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# The role of land use and vitality in fostering gender equality in urban public parks: The case of Kabul city, Afghanistan

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#### ABSTRACT

This qualitative study employs observation, one-on-one semi-structured interviews, and questionnaire data collection methods to focus on land use and its correlation with vitality and gender equality in the public park domain. The study addresses the human–environment dichotomy and seeks to provide findings that can serve as a basis for city planning and foster gender pervasiveness in our recreational milieu. The study is framed in an expanding city and the Muslim context of Afghanistan, which has been at the intersection of fundamentalism and modernity since the mid-20th century. In the capital city of Kabul, 15 out of 65 active public parks were selected based on the criteria of having essential park amenities and variety in surrounding land uses. Vitality measures such as the presence of people in a park, the diversity of activities and available amenities, and the parks' build quality and management attributes were examined and contextualized according to the various land-use zones: residential, commercial, and mixed use. Parks surrounded by residential zones were found to be more vital, foster a higher female presence compared to parks surrounded by other land-use functions, and benefit from the influence of socio-spatial bonds induced by the neighborhood unit due to the presence of people and the park's perceived safety and security. Finally, a thematic proposal that can contribute to future urban planning is presented.

## 1. Introduction

Historically, urban spaces were developed by men and oriented to suffice their needs, assuming their demands were universal (Greed, 1996). In effect, urban public spaces have been built to cater to the activities desired by men, even though half of the world's population is female, and it is only recently that women have endeavored to tackle these inequalities (Bondi, 2013; Hayden, 1985; Wekerle, 1984). Similarly, in Afghanistan, urban public spaces such as maidans (public squares used for socializing and playing), bazaars (marketplaces), baghs (gardens), and mosques are evolved to cater to the needs and activities of men, whereas courtyards (central private spaces circumvented by the buildings) are appropriated to women's activities (Kazimee & Rahmani, 2003; Soave, 2004). Moreover, several studies have suggested that women build stronger connections with their immediate surroundings than men, carrying out daily routines and family-related tasks, indicating the higher impact of public settings on women's lives (IWPR Afghanistan, 2016; Khalili & Fallah, 2018; Krenichyn, 2004; Young,

#### 2000)

Recently, as humanity has been moving toward achieving social sustainability, the New Urban Agenda on public space (Habitat III, 2016, April 4–5) has promoted equality and social inclusion while aiming to combat discrimination through sustainable urbanization. Urban areas are home to more than half of the global population, and their higher population density and limited living spaces have left less available space for public recreational activities (McConnachie & Shackleton, 2010). Urban land use, which influences people's lifestyles and well-being, defines the arrangement of these public spaces within cities (Pitarch-Garrido, 2018). Thus, this study examines how the equitable use of these spaces creates advantages for some while creating discrimination against others through land-use zoning.

The use of public parks in cities has been studied in many disciplines, such as architecture, urban design, sociology, and anthropology, since gender, age, ethnicity, and socioeconomic status play a key role in how the public realm is occupied and nourished. The study approaches, theories, and definitions of urban public parks have been various, albeit

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complementary of each other.

From the architectural, urban design, and planning perspectives, parks are areas of land that are colored green in a planner's map and have recreational amenities for the users and ecological benefits for the surrounding areas (Lynch, 1995). Since they are open and accessible to everyone, they reflect the community's dominant culture and values (Gehl & Svarre, 2013). Meanwhile, from the sociological and anthropological perspectives, public parks are places of social encounter and recreation. As these spaces are used for various purposes by different groups of people, they also foster a community's identity (Franck & Paxson, 1989; Jian, Jiemei, & Chan, 2020). As such, the role of public parks as a contributor to social integration and urban vitality has always been emphasized (Jennings & Bamkole, 2019).

The present study of public parks in Kabul prior to the return of the Taliban in August 2021 highlights vitality as the prime element of space quality for generating a sense of safety. As emphasized by Jacobs (1961) in her book *The Death and Life of Great American Cities*, the presence of people and a diversity of activities and functions are preconditions for the creation of vitality in a space: The existence of these conditions leads to the establishment of natural surveillance and nurtures a sense of responsibility among users (Khalili & Fallah, 2018). Likewise, Hillier (1996) highlighted the presence of people as a prerequisite for safety and a sense of control in a space.

The case study presented herein is framed in the Muslim context of Afghanistan. Rapid social and environmental changes in the capital of Kabul City post-2001, fueled by unsustainable modernization and weak governance, have resulted in a culturally hostile (massive concrete walls, streets blockade, and security guards separating residents from governmental and non-governmental organizations) and socially less diverse (segregation of residential townships based on ethnicity) urban setting for residents (Habib, 2011; Calogero, 2011). Since environmental possibilities for female sociocultural activity have been neglected and this, in turn, has discouraged their presence in public settings, women only use Kabul City's public parks when they can demonstrate a necessity to be there (IWPR Afghanistan, 2016; Women and UN-HABITAT, 2013).

