situ observations. These approaches allowed an examination of the spatial qualities and their role in shaping local knowledge and practices. They also facilitated exploration of how residents are related to their built environment and each other, revealing the social and cultural dynamics within the urban structure.

Recognizing the necessity and importance of development while preserving these significant values. An additional method is adopted to integrate the author's prior research endeavours, presenting three groups of design solutions at architectural, urban, and eco-friendly levels as Possible Spatial Improvements (PSIs). These are built on a well-researched foundation developed by the lead author's interest in transforming disadvantaged neighbourhoods located in Greater Beirut, resulting in a series of 4 scholarly publications. They are derived from successful interventions in poor urban areas at the local and international levels. These interventions are analysed based on proximate conditions and similarities in the characteristics and nature of the ones in the Sabra neighbourhood. The elaborated spatial improvements have successfully addressed spatial challenges at the architectural and urban levels and achieved sustainability through eco-friendly designs and strategies. They also met the needs of residents and enhanced the physical environment. Notable analysed interventions include the 'Upgrading Activities for Palestinian Refugee Camps in Lebanon by the UN Relief and Works Agency' (Habitat For Humanity Great Britain, 2016), The Reconstruction of the Nahr El-Bared Refugee Camp (Aga Khan Development Network, 2011), The Rehabilitation of the Old Saida Residential Neighborhood and Haddadine Tripoli (UN-Habitat, 2020), The Manguinhos Complex project in Rio de Janeiro, Brazil (Mario Jáuregui, 2011), The Urban Transformation of Medellín (Global Development Institute, 2019), and The Manufactured Sites in Tijuana' by the architect Teddy Cruz (Cruz, 2005).

To ensure a democratic and inclusive planning process, this study adopts a participatory decision-making approach through a paper-based survey carried out to assess the acceptance of the PSIs. This method aims to enhance cultural and societal readiness, encouraging local ownership and adaptation of the PSIs. Although the principal of placing people at the centre of design and planning has long been advocated, it remains rarely applied in the context of disadvantaged neighbourhoods. In this research, however, it is embraced as a renewed and necessary perspective – one that can lead to more informed, context sensitive decisions and provide a solid guideline for a more successful future implementation of plans and projects. The results of the survey are presented in the upcoming **Subsection 3.4**.

3.1. Disadvantaged Neighbourhoods in Beirut – Sabra as a Case Study

Over the decades, Beirut has shown almost unlimited potential for urban transition as a result of international trade, government projects, internal and external conflicts, and various waves of migration (Khalaf, 2006). The response to these factors, and in particular to the dynamics of urbanization and the growth of urban populations, has been in most cases chaotic and informal. The result of this process was the creation of subsidized neighbourhoods that could be distinguished by their different structural, social, and economic dimensions from the other parts of the city. This phenomenon was particularly evident in the second half of the twentieth century, when the ongoing political, social, and economic processes within Lebanon and in the Middle East as a whole led to an increase in immigration to the country of large groups of people looking for safety and economic opportunities. This process resulted in the creation of different types of poor urban settlements located around the municipal borders of Beirut to the south and east, which differ according to the period of their origin, socially, ethnically, and religiously (Fawaz, Peillen, 2003). These became attractive due to their proximity to a large

urban centre. Immigrants arriving in Beirut with little financial resources needed to live near factories, workplaces, and the airport, so they settled in the suburbs of Beirut. Dwellers divided the large parcels of land into smaller units. They bought approximately 100–150 square meters of land and built houses. Over time, the state adopted more urban rules, and these settlements became informal (UN Women – Arab States, 2022). From a typographical perspective, disadvantaged neighbourhoods in Beirut are located on riverbanks, floodplains, coastal areas, hillsides, or next to landfills. They are complex spaces, areas that do not have a fixed context due to many factors related to either their founding date, violations beyond building and construction codes, or their continuous dynamic transformation in response to different circumstances (UN-Habitat, 2003).

Sabra neighbourhood – Sabra neighbourhood embodies Beirut's urban challenges, mirrors the city's complex history and transformations, and remains one of the most disadvantaged neighbourhoods within the city's geographical boundaries. The area became an extension of the Shatila Palestinian refugee camp, which emerged in the context of the 1948 Arab–Israeli war and the influx of Palestinian refugees into Lebanon. It developed during the 1960s, when temporary huts were built illegally on private land, mainly by families who fled from southern Lebanon. In the mid-1970s, the Sabra neighbourhood had 2,640 residents, most of whom were Palestinian refugees (Khawaja, 2011). During the Lebanese Civil War (1975–1990), the area was the scene of frequent clashes, resulting in widespread physical destruction and the displacement of existing refugees. After the end of the civil war, Sabra became a location of interest for many non-Palestinians, including illegal immigrants and domestic and national workers, mainly Ethiopians and Egyptians, as well as Iraqi and Syrian refugees (Fawaz, Peillen, 2003). With the outbreak of the Syrian war in 2011, the arrival of displaced Syrians to the area contributed to changes in the demographic characteristics of the neighbourhood, as Syrians became the largest non-Lebanese group (UNHCR, 2020). Currently, Sabra is not considered an official refugee camp, although its name is still associated with the Shatila camp.

Location and boundaries – A review of existing maps revealed that the geographical boundaries of Sabra, as well as the names of its internal areas are not officially defined. To address this gap, one of the authors organized a visit to the Ghobeiry Municipality

on 15 March 2023. During the visit, the research objectives were clearly explained, including how the collected information would be used and the rights of all involved. Discussions were held with a municipal representative to delineate the geographical boundaries of Sabra and naming the internal areas. With the representative's consent, an audio recorder was used to document the conversation. The representative's oral testimony, along with hand-drawn sketches, played a key role in defining area's location and limits. For ethics reasons, the representative requested that their gender, name, and position remain confidential.

In a face-to-face and telephone conversation on 15 March and 12 April 2023, the representative revealed that 'Officially, the Sabra neighbourhood is located in the southern suburbs of Beirut, from the north aligned by the border strip of the Beirut district. It belongs to the municipality of Ghobeiry and is located in the Mount Lebanon Governorate.' (See Ill. 1).

