


# The Social Role of Rooftops in Dense Neighborhoods. An Analysis of Daily Urban Practices in Amman

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DOI: <https://doi.org/10.24193/JSSP.2024.2.06>

Received: 25 March 2024

Received in revised form: 2 December 2024

Accepted for publication: 29 December 2024

Available online: 31 December 2024

**Keywords:** *production of social space, social activities, differentiated spaces, open spaces, urban fabric, community social activities, open social spaces*

## ABSTRACT

Residential rooftops in dense urban neighborhoods are increasingly recognized as multifunctional spaces that reflect the adaptability of residents in navigating spatial constraints and cultural traditions. This study aims to understand the social role of residential rooftops as an intermediate layer between public and private residential spheres in Jabal Al Ashrafieh. The research focuses on how inhabitants utilize, perceive, and socially construct these spaces in terms of production and social construction of theories on spatial use. Using a mixed-methods approach, the study combines qualitative insights into how rooftops form a social and spatial pattern of Amman's urban life with quantitative analysis of usage frequency. Findings suggest that rooftops are mostly used as social spaces. Rooftops are essential social spaces, shaped by both tangible physical factors – such as the spatial setting, type of residential units, and the lack of open spaces like balconies or courtyards (with 42% of buildings lacking both) – and intangible social factors related to traditions and daily practices. More than half of the buildings whose residents use the rooftops as social spaces are multi-storey apartment blocks, but in most cases, this use is facilitated by the familial connections among the residents - in 77.5% of those buildings most residents are relatives, highlighting the role of familial connections in shaping usage. Social activities on rooftops are categorized into four main types: gathering and leisure activities (65%), environmental activities (18%), and service activities (17%), with gathering activities being the most prevalent. These findings highlight the importance of rooftops as vital extensions of living space, addressing both the social and spatial needs of urban residents. Future research could explore how these practices evolve within the broader context of urban development.

## 1. INTRODUCTION

Open spaces have been influential in discussing the essence of cities throughout centuries. These spaces are not simply physical structures, but

rather dynamic and ever-evolving entities shaped by various social, economic, and political forces (Aljafari, 2014). Open spaces are broadly defined as areas of land not built upon and accessible by the public or community, encompassing parks, plazas, and green

corridors (UN-Habitat, 2022). Public spaces, a subset of open spaces, are defined as areas that are accessible to everyone without restrictions, such as streets, squares, and urban parks, where social, cultural, and economic activities take place (Gehl, 2010). On the other hand, semi-public spaces are areas that serve as intermediaries between public and private realms; these spaces, such as residential courtyards or rooftops, are often accessible to a limited group of people, namely residents or specific communities and provide a blend of social interaction and privacy (Li et al., 2022).

The examination of open or public spaces, as they are commonly known, encompasses a multidisciplinary field that incorporates the knowledge of urban planners, economists, politicians, geographers, sociologists, and other experts. Examining public spaces takes many forms, including tangible, perceptible, ideological, and theoretical perspectives. Each perspective offers unique insights into the production and use of public spaces and the various factors that influence them. Ensuring the presence and accessibility of public spaces is crucial for fostering sustainability in densely populated urban settings. Rooftop spaces can serve as an effective alternative to traditional public spaces, offering adaptable solutions to meet the social and environmental demands of urban areas. Providing opportunities for individuals to engage in daily activities within public spaces should be adapted to align personal needs with the densification of urban environments (UN-Habitat, 2022; Li et al., 2022).

This research focuses on the social role of rooftops in Amman as substitutes for open semi-public spaces. Rooftop spaces have been increasingly recognized as vital resources in high-density urban environments, offering multifunctional opportunities that range from fostering social resilience to enhancing environmental sustainability (Frandsen, 2021). The rapid expansion of Amman has highlighted the need for public spaces as vital areas for social interaction, recreation, and community well-being. This has drawn the attention of researchers, professionals, and organizations focused on designing, advocating, and integrating these spaces into urban planning to address the challenges of urban density and ensure sustainable development.

Despite the growing interest, a significant gap exists in understanding Amman's public spaces. Previous research has primarily focused on architectural and design aspects. For example, the study *People's Perception and Behavior Patterns in Amman's Public Parks and Plazas* examines explicitly how people interact with parks and plazas in Amman (Mahadin et al., 2005). However, it emphasizes structured public parks rather than informal social open spaces, leaving a gap in understanding the use of semi-public spaces like rooftops or informal gathering spots. This highlights the need for research addressing the city's broader spectrum of public and semi-public spaces.

While rooftops in dense urban neighborhoods have been utilized for various purposes, the socio-spatial dynamics that define their usage and transformation still need to be explored in existing literature. This study bridges this gap by examining how rooftops function as semi-public spaces that adapt to densely populated neighborhoods' socio-economic constraints and cultural traditions. Unlike prior research, which often centers on architectural design or the availability of public spaces, this study focuses on the lived experiences, behavioral patterns, and daily practices of rooftop users. By integrating spatial morphology with social dynamics, the research highlights the interplay between physical infrastructure and social agency in creating multifunctional spaces.