This study focuses on the role of the urban gozar (semiformal neighborhood governance unit) as an outcome of local governance to a foster socio-spatial bond, which can be attained by the historical evolution of an urban pattern to generate a community (French, Popal, Rahimi, Popuri, & Turkstra, 2018; Hillier, Burdett, Peponis, & Penn, 1987; Sahab & Kaneda, 2015). Operating in parallel to Jacob's (1961) urban space and park vitality theory, it responds to the increase in the productive role of women in society while emphasizing the recognition of gender-specific disparities caused by land-use management (Catacutan & Villamor, 2016; Sikorska, Laszkiewicz, Krauze, & Sikorski, 2020). Consequently, the study addresses the present knowledge gap on land use and its correlation with vitality and gender equality in the public park domain. In doing so, we further discuss the dichotomy of humans and the environment and seek to provide findings that can serve as a basis for city planning that fosters gender pervasiveness in our recreational arenas. Additionally, we presume that the inclusivity and success of public parks and the role of land-use planning in the creation and sustenance of these places is measured through its support for a diversity of activity and users and the ratio of male to female users.

The remainder of this article is organized as follows. First, the contextual grounding and theoretical framework of the study are presented, followed by the research materials and methods that were employed. Finally, the role of land use in fostering gender equality in the public parks of Kabul City prior to the Taliban's takeover, the study's implications, and the outlook for future research are discussed.

### 1.1. Context

Afghanistan is at the intersection of Islamic fundamentalism and modernization, particularly in terms of the status of women. For a better understanding of the sociocultural issues related to women and public spaces in the Islamic context, scholars have divided the major Muslim countries into Arab and non-Arab categories (Stepan & Robertson, 2003; Jafari, 2001). Due to the notion that females are not allowed to confront a *Na-Mahram* (relatively distant kin who can marry each other) in the absence of a *Mahram* (close kin who cannot marry each other) in a public setting, the majority of public spaces in Arab countries have evolved according to this principle and are considered male spaces. Conversely, residential houses are private spaces that are considered to be the female domain (Mazumdar & Mazumdar, 2001; Abu-Lughod, 1987; Khalili & Fallah, 2018; Kostof & Castillo, 1999).

The distinct environment, history, and cultural backgrounds of major non-Arab Muslim countries affect their concepts of private and public spaces (Jafari, 2001; Othman, Aird, & Buys, 2015). This conceptual difference resonated in the Afghan capital in the early 20th century, and with the influence of the Age of Enlightenment, it gradually nurtured an urban lifestyle called Kabuli (those who live a relatively modern life in the city of Kabul) (Esser, 2009; Gregorian, 1969). As the Cold War era began, competitions between East and West blocs to form their domains of influence with developing countries through developmental aid missions intensified. Simultaneously, this process triggered the exportation of modern urban lifestyle and Western values to countries such as Afghanistan (Beyer, 2012). In this era, Kabul City was perceived as the ground for exercising rapid societal change and then spreading it to the provinces. Both a sense of resentment to the Kabuli lifestyle and fundamentalism interrupted the progress and was ensued by the civil war in the 1990s (Arez & Dittmann, 2005; Esser, 2009). From 2001 until 2021, Afghanistan had experienced the third critical epoch of its history, which affected the reshaping of gender dynamics under the influence of a Western-backed government; the first epoch was under the reign of King Amanullah (1919-1929), and the second epoch was under the communist-backed government from 1978 to 1992, both of which were ill-fated (Ahmed-Ghosh, 2003). Due to these previous experiences and cultural influences from the West, the atmosphere was arguably perceived to be more open prior to the Taliban takeover of the country in August 2021, and women's presence and actions in outdoor settings were encouraged by the government and civil society (Ebtikar, 2020). This represented a precursory defiance to the recent discriminatory urban growth of Kabul City. Therefore, studies examining gender and the urban setting that have an understanding of Islamic values and modernization are of great importance for addressing women's environmental challenges in this area.

Conversely, in Kabul's urban setting, a pattern of political centrality reigns more strongly than the hierarchical matrix of social, cultural, or economic centralities. This coincides with the "Euclidean" ethos of landuse segregation according to function that was initially echoed in the first Master Plan for the city prepared in 1964 (Beyer, 2012). This Master Plan was prepared by the Soviet urbanists in Moscow with the collaboration of Afghan and UN representatives. Among other key elements, it introduced a network of public parks and offered an average modern urban life experience for a group of city residents (Beyer, 2019). It was revised three times in 1970, 1978, and most recently in 2012 by the Japan International Cooperation Agency (JICA) in Japan to accommodate the rapid urban growth (Calogero, 2011; JICA, 2009; Viaro, 2004). Urban parks in Kabul originated along with the early practices of urban planning for the construction of a new town (Darul-Aman) southeast of the Kabul Old City under the reign of King Amanullah after the 1920s (Viaro, 2004). Later, besides the construction of a number of public parks, baghs (gardens) that were previously used by royal families or contained a king's tomb were converted into parks for public recreation (Soave, 2004). As abovementioned, significant alterations occurred prior to and post-2001. Currently, because of the past three decades of informal urban developments (71.5% of residential areas are irregular) (Government of the Islamic Republic of Afghanistan, 2015), land for commercial purposes is scattered throughout residential zones. Seemingly, the low rise, high density, and mixed use of the current area of Kabul, aspired to by many Western urban designers, are tailored to Jacobs' depiction of a vibrant, urbane environment (Calogero, 2011; Kashef, 2016).

