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**Workshop 6**

*Gulf Cities as Interfaces*

**Dynamics of Populations and the Everyday Urban Environment  
in the Emerging City of Doha**

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## **Abstract**

*The current fast track urban growth is an important characteristic of the emerging city of Doha. Such a growth is marked by intensive infrastructure projects, high rise clusters of glass towers, new cultural facilities and art museums, emerging residential environments on the periphery of the city, as well as hall mark events. However, very few studies have addressed several important growth aspects, including the examination of the way in which the inhabitants comprehend and react to their built environment and the resulting spatial experience. This paper examines the inhabitants' spatial experience in key urban open spaces in the city by applying cognitive and behavioural mapping procedures coupled with an attitude survey. Applying the cognitive mapping technique, 108 responses were received, analysed, and classified under three categories a) living, working, and visiting patterns; b) comprehension of home range, home zone, and movement; and c) ethnic affiliation: Qataris and other Arab expatriates. Implementing direct systematic observation and behavioural mapping of key urban open spaces reveals important outcomes that include absence of physical aspects amenable for effective use while offering a pleasant experience for visitors. The findings contribute to an in-depth understanding of the inhabitants' spatial experience of the everyday urban environment of Doha. A conclusion is established to emphasise that by developing knowledge generated from research findings that are derived from the direct experience of inhabitants, the various aspects of how certain areas work within the urban structure of the city can be elucidated, while seeking means for improving the qualities of the everyday urban environment.*

**Keywords:** Doha, urbanism, spatial experience, everyday urban environment, urban spaces.

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## **1. Introduction: Experiencing the City of Doha**

The city of Doha is experiencing continual rapid growth since the mid 1990s with new or emerging urban nodes and centres, housing developments, and a wide spectrum of mixed-use interventions. According to the United Nations records, it is anticipated that half of the world's population will be living in cities by year 2025. The city of Doha would exceed that prediction since more than 80% of Qatar's population already resides in the capital. The overall urban environment is thus becoming more and more important in the daily lives of over 1.7 million inhabitants who live there. The urban qualities of the city heavily impact on a wide range of elements and aspects of daily life such as living conditions, workplace characteristics, and the

attractiveness and appeal of urban open spaces (Salama and Wiedmann, 2013-a & b). The regional and global importance of Doha has increased significantly over the past two decades and maintaining and sustaining the current growth of its urban population is seen as critical to the future development of the country. Hence, enhancing the quality and function of urban open spaces and the urban environment as whole is one of the most important considerations that would determine such a future.

Little attention, however, has been paid to several important growth aspects, including the examination of the dialectic relationship between the city inhabitants and the urban environment, the understanding of the way in which the inhabitants comprehend and react to its built environment and the resulting spatial experience, as well as their attitudes toward newly urbanised spaces (Salama and Wiedmann, 2013). This paper utilizes techniques derived from the field of 'Environment-Behaviour Research,' typically defined as the systematic examination of how people interact and comprehend their surroundings. The paper provides an analytical understanding of how the residents of Doha identify with their surroundings, how they spatially experience the city, and how they relate to selected key spaces or urban areas. Based on applying cognitive mapping procedures together with an attitude survey and behavioural mapping technique, the paper explores urban areas in the city as perceived and experienced by various groups of residents.

Urban open spaces in Doha are scattered around the city from its northern peripheries to its Centre, and in the south-western peripheries. Varying in form, function, and scale, some spaces are often located within enclave developments, or within larger urban interventions, while others represent portions of spaces with dense urban districts or open waterfronts. Within the city of Doha, twelve spaces can be identified as the most important open spaces: these include Katara Cultural Village, The Pearl Qatar Development, Corniche Area A near the Sheraton Hotel, Corniche Area B near the Al Mourjan Restaurant, Corniche Area C near MIA (the Museum of Islamic Art), Al Bidda Park, Souq Waqif Area A-Shops, Souq Waqif Area B—cafés and restaurants, Msheireb, Al Sadd Area, the Ramada Junction area, and Aspire/Villaggio Zone (Figure 1). While the degree of public usage in these spaces varies dramatically, combined they provide a variety of activities and leisure opportunities which cater to the main socio-economic groups of Qataris and non-Qataris who reside in the city.

Different cultural groups, age groups, and genders appear to experience the city of Doha, its overall urban environment, and its urban open spaces in very different ways (Salama and

Gharib, 2012). These groups have different spheres of experience, interaction with, and interest in the spaces; the purpose for which they visit and interact with them varies dramatically. In addition, due to factors related to their cultural background, age, or gender, their understanding and perception of the city is quite different; this is generally based on the places where they live, work, visit, and how they move about the city. Their perception of the overall urban environment is defined by their personal experiences and relates to what different spaces within the city have to offer (Salama, 2011). While some inhabitants may enjoy key attractions such as the Corniche Waterfront Park or Al Bidda Park or the restored and rehabilitated traditional market, Souq Waqif, others may prefer the new, more exclusive, developments such as Katara Cultural Village or The Pearl Qatar development. Some may even like the dense urban areas and spaces that are characterised by affordable merchandising and shopping areas, while still others prefer open green spaces that satisfy their leisure time and recreational needs and those of their children.



*Fig. 1. Main features of the twelve most important urban spaces in Doha (Source: Authors).*

## 2. A Mixed Research Methodology for Examining Inhabitants' Experience

Exploring how the city's inhabitants' experience it and its open spaces should go beyond interviewing a small group of inhabitants as this may support what is already self-evident. Rather, research techniques such as cognitive mapping, behavioural mapping and attitude surveys are

needed to assess and interpret the way in which inhabitants comprehend different locations and their movement experiences with the ultimate goal of improving the quality of urban life in the city.