The claim that Amman is divided into distinct eastern and western regions requires thorough empirical evidence, although it remains a subject of ongoing debate. Scholars acknowledge that this division is relative and can vary depending on the criteria used (Ababsa, 2011; Al Tal et al., 2018). East Amman is characterized by informal housing areas, often near Palestinian refugee camps, with self-built structures. In contrast, West Amman consists of neighborhoods with family-owned four-story buildings, along with villas and office buildings scattered throughout (Aljafari, 2014). These differences reflect varying activities, population density, employment rates, citizenship status, and lifestyles.

The dividing line typically stretches from Jabal Amman to Khalda, with Wadi Hadadeh to the north and Wadi Deir Ghbar to the south (Fig. 1).

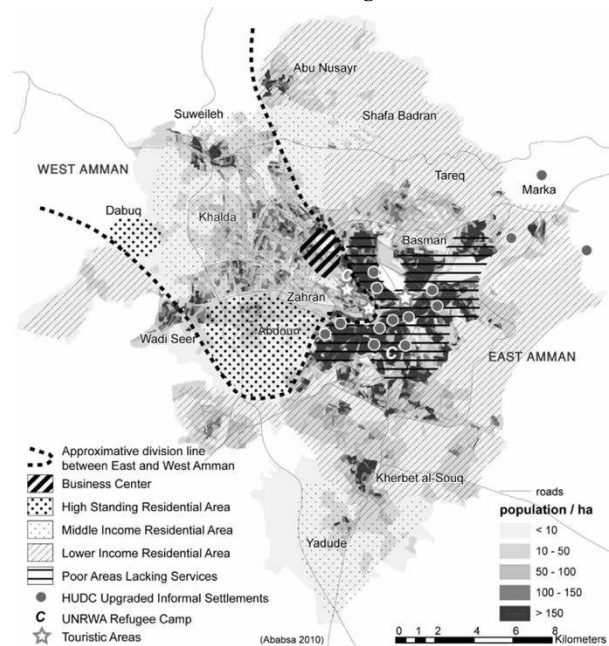


Fig. 1. Amman Urban Morphology and Approximative Division Line Between East and West Amman, 2010 (source: Ababsa, 2011).

East Amman encompasses the historical center and accounts for more than half of the city's

northern and southern expansions (Ababsa, 2011; Aljafari, 2014). In many densely populated neighborhoods, residents often face the challenge of addressing their own issues due to limited support and attention from the government and other relevant authorities. As a result, the citizens of these neighborhoods have had to find ways to come together and create their own social and financial networks. Extended families, neighbors, and acquaintances have come together to form tight-knit communities using open spaces such as public steps, streets, school yards, vacant lands, and rooftops as gathering spaces for social unity and integration (Alja'afreh et al., 2022).

These rooftops as open spaces are not just physical spaces but are also a reflection of the community's ingenuity and resilience. As argued by this research, they are developed and maintained by the local community and play a crucial role in the social and physical dynamics of their everyday lives.

By investigating rooftops as substitutes for missing open spaces in dense neighborhoods, this study contributes to the underexplored intersection of urban morphology and socio-spatial practices, offering new perspectives on their significance in fostering social interaction and resilience. The architectural design of a building, especially the roof type, defines its style. The use of flat roofs varies depending on the building's purpose. In residential structures, rooftops serve diverse functions, meeting the residents' needs. These elevated spaces are versatile, accommodating various activities influenced by housing arrangements. Given the limited space in apartments, residents must strategically use rooftops, balancing access to open areas with safety. Rooftops can serve as communal areas, fostering gatherings and providing safe spaces for children. Interconnected rooftop spaces link different areas, sustaining social relationships within communities. In Jabal Al Natheef Camp, predominantly inhabited by Palestinian refugees, social activities spill into outdoor spaces like rooftops, courtyards, and staircases (Alnajada et al., 2014).

In Amman, super-diversity manifests through interactions among individuals from various ethnicities, particularly in the downtown area and surrounding hills. Many sought refuges in Jordan, including Palestinian refugees, Syrian refugees escaping the civil war, Iraqi migrants, and others (Al Tal and Ghanam, 2019). This influx contributes to the *super-diversified* nature of urban neighborhoods, where individuals within seemingly homogeneous groups display diverse lifestyles, perspectives, and behaviors (Al Tal and Ghanam, 2019; Tasan-Kok et al., 2013).