'The area is bordered to the northwest by the Daouk-Ghawash complex and the prominent landmark Camille Chamoun Sports City Stadium. Towards the northeast is Horsh Beirut and the Shatila area, which includes three iconic main areas: the Palestinian refugee cemetery, the Islamic martyr's cemetery, and the martyr's mosque, which they are called Al Khashekji Mosque and Cemetery. It is bordered to the east by the Farhat neighborhood and to the southeast by Horsh al-Qateel (The Dead Grove) In terms of street infrastructure, the area is surrounded by three main roads: El Emam Mousa al Sader Road from the south (the name based on an important political and spiritual leader in the Shia Lebanese community), Jamal Abdul Nasser Road from the west (the name inspired by the Egyptian military officer and politician who led the Egyptian revolution of 1952), and Hafez al-Assad Road from the east (the name inspired by the Syrian statesman and military officer who served as President of Syria.' (See Ill. 2).

'The neighborhoods have overlapped each other over time, making it difficult to define the exact geographical boundaries of Sabra; however, two areas within the neighborhood can be identified as central zones, where the neighborhood was established. The first is known as the Sabra and Shatila camp, but the public calls its Sabra. However, the parcel belongs to Shatila. The second is known as the Sabra and Shatila massacre, and all the surrounding areas are violations that evolved in different series of national, regional, and institutional events (such as the land pooling and re-parcellation project of a large section in this area, which created

Ill. 1. Location and boundaries of Sabra, indicating the border strip of the Beirut district, municipality, and governorate. Author: Bahaa Bou Kalfouni





III. 2. Geographic boundaries of the Sabra neighborhood: zone names and character. Author: Bahaa Bou Kalfouni

confusion over property rights and so facilitated squatting). These areas are linked to the Sabra and Shatila camp but do not only belong to Palestinians; they are occupied by different nationalities.'

3.2. Analyzing Urban Structure and Cultural Essence of Sabra Neighborhood

The analysis of Sabra's urban structure and cultural essence is presented through our lens and experience, drawing on on-site and ethnographic observation to provide a better understanding of the current physical and social context. These methods yield valuable qualitative insights. From a physical standpoint, this analysis employs photographic documentation to identify issues across various scales and dimensions, encompassing individual buildings, blocks, interior spaces, street infrastructure, green and open areas, and the souk (commercial and cultural spaces) (see below **Sub-subsection 3.2.1** and III. 3). From the cultural perspective, participant observation was conducted through direct engagement with local practice, accompanied by immediate field notes to capture behaviors and interactions as they occurred. This approach reflects on cultural norms, values, and underlying social structures, revealing how residents use spaces, interact with each other, and carry out daily activities. Without this contextual knowledge, any proposed design solutions risk being disconnected from the area's realities (see below **Sub-subsection 3.2.2** and III. 4).

The observations were conducted over a one-month period during the summer of 2023, from 15 May to 15 June. The lead author conducted four weekly field visits to Sabra at different times, morning (7:30–11:00) and afternoon (15:00–19:00) to capture the physical layout, document social interactions, and analyse spatial usage. The focus was on densely used areas and key facilities, especially along the souk, as well as spaces near mosques, hospitals, clinics, schools, dense residential areas, and active alleys. Two observation methods were employed. The first was stationary observation, during which the lead author remained in a fixed location for 10–20 minutes, depending on the nature and security of the area. The second, was a mobile observation, involving movement through the neighbourhood to experience it as both a pedestrian and participant in the use of the spaces. The

findings area grounded in ethnographic observation, emphasizing reflective and sensory engagement that unfolds and deepened through repeated visits to the site.

3.2.1. Urban Structure

In addition to our analysis for the urban structure, we draw on insights from architect Stefanos Gkougkoustamos, whose research on the Sabra and Shatila refugees camp offers a compelling perspective on the neighbourhood. Describing the spatial experience through his lens, Gkougkoustamos, writes: 'Without encountering any obstacles, the eye spontaneously embraces the most heterogeneous situations, and this places every passer-by in the situation of the voyeur. In these vernacular neighbourhoods transparency is letting us see its real project, which isn't the rationalization of space, but a sort of post-rationalism beyond rationality: the emergence of unclassifiable spaces that contaminate each other and perpetually communicate' (Gkougkoustamos, 2012).

His reflection resonates with our observations, highlighting the fluid, layered, and often paradoxical spatial qualities of Sabra that defy conventional urban classifications. The urban structure is analysed as follows from the author's lens:

Building Typology and Materials: The primary framework of the constructions comprises concrete blocks, with buildings ranging from single-story to eight-story structures. The majority of buildings fall within the middle-rise buildings (three to five stories). High-rise buildings (six to seven stories) constitute an average percentage, while low-rise structures (one to two stories) represent the least. Many buildings lack balconies and have minimal openings in their façades, hindering sunlight penetration. The predominant materials used in construction include natural stone, paint, coatings, and unfinished bricks, along with signs of deterioration, such as exposed iron sheets, indicating poor building conditions.

Interior spaces: Most of the dwellers live in apartments of various sizes, ranging from one-room apartments to four-room apartments with shared toilets and kitchens. As regards the partitions, some are painted in uniform colours, primarily white, and in some cases are not finished. They stand out with visible electric cables, and sockets, and pipes, which are more conspicuous in kitchens and toilets. Due to the lack of natural light and

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ventilation, there is a very high chance of seeing walls with mouldy stains and smelly rooms. The floors are primarily old ceramic tiles, in some cases still concrete surfaces, and carpeted. In terms of furniture, it is often a mixture of styles and tastes, which is also related to the family's economic situation. Interior spaces are usually decorated spontaneously and randomly. In the living rooms, sofas or sleeping mats are placed against the walls, in addition to plastic tables and chairs. On some of the walls, especially of the rented apartments, there is graffiti with the names of the tenants as imprints of their stays.