## **2.1. Method 1: Cognitive Mapping**

### *Understanding the Inhabitants' Spatial Experience of the City*

Cognitive mapping is utilised a process composed of a series of psychological transformations by which individuals acquire, code, store, recall, and decode information about the relative locations and attributes in their everyday spatial environment (Downs and Stea, 1973). Thus, a cognitive map is a mental device that codes and simplifies the way in which the spatial environment is arranged and perceived (Ormrod, 2011). In essence, cognitive maps are a mental representation of physical locations and movement between them.

When reviewing and analysing how the city of Doha is experienced by its residents and users, two critical urban elements appear as predisposing factors governed by the spatial perception of the structure of the city; these are the understanding of geographical locations and urban mobility or movement within the city, and the way in which people relate to both.

Geographical locations can be exemplified by prominent or well-known places that influence people's perception of the city, such as the areas where they live, work, visit, entertain, etc. Two types of areas appear to have a strong influence on how people perceive geographical locations; these are referred to as the 'home zone' and the 'home range.' Home zone and home range are phenomena that relate to the concept of territoriality. They have been discussed in the writings of theorists and researchers whose main driver is to establish links between the physical environment and social behaviour (Altman, 1975; Rapoport, 2006; Abdel-Hadi, ElNachar & Safieldin, 2011). On the one hand, the home zone is a phenomenon that is related to an environment with minimal need for modes of transportation; such locales can be easily accessed on foot and thus engender a sense of ownership and belonging among the residents of its inner streets and public spaces. On the other hand, home range is a concept more concerned with a holistic mental image of the entire residential environment, irrespective of its scale and size. It places emphasis on the perceived territorial and geographical boundary for the inhabitants as individuals and in groups.

For urban planning and design as branches derived from the domains of social sciences and engineering, a city is a fluid dynamic system that keeps evolving or changing. In any city

material and non-material inputs and outputs flow in, out, and within; a process that creates movement and mobility. Movement and urban mobility have been viewed in the historical and contemporary urban literature as important aspects of successful cities. On the one hand, historical writings in the field have attempted to address social and behavioural issues in relation to movement (Burgess, 1925; Sorokin, 1927). On the other hand, contemporary writings have focused on the idea of networks in relation to the spatial structure (Geyer and Kontuly, 1996).

The current accelerated spread of urban areas in Doha has led to extensive urban sprawl and the formation of additional larger urbanised areas and has resulted in the emergence of agglomerations and the notion of greater and expanding city boundaries or metropolitan areas. Such areas can be defined on the basis of how far from and how long it takes to commute to the city core, or from living areas to work areas, and public places. Understanding urban mobility or movement patterns within the city is crucial to understanding the operational principles that go beyond a single urban locality. Movement is also affected by the new spatial patterns and the spatial distribution of functions and uses. By developing an understanding of people's movement patterns and the rhythm of geographical locations within the city, the various aspects of how certain areas work within the city's urban structure can be identified, analysed and explained.

In order to examine the experience of the city's inhabitants in terms of movement and their comprehension of the city in terms of where they live, work, entertain, and what travel routes they use, a survey questionnaire was developed with two objectives in mind. The first aim was to gather data for interpretations of how the city is experienced based on the inhabitants' reactions to certain parameters, rather than utilising the more standard practice of reading and interpreting the city based on analyses of reports by specialised professionals or observers. The second objective was to investigate the way in which inhabitants perceive movement in the city in relation to the geographical locations most important to them such as living areas, work areas, and the public places they frequent.

Eighteen undergraduate architecture students were asked to respond to the survey questionnaire, and then distribute it to ten people such as relatives and neighbours to solicit responses. The process required students explaining the survey to the participants including its purpose and the nature of the questions. The questionnaire provided a map of greater Doha and included queries about basic information related to the gender, age, and cultural background of the participants; they were required to name them and indicate the area where they live and work on the map.

Participants had to select the three public spaces that they frequented the most, as well as indicate the routes they take from their residence to their workplace, and the routes taken to the most visited public spaces on the map. Relying on cognitive mapping procedure, the questionnaire required participants to mark the home zone and home range on the map. Home zone was defined to the participants as the immediate context around their homes, which reflects a shared or collective hypothetical ownership of communal space or area while home range was delineated as the respondents' mental image, based on their understanding of what defines such an environment and their perception of its boundaries, of the entire residential environment or district around their home.

Over 50% of the targeted population responded to the survey with a total of 108 responses received. The comprehension of movement, home zone, and home range was an integral component of a larger study conducted by architecture students of the class of 2012 as part of an elective course on Post Occupancy Evaluation, offered in the spring semester at the Department of Architecture and Urban Planning at Qatar University, and delivered in the Spring 2012.

The profile of the respondents was representative of a wide spectrum of people, from different cultural backgrounds: 65% of the respondents were Qatari nationals while 35% were expatriate professionals, mainly from neighbouring Arab countries. Sixty-nine per cent of the respondents were between 20 and 40 years old, the majority of whom (65%) were female. While the respondents' profile was reasonably diverse, it should be noted that Americans, Asians, and Europeans represent other cultural groups that also form an important component of the city's expatriate residents, were not included in the survey. Therefore, while the responses from the sample group and the population they represent cannot be generalised to represent the whole city, they offer important insights into the understanding of certain preferences and movement patterns within the city as they relate to the participants.