Due to a lack of open spaces conducive to self-expression, people have sought alternatives, focusing on semi-public spaces such as streets, pavements, stairs, courtyards, and rooftops. Neighborhoods become crucial reference points in understanding diversity

expressions and negotiations (Berg and Sigona, 2013). Shared spaces, essential venues for daily negotiations of differences, often encourage simultaneous use and interaction among diverse groups. While public spaces like parks were traditionally considered crucial for addressing urban diversity, they may only sometimes foster social interaction. On the contrary, semi-public spaces, including libraries, community centers, corner shops, cafes, and sports clubs, function as significant micro-spaces. These micro-scale venues compel individuals to disrupt familiar patterns, form new attachments, and navigate differences, facilitating learning to become different. While these spaces are not entirely a world of strangers, they attract various groups, fostering both on-off interactions and intense, more structural engagements (Amin, 2002; Peterson, 2015).

This research aims to understand rooftops as a layer of Amman's urban topography. Then, the social role of these rooftops will be identified as an intermediate layer between public and private residential spheres. The research investigates how residents create, express, utilize, and perceive these spaces through theories of spatial use, emphasizing their production and social construction. The research objectives are outlined in the following questions: (1) How do rooftops contribute to the urban fabric of Amman, particularly as a critically social and spatial layer in neighborhoods like Jabal Al Ashrafieh? (2) What are the different uses of rooftops in Amman, and how do these uses vary according to other housing types, and the urban settlement fabric? (3) What are the different daily activities, practices, and patterns observed using rooftops as social spaces?

### **1.1. The socio-spatial dimensions of open space**

Throughout history, social spaces within cities have played a crucial role in the daily lives of their inhabitants. From early settlements to Greek, Roman, medieval, Renaissance, and Baroque cities, as well as those from the Enlightenment and the Industrial Age, urban spaces have been integral to society, as reflected in the descriptions, paintings, and engravings preserved over time (Aljafari, 2014). The marketplace has always functioned as a central hub for social interaction. Moreover, roads, streets, and the areas between buildings have created a network of interconnected spaces where a broad spectrum of social exchanges takes place (Gehl and Gemzøe, 1996; Aljafari, 2014).

According to Gehl (2011), public spaces host three distinct types of social activities: necessary activities, optional activities, and social activities. Social activities represent a combination of both necessary and optional activities and often involve collective engagement rather than individual participation. These activities typically require shared spaces and

interactions among groups of people, such as families, friends, or community members, making them inherently social and dependent on the quality of the environment (Gehl, 2011).

According to Madanipour (1996), public spaces are defined in relation to their social and temporal dimensions. Therefore, it is acknowledged that public urban spaces include not only buildings, objects, and physical environments but also the people, events, and relationships that occur within them. In this context, social spaces are essential to everyday life, and it is suggested that people behaviour in these spaces is influenced by their surroundings. Accordingly, the definition of space is seen as a crucial element of our social existence (Madanipour, 1996; Aljafari, 2014).

The rooftops offer more than a visual spectacle; they present an opportunity for novel semi-public spaces, addressing challenges posed by high population density and land values (Frandsen, 2021). This potential aligns with social values rooted in social capital theory. Scholars like Dubos (2017) emphasize the equitable distribution of resources among diverse social groups, promoting collaboration and fairness. The dual perspective of social capital, encompassing structural networks and cognitive value, suggests that rooftops can be inclusive spaces, fostering trust, informal networking, mutual support, reciprocity, and solidarity. Additionally, rooftops provide a canvas for citizens to express themselves, achieve, and take on leadership roles within their communities (Wang and Pryor, 2019). Thus, connecting these ideas underscores the rooftop's potential as a platform for cultivating social capital, transcending boundaries, and enhancing the cognitive value associated with empowered citizens.

## **1.2. The production of social space - Lefebvre differentiated spaces**

From Lefebvre's perspective (1991), social space is more than just an object or product and cannot be reduced to a single entity. Instead, it includes the elements that are produced and the relationships that exist between them, coexisting and occurring simultaneously, reflecting a mix of order and disorder. Lefebvre views space as a continuous outcome of social practices and relations - a social product shaped by different societies, or what he refers to as modes of production. Each society plays a role in creating its own unique space through specific connections, while the practices of other societies require the creation of new spaces (Lefebvre, 1991; Aljafari, 2014).

In his work *Le Droit à la ville* (1968), Lefebvre argues that societies do not only use the appropriate space but also view it as a tool, medium, and environment (Stanek, 2011). He identifies various types of spaces in everyday life, such as street corners, marketplaces, and shopping centers, as organized codes that play a vital role in shaping the interaction between

individuals and their surroundings. These codes work together to form the broader spatial system (Lefebvre, 1991; Aljafari, 2014).