Building use: The neighbourhood is not only limited to housing but also shops, restaurants, bars, schools, community and educational centres, clinics, hospitals, a mosque, and a well-known landmark, Sabra Market, which are essential to people's daily lives. In terms of business categories, there are retail, service, entertainment, manufacturing, medical care, education, and religious establishments. The types of building use can be grouped into three categories: dwelling only, dwelling with trade/business, and trade/business only.

Open spaces: The high density of the urban fabric in the area contributed to the reduction of the open spaces within the neighbourhood. The only open spaces in the area are Martyrs Cemetery and the scattered spaces that remain between the buildings. Within the open spaces, a very low percentage is for public use, and a very high percentage is for private use. The most common types of open spaces in Sabra are car parks, the largest of which are located on the northwest side of the neighbourhood squares, private gardens distributed over the neighbourhood, and abundant wilderness areas. There is an absence of playgrounds, sports fields, and other safe and attractive enclaves for users in the neighbourhood. The nearest public sports facility is the Municipal Stadium, located 500 m north of Sabra.

Streets: The condition of the streets and pavements shows that the street network (by length) is limited to pedestrians and the road network (by area) is showing major and/or minor signs of deterioration. The majority of roads (in terms of length) either do not have sidewalks or have sidewalks with obstructions (such as storing goods, garbage, and plants/trees), which impede movement and affect the safety of pedestrians in the area. In some parcels, there is no access for fire and rescue vehicles. The inner streets look like mazes (no obvious penetration); they are very narrow and winding alleys (1.5 or 2 m wide) that only fit pedestrians or one motorbike, creating a very unsafe environment. Due to the proximity of the buildings, in the event of an emergency (injury or death), residents use rooftop navigation from one building to another to get to the main street that ambulances can access.

Souk Sabra: This is a street commercial market, an open-air



III. 3. Photographs showing some of the physical characteristics of Sabra neighbourhood: housing environment, Types of streets, public buildings, structure and usage of public spaces, services. Author: Bahaa Bou Kalfouni

market, built around a vibrant system of retailers and vendors who occupy the streets and the sidewalks. Regarding mobility, the street is a common place for pedestrians, cyclists, cars, and motorbikes. It is considered a vital artery for the settlement and one of Beirut's commercial and economic landmarks. The souk entrance from the southern part of the settlement starts from a very busy street called El Emam Mousa al Sader, starting with a concrete platform of organic shape, 335 m long and 1.5 m high, covered with a compacted soil surface, bordered with vendors' carriages and umbrellas, and used as a public area for a statue and for people to stay. A few steps from the entrance, the cemetery of the Palestinian martyrs Santa and Shatila lies to the east. The souk extends over a length of about 1 km. It varies in width from 4 to 7 meters, is surrounded by sale tents or various types of residential and commercial buildings, and has different intersections and nodes. It offers different types of services and activities. The souk has a popular character called 'Mother of the Poor'. Electronics, clothes, shoes, jewellery stores, and antiques are sold in the souk, along with vegetables, fish, meat, and poultry products.

3.2.2. Cultural Essence

The cultural essence in the Sabra neighbourhood appears to be the product of migration, conflicts, massacres, diversity, and the ability of dwellers to move on and adapt. In addition, this culture

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III. 4. Capturing the Human Scale: Daily Practices and Social Interactions in Sabra neighbourhood. Author: Bahaa Bou Kalfouni

is nurtured by civilized diversity and ethnic groups (different nationalities and religions), such as the Palestinians, Syrians, Iraqis, Egyptians, Ethiopians, and Armenians, where they are mainly divided between Muslims, Sunnis, and Shiites.

The relationship between users and their environment was explored through ethnographic observation conducted during the field study. This method enabled an analysis of both individual and collective behaviours of residents, as well as the events occurring across various locations within the neighbourhood. The observations reveal a strong correlation between the neighbourhood's urban structure and the cultural practices of its residents. Based on activities recorded at different times of the day, the key behavioural patterns area outlined below:

Individual behaviours: Daily routines reflect deeply rooted cultural habits. In the mornings, residents often drink tea or coffee purchased from street vendors holding aluminium thermos flasks. Small breakfast bakeries attract crowds, where men prepare and serve local dishes such as hot pit with hummus, foul *moudammas* (fava beans), and Manakish (Lebanese flatbread topped with thyme, cheese, or minced meat). Customers eat at the stands. Other common practices include smoking shisha on balconies, rooftops, and along narrow streets. Pigeon breeding and racing, regarded by many as both a pastime and a sport,

is also a visible and culturally significant activity.

Group behavior: morning prayer, walking, chatting, playing cards, playing backgammon, gathering for sports mainly football and political events in open-air and historical locations, dancing dabke, and playing the oud or mijwiz traditional musical instruments.

Meetings and gathering: Residents used to gather in the centre and west of the neighbourhood. The main informal street gatherings are spontaneous social meeting spaces for interaction between diverse individuals through the allocation and activation of vacant plots or street places. These meetings are often set up next to the vegetable market on the northern edge of Sabra, or along the main commercial market, and in the vicinity of public Gaza buildings, which is considered one of the Palestinian communities in Lebanon.

3.3. Interviews with Dwellers

The unstructured one-to-one interview method was conducted on-site at various stages, alongside the observation study, from 15 May to 15 June 2023. While classified as an unstructured interview approach, this method requires in-depth knowledge and meticulous preparation to gain a comprehensive understanding of the lives of Sabra residents. To ensure the interviews were insightful, specific criteria were considered, and a strategic approach was employed. In total, 35 residents voluntarily agreed to participate

in the interviews out of the 83 approached. Respondents are encouraged to express themselves freely, choosing their own words to provide authentic perspectives. The interviewees are diverse, representing various age groups, genders, occupations, and nationalities. To protect the dwellers' privacy during data collection and analysis, the names of the interviewees were not mentioned at their request, although age, gender, nationality, and job type are permitted to be reported.

The five open-ended questions asked to participants are:

- (1) What do you think about your belonging to the Sabra neighbourhood?
- (2) What do you do for a living?
- (3) What are your daily practices and where?
- (4) Where do you often meet people?
- (5) What are your plans and aspirations for this neighbourhood?