## **2.2. Method 2: Direct Observation and Behavioural Mapping**

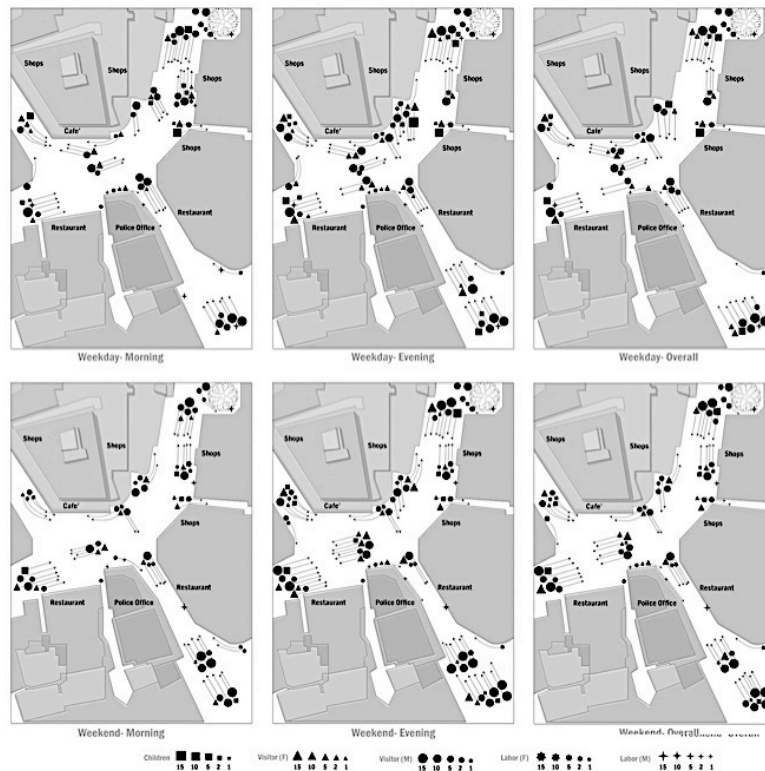
### ***Understanding the Inhabitants' Use of Urban Spaces***

Direct observation and behavioural mapping is a systematic method for describing what visitors and users of a space actually do there. It is a direct approach, unlike the methods that require the indirect involvement of inhabitants in seeking information about the understanding of geographical locations and urban movement. Observation and mapping are additional tools for understanding the dynamics of people and their interaction with the urban environment; it is an



alternative approach to data collection that views people as ‘objects’ by recording their periodic behaviour. Valuable information can be obtained when behaviour is systematically recorded (Sanoff, 1991). Unplanned observation may result in inadequate findings that may reveal only what seems to be already obvious. Systematic observation of behaviour involves four aspects; these are: people, activities, setting or space, and timing.

In this procedure a combined unobtrusive mapping technique, which integrates ‘place-centred’ mapping and “individual-centred” mapping, is used. Place-centred mapping aims at observing actions in a particular setting or portion of a public space; these are recorded on floor plans, maps, or diagrams. Individual-centred mapping records the tasks, activities, and movements of people throughout the investigated space (Salama, 2012): it represents a systematic learning about a particular group of individuals whose activities are distributed throughout a specific period of time.



*Fig. 2. An example of generated maps based on observation periods conducted at Souq Waqif (Source: Authors).*

Based on the results of investigating geographical locations and movement, four urban open spaces were identified to conduct direct observation and behavioural mapping studies. These are: Katara Cultural Village, Corniche Waterfront Area A, Souq Waqif Area B, and Aspire Zone. In

planning the study, a series of visits to the four spaces was conducted to explore key settings within them; these were selected because of their importance in terms of intensity of visitors and variety of activities. Original maps were obtained and re-drawn and timings were identified: each of the spaces was observed twice during the week and twice at weekends. Times of observation varied on weekdays and at weekends. Observation took place on weekday mornings from 10.00 to 11.00 p.m. and during weekend mornings from 10.30 to 11.30 a.m. For weekday and weekend evenings, observation times were from 6.30 to 7.30 p.m. and from 7.00 to 8.00 p.m., respectively. Users were classified into five groups: children, male visitors, female visitors, female domestic workers or cleaners, and male labourers. Maps were generated for each observation and mapping period (Figure 2) and combined maps were then developed to illustrate the overall profile of behaviour and activities in each space.

### **3. Comprehension of Geographical Locations and Movement in the City**

Utilising frequency, cross-tabulation, and cumulative mapping procedures for the total number of respondents and for groups of Qataris and Arab expatriates, results were categorised into three bands that pertained to: a) living, working, and visiting; b) home range, home zone, and movement; and c) ethnic affiliation: Qataris and other Arab expatriates.

#### ***Living, Working, and Visiting Patterns***

The areas where the participants in the survey live vary greatly. However, three areas or districts stand out from the responses; these are Mamoura, Gharrafa, and Khraitiyat: 9% of the respondents live in Mamoura district, while Gharrafa and Khraitiyat districts each received 8% of the responses. This result corresponds with the overall profile of the respondents: for example, the Mamoura district is characterised by a mix of Qataris, who reside in privately owned homes, and other Arab nationals who live in villas and low-rise apartment buildings typically rented by employers for their expatriate workforce. In contrast, the Gharrafa and Khraitiyat districts, located in close proximity to the north-western peripheries of the city, are primarily characterised by Qatari homes thus reflecting their preference for living on the outskirts and periphery of the city.