This conceptualization of space is grounded in a triadic framework that distinguishes four categories based on the historical conditions of their production: absolute space, abstract space, differential space, and dominated space. Differential space arises from the contradictions and fragments within abstract space, serving as a counterbalance to the extreme historical forms of absolute and abstract space. In differential space, social practice or social space achieves freedom from the standardized activities of abstract space, which, according to Lefebvre (1991), functions as a machine or automaton driven by consumption in urban environments. Here, architecture of pleasure and enjoyment prevails over trade, power, or political interests. (Aljafari, 2014). The abstract space transforms into a qualitative space, the space of everyday life - where individuals engage with their human nature through music, festivals, and theater. Differential space rejects the quantitative nature of capitalist abstract space, distinguishing between spaces for production and spaces for consumption. Vernacular architecture, tourism, and recreation have become key spaces of consumption, making differential space both a valuable and profitable area for investment (Merrifield, 2006; Aljafari, 2014).

## **2. THEORY AND METHODOLOGY**

### **2.1. Research methods**

For this study, which seeks to understand the use of rooftops as social spaces in Amman, a qualitative research approach has been adopted to develop and test theory through a comparative analysis of the case study within its real-life context. A quantitative part has been included in the research design as an auxiliary method to validate the results obtained from the qualitative approach. This study's data collection techniques included observation, place surveys and mapping, and fieldwork inquiries. The purposeful sampling approach was chosen for this study, where the researchers intentionally selected individuals and sites to learn about the main phenomenon.

The initial observation and non-structured interviews helped to develop a thematic survey form to collect data on the building unit's level. This thematic survey template was filled out with the help of a group of community members, where researchers conducted several site visits. Data collected through fieldwork included two dimensions, social and physical. Physical data was gathered through observation and, in some cases, with the help of the community group. On the other hand, social-level data was collected through fieldwork inquiries. The rationale for selecting the sample size of 120 residential units was based on their

representativeness of the study area's morphological and social characteristics, providing a sufficient range of housing types and social dynamics to address the research objectives. Quantitative methods were employed to measure and analyze rooftop use frequency and patterns across the surveyed units. Statical tools were used to identify correlations and trends, particularly in the distribution of rooftop activities and

their frequency. These units were mapped according to their type, including traditional houses with one or two floors and collective housing in apartment blocks varying from three to five stories in height. Another layer of the survey was the provision of social spaces, balconies, and courtyards. Social activities were surveyed through fieldwork inquiries to fill out the thematic study in Figure 2.

Building Type		Residents		Physical Elements		Rooftop only for equipment	Rooftop as social spaces	Type of social activity
Traditional Houses-Dar	Collective Housing (Apartment Blocks)	Relatives	Non-Relatives	Courtyard	Balcony			

Fig. 2. Thematic survey form (source: *Fieldwork*, 2023).

During the fieldwork, a set of targeted questions was developed to collect data for the thematic survey, focusing on key aspects of the neighborhood's residential and architectural patterns. The interviews were conducted with the support of two neighborhood residents who helped facilitate access to respondents. Their familiarity with the neighborhood significantly eased the process of meeting residents and gathering information efficiently. In cases where direct observation was not feasible, or residents could not provide answers, the accompanying neighborhood residents shared their knowledge, bridging gaps in the information. This approach ensured the collection of reliable data.

The set of questions asked in the fieldwork inquiries were as follows: (a) Could you specify the type of residential building you inhabit? Is it categorized as a traditional house (Dar) or a form of collective housing (e.g., apartment block)? (b) How many stories does your residential building comprise? (c) Are the occupants of your building primarily members of the same family or unrelated individuals? (d) To what extent do you share your living space with family members versus individuals outside your familial network? (e) Does your residence feature a courtyard as part of its design? (f) Is there a balcony included in the architectural layout of your residence? (g) Are there any specific installations or equipment located on the rooftop? Please describe these (e.g., water tanks, solar panels, satellite dishes)? (h) What types of activities, if any, are conducted on the rooftop of your building (e.g., social or recreational events, gardening, storage, drying clothes)?

## 2.2. Defining the study area

The process of selecting the study area to explore the utilization of rooftops as social spaces was methodical and intentional. The criteria for selection were informed by theoretical considerations and empirical insights, aligning with the research questions

and objectives. Theoretical criteria were derived from the researchers' constructed definition of rooftops as social spaces. Preliminary observational mapping in Amman identified areas with prevalent social usage of rooftops, with a subsequent focus on a specific neighborhood.

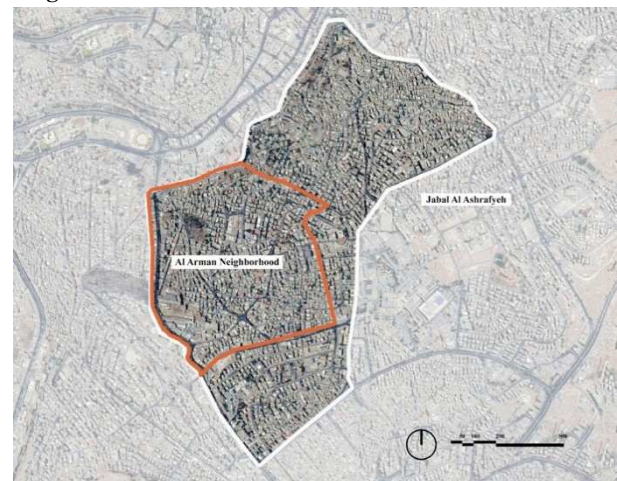


Fig. 3. Jabal Al Ashrafiyah and Al Arman Neighborhood, 2023.