Table 1 lists 10 distinct responses, while the remaining answers either repeated similar content or were irrelevant to the topic. Each answer is reported according to the sequence of questions (translated from Arabic to English):

It can be concluded that residents' responses reveal key social and spatial dynamics in the neighbourhood. Economic hardship, particularly for refugee families, pushes underage children into work, shaping their behaviour and interactions. Small businesses, such as cafés and shops, play a pivotal role in job creation, entrepreneurship, and local development. Religious and political

Table 1. Interviewee profiles and response summary. Source: Bahaa Bou Kalfouni

Interviewee	Responses
Male, 14-year-old teenager	'I am Syrian. I was very young when my family fled to Lebanon. I find myself forced to work to support myself and my family. I've been working here in this garage mechanic service for almost a year. I get paid very little money, but I'm sacrificing my time and energy to learn this profession. I spend my whole day in the garage mingling and talking to people. On my days off, I meet my friends mostly in the souk or we gather in a cafe. I hope one day to become a business owner for a big mechanical services company here in Sabra.'
Man, in his mid-50s	'I have been living here with my family for a long time. Sabra is my home. I have made a lot of friends, and we are a very tight community. I have been mending shoes and belts in this very small place since my arrival. I'm here every day from early morning till evening, and I'm very busy all the time. People come from all over to fix their shoes or buy used shoes. Despite the higher prices now, I have raised the prices a bit. This place is known as the "Mother of the Poor". We have to have mercy on each other and unite to get through this difficult time. This neighbourhood will continue to exist; I have nowhere else to go.'
Man, 26 years old	'I am Lebanese. I moved here with my cousin about 10 years ago from the south. We opened this small electronic store as we have a bit of interest and education in this field. People buy radios, televisions, TV dishes, receivers, cables, and other small electronic parts, such as resistors and batteries. Honestly, I spend most of my time in the neighbourhood; everything is available and cheaper than other places in the city. Sometimes, my cousin takes my place to have some rest and organizes some gatherings with friends to talk over a shisha. Mostly we meet on the roof of the building. I think I don't know how to live elsewhere, but I'm looking for a job and a better quality of life.'
Male, 13-year-old teenager	'I am Syrian refugee. I came to Sabra with my family, as we can't afford to live anywhere else. Due to our economic situation, I was forced to work. As you see, I sell vegetables and fruits all day long with the owner (Haj). He is an old man and needs help. He pays me \$10 a week. I know it's very little, but I haven't found better options. We spent the whole day here under this wooden cart. Our schedule depends on customers' purchases. When the cart is empty, we go home. I have one rest day a week, which I spend outside with friends my age near the stadium or between buildings. I don't know if I will go back to Syria one day. I wish to go to school and become a lawyer one day.'
Small restaurant owner	'I am from here, and I live with my family and grandchildren. I lost many friends and family members in the Sabra and Shatila massacre. I have been selling falafel and shawarma in this corner for a long time; it is my only source of livelihood. People have known me since I started working, and they love my sandwiches. These days, the number of customers I have is fewer than before, due to the economic crises we face. On my free day, I spend the whole day with my family and relatives here in the neighbourhood.'
Woman hajji	'I am Palestinian. I live here with my little boy and girl. I spend most of my time in my store. If I feel tired, I change shifts with my daughter. We sell all kinds of clothes for all ages. The quality of the fabric is good. People come from everywhere to our store, especially on holidays, because it is affordable and aesthetically pleasing. I usually go with my friends to the mosque. We often meet inside, not outside, and we don't feel it is safe to hang out at night, and some places seem superficial to us women. I aspire to have many shops in different parts of the city under my management.'
Man, mid-40s	'I came to Sabra when I was a teenager. Despite its circumstances and issues, I have a strong emotional attachment to this place. I have worked in different sectors, and now I am a taxi driver. What always amazes me is the density of people, and the traffic here is crazy. We seem to move like ants, and everyone seems busy. I hope to find a stable job that pays better and is less stressful than my current job. Of course, I would like to stay here. If nothing changes, I will try to get out of the country soon.'
Street vendor	'I am a Lebanese Palestinian. I feel accepted and part of this community. I am a street vendor, and I sell seasonal fruits. I have been living in this neighbourhood for a long time. Currently, selling oranges and bananas! To control prices, all the street vendors in the area discuss it daily, given the instability of the dollar. The price we set for each product is done informally – between each other. We set a uniform price per kilogram to avoid clashes and competition. We also plan the distance from one seller to another to be approximately 100 to 200 meters along the street. The price we set is proportional to the purchasing power of the average customer. For example, today's prices are set like this, where one dollar equals 80,000 LBP. So, one kilogram of oranges equals 15,000 Lebanese pounds (\$0.18). One orange and one kilogram of bananas equals 20,000. LBP (\$0.25). Life is bad here, and I hope one day something will change.'
Man, Hajj senior	'I am Lebanese. I've had the same routine since the day I moved here! I go to the mosque, then I do groceries from the souk, and the rest of the day I spend time around the neighbourhood with seniors like me. I look forward to holidays like Eid al-Fitr and Eid al-Adha to gather and celebrate with my family. I am not very optimistic; I don't think our government cares about Sabra or considers it in any type of development. I hope you can prove me wrong if I am still alive.'
Ethiopian woman, mid-30s	'I am from Ethiopia. I moved here after working as a maid for a wealthy family in Beirut. I have a lot of friends. Living here is cheap. Many Ethiopians have moved here too. We learnt Arabic, and our dialect is still funny and recognizable. I do different types of jobs in and out of the neighbourhood and have a fair income despite the economic challenges at the moment, which allows me to stay and help my family in Ethiopia. I am looking for a better life, especially a clean and big apartment. I feel like I can live here forever.'

beliefs influence social interactions and decisions, with community spaces such as mosques and community centres promoting cultural engagement. Gender roles are shaped by societal norms, limiting women's presence in public spaces. Foreign residents like Ethiopians and Sri Lankans are partly accepted but face stigma, with some residents believing they are involved in illicit activities.