In terms of the areas where survey participants work, four areas are clearly identified from the responses: 32% of the respondents work in the Tarfa district while 12% work in the Dafna area. This may be due to the fact that the former is characterised by the presence of the Qatar

University campus, while the latter represents the emerging business and financial district in the West Bay area. The Al Sadd and Shaqab districts received 7% and 6% as respectively as workplace areas. This suggests that while the Al Sadd area represents a more traditional business district, close to the city centre core, the Dafna or West Bay financial area has already started to attract more businesses and employees. Further the Shaqab area, which is dominated by the presence of Qatar Foundation and its various subsidiaries such as Education City, The Convention Centre, Sidra Hospital and Qatar Science and Technology Park, does not represent the workplace zone for most of the survey participants who are mainly Qatari and Arab nationals.

Four public spaces appear to compete for the most frequently visited urban open spaces: Katara Cultural Village received 58% of the total responses, followed by Souq Waqif, Aspire Zone, and the Corniche waterfront area which received 57%, 56%, and 49% respectively. This suggests a strong interest, by the respondents, in culture and sports, which are specific attributes of these particular spaces. The result could be attributed to the fact that these places offer a wide variety of facilities, functions and activities including cultural events and art exhibitions, and in the case of Katara Cultural Village and Souq Waqif, ethnic restaurants and cafés; the study also indicates a preference for enjoying the outdoors in the green spaces and walking/pedestrian areas around the sports complex of Aspire Zone/Villaggio and the tree-lined waterfront park and pedestrian spine along the Corniche.

Two areas appear to be of no interest to the respondents as most visited urban spaces; these are the Museum of Islamic Art Park (1%) and Education City (4%). Insufficient parking space, both inside and outside the museum boundaries, and the controlled accessibility to the gated museum gardens, in addition to the limited opening hours could be factors that discourage public interest in visiting. However, recently the MIA Park has been receiving more visitors; this may be due to the recent establishment of two cafés and a children's play area in addition to extended evening opening hours. Education City is an exclusive gated campus community that requires permission to enter; it also does not have activities that cater to the general public and as such does not encourage visiting by the public. It should be noted, however, that Education City does provide specialised activities of interest to academics and researchers.

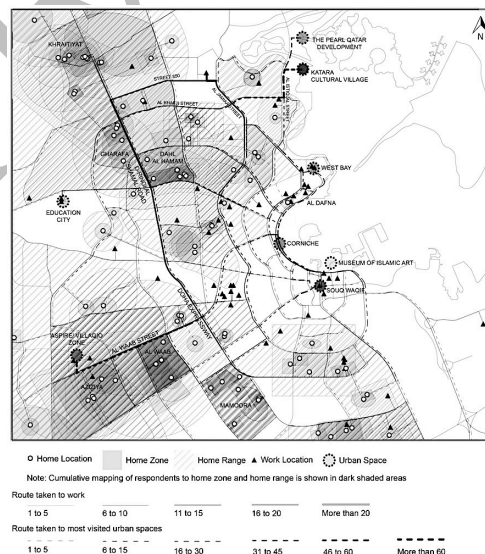
### ***Comprehension of Home Range and Home Zone and Movement Experience***

Mapping the respondents' identification of home and work locations, home zones, home ranges, and the routes taken from living areas to work areas reveals interesting findings (Figure 3).

Based on the responses, the distribution of homes clearly reflects the fragmented nature of the city where residential areas are located far from the business or commercial districts. This echoes the preference of the respondents to reside away from the centre core, most specifically in the northwest and southwest of the city.

The perception of home zone is rather varied as some respondents depict it as an undefined bubble while others portray it with clearly defined perimeters or boundaries. The responses with regard to home locations and home zones reveal three major areas that can be considered home zones for the participants: these are Al Waab, Dahil Al Hamam, and Khraitiyat. Responses to home range also vary with regard to size of representative areas and the demarcation of boundaries. Notably, the cumulative mapping and the intersection of home ranges show specific residential areas as representative of home ranges for the respondents. Areas of significance include Mamoura, Al Waab, Azizya, Dahil Al Hamam, Madinat Khalifa, and Gharrafa (Figure 3).

The distant location of certain residential areas could also reflect difficulties with mobility and access across the city. Interestingly, the concentration of private sector residential areas seems to be moving toward the West Bay; the new business and financial district. This trend could eventually initiate better access routes to the residential areas located northwest of the city, in addition to benefiting businesses because of the closer proximity to certain governmental institutions that have recently relocated to the West Bay area.



**Fig. 3.** Cumulative mapping of respondents' reactions to geographical location and movement across the city (Source: Authors).

The results of mapping the respondents' indications of roads and routes taken to work areas and to the most visited places reveal significant findings. For example, D-Ring Road, as part of the new Doha Expressway which later merges into Al Shamal Road, appears to be the most commonly used route for respondents to reach their workplace (Figure 3). This is likely due to its connectivity as a main artery to the most important areas of the city. Its vehicular capacity and flow of movement makes it an important urban transport spine that links different parts of the city.