### 1.2. Theoretical framework

Studies on how the socio-spatial constructs of a society produce and reproduce certain social relations have been influenced by how the human-environment relationship is investigated and framed in the research (Sharif, 2020). Literature reviews have indicated at least two major trends: environmental determinism (the physical environment controls human action and culture) and environmental possibilism (the physical environment provides some restrictions; however, people may choose how to behave) (Porteous, 1977). One of the key arguments in this regard, which enforces this study to adapt to environmental possibilism lens, is the ongoing social production of spatial organization and their dialectical relationship with each other (Lefebvre and Nicholson-Smith, 1992/1974). Furthermore, Parsons (1975) discussion on how particular social behaviors evolve according to societal and environmental values, and Hall (1959) and Rapoport's (1980) description on the importance of context, time, and space in the production of culture, functional norms, and values for communal life in the traditional and urban environment, subscribes to the latter approach, that is, environmental possibilism; or, in Lefebvre's (1992/1974, p. 29) words, "the realistic illusion" in which space is the reflection of society, which is more prevalent and posits a holistic human-environment relationship with an emphasis on culture, was the theoretical premise for this study.

The study aimed to investigate socio-spatial problems and, keeping the abovementioned classic theories in mind, sought to promote the correction of particular built environment elements to achieve certain environmental qualities and improve the social interaction and safety in urban-built environments. It also adapts modern-based approaches of syntax theory (Hillier & Hanson, 1984) and, as influenced by the concept of Merleau-Ponty (2013/1945), maintains that there is some kind of lived entwinement between human beings and the world, meaning that the quality of the living environment plays a major role in human behavior (Sharif, 2020). Furthermore, it draws on Hillier and Hanson's (1984) illustration of how the spatiality of place (pathway configuration) supports or inhibits particular human actions and routines as they come together or remain spatially apart and emphasizes how the impact of space flow, space form, concepts, and the management of cultural and social principles can alter certain qualities of the built environment to promote egalitarian use (Asif, Utaberta, Sabil, & Ismail, 2018).

Finally, in today's pluralistic world, where the consolidative forces of theology are weakening and shared public space is used to help bring together fragmented societies, this study examines a possible conservative approach for society, which through spatial proximity, can help weave local identity and defy inequality in public spaces to an extent. This conceptual reasoning culminates from Perry's (1929) neighborhood unit paradigm, which posits that the zoning and design of residential areas can establish spatial communities and simultaneously integrate the neighborhood unit into the city. On the other hand, Perry's reasoning has come under scrutiny as several neighborhood units failed to create local communities. As early as 1964, Webber claimed that spatial proximity is no longer a necessity to generate social relations. He posited that "community without propinquity" is possible (Rofe, 1995). However, New Urbanists believe that socio-spatial bonds and local communities can be enhanced through proper designing of the neighborhoods (Park & Rogers, 2014). Nevertheless, through employing qualitative methods of the study, this article also underlines the role of local communities in fostering egalitarian use of urban public parks.

#### 2. Methods

# 2.1. Data collection method and process

The 20th century witnessed the extensive usage of observation methods in social, anthropological, and architectural studies. Renowned examples include Whyte's (1980) Street Life Project and the approach to investigating the relationship between public life and public space employed by Jacobs (1961) and Gehl (2011). Further, creating a diagram of the target area, labeling, or counting the defined behaviors, following an observation schedule, systematic observation, and application of a coding system are the main observational components proposed by Ittelson (1970). These methods are cost and time effective and produce valuable information on the functional and spatial qualities of a place (Cooper Marcus & Francis, 1998).

Our research was based on a qualitative analysis of unobtrusive observations, interviews, and questionnaire responses. To enhance the credibility of the results, the study was conducted in two phases using numerous data collection methods: In the first phase, an unobtrusive behavioral observation technique was conducted with the help of one research assistant between March 2018 and April 2018 (26 full working days) in 21 target public parks, as illustrated in Fig. 1. In this phase, the different activities of male and female park users were observed, and the number of park users was counted and recorded to understand genderrelated socio-spatial interactions, which allowed us to map the identified parks in Kabul City based on the variables of number of users, gender, and age group (Do, Cheng, Shojai, & Chen, 2019). In this preliminary phase, the assistance of neighborhood representatives (Wakil-e-Gozar) and direct observation of the parks' surrounding areas enabled us to cross-check the city's official land-use zoning map with the actual on-site situation, which further allowed us to precisely identify and categorize the land uses of the parks' surrounding areas.

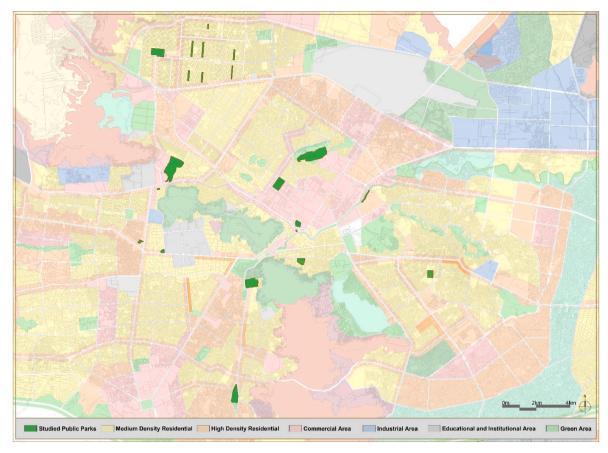
Prior to administering the final face-to-face questionnaire survey, semi-structured interviews were conducted with the oral consent of 18 middle-aged female users in three target parks, which were identified in the first phase as parks with a relatively higher number of female users. Thereafter, the questionnaire's different sections and Likert scale were prepared according to the answers of participants to be used for the final phase of data collection. With the help of 76 architecture students from Kabul University, 586 users answered the questionnaire survey in two stages. In each stage, the questions were asked face-to-face and on-site, and answers were recorded on the questionnaire sheet. The first stage was completed between June 2018 and July 2018, while the second stage was conducted one year later from April 2019 to early August 2019.