Considering Amman's urban morphology, encompassing dwelling patterns in the mountains, dense housing fabric, social class dynamics, and the scarcity of open public spaces, the downtown and the residential hills that emerged from the downtown area were identified as the most suitable areas for investigation. Among these hills, Jabal Al Ashrafiyah, particularly the Al Arman Neighborhood, was selected for the study to serve as a representative example of residential areas developed in downtown Amman. Positioned at 930 meters above sea level, the Al Arman Neighborhood holds significance as the oldest among its counterparts. Notably, its residents reflect the early immigrant settlers in Amman. According to data from the Greater Amman Municipality (2018), Al Arman Neighborhood encompasses approximately 925 buildings with varying floor counts, ranging from one to five, with most of the lands zoned with Residence D

land use type. In Amman's zoning regulations, Residence D is designated for high-density residential areas, allowing for small plot sizes and low-rise to mid-rise buildings, typically accommodating apartments or attached housing units indicating low-income residents. As depicted in Figure 3, the Arman neighborhood exhibits a scarcity of open spaces and is characterized by a dense urban fabric. The entirety of the neighborhood, viewed as a cohesive urban entity, lacks an officially designated park or open public space. This absence underscores the significance of investigating the utilization of rooftops as social spaces within this densely populated urban environment.

### 3. RESULTS AND DISCUSSION

To address the research questions, the study is divided into four parts: the first part discusses rooftops as a socio-spatial pattern of the perceived image of Amman; the second part analyzes and identifies the spatial morphology and social characteristics of the study area as a dense residential fabric; the third part categorizes the various patterns of rooftop use as social spaces; and the final part reflects on the previously discussed theories regarding the user-space relationship on Al Ashrafiyah rooftops, thereby indicating the neighborhood's social sustainability.

#### 3.1. Rooftops as a socio-spatial pattern of the perceived image of Amman

Amman, the capital of Jordan, has been shaped by its unique topography, which consists of valleys and hills. This topography has led to the city's development of a distinct character and urban form. Amman is constructed on seven hills interconnected by steep stairs, serving as pathways to the city center. The city has experienced rapid urbanization driven by uncontrolled population growth and unplanned development, leading to the expansion of the city center towards the surrounding hills. The continuous merging of these hills has created unclear boundaries, blurring the distinction between them (Al Dein Hasan, 2021).

The image of rooftops in West Amman differs significantly from that of East Amman due to the size and layout of the houses, the presence of attached open areas, and cultural patterns related to privacy. Most residential units in West Amman are standalone structures, resulting in a greater emphasis on individual privacy. On the other hand, the densely populated neighborhoods in East Amman often consist of multi-unit buildings, where the community plays a more prominent role, and the emphasis on privacy is less pronounced. This dichotomy between West and East Amman highlights the residents' different cultural patterns and lifestyles in each area, as well as the effects of urbanization on the city's physical form. The rooftop pattern, visible from different spaces in the city,

provides a glimpse into the life of the residents and highlights the cultural differences between West and East Amman.

#### 3.2. Spatial and morphological analysis

Al Ashrafiyah neighborhood was originally the home for the Armenian tribe. The neighborhood was affected by the migrant waves, and now it houses residents of various ethnicities, including Palestinians, Syrians, and Iraqis. Its position characterizes it as one of Amman's prominent hills. Its location plays a pivotal role in the rise of rooftops as a dynamic social space. This commanding height offers a unique advantage, granting its rooftops an unparalleled panoramic city view. Amid this captivating ambiance, people are naturally drawn to these rooftops. They seek solace and respite from the bustling streets below, finding solace in the tranquility and serenity that envelop these elevated spaces. The open expanse of the sky above and the vastness of the city stretching out before them evoke a sense of freedom and perspective.