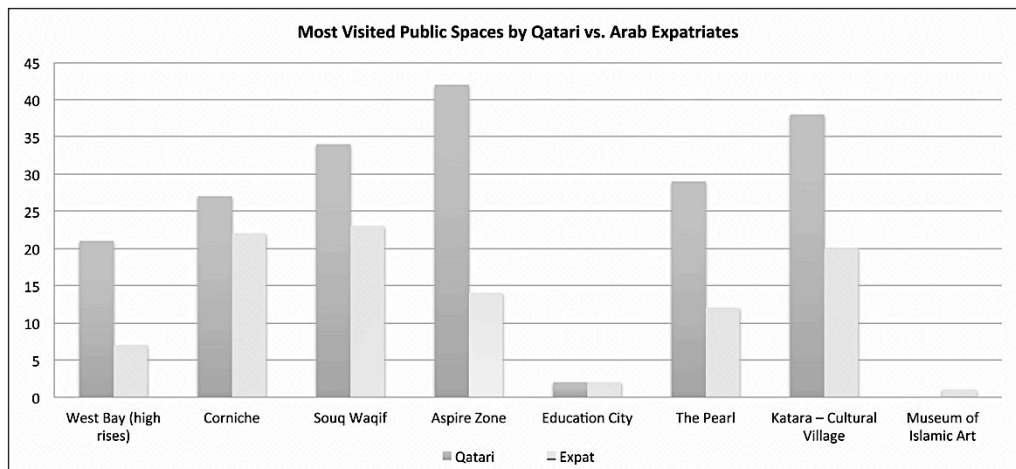
In addition, routes taken to some of the most visited spaces appear as logical access points from nearby residential communities, as for instance, Al Waab Street, which crosses Al Furusiya Road, a major artery that separates Doha from the neighbouring city of Al Rayyan, emerges as a major spine. Al Waab Street starts from the southwest edge of the city, runs along and by Aspire Zone/Villagio, and then connects to the Doha Expressway. The expressway eventually merges to become Al Shamal Road, the main highway to the north of the country. The eastern end of Onaiza Street, which passes alongside Katara Cultural Village and The Pearl Qatar en route to Lusail City - a major development project, also appears as an important spine. While a considerable number of alternative routes are used extensively by many Doha residents, especially those that are parallel and to the east of Al Shamal Road, these do not seem to be much used by the respondents.

### ***Ethnic Affiliation: Qataris and Arab Expatriates***

A number of usage and destination differences were found in the responses of Qataris compared to other Arab expatriates, for example, Aspire/Villagio Zone, Katara Cultural Village, and Souq Waqif appear to be the most visited urban spaces for Qatari respondents, receiving 42%, 38%, and 34% respectively. In contrast, Souq Waqif, the Corniche, and Katara Cultural Village were identified as the most visited by Arab expatriate respondents, receiving 23%, 22%, and 20% respectively. Both groups agreed on the least visited urban spaces: Education City and the Museum of Islamic Art Park.

In essence, the preceding results reflect the preference of both groups to visiting urban spaces that are closer to their residence. Since the majority of Qatari respondents live in the northwest or southwest part of the city, they usually visit urban spaces like Katara Cultural Village and Aspire Zone that are in close proximity to where they reside. As Arab expatriate respondents tend to live closer to the centre core, their two most visited places, Souq Waqif and

the Corniche waterfront area, are also closer to the centre; however, Katara Cultural Village rated as the third most visited urban space, is just a few kilometres further north of the centre (Figure 4).

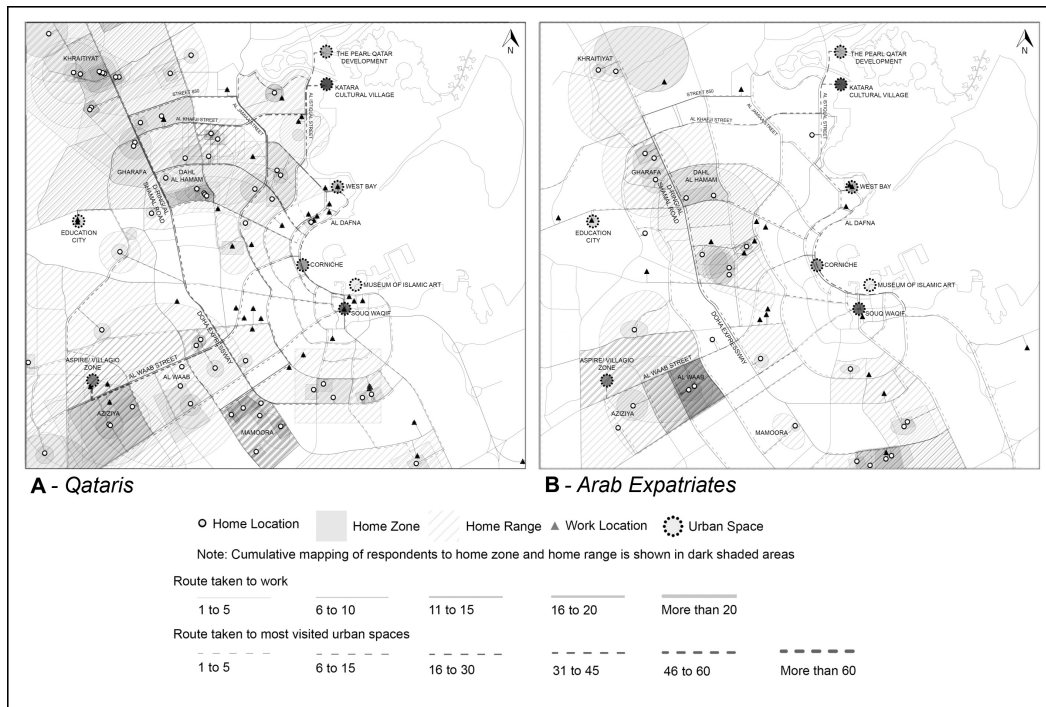


*Fig. 4. Most visited public spaces by Qatari vs. Arab expatriates respondents. (Source: Authors).*

In generic terms, there is no clearly defined area for Qatari respondents of a significant dense concentration representative of their interests with regard to their perception of home zones and home ranges (Figure 5). The Qatari respondents are more distributed and reside further away from the centre core, around the peripheries of the city in areas where their requirements are more easily met with the availability of larger properties, bigger houses and more private space. In contrast, for Arab expatriates, home zones and home ranges are much more clearly defined and are larger in size and area as evidenced in the cumulative responses (Figure 5).