At the interview stage, it should be noted that the moderator's skills have a huge influence on the outcome of a structured or non-structured interview. Important technical criteria that must be considered include a proper introduction; a warm, friendly, and respectful approach; sufficient time allocation and knowledge of the topic; taking of notes on the discussion; effective listening skills; control of personal reactions; guidance of the discussion direction; and application of the appropriate conclusions at the end (Krueger, 2002).

Overall, the basic premise for the data collection was triangulation, which tends to nurture credibility by using several distinct data sources for information convergence (Patton, 1999; Yin, 2013). The use of triangulation balanced the weaknesses and strengths of the applied data collection methods (Creswell, 2007), namely, unobtrusive observation, one-on-one semi-structured interviews, and a questionnaire survey. Aside from providing an opportunity for in-depth analysis of the phenomena, these methods also pursued factual confirmation. Table 1 details the data-gathering process.

### 2.2. Site selection

Out of 65 active public parks in Kabul City (Mushkani & Ono, 2021),



**Fig. 1.** Kabul City land-use zoning plan prepared by Japan International Cooperation Agency in 2012. The updated official plan is overlayed by data on the existing situation. *Green-colored spots* represent the study sites. (For interpretation of the references to color in this figure legend, the reader is referred to the Web version of this article.)

**Table 1**Data collection details and procedures.

Phases	Methods and activities	Date and time	Objectives
First phase	Unobtrusive observation: watching, counting, photographing, and taking notes	March 2018 to April 2018 for 26 full working (early morning until evening, three days on a weekly basis), days were defined by good weather throughout the week	Assessing gender, total number of users, and their age Assessing the functions of the building surrounding the parks
	Semi-structured interview: asking open-ended questions, discussing vital park attributes, and taking notes	During May 2018 (single face-to-face interviews), 20–30 min with each participant on weekends	Better understanding of women and park- related issues for questionnaire preparation
Second phase	On-site measurement and satellite imagery: assessing park areas, amenities, and related activities	Draft drawings begun in March 2018 and continuously updated and upgraded until August 2019	Park drawing preparation and understanding zoning of surrounding areas
	Questionnaire: asking predefined questions face-to-face and completing the questionnaire	Stage 1: June 2018 to July 2018 Stage 2: April 2019 to early August 2019	To identify park settings and characteristics that support female presence

21 parks in different zones were carefully chosen as study sites. In a primary screening process, parks with the following characteristics were selected for further investigation: having basic amenities for potential users, being widely recognized by the locals while experiencing relatively diverse social activities compared to the other parks, and, most importantly, the density and land-use zone of the parks' surrounding areas. The majority of the study sites were popular among the city residents; some have historical and geographical advantages, and some had been newly redeveloped. Furthermore, observations in the study's preliminary phase demonstrated that seven parks in precincts 11 and 15 of the city were subject to the same behavioral patterns of users, while some had similar spatial characteristics and amenities. Consequently, one of these studied parks, Bebi-Sara Park, was chosen for further investigation in phase two of the study. Moreover, three out of 15 of the studied parks were closed for security purposes (i.e., Micro-Ryan Kohna, Pul-Bagh-Omomi, and Zarnigar parks). In these parks, with the permission of municipality officials, we gathered data from potential local users (people who were sitting on the perimeter ledge of the park) and passersby.

As abovementioned, due to formal and informal planning irregularities, weak urban governance, rapid urban growth of the city, and the nonexistence of a developmental framework (Calogero, 2011), Kabul City's official land-use map does not resemble the existing situation on-site, that is, commercial, institutional, and mixed-use buildings have been constructed in residential zones. Keeping these factors in mind, after discussions with locals regarding building functions and on-site observations, we devised a three-zone categorical division for parks based on the existing situation. If the buffer area defined by an offset of 100 m perpendicular to the park's peripheral edge was surrounded by at least 75% residential, commercial, or mixed-use buildings, it was

accordingly categorized as a residential, commercial, or mixed-use zone. This process was conducted for all the 15 studied parks.

### 2.3. Data analysis

The data collected from the questionnaires, interviews, and observations were analyzed using descriptive and qualitative processes. As the first and most functional step of the analysis (Wolcott, 1994), descriptive study revealed the distribution of users and enabled an understanding of the association between gender and the number of park users. Thereafter, qualitative analysis was conducted to organize and categorize the collected data. These processes finally led to data synthesis in the form of figures, maps, tables, and descriptions to meet the meaningful objectives of the research (Creswell, 2007).