Al Ashrafiyah is a densely populated residential neighborhood with a closely-knit urban fabric. Statistical data indicates that the neighborhood accommodates approximately 50,000 residents in 1.6 square kilometers, resulting in an urban density of 31,250 people per square kilometer, a notably high density compared to the overall urban density of Amman, which stands at 2,380 persons per square kilometer (Al Tal et al., 2018). Nevertheless, despite this substantial population, the area suffers from an absence of adequately designed open public parks or designated social and green regions (see Fig. 3). Faced with a lack of open social spaces, residents of Al Ashrafiyah have creatively transformed rooftops into their own open spaces, a trend that has become a defining feature of densely populated areas in Amman. The macro analysis of morphological data, utilizing maps and fieldwork, revealed that Al Ashrafiyah is composed of multiple staircases that connect paths between the neighborhood's different levels. Some staircases are narrow, with doors directly to the steps, while others are wide, with doors connected to wider landings. These staircases are often used as open spaces for residents to gather, for children to play, and for community parties and large gatherings. Another important spatial element in Ashrafiyah is the narrow pathways linking different neighborhood zones and connecting staircases. These pathways play an essential role in the social and spatial aspects of the neighborhood, providing access and movement for residents, as well as a place for social interaction and community gatherings (Fig. 4.a). The residential units differ between single housing, attached family housing, and apartment blocks. Therefore, the height of these buildings varies from one to four floors, with a small number of building blocks that exceed six or seven floors due to the land

slope, leading to differentiation in the use of rooftops according to the number of residents in the building and the area of the rooftop, as well as the views provided.

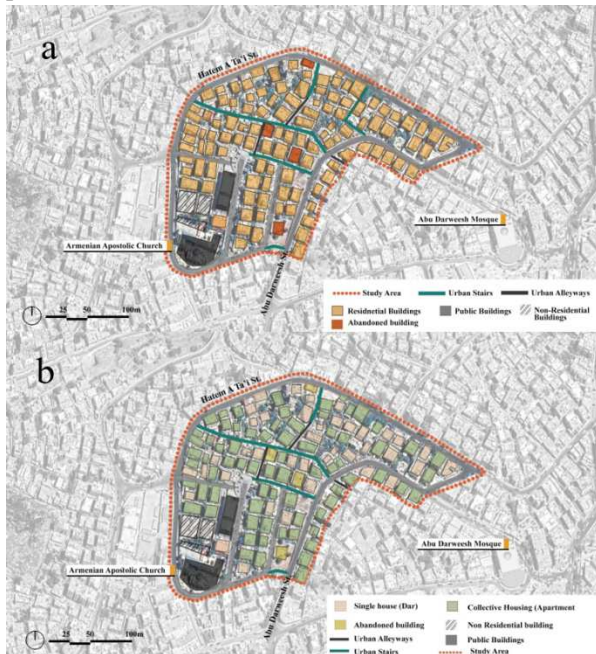


Fig. 4. a. Study area morphological features; b. Study area housing blocks' types (2023).

The results showed that out of 86.50% of buildings using rooftops as spaces for socializing, 36% were single houses, and 64% were apartment buildings. This gives a broader understanding of the neighborhood's density, with more than half of the buildings being apartment collective housing units, these units were classified based on the nature of the residents' relationships within each unit (Fig 4.b). The findings revealed that among the 64% of collective housing units utilizing rooftops as social spaces, 77.5% were occupied by residents with familial connections. The remaining 22.5% were inhabited by individuals without familial ties (Fig 5.a). Building on these results, the relatives' buildings' rooftops are usually more used in terms of the ease of having the space as a shared one, unlike the rooftops for the non-relative apartments where the one shared space may be used for other activities rather than social use. In what concerns the second topic, namely the presence of balconies and courtyards, the results showed that 20% of the buildings only have balconies, 38% have small courtyards, and the other 42% have none; these percentages show the lack of proper spatial distribution of open social spaces, which gives another driver for the phenomenon of using rooftops as social spaces.

### 3.3. Analysis of the activities' patterns

By transforming rooftops into multifunctional spaces, residents have redefined open social spaces. These elevated areas facilitate gatherings and social

interactions and function as versatile havens for various activities. From hosting small meetings and social events to cultivating rooftop gardens or establishing recreational zones, the residents have demonstrated ingenuity in utilizing their limited space. The emergence of these self-generated open spaces, or roofscapes, is a testament to the community's resourcefulness and adaptability. Faced with the need for adequately designed public spaces, they have taken it upon themselves to reclaim their urban environment. Moreover, the creation of roofscapes underscores the profound connection between density and the demand for open spaces. In densely populated areas where land availability is constrained, residents have showcased their capacity for imaginative problem-solving to carve out spaces for social interaction and leisure pursuits. This adaptation exemplifies their resilience in addressing the pressing need for communal areas in a high-density urban setting.

Lefebvre (1991) argues for a strong connection between the social production and construction of space, contending that how people interact with space shapes its construction. He suggests that studying space utilization can provide valuable insights into social dynamics (Alja'afreh et al., 2022). The study of rooftop use as a social space in Al Ashrafiyah provides a useful lens through which to examine these dynamics. Results from a survey of 120 residential units found that 86.50% of the buildings used their rooftops for social activities, while only 13.50% used them solely for equipment storage (Fig. 5.b and Fig 6.a).

