

# Identifying and Assessing the Attractiveness of Public Spaces for the Youth as a Key Factor to Help Establish Social Sustainability—Case Studies from Hanoi



Quang Minh Nguyen, The Trung Doan, Quynh Hoa Ta, Manh Tri Nguyen, Tien Hau Phan, Ngoc Huyen Chu, and Thi Thanh Hien Pham

## 1 Introduction

### 1.1 Current Situation

Just like many other cities in Vietnam and in the developing countries (also known as the Global South), Hanoi is facing a crisis of public space for all, due to the rapid urbanisation and population explosion. In fact, new and upgraded/redeveloped public spaces are planned, built and brought into use every year, but they do not keep up with the demographic growth rate and therefore fail to meet the increasing demand of the city residents. In some districts and wards, local people are happy about the well-designed and well-equipped parks and/or community gardens offered to them, yet those places are always crowded. In some other district and wards, there are many public spaces, but not frequently used, as they are rather poor and/or not very safe. In several living quarters, the inhabitants complain about both the quality and the quantity of public spaces, especially in social housing projects.

Public space plays a very important role in making a city work. Walking down the street, talking face-to-face with neighbours, meeting friends in cafés or beer gardens, playing sports together, etc., which generally take place in public spaces, are all basic daily life needs. In a post-industrial society, people tend to be busier with their work calendars, study courses and family affairs. They work harder in the offices, travel more extensively on the roads, stay longer at homes and spend more time surfing numerous websites, but they also need to go out at least a few times a week and do some outdoor activities in order to be healthier and regain the balance.

---

Q. M. Nguyen (✉) · T. T. Doan · Q. H. Ta · M. T. Nguyen · T. H. Phan · N. H. Chu  
Faculty of Architecture and Planning, National University of Civil Engineering, Hanoi, Vietnam  
e-mail: [minhnq@nuce.edu.vn](mailto:minhnq@nuce.edu.vn)

T. T. H. Pham  
Department of Urban Studies and Tourism, University of Québec at Montreal, Montreal, Canada

A number of research projects conducted by both Vietnamese experts and international scholars in recent years have reflected various aspects of public spaces in Hanoi and shown some problems to solve as follows:

- Lack of water bodies: As an essential component of public spaces in Hanoi water surface decreased quickly while public gardens and parks increased considerably [1].
- Accessibility: All the public areas should be planned within a short walk from homes, with 53% of the respondents choosing to walk and 13% of them preferring to go by bike [1].
- Poor facilities: The number of interviewees who rated the quality of facilities “average” and “poor” would be 32% and 21%, respectively [1].
- Low level of liveliness: 18% of the residents asked said that it was low, 50% judged it to be “average” and only 32% regarded it as “good”. Nearly 55% of the interviewees go to public places to participate in physical activities, about 32% wanted to relax and the rest (13%) for other purposes. An in-depth interview was carried out on 60 volunteers and one third of them did not go there very often (once a week or every two weeks), one fourth of them went alone while one third was accompanied by small groups of friends. In most cases, they stayed there less than three hours [1].
- Gender imbalance among users: Young women are sometimes absent, because of gender-related issues in using public spaces [1].
- Illegal occupation of public spaces: This can be seen in both old and new living quarters, in the city centre as well as in the suburbs. Children and teenagers have almost no playgrounds [2].
- Incompetent management: The top-down management of street space is often too rigid to respond to the changing needs of citizens, and they have to act “creatively” in using public spaces that should belong to them, but somehow they are not allowed to do so [3].

Consequently, many settlements are not liveable. Thus, it is imperative to undertake more investigations into public spaces in Hanoi and other major cities in Vietnam, in terms of quantity and especially quality.

## ***1.2 Literature Review***

Public space has been quite comprehensively investigated worldwide over the past 20 years. Architect Jan Gehl, in his famous book “Life between Buildings”, classified outdoor activities into three types: necessary, optional and social activities. Social activities are activities that depend on the presence of others in public spaces, such as children at plays, greetings and conversations, communal activities of various kinds and finally seeing and hearing other people. Social activities occur in many places throughout a living quarter as well as the city and are called “resultant” activities, as they evolve from the other two categories. Social activities come mostly from optional

activities and happen spontaneously as a direct consequence of people moving about and staying in the same spaces, and are indirectly supported whenever necessary and optional activities are given better conditions in public spaces. In addition, social activities are a self-reinforcing process, and social distance of 1.3–3.75 m should be noted in design. In public spaces, people can assemble or disperse, integrate or segregate, be invited or repelled, open up or close in, depending on the quality of design as well as activities organised [4].

Helen Willey took a closer look at public space and analysed the four benefits that a public space with active recreational activities can bring: (1) Social benefits (with focus on community life and culture); (2) Health benefits (both physical and mental health); (3) Environmental benefits (including climate, ecosystem and wildlife) and (4) Economic benefits (job opportunities and income). In her opinion, public spaces should be open to all and make a major contribution to social equity through various kinds of communication and cooperation [5].

Matthew Carmona emphasised “a sense of place” when he talked about public spaces. At first, people must understand a place through its history and culture, form and image. Then they will feel a sense of belonging and be emotionally attached to that place. The human activity refers to diversity and vitality on a basis of events, culture and local traditions [6]. Public spaces can have a positive impact on property prices, trade, land value and investment as well as regional economic performance. If planned into a system, they help boost social contact by providing more learning opportunities for children and juveniles through creative plays, nurturing their social and cognitive skills, reducing incidents of crimes and anti-social behaviour, promoting neighbourliness and social cohesion, offering a venue for social events and interchanges, and finally supporting the local community life. In order to ensure the quality, public space must be well-designed and well-managed [7].