The analysis used data from 586 user questionnaire responses and 30 sets of 1-day observations from 6540 users. In total, 1959 female park users were observed, representing an average of 30% of the parks' total users. Parks located in residential, commercial, and mixed-use zones had an average of 4,218, 1,010, and 1312 users, respectively. Observation-related data were first manually recorded and then transferred to Microsoft Excel for further analysis and chart preparation. Additional observations regarding vitality measures were documented in a note-book and evaluated alongside the questionnaire survey results.

### 3. Results

This qualitative study was based on unobtrusive observation and interviews. It was grounded in the interpretivism research paradigm and possibilistic approach and postmodern theories of space and society. These theories suggest that neither space nor social structure can be conceptualized exclusively or apathetically, rather, they evolve and interact within the dialectical relationship they have with each other. The results shown in Fig. 2 and Fig. 3 not only indicate this relationship but also highlight the pervasiveness of a particular gender in Kabul City's space and society, particularly in public parks. Examining the social structure from below, it was observed that public spaces that are being used every day are subject to gender dominance in different degrees, and, as a planning tool, land-use zoning can play a role in amplifying or weakening this phenomenon. To further elucidate this relationship, the study's findings were categorized into three parts, as

follows.

### 3.1. Role of land use in fostering gender equality in public parks

As a measure to discourage gender dominance in public parks and promote the fair treatment of different groups according to the basic need of outdoor recreation, gender equality can be influenced by land use in an urban context. Our findings from 15 public parks during the spring and summer seasons of 2018 and 2019, particularly on days with fine weather, showed that parks surrounded by residential, commercial, and mixed-use zones received 37%:63%, 20%:80%, and 15%:85% female-to-male park users, respectively (Fig. 3). On average, public parks surrounded by residential zones received 17%–22% more female users compared to those surrounded by commercial and mixed-use zones. Further evaluating the female user percentage and its correlation with the city's current land-use revealed that the more a particular park was surrounded by residential housing, the moderately better the gender equality in its use. In other words, the denser the housing nearby, the higher the percentage of female-to-male park users.

The observational data from the 15 studied parks and individual responses from interviewees in three public parks on how many users were in a public space is shown in Fig. 2 and further validated the relationship between gender equality and land use. The data suggested that parks surrounded by residential zones received more users compared to those surrounded by commercial and mixed-use zones. The variability of the number of park users depends on many factors; however, the difference in the number of users according to land-use zone cannot be ignored.

The role of other factors, such as a park's physical space quality (amenities and facilities), the surrounding buildings (educational institutions and religious buildings), the ethnicity of the residents of the surrounding area (for example, certain parks where users belong to one particular ethnic group), the socioeconomic status of the residents of the surrounding area (the majority were considered to be medium to low income), and cultural attitudes, which were outside of the scope of this study, may also have either encouraged or discouraged female presence in public parks in Kabul City.

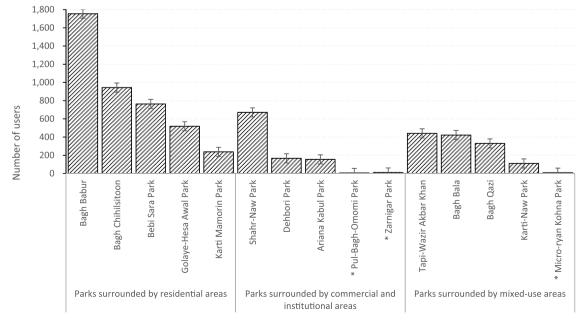
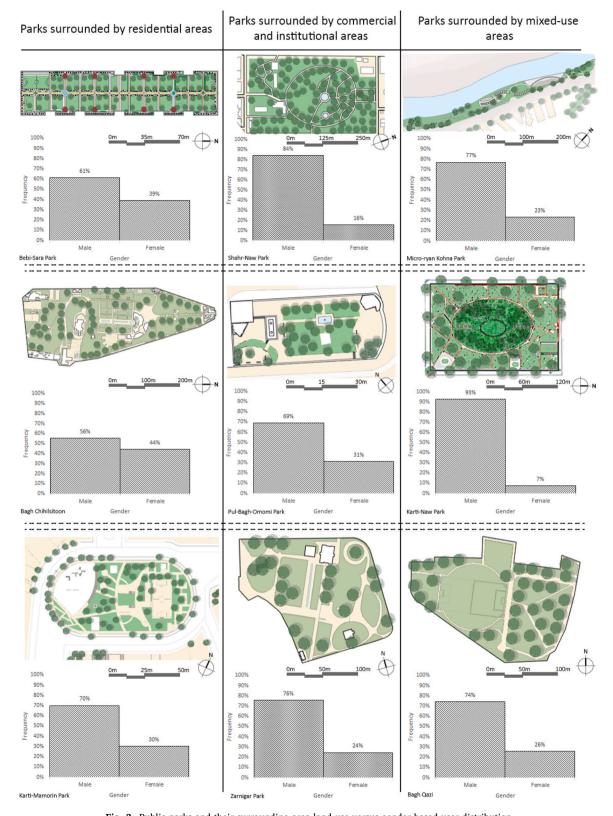


Fig. 2. Numbers of public park users (parks that are asterisked were closed to the public).