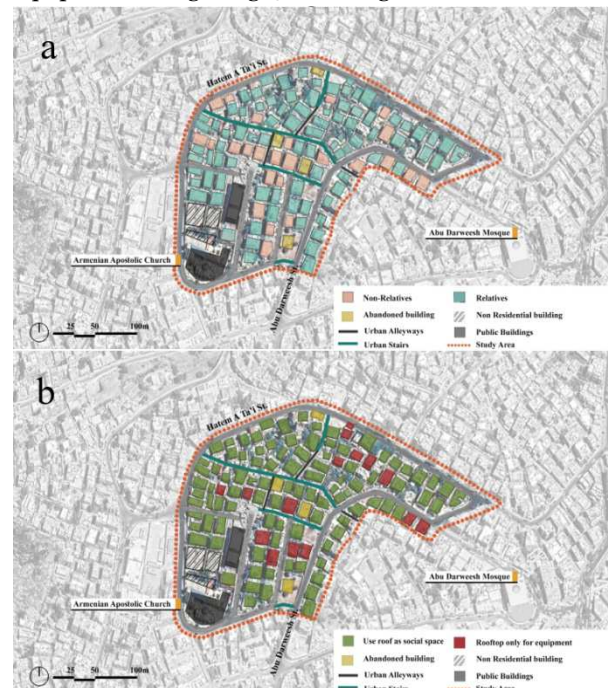


Fig. 5. a. Blocks Resident Relationships; b. Blocks usage of rooftops as social spaces (2023).

The survey revealed four distinct categories of social activities on rooftops: gathering activities, service activities, environmental activities, and leisure

activities. Gathering activities were the most prevalent, with 65% of buildings using rooftops for family gatherings and leisure activities such as parties, barbecues, Ramadan food gatherings, and sunset viewing, flying kites, and playing soccer and basketball. Service activities were found to account for 17% of

rooftop use. These activities, which include drying food, washing carpets, and hanging laundry, are often performed by women and are part of their daily life practices. Environmental activities accounted for 18% of rooftop use (including 61% animal and bird breeding and 39% cultivation of plants) (Fig. 6.b. and Fig. 6.c.).

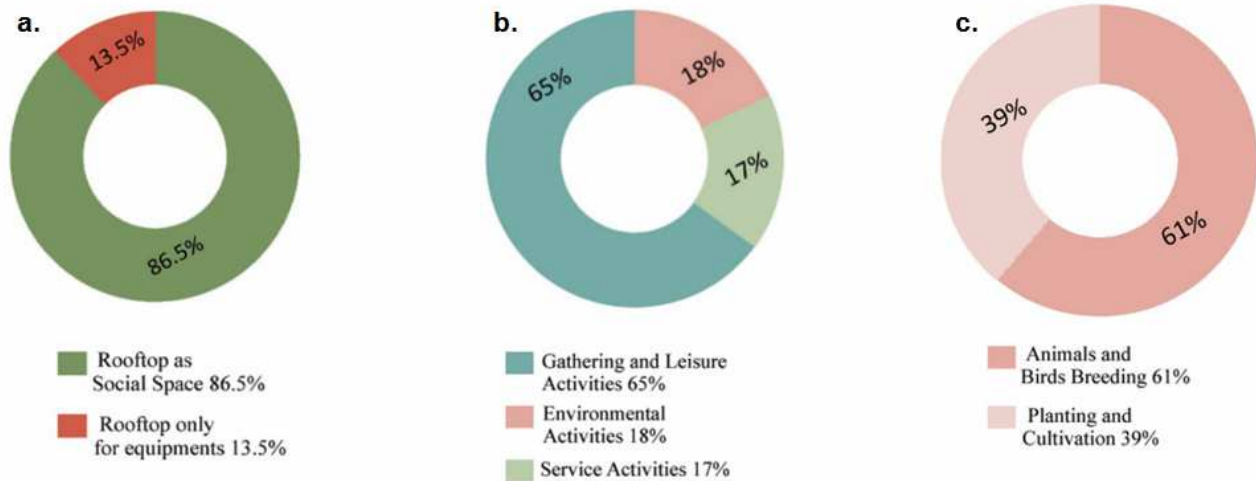


Fig. 6. a. Usage of Rooftops; b. Social Usages of Rooftops; c. Environmental Activities on Rooftops (2023).

Since people living in Al Ashrafiyah have almost no open spaces to practice their daily essential range of social activities, traditions, and experiences, in addition to people being inclined to connect with others, urban residents in the study area were required to use semi-public spaces due to the lack of other options. Rooftops, the most used semi-open space for different social practices and activities, generated even more varied social activities than what could be practiced in a regular public space. This indicates a reciprocal relation between social needs and rooftops as a semi-public space, as one existence completes the other and gives it much more flexibility in certain functions, which can be seen in the case of Al Ashrafiyah.