Home ranges indicative of residential segregation are evident in Khraitiyat and south of the Al Waab area; these areas are more exclusive to Qataris while the Al Sadd area, the Al Waab area, and the city centre are more typical residence areas for most Arab expatriates. Some areas, however, are more inclusive, with a fair mix of Qatari and Arab expatriates; these include Mamoura, Gharrafa, and Dahil Al Hamam. The latter two areas, however, have recently witnessed the introduction of new residential compounds that accommodate a considerable segment of expatriates, thus making them more mixed than they were a few years ago. In contrast to the results of mapping home ranges, work location for Qataris seems to be closer to the city centre while for Arab expatriates it is more varied and may be distributed around the centre, and the Al Sadd area, as well as in other parts of the city. This pattern may reflect the fact that most Qataris work in the ministries and government institutions located in the centre or in

close proximity to it, while the expatriate Arabs work in more diverse areas and neighbourhoods located in various parts of the city and its peripheries.



*Fig. 5. Cumulative mapping of Qataris' and of Arab expatriates' reactions to geographical location and movement across the city. (Source: Authors).*

In the category based on cultural backgrounds as to which routes are most frequently used to reach work areas or access most visited urban spaces, no major differences were found. D-Ring Road and Al Shamal Road/The Doha Expressway appear to be the arteries most often used by both groups to reach their work areas. In addition, for Qataris there is heavy usage of Al Waab Street to reach their most visited urban spaces. Arab expatriates, however, appear to have a preference for the Corniche route to reach their most visited urban spaces. This may be due to the fact they often work and reside in closer proximity to these spaces.

#### 4. Activities and Interaction with Key Public Open Spaces

The results of investigating the four urban open spaces, which were identified to conduct direct observation and behavioural mapping studies reveal interesting narratives about the physical and social aspects of the spaces. The following is an analytical discussion of these results.

***Katara Cultural Village:*** In observing the mixed types of users at the selected Katara Cultural Village space, including children and male and female visitors, the actual use can be clearly discerned. The users represent different socio-economic strata and cultural backgrounds, including a substantial presence of Qataris. Male labourers are represented in the space for restaurant staff and beach helpers. Female labourers are mostly cleaners or maids accompanying Qatari families to keep an eye on children. Cleaners seem to be available at all times, but appear to be moving more within the space in the evenings. Since most of the restaurants open late morning or at noon, the number of users is significantly less at these times than during the evenings. Beach use and activities are not common whether during the week or at weekends; this could be due to the high entrance fees. Even though the spaces, particularly the waterfront esplanade, are dark and poorly illuminated at night, Katara is more crowded in the evenings, both during weekday and weekend evenings. Interestingly, this lack of adequate lighting on the esplanade impacts in two contradictory ways; first of all, it enables substantial and most likely desired privacy for users, particularly Qataris, and secondly, it minimises the feeling of comfort and safety, which even so does not prevent people strolling along the esplanade in the concealing darkness.

Visitors are observed to go to Katara for different purposes. While many people visit the space to dine in the various restaurants or lounge in the numerous cafés and coffee shops, others prefer to go for a stroll along the esplanade or just sit on the few available seats and benches lining the main pedestrian walkways. It was observed that people walk or gather in groups, whether they are family members or a group of friends socialising. While strolling, they may glance at the representational architecture of the different buildings or just look for a suitable spot to sit. Some groups gather in front of the open-air amphitheatre to enjoy seaside views and the striking skyline of Doha; occasionally children play on the numerous steps and pediments of the gigantic amphitheatre. It was also noted that during the evening some people queue in front of busy popular or trendy restaurants, waiting to be seated. Overall, it was observed that both adults and children seem to enjoy their time in the space. However, the space lacks adequate outdoor furniture such as benches and chairs in addition to sufficient green spaces and landscaped features that would make it more amenable and attractive for use. The minimal use of green spaces creates a rather stark but not unpleasing leisure environment.



***Corniche Area A:*** The mapping of Corniche Area A elucidates the reality of this space and how it is actually used by a wide spectrum of people of different age groups and from different ethnic backgrounds. The space caters more to lower and middle-income groups. A strong presence of male visitors is evident on weekday evenings; male labourers working in the space are also represented, these include cafeteria staff and Msheireb Enrichment Centre (MEC) security staff. Both males and females, taking exercise in the form of jogging, or casually strolling, were also recorded as passers-by. Additionally, the children's playground at the far northern end of the site is a major attraction for families. Family groups were also observed gathering in the space around the cafeteria, both in front of and behind it: in fact, the cafeteria appears to be the major attraction to the space, especially in the evenings when people come for refreshments. The space is generally crowded with different types of users on weekdays; at weekends they proliferate in the early morning and early evening. However, fewer users were noted on weekday mornings, probably due to the fact that most people are at work. In contrast, maintenance workers and gardeners were strongly represented in the mornings when they are on duty during hours where they are less likely to disturb visitors. It was also noted that a considerable number of male users visited the space specifically to drink traditional tea (karak) while sitting individually or in groups along the seawall, a protective barrier separating the promenade from the sea, chatting and seemingly enjoying the views of the cityscape or the other side of the bay. Interestingly, motorbike riders (a very small interest group in the Doha population) were frequently noted congregating at the drop-off area, near the car-park.