 $\textbf{Fig. 3.} \ \ \textbf{Public parks and their surrounding area land use versus gender-based user distribution.}$ 

# 3.2. Role of land use and vitality in fostering gender equality in public parks

A public park's vitality can be assessed according to four main measures: the presence of people, park management, design and build quality, and the diversity of activities and amenities (Khalili & Fallah, 2018). The correlation between land use and the number of users in a park, which is an indication of the presence of people attribute of vitality, is shown in Fig. 2. Parks surrounded by residential zones received more users compared to parks in other zones; hence, land use was

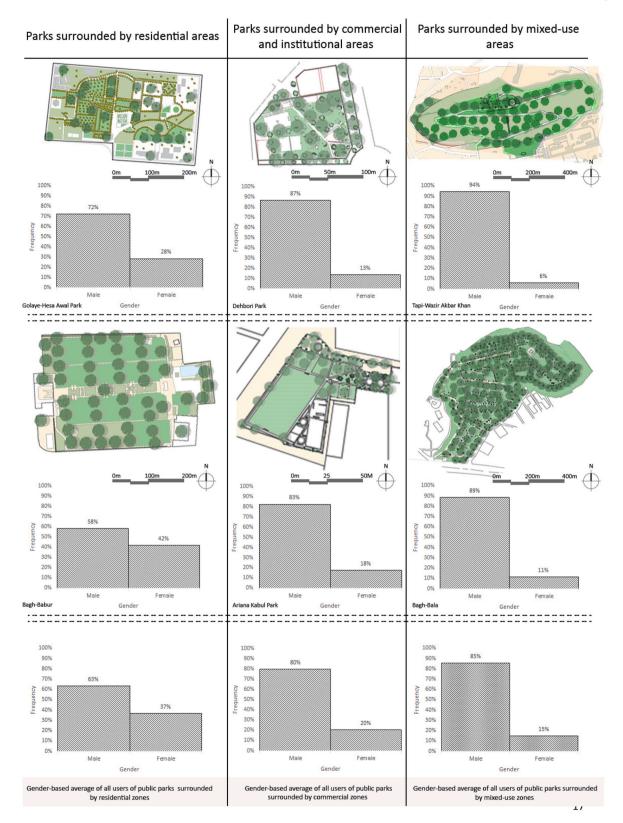


Fig. 3. (continued).

considered to have a degree of effect on the first measure of vitality, that is, the presence of people.

The evaluation of the 72 questionnaire and 18 interviewee responses from users of two residentially zoned parks with relatively higher female-to-male user ratios, namely Bagh-Babur and Bagh-Chihilsitoon, revealed the distinct vitality attributes of these parks. Fig. 4 illustrates

these attributes and the related distinct values based on a female user preference scale of 0-5 (0= discourages their presence, 5= encourages their presence). The results from the user preference scale indicated the presence of people as a measure of vitality with a value of 5, comprising the highest value alongside the attributes of park safety and security and the beauty of the landscape. Besides validating previous findings, this

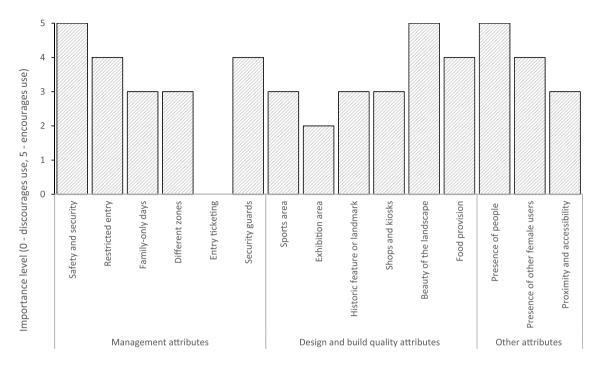


Fig. 4. Female users' preference for the different vitality attributes of two parks in Kabul City.

indicated that the presence of women in public parks in Kabul City was contingent on the presence of other people, dependent on the degree of safety and security of the park and the beauty of its landscape.

The surveyed female users gave a preference rating of 4 for the presence of other female users, demonstrating that they were not inclined to visit desolate or lonely spaces. Two other attributes of vitality within the management category—restricted user entry (i.e., carrying tobacco and weapons within the park is prohibited) and the presence of security guards to control misbehavior and promote safety— also seemed to encourage their presence. The existence of catering services also stimulated female presence, with a preference value of 4. However, the presence of shops and kiosks, sports areas, historic monuments, or landmarks stimulated less park attendance, each with a value of 3. The proximity and accessibility of a park also played a lesser role and were given an average rating of 3. With a value of 2, exhibition areas were evaluated neutrally by the female park users. While these diverse amenities promoted mixed-use functions, they also provided natural surveillance, which was deemed important by female users. In addition, the availability of a variety of activities and the presence of various salespersons, guards, and other users in the park were all found to enhance the female park users' sense of safety through passive surveillance (Fig. 4). Moreover, park management measures, particularly family-only

days (when only families are allowed to enter the park on one day of the week) and assigning different zones (separate zones for families and individuals, as shown in Fig. 5), which both received a preference rating of 3 from the female park users, moderately discouraged male gender dominance. However, entry ticketing was given an average rating of 0 and was, therefore, deemed to discourage female presence. Additionally, as per Fig. 5, the diversity of activities and amenities available was emphasized by female users as a key factor affecting their presence, therefore suggesting that the opportunities to practice diverse activities by park users, particularly female users, can improve a park's vitality and, hence, foster gender equality to a certain extent.