In conclusion, using rooftops as social space in Al Ashrafiyah provides valuable insights into the social dynamics of the neighborhood. By examining how people use public spaces, we can better understand the social, cultural, and economic forces that shape these areas. By considering the residents' needs and desires, policymakers can strive to create more livable and enjoyable public spaces for everyone.

### 3.4. Rooftops and spatial-social theories

#### 3.4.1. Rooftops as a socio-spatial concept

As previously outlined in the theoretical constructs section of the paper, behavior patterns in public spaces are classified into three specific types: necessary activities, optional activities, and social activities. This differentiation aims to better understand

the use of public spaces and how it affects people's daily lives. Essential activities are tasks that are fundamental to people's daily lives and cannot be avoided. An example of this category is service activities such as drying food, washing carpets, and hanging laundry. These activities are considered necessary as they serve a basic human need, and people are obliged to perform them. Next are optional activities, which are performed based on people's personal preferences and time availability. These activities are less essential than necessary and are considered more leisure based. Examples of optional activities in the Al Ashrafiyah neighborhood include gatherings such as parties, family food gatherings, and environmental activities such as animal breeding and the cultivation of plants. The physical characteristics of the building and the surrounding environment, such as roof area, building height, and weather conditions, play a crucial role in determining the willingness of users to engage in these optional activities. Finally, social activities blend necessary and optional activities, resulting in a unique mix that serves practical and leisure purposes. An example of this can be seen in using rooftops as social spaces, where gathering, environmental, and service activities all become social activities. This is particularly significant as it highlights how different activities can converge in public spaces to form a more critical, comprehensive social activity.

In conclusion, optional and social activities shed light on the complexities of public spaces and the various behaviors that occur within them. By understanding the multiple activities in public spaces, policymakers can make informed decisions that better

serve the needs of their constituents and create more livable and enjoyable public spaces.

### **3.4.2. Rooftops as differentiated spaces**

Lefebvre's theory of space highlights the importance of considering the role of social practices and relations in the production of space. In densely populated neighborhoods like Al Ashrafiyah, the spatial and social constructs of the area drive the production of particular social and open spaces, such as the use of rooftops as social spaces. This aligns with Lefebvre's concept of everyday discourse, which refers to the interactions between individuals and their space and surroundings. When studying and analyzing the everyday social activities and practices on rooftops, it's crucial to recognize that these spaces are distinct and unique. This means that they represent real-life practices that are more social rather than just serving abstract or functional purposes. Unlike abstract space, which primarily focuses on space consumption, everyday rooftop practices are more grounded in social interaction and connection.

## **4. CONCLUSIONS**

Rooftops in Jabal Al Ashrafieh serve as hubs for social interaction and community building, providing residents with a sense of belonging and connection to one another. Despite their challenges, the people of these neighborhoods have found ways to create vibrant and meaningful spaces for themselves and their community, showing the power of human agency and resourcefulness.

This study aimed to explore the role of rooftops as a layer of urban fabric in Amman, specifically focusing on the neighborhood of Jabal Al Ashrafieh. The study utilized a qualitative research approach to understand how the area's inhabitants interact and use their rooftops as social spaces. Research findings indicated that tangible physical and intangible social factors impact the use of rooftops as social spaces. Physical characteristics, such as the spatial setting of the neighborhood, the type of residential unit, and the physically provided elements, all play a role in determining how the rooftops are used and conceived as social spaces. The study showed that most of the neighborhood rooftops are used as social spaces; these buildings were further morphologically analyzed to show that the highest percentage of them are collective housing being resided by relatives, which draws on the ease of sharing the rooftop between them, according to the neighborhood traditions. The study also analyzed the physical elements within these blocks, which showed a need for more open spaces like balconies or courtyards. Moreover, the study revealed that the rooftop's social activities are shaped by how the

inhabitants perceive and conceive the space regarding their daily life practices. The study's results classified these social activities into four categories: gathering, service, environmental, and leisure. Gathering activities were the most prevalent, followed by leisure, environmental, and service activities.

In conclusion, the current study provided valuable insights into the social role of rooftops in Amman, specifically about Jabal Al Ashrafieh. The findings emphasized the importance of considering tangible physical and intangible social factors that shape the use of rooftops as social spaces and how these spaces are perceived and conceived by the inhabitants.

However, the study's conclusions are limited by its geographic focus on Jabal Al Ashrafieh and the sample size of 120 residential units. These limitations suggest the need for further research in other dense urban contexts within Amman and other cities to understand how different cultural, economic, and spatial contexts influence rooftop usage. A larger sample size and more diverse neighborhoods could provide a more comprehensive view of the socio-spatial dynamics of rooftops. Furthermore, future research could adopt longitudinal studies to examine how the use of rooftops has evolved, particularly in response to urban densification and changing social dynamics.

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