3.4. Survey – Access the Acceptance of the Proposed PSIs at Three Levels

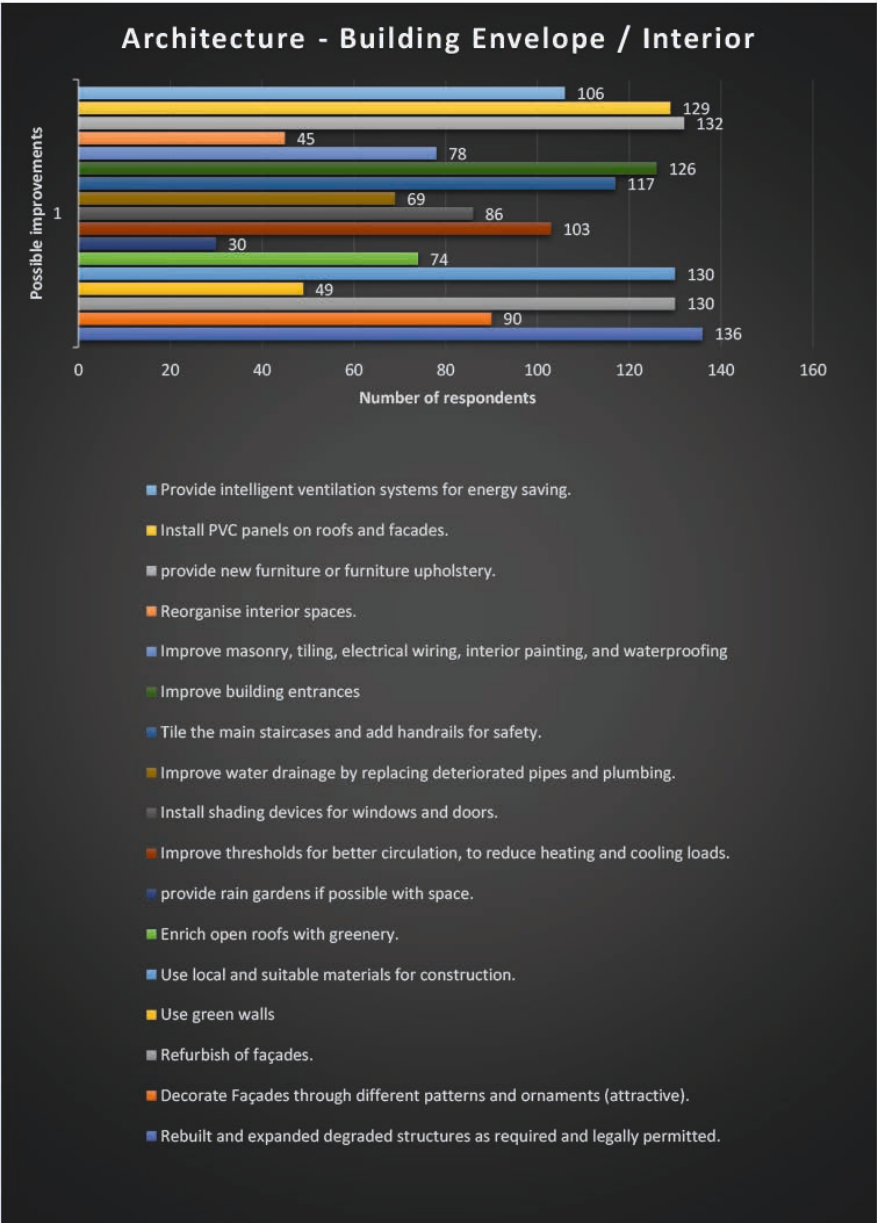
The survey method is a paper-based rather than online. A total of 270 forms were manually distributed to the dwellers at the beginning of May 2024, and 140 forms were collected after four

weeks. The remaining were discarded. The option of conducting an online survey was excluded due to the limited interest and technological access among the majority of the residents, particularly middle-aged and elderly individuals. Many of them lack the skills or resources to use the internet, compounded by the high cost of internet service and limited access to electronic devices. The form is designed to understand users' perceptions and perspectives on the future spatial development of their settlement. The context of the form focuses on the development of the physical structure and sustainable management of the settlement (streets, buildings, public spaces, administrative buildings, religious buildings, sports facilities, services, markets, housing

units, and interior spaces). The form is divided into three levels at different scales (**Architecture –Building Envelope/Interior, Urban Design/Urban Layout, and Eco-Friendly design**) to achieve a comprehensive transformation approach. Each section presents a series of design solutions and strategies (based on the authors previous research explorations, discussed above). The respondents chose the appropriate and required strategy for future development in their opinion based on 8 criteria (the results are presented in the form of bar charts below):

- (1) Aesthetic appeal: The design solution is attractive and harmonizes form, function, and context to enhance the neighbourhood.
- (2) Functionality: The design solution provides facilities suitable for all age groups (children, adults, and the elderly).
- (3) Environmental impact: The design solution includes eco-friendly features (green spaces, renewable energy, sustainable materials).
- (4) Cultural relevance: The design solution reflects the local community's culture and history.
- (5) Safety: The design reduces unsafe areas and promotes public safety.

III. 5. The Chart summarizing the results of the survey – access the acceptance of the proposed Possible Spatial Improvements at the Architecture – Building Envelope/Interior level. Author: Bahaa Bou Kalfouni



- (6) Economic Development: The design solutions will help improve local business opportunities or create jobs.
 - (7) Community Engagement: The design solution will encourage social interaction and community events.
 - (8) Diverse Use: The design solution serves multiple purposes.
- Worth mentioning that the number of survey participants compared to the total population size of the neighbourhood is too low to achieve scientific validity and accuracy. This is primarily due to insufficient trust, communication, and reassurance with local authorities and academia. Such challenges appear to be prevalent in the majority of disadvantaged neighbourhoods across Lebanon. However, this approach can be considered as a starting point and reference for future surveys, and addressing this issue could pave the way for new interdisciplinary research opportunities in the future.