To summarize the results for these two parks, their vitality measures and supportive attributes combined with the surrounding land-use improved users' preferences for them and expanded their prospects of equitable use by different genders.

The evaluation of the 115 questionnaire responses from users and a series of observations from Bebi-Sara, Golaye-Hesa Awal, and Karti-Mamorin parks, which had a relatively lower female-to-male user ratio compared to Bagh-Babur and Bagh-Chihilsitoon parks revealed further relevant vitality measures related to land use (Fig. 6). Users' preference ratings for these three parks indicated that the presence of people was considered the most important measure of vitality, with the

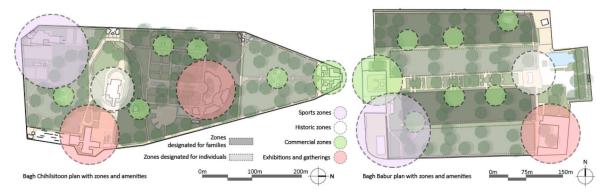


Fig. 5. A map of two public spaces in Kabul City illustrating the existence of diverse activities and amenities.

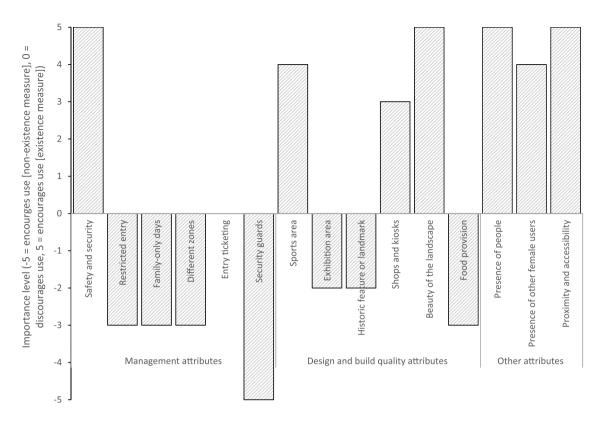


Fig. 6. Female users' preferences for the different vitality attributes of three parks in Kabul City.

highest average rating of 5, alongside a park's safety and security, the beauty of its landscape, and its proximity and accessibility attributes. Besides validating the previous findings, these results revealed the significant effects of proximity and accessibility on female presence in Bebi-Sara, Golaye-Hesa Awal, and Karti-Mamorin compared with Bagh-Babur and Bagh-Chihilsitoon, which were directly regulated by land use. Further, while safety and security were delivered by a nongovernmental management authority in Bagh-Babur and Bagh-Chihilsitoon, it was delivered by neighborhood communities in Bebi-Sara, Golaye-Hesa Awal, and Karti-Mamorin. Further discussions with the neighborhood representatives and literature reviews suggested that communities that were formed around neighborhoods and locally called gozar, a semiformal urban governance unit, contribute to the security and safety of parks with an evolved system of neighborhood social bonds and users' familiarity with one another (Sahab & Kaneda, 2016; Haqbeen, Sahab, Ito, & Rizzi, 2021; UN-HABITAT, 2016). The prospects for the evolution of these social bonds are supported by the surrounding

Additionally, Fig. 6 shows that the ratings of the vitality attributes of Bebi-Sara, Golaye-Hesa Awal, and Karti-Mamorin followed the same user preference pattern of Bagh-Babur and Bagh-Chihilsitoon. However, the figure also indicates the importance of non-existent measures, which were rated from 0 to -5, namely, security guards, restricted entry, family-only days, different zones, food provisions, exhibition areas, and historic features or landmarks, which were all missing vitality measures that could promote the diversity of park activities and create passive surveillance and were deemed important by female users for their presence. Evaluating this information showed that the missing measures have played a role in terms of the vitality and female presence in parks in Kabul City: Parks with these features received 11% more female users on average compared with parks without them.

To summarize the results for these three parks, existent vitality attributes, which are supported by a community's social structure and influenced by land use, have improved the safety of parks and user

preference for them, while the addition of missing features may offer prospects for the future equitable use of these areas by different genders.

# 3.3. Role of land use in fostering gender dominance in public parks

In the early stages of this study, we believed that parks surrounded by mixed-use and commercial zones would be more vital and would receive more female users compared to those enclosed by residential zones. However, the results shown in Fig. 3 suggested the opposite results. Parks surrounded by commercial and institutional zones fared slightly better in terms of vitality and received 5% more female users compared to those surrounded by mixed-use zones. To individually discuss the findings for each park would not be of significance because they all had the same characteristics, for example, a considerable number of undesirable users (poachers and addicts). While the majority lacked key vitality attributes, all offered the basic physical amenities. On average, fewer users, the nonexistence of a management system (neither by the community nor an organizational authority), the uniformity of activities, and no natural surveillance deterred the female users' preference for these parks. As a focal measure for female users' presence, safety and security were neither enforced actively nor passively. The fact that public spaces surrounded by commercial and mixed-use zones are generally orchestrated by male users, and the prevalence of their role in the labor market have exacerbated gender inequality within them.