Many users also passed by the major sidewalk or pavement, which runs parallel to the promenade, the major pedestrian spine that links the whole waterfront space of the Corniche Waterfront Park. The major activities appeared to be walking or stopping to use the rental bikes available in the green space near the cafeteria. Families were observed searching for a pleasant shady spot under a big tree, particularly near the children's play area, a space which is dotted with small trees on landscaped artificial hills and hummocks. Casual observation at other times, apart from scheduled behaviour mapping times, records that the space is more vibrant and more heavily populated during special events such as Qatar National Day celebrations and water sport events and competitions. While overall adults and children seem to enjoy spending their time there, pursuing their recreational interests and activities, the space lacks sufficient outdoor seating and significantly lacks parasols or other forms of shade, which could potentially make it more appealing for use by more groups, especially during the hot and sunny daytime hours.

*Souq Waqif* as a rehabilitated traditional market and tourist destination area represents one of the most important and attractive leisure spaces in Doha; it caters to diverse groups including tourists, Qataris, and expatriate residents. Conducting behavioural mapping of the selected setting within the Souq reveals the authentic use of the space. It was observed that some Qataris and non-Qataris also visited the Police Station (Immigration Office) for various reasons, to authenticate documents or renew visas. Other users, including residents and tourists, frequented the space for dining or socialising purposes since the area has a diverse variety of ethnic restaurants and attractive outdoor cafés.

Tourists who stop over in Doha en route to other destinations often visited the space to shop, admire the ‘traditional’ architecture representative of the reconstructed and renovated Souq buildings, and experience or investigate some of the cultural aspects of Qatar. Typically, groups of tourists were observed to visit traditional shops prior to relaxing in cafés or dining at one of the many restaurants. It was also noted that there was a very low representation of children, probably due to the lack of activities and facilities that would cater to them. Asian male workers would sometimes visit the space from nearby residential areas located south of the Souq. However, security police stand in front of and near the station and have been known to hustle certain visitors away, particularly unwelcome labourers or those who have been observed annoying visitors. Mounted policemen also frequently patrol the streets and are one of the attractions, especially for tourists.

The mapped space is one of the major arteries of the Souq; it is lined by various restaurants with roof terraces and outdoor cafés. In generic terms, the space is lively and well-frequented both in the morning and evening. However, it is more vibrant at weekends than during the week, and in the evenings rather than the mornings. This is likely due to the restaurant and café opening times. Visitors generally go there for a meal or coffee with friends and family and some may go shopping. It was observed that the space was primarily used in the mornings as a passing-by space en route to the shops or the immigration office while in the evenings it was used for dining in restaurants or cafés, as well as shopping in the adjacent traditional market or handicraft shops. Crowds were bigger in the evenings rather than during the morning since the majority of visitors, other than tourists, were more likely to be at work. The space, as part of a pedestrian passageway to the traditional market area, seemed to be functioning very well; however, the complete lack of children-oriented activities and venues was also noted.

**Aspire Park-Zone:** Mapping behaviour in the Aspire Zone and Aspire Park uncovered some important aspects related to its activities and the users engaged in those activities. People of different backgrounds, gender, and ages were observed to use the space for various purposes. It was noted, however, that most visitors were either Qataris or Arab expatriates; very few Europeans, Americans or people from other western backgrounds were represented during observation times. Typically, users visited the space in groups, as friends or with families; children were well represented in the space since it has extensive landscaped green areas, in addition to a well-appointed children's playground. The location of and quality of service at the café also seems to be an important attraction. Security staff was also represented in key spots within the space, especially close to the pond to monitor children and prevent them from entering it. The staff was mostly male, with the presence of female security staff noted in the early evenings, but in fewer numbers; these observed to be primarily monitoring the area around the café. The space was rarely used during the morning when only a few individuals could be seen in the designated sports area. Strikingly, the number of visitors was higher during the weekdays than at weekends, presumably most visitors came from nearby residential areas. Casual, unscheduled observation revealed that space-use was quite flexible, for example, it was observed being used for special, booked events, such as children's birthday parties, national day celebrations, or sports competitions. Most visitors used the space primarily to enjoy the outdoors prior to or after shopping in two popular nearby malls located east and south of the park.

Morning users tended to visit the area for fitness purposes such as walking, jogging, or taking exercise. Evening visitors, however, appeared to use the space for relaxation purposes such as eating, sitting and chatting, etc. The overall experience of users seemed to be a pleasant one. It was further noted, however, that the lack of adequate shaded areas with trees, parasols or other forms of shade, could be an important factor for the minimal use during weekend mornings.