Methodology of analysing the survey results: The data collected from the survey was converted to a clustered bar, followed by a predictive analysis of the data results, and the possible spatial improvements (PSIs) are presented in 6 categories as follows:

- A (PSI) with a score of 120–140 is considered here as perfectly acceptable (PA).
- A (PSI) with a score of 100–120 is considered here as acceptable (A).
- A (PSI) with a score of 70–100 is considered here as slightly acceptable (SA).
- A (PSI) with a score of 50–70 is considered here as neutral (N).
- A (PSI) with a score of 20–50 is considered here as slightly unacceptable (SUA).
- A (PSI) with a score of 0–20 is considered here as unacceptable (U).

POSSIBLE SPATIAL IMPROVEMENTS

– ARCHITECTURE

– Building Envelope/Interior

Referring to the findings in **Sub-subsection 3.2.1**, which examine the state of residential buildings and interior spaces in Sabra, the possible improvements presented at this level focus on the efficiency of architectural tools. These improvements are limited to improving building envelopes such as walls, roof, windows, doors, insulation, ventilation, and exterior finishing, as well as improving interior spaces and protecting them from external elements. Appropriate design and construction that improve function are crucial to the overall performance and longevity of the building, while aesthetics contribute to meeting the comfort and needs of the occupants. The results are illustrated in **III. 5** below.

Summary of the findings – The following 17 Architecture – Building Envelope/Interior improvements were tested in the survey, and the evaluation of the acceptance level of each solution is based on the predictive analysis of the data described above (PA, A, SA, N, SUA, U). The results are presented as follows:

- (1) Rebuild and expand degraded structures as required and legally permitted. (PA)
- (2) Refurbish façades. (PA)

- (3) Use local and suitable materials for construction. (PA)
- (4) Decorate façades through different patterns and ornaments (attractive). (SA)
- (5) Install PVC panels on roofs and façades. (PA)
- (6) Improve building entrances. (PA)
- (7) Tile the main staircases and add hand-rails for safety. (N)
- (8) Provide intelligent ventilation systems for energy savings. (A)
- (9) Improve thresholds for better circulation to reduce heating and cooling loads. (A)
- (10) Enrich open roofs with greenery. (SA)
- (11) Install shading devices for windows and doors. (SA)
- (12) Improve masonry, tiling, electrical wiring, interior painting, and waterproofing. (SA)
- (13) Use green walls. (N)
- (14) Provide rain gardens, if possible, with space. (N)
- (15) Improve water drainage by replacing deteriorated pipes and plumbing. (N)
- (16) Reorganize interior spaces. (SUA)
- (17) Provide new furniture or furniture upholstery. (SA).

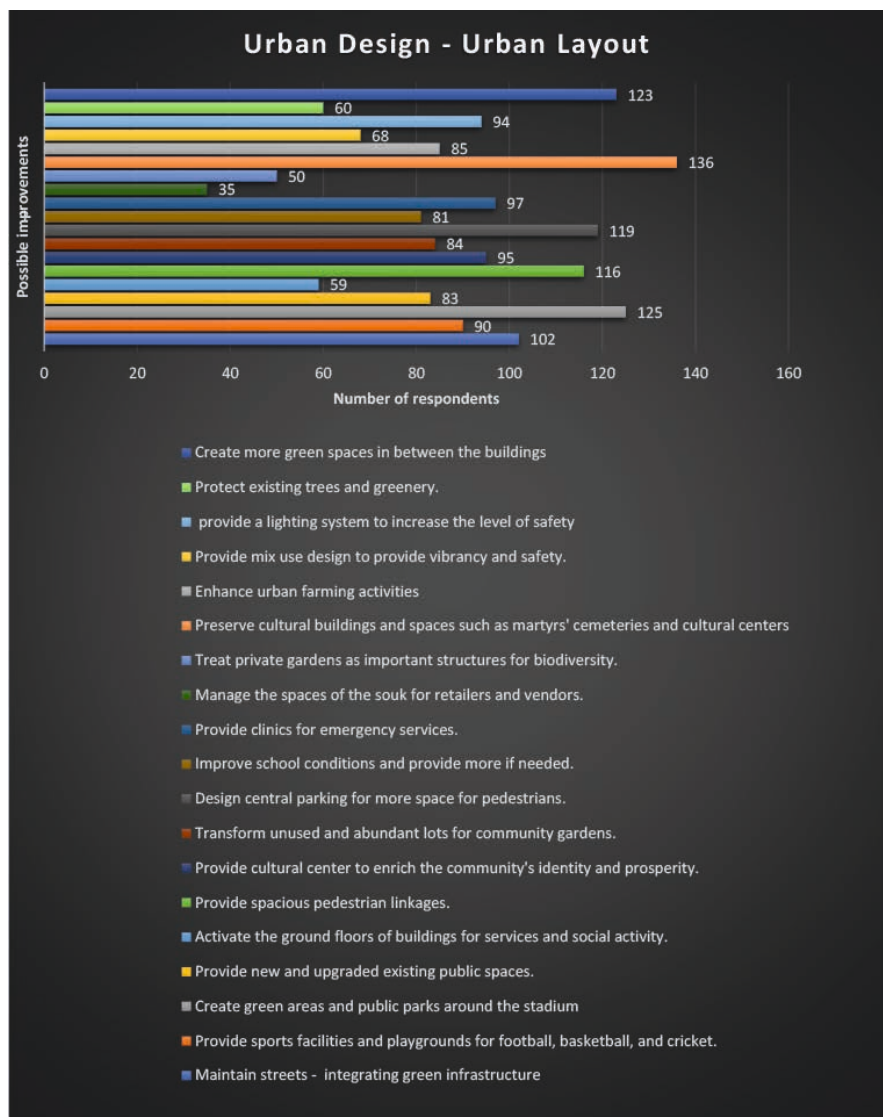
POSSIBLE SPATIAL IMPROVEMENTS

– Urban Design /Urban Layout Level

Referring to the findings in **Sub-section 3.2.1**, which addresses the use of buildings, open spaces, accessibility, streets, and the market in Sabra, possible spatial improvements at this level focus on the efficiency of urban design tools that address the arrangement and organization of elements within the neighbourhood, such as transportation networks, public spaces, infrastructure, building density, mixed-use development, green spaces, and sustainability. These initiatives include the spatial configuration of urban areas to achieve well-planned layouts that significantly impact the quality of life of users. The results are illustrated in Ill. 6 below.