#### 4. Discussion and implications

In the Muslim context, such as that of Kabul City, the pervasiveness of the "ideal" gender (i.e., male) in urban public spaces and its everyday organic reproduction indicates the society's dominant ideology. In this study, by confronting unequal gender space as a production of certain patterns of male and female actions in spaces and taking a wider spatial perspective—in line with Lefebvre's argument on the dialectical relationship between social production and spatial organization and rather

than having a deterministic approach and assuming the gendered space to be solely the outcome of totalitarian ideology—we opened up the prospect of reimagining public space and women's role in the city, hence highlighting the evolution of socio-spatial bonds and the measures fostering the gendered space. This approach was explained more eloquently by the French philosopher Michel (de Certeau, 1984, p. xiv): "The goal is not to make clearer how the violence of order is transmuted into a disciplinary technology, but rather to bring to light the clandestine forms taken by the dispersed, tactical and makeshift creativity of groups or individuals already caught in the nest of discipline."

Evaluating the relevant literature further validates that women's increased participation in outdoor activity can result from types of land use and from socio-spatial bonds. Nabizada and Kita (2013) suggested that "community form also plays an important role in the usage of outdoor spaces by participants (especially women)." The authors further emphasized safety and security as a key measure in promoting women's outdoor activity in a gated residential community in district 10 of Kabul City. Another study by Sahab and Kaneda (2015) discussed the social functions of *gozar*: As a traditional neighborhood unit evolved around an important building (the mosque), the representative (Wakil-e-Gozar) meets with the community in a public space to discuss their daily problems, thus fostering interaction and social bonds. Furthermore, over the past decade, there were major efforts such as the Citizen Charter in Cities (2016-ongoing) at the national level and the Kabul Municipal Development Program (2014-2021) at the capital city level to create a four-level local governance structure. At the top level is the city municipality, followed by the city district (nahia), the gozar assembly (around 1000 households), and the Community Development Councils (around 200-250 households) (French et al., 2018). These efforts were mainly focused on upgrading informal residential areas and carried out by the Afghan Government with significant support of the International Community. Among the four-level local governance, the indigenously evolved gozar played an important role in the management and the safety and security of neighborhood parks and in line with Perry's reasoning subscribed to the creation of socio-spatial bonds.

The present study's findings suggest that such socio-spatial bonds and the vitality attributes of parks are influenced by the surrounding land use. This further elucidates the implications of spatial structure for social relations, as described by Hillier and Hanson (1984), since certain qualities of the built environment were shown to play a key role in how it is used. Furthermore, vitality attributes were influenced by the socio-spatial bonds, which, in turn, elucidates Parsons's discussion on the evolution of social behaviors according to societal and environmental values. This brings up the question of how to tackle the multidimensional problems facing land-use policy. Although additional future research is required, a thematic proposal is illustrated in Table 2 that takes into account the interdisciplinary nature of land-use planning and the diverse set of correlated challenges. Given that the appeal for the safety and security of parks surrounded by commercial and mixed-use zones is higher compared with that for residential zones, the application of vitality attributes and the encouragement of community engagement through the allocation of more land to parks surrounded by the residential zones or the alteration of park provisions in commercial and mixed-use zones could promote people's presence in these spaces and might even create a sense of purpose and safety for female users.

This study's results demonstrated the importance of vitality measures and their supporting elements, which could act as a qualitative assessment tool for equality in public spaces. Parks with these vitality measures have higher numbers of users and are subject to less gender dominance compared to parks without them, suggesting that the presence of people, safety and security, the management of the space, and the diversity of activities and amenities are the key vitality attributes that affect female presence in public parks in Kabul.

**Table 2** Thematic proposal.

Vitality measures and land use role						
Design and built quality attributes	Sports area Exhibition area Historic monuments Shops and kiosks Food provision Beauty of the landscape	Promotes diversity of activities and passive surveillance	Measures indirectly influenced by land use	Promotion of diverse activities and amenities in public spaces through land-use control of the areas surrounding parks and the encouragement of park facilities with such		
Management attributes	Restricted entry Family-only days Different zones Security guards	Promotes access, control of misbehavior, and passive surveillance		attributes		
Other attributes	Safety and security Presence of people Presence of other female users Proximity and accessibility		Measures directly influenced by land use	Encouragement of neighborhood community engagement through developing parks in existing residential areas while carrying out land readjustment projects		

### 5. Concluding remarks

The location, surrounding area, and vitality parameters of public parks play key roles in their equitable use by different genders. In this study, parks surrounded by three prevalent types of land-use zone-residential, commercial, and mixed-use-in Kabul City were studied, and the results showed that residentially zoned parks appear to be more vital and encouraged a greater female presence through the community's socio-spatial structure and the support of vitality measures. Moreover, the findings suggested that the vitality attribute of the presence of people, along with safety and security, are the most influential attributes on female presence in public parks. The diversity of activities and amenities, which provide passive surveillance, was found to be the second most important attribute. Consequently, the application of vitality attributes and the encouragement of community engagement through the allocation of more land to parks surrounded by the residential zones or developing parks in existing residential areas while carrying out land readjustment projects and further alteration of park provisions and enforcing vitality attributes in commercial and mixeduse zones could promote people's presence in these spaces, and might even create a sense of purpose and safety for female users.

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### Declaration of competing interest

None.

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