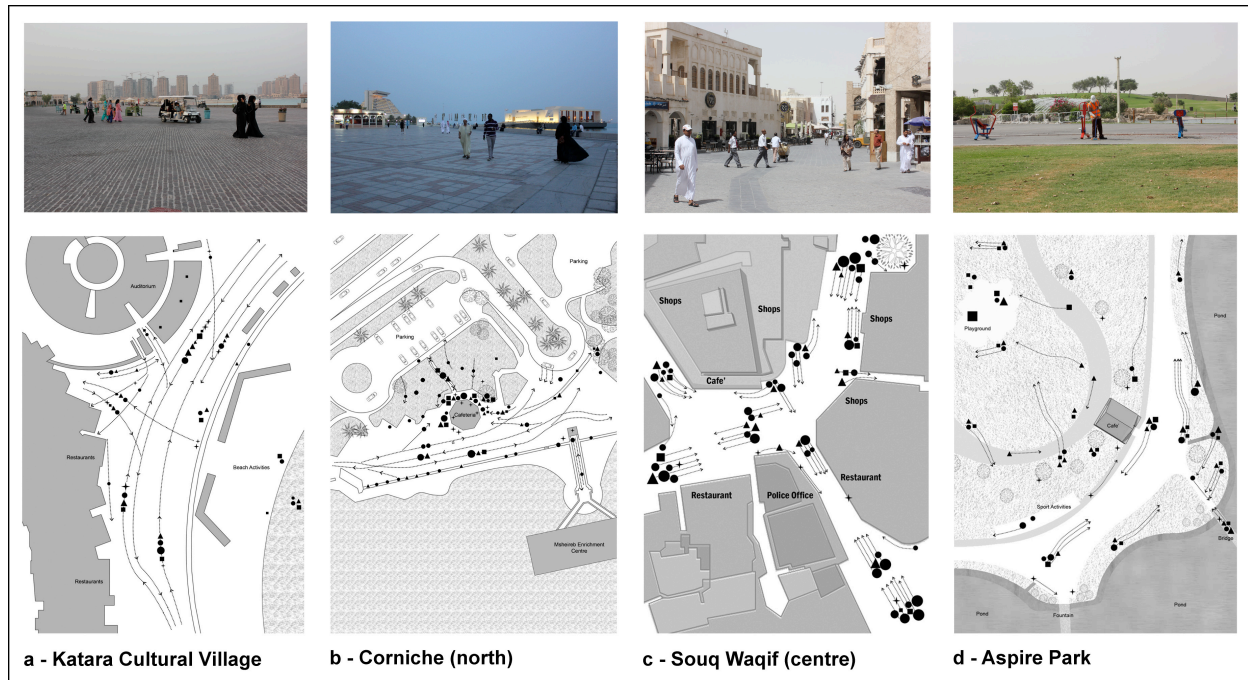


Fig. 6. Combined behavioural maps for the four spaces selected for investigation (Source: Authors).

## Conclusion

This paper presented results of research in progress on the examination of the dialectic relationship between the inhabitants of Doha and the everyday urban environment, the understanding of the way in which the inhabitants comprehend and react to their built environment and the resulting spatial experience, as well as their attitudes toward newly urbanised spaces. The main objective was to investigate the various synergies between the dynamics of populations and their surroundings, which would foster an in-depth understanding of the city's overall urban environment.

By establishing a knowledge base derived from the direct experience of inhabitants including movement patterns and the rhythm of geographical locations within the city, the various aspects of how certain areas work within the urban structure of the city can be elucidated. A number of factors appear to contribute to recognize-ability of places within the city. This includes a) *proximity*, where nearby places tend to be more familiar to people than places that are distant; b) *size*, where large places tend to be better known such as the Aspire Zone than small places; c) *location*, where places on the border such as the waterfront promenade are better known than places in the inner fabric, especially if they have no distinctive features; d) *character*, where places with a distinctive form and character such as Katara Cultural Village are more

easily recognized; and e) *social-cultural aspects*, where places with an important history or cultural distinction are better known such as Souq Waqif or the Museum of Islamic Art-MIA.

The findings of implementing cognitive mapping based survey reveal that inhabitants have different experiences of the city and its urban open spaces and that their mental images and experiences determine the degree to which they react to the qualities of those spaces. Such qualities can be seen as factors impacting the liking, visiting, and passing by of spaces. In generic terms, urban spaces in Doha appear to be favoured by most respondents: certain spaces, however, have poor or substandard attributes, which need improvement in order to enhance user experiences.

With observing the location, activities, and the people involved, behavioural mapping procedures offer insights into understanding the influence of cues on users such as the availability or lack of furniture like benches or picnic tables, furnishings such as parasols or shade, and equipment such as children play equipment, in addition to the physical features of the spaces. Recording the character and type of activities, and the casual factors associated with them, can assist in the identification and subsequent understanding of movement patterns that are often governed by design qualities and amenities that characterise the space.

The overall experience of users in the four spaces examined demonstrates that people experience and interact with urban open spaces differently and as such their needs vary according to the purpose for which they visit the space. The mapping studies of urban open spaces delineate the fact that there is an absence of landscape features and a dearth of green spaces and of appropriate outdoor furniture, such as benches and seating, in Katara Cultural Village; similarly, there is an absence of adequate shaded areas and shading devices in both Corniche Area A and Aspire Zone. In addition, a lack of children's facilities or a specially designated area for children was noted in Souq Waqif. These observed lacks and absences could be viewed as deficiencies that hinder the maximum efficient and effective utilisation and use of such spaces. Addressing the lack of features that enhance people's activities and use of the space, or those that would cater to a specific type of user would make the space more conducive for use by different types of users and at different days and times. In sum, pertinent recommendations can be made with the aim of instigating improvement of existing urban open spaces in Doha or offering guidance for designing new spaces.

The rapid speed of contemporary urban developments has led to an urgent need to examine the various layers of interdependencies between an emerging society and newly built

urban fabrics. The tendency of supply-driven parameters within local urbanism has led to restricted participation among inhabitants in shaping Doha's built environments in recent years. The shift from the phenomenon of an 'instant city' to a consolidated and attractive international hub will, however, rely on increased individual identification to urban spaces and a more satisfying fulfilment of the demands and desires of communities in terms of architectural and urban design. This can be addressed at two levels: a bottom-up level that engages different groups in decision processes where their needs and aspirations are incorporated, and a top-down level that integrates knowledge from research findings into guidance documents.

While offering important insights, it should be noted that the preceding aspects pertinent to the urban environment of Doha do not represent the full spectrum of issues related to the dialectic relationship between people and their environment. In this respect, introducing the concept of the quality of urban life should be seen as a necessity where issues related to satisfaction, well being, happiness are understood with relevance to the spatial quality of public spaces and the overall experience of the urban environment of the city. Whereas future development plans of the city may appear to address specific groups and cater to specific age groups or cultural backgrounds, a more responsive and inclusive approach to the design of urban spaces needs to be put in place.

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