Summary of the findings – The following 20 Urban design/Urban layout improvements were tested in the survey, and the evaluation of the acceptance level of each solution is based on the predictive analysis of the data described above (PA, A, SA, N, SUA, U). The results are presented as follows:

- (1) Maintain streets – integrate green infrastructure. **(A)**
- (2) Provide sports facilities and playgrounds for football, basketball, and cricket. **(SA)**
- (3) Create green areas and public parks around the stadium. **(PA)**
- (4) Provide new and upgrade existing public spaces. **(SA)**
- (5) Activate the ground floors of buildings for services and social activity. **(N)**
- (6) Provide spacious pedestrian linkages. **(A)**
- (7) Provide a cultural centre to enrich the community's identity and prosperity. **(SA)**
- (8) Transform unused and abundant lots for community gardens. **(SA)**

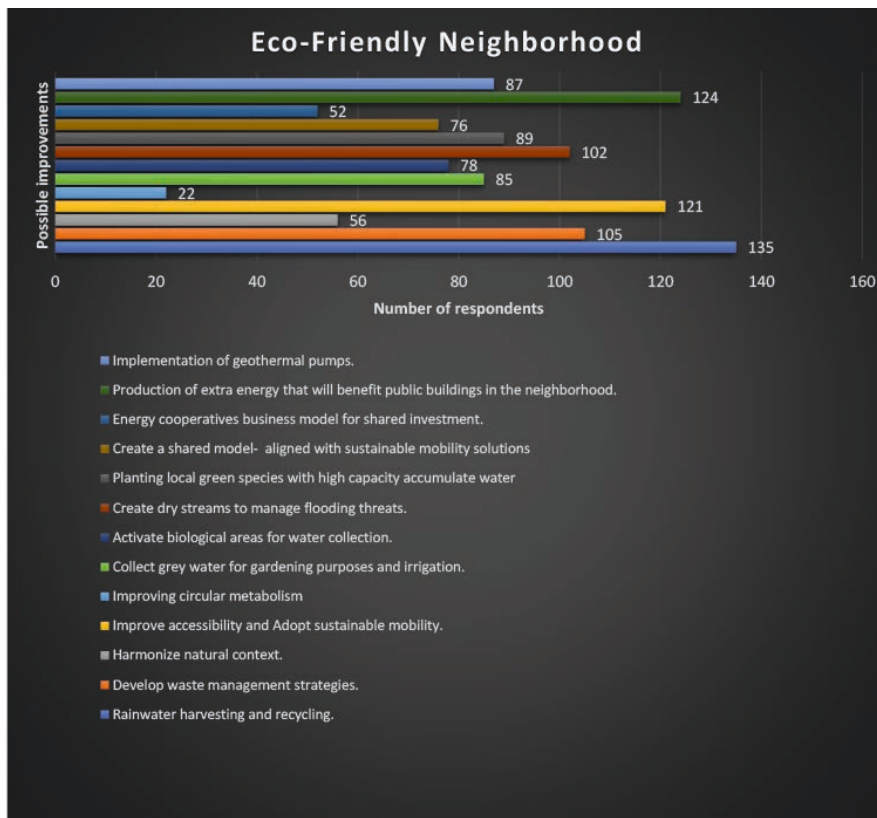


Ill. 6. The chart summarizing the results of the survey – access the acceptance of the proposed Possible Spatial Improvements at the Urban design /Urban layout level. Author: Bahaa Bou Kalfouni

- (9) Design central parking to provide more space for pedestrians. **(A)**
- (10) Improve school conditions and provide more if needed. **(SA)**
- (11) Provide clinics for emergency services. **(SA)**
- (12) Manage the spaces of the souk for retailers and vendors. **(SUA)**
- (13) Treat private gardens as important structures for biodiversity. **(N)**
- (14) Preserve cultural buildings and spaces such as martyrs' cemeteries and cultural centres. **(PA)**
- (15) Enhance urban farming activities. **(SA)**
- (16) Provide mixed-use design to provide vibrancy and safety. **(N)**
- (17) Provide a lighting system to increase the level of safety. **(SA)**
- (18) Protect existing trees and greenery. **(N)**
- (19) Create more green spaces in between the buildings. **(PA)**

Eco-Friendly Design

This part of the survey, which addresses the provision of environmentally friendly design solutions, was developed to create a balance between the first two parts (Architecture/Interior and Urban Design) and environmental conservation. This includes several key improvements that contribute to an environmentally friendly urban environment, such as green spaces, urban parks,



III. 7. The chart summarizing the results of the survey – access the acceptance of the proposed Possible Spatial Improvements at the eco-friendly design level. Author: Bahaa Bou Kalfouni

green infrastructure, energy-efficient buildings, walkability, cycling, transit-orientated development, waste management and recycling, and technology to improve neighbourhood layouts and preserve natural resources. This is essential to creating sustainable and environmentally conscious urban spaces in the Sabra neighbourhoods. The results are illustrated in III. 7 below.

Summary of the findings – The following 13 Eco-friendly design improvements were tested in the survey, and the evaluation of the acceptance level of each solution is based on the predictive analysis of the data described above (PA, A, SA, N, SUA, U). The results are presented as follows:

- (1) Harvest and recycle rainwater. **(PA)**
- (2) Develop waste management strategies. **(A)**
- (3) Harmonize the natural context. **(N)**
- (4) Improve accessibility and adopt sustainable mobility. **(PA)**
- (5) Improve circular metabolism. **(SUA)**
- (6) Collect grey water for gardening purposes and irrigation. **(SA)**
- (7) Activate biological areas for water collection. **(SA)**
- (8) Create dry streams to manage flooding threats. **(A)**
- (9) Plant local green species with a high capacity to accumulate water. **(SA)**
- (10) Create a shared model aligned with sustainable mobility solutions. **(SA)**
- (11) Produce an energy cooperative business model for shared investment. **(N)**
- (12) Produce extra energy that will benefit public buildings in the neighbourhoods. **(PA)**
- (13) Implement geothermal pumps. **(SA)**

The respondents declared that some solutions are clear and applicable, while others are odd and incomprehensible. Therefore, this requires further elaboration in the future through workshops or other information activities with the public to raise awareness towards a new concept dedicated to improving eco-friendly

design. This issue may also attract the attention of future researchers.

4. DISCUSSION AND CONCLUSION

This study reveals the unique physical characteristics and social dynamics of Sabra and establishes a comprehensive design guide for spatial improvements at the architectural, urban, and eco-friendly scales. The proposed solutions have been locally adopted and promoted, ensuring their relevance within the community.

This research defines Sabra's geographical boundaries and explores its development, shaped by events like wars, massacres (Sabra and Shatila), rural-urban migration, refugee influxes, internal conflicts, and a lack of governance and infrastructure. Situated at the intersection of the urban, natural, and cultural landscape of the southern suburb of Beirut. Sabra embodies a unique physical structure that has been developed organically in the light of different events. Its cultural values stem from the diversity of ethnic and religious groups, which are reflected in the daily lives of the inhabitants, shared values, and interactions with the built environment. These factors ensure more attention for effective transformation

and management processes.

Given the survey results that access the acceptance of the proposed PSIs presented by the authors based on previous scientific research, there were diverse opinions on the design concepts and strategies proposed at the three levels (Architecture – Building Envelope/Interior, Urban Design/Urban Layout, and Eco-Friendly design that stand in 5 categories (PA), (A), (SA), (N), (SUA), and (U). At the Architecture – Building Envelope / Interior level, the respondents' scores range from a minimum of 30 to a maximum of 136. As for improvements, out of the 17 possible improvements proposed, there were 4 PSIs in category **(PA)**, 2 PSIs in category **(A)**, 5 PSIs in category **(SA)**, 4 PSIs in category **(N)**, only 1 PSI in category **(SUA)**, and none in category **(UA)**. At the Urban design – Urban layout level, the respondents' scores range between a minimum of 35 and a maximum of 136. As for improvements, out of 19 possible improvements proposed, there were 3 PSIs in category **(PA)**, 3 PSIs in category **(A)**, 8 PSIs in category **(SA)**, 4 PSIs in category **(SA)**, 4 PSIs in category **(N)**, 1 PSI in category **(SUA)**, and none in category **(UA)**. At the Eco-friendly design level, the respondents' scores range between a minimum of 20 and a maximum of 135. As for improvements, out of 13 possible proposed improvements, there were 3 PSIs in category **(PA)**, 2 PSIs in category **(A)**, 5 PSIs in category **(SA)**, 2 PSIs in category **(N)**, 1 PSI in category **(SUA)**, and none in category **(UA)**. At the three levels, the majority of the main indicators represent the first four classes **PA**, **A**, **SA**, and **N**, and the **SA** category is the most adaptive at the three levels. Also, similar results were shown in the PSI 1 **SUA** class only and in the category **U** none. These results appear as a positive indicator that indicates the extent of acceptance of these possible improvements by the respondents despite their differences.

It can be concluded that the best PSIs are those that achieved scores of **PA**, **A**, and **SA**. Ultimately, these solutions can serve as

a valuable design guideline for the future development of the Sabra neighbourhoods and contribute to preserving and enhancing the cultural values in the Sabra neighbourhoods. It's important to elaborate on how some of the best PSIs at the three levels can support local culture. Here are crucial design strategies that could achieve this

At the architectural and interior level, rebuilding and expanding degraded structures while incorporating local styles, colours, and textures creates a built environment that reflects the neighbourhood's character and reinforces community identity. This approach enables residents to preserve their cultural spaces, fostering a sense of pride and continuity. Improved building entrances and the addition of rooftop greenery serve as communal gathering areas that symbolize hospitality, offering shared spaces that further support community bonds and cultivate a more connected neighbourhood.

At the urban design level, adding green elements, sports facilities, and public parks in Sabra enhances community interaction and provides spaces for social events, cultural activities, and family gatherings. Expanding pedestrian links allows people to easily connect and interact. Creating a cultural hub enhances community ties. Urban agriculture and community gardens connect residents to traditional agricultural practices, promote self-sufficiency, and preserve cultural knowledge. Offering new green spaces provides quiet areas for gatherings and relaxation, reflecting the community atmosphere that is deeply valued in Sabra culture. Schools support cultural preservation by educating children about their heritage.

At the eco-friendly design level, harvesting rainwater and waste reduction align with traditional resource management and

promote sustainability, resilience, and Sabra pride. Integrating landscapes and planting local plants and trees strengthens links with cultural heritage and the local environment. Improving waste management and accessibility supports community pride, social bonds, and shared responsibility. At the same time, energy cooperatives promote economic self-reliance and collective ownership, reflecting values of mutual support and respect for the environment.

In conclusion, transforming disadvantaged neighbourhoods requires understanding and integrating the cultural aspects of communities into the development process. Culture is key to making places livable, and focusing on cultural activities promotes social inclusion and dialogue between diverse communities. To maintain this meaningful context, a human-centred design approach must be adopted. This occurs by adopting effective, adaptable, and appropriate architectural, urban, and sustainable design solutions that respond to the unique nature and cultural context, which is one of the main goals of this research. There are still questions revolving around the challenges and applying the suggested possible solutions. How can urban policy address the challenges surrounding the transformation of disadvantaged neighbourhoods in Beirut? How should architectural and urban design practices respond to these issues? Investigating these questions provides a compelling path for further research.

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ENDNOTES

¹ In some cases, modification was necessary due to the participant's understanding and educational level.

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