The UN Habitat published a Toolkit for Public Space as part of the Global Agenda towards Sustainable Urban Development, in which public space is interpreted as the banner of urban civility, promoter of equity, our commons towards urban prosperity, driving force of great cities, ideal opportunities for citizen involvement, producer of environmental sustainability, generator of income, investment and wealth creation. The main idea is that cities become great when they develop great public space systems with attractiveness of public space as a key point. In this global review, public space is upgraded to a Charter (Charter of Public Space) and redefined/reconfirmed as “all places publicly owned or of public use, accessible and enjoyable by all for free and without a motive for profit”. The essence of public space includes accessibility, no-cost policy, improvement of the quality of urban life and an integral part of urban architecture as well as landscape along with a determinant role in shaping the overall image of a city. There are 16 types of public space: (1) Avenues, boulevards and streets; (2) Bicycle paths; (3) Squares; (4) Pavements/sidewalks; (5) Passages; (6) Highways and highway corridors; (7) Riverbanks and waterfronts; (8) Parks; (9) Gardens; (10) Playgrounds; (11) Sports fields and facilities; (12) Beaches; (13) Museums and galleries; (14) Public libraries; (15) Civic centres and (16) Municipal markets [8]. Public space offers the following 12 services: (1) Protection against traffic accidents; (2) Protection against crime and violence; (3) Protection against unpleasant

sense/experience; (4) Possibilities for walking; (5) Possibilities for standing; (6) Possibilities for sitting; (7) Possibilities for seeing; (8) Possibilities for hearing/talking; (9) Possibilities for playing; (10) High-quality social services; (11) Comfortable climate and (12) Positive experience [9].

Alessandro Rigolon argued that socio-economic-status (SES) review and urban green space (UGS) index should be used to assess the quality of public space in the Global South cities, because both SES and UGS are fundamental elements of sustainable, healthy and liveable cities in those countries where development goals are often largely affected by economic difficulties and social issues as the direct consequences. Analysing equity in the provision of UGS in the Global South cities matters for at least three reasons: first, rapidly growing cities might not be adequately planned for green spaces, thus leaving a majority of the population underserved; second, informal settlement that are common in many regions generally lack urban green spaces and other basic public services; and third, people in many developing countries have relatively shorter life expectancy than those in the Global North. This fact can however be improved by increasing access to health-promoting environment, such as green spaces. Proximity is described as part of quality of public/green space. The findings suggest that by enhancing proximity, quantity and quality of green space, it would be possible to ensure health benefit for the public in the Global South cities, if all SES groups had equal access to it [10]. Equity as an aspect of public space is also advocated and supported, no matter where it may happen, in the Global South or in the Global North. The quality of public space contributes immensely to the city's liveability and international competitiveness. Public space works best when it does not offer intended uses, but rather provides equal opportunities for different groups of people to make use of it in a way that suits them, which can be seen in the motto "place for everyone". This principle shall be applied first to high-density urban areas where a hybrid style for inclusivity, efficiency, cost effectiveness and liveability needs to be incorporated in all development and redevelopment programmes. The six types of main public space (main streets, promenade routes, districts with some special features and identity, transportation hubs, city open markets and central city parks) could be chosen as case studies for the reconceptualisation and revitalisation of public space [11].

### ***1.3 Research Objectives***

Public spaces in Vietnam's major cities, particularly in Hanoi, should be more intensively investigated with specific case studies with particular factors and conditions, rather than in general. With these in mind, the research team aims to:

- Understand how a public space works and interacts with different groups of users, especially the youth (aged from 16 to 30) in reality;

- Find out what attracts the youth the most or what they expect from a public space, and recommend that these factors of attractiveness should be integrated in urban design;
- Improve the quality of a public space in terms of re-designing the space and re-organising the activities;
- Help consolidate social contacts/relations and achieve social sustainability in each living quarter as a basic unit of urban studies.

### ***1.4 Research Methods***

In order to reach these objectives, the following research methods have been used in Phase One of the group's research project:

- Site survey and observation;
- Data analysis;
- Case studies;
- Mapping.

## **2 Public Space in Hanoi—A Review from Five Case-Study Wards**

As stated above, public space in view of spatial design and activity should be examined (practically considered) case by case—in a comparative study among several living quarters, rather than just theoretically analysed, in order to find out similarities as well as common problems, and to highlight differences simultaneously. Attractiveness of the local public spaces in the opinion of the youth—as a very important factor—is emphasised. In this regard, five wards have been selected as case studies (Table 1).

In total, 94 sites have been systematically surveyed on one weekday and two weekend days. The five wards selected are presented in chronological order and quite typical for the urban development in Hanoi over the past five decades. Truong Dinh ward is characterised with an early socialist housing programme by the state based on 2.0 industrialisation as a driving force in the blueprint of the French urban planning while Chuong Duong ward is noted for spontaneous urban development with self-built family houses shortly before and after the Economic Reform came out (in late 1986). My Dinh 1 is an outstanding example of project-based housing development plan closely connected with large-scale urban public buildings (National Sports Centre). The other two wards (Thuy Phuong and Sai Dong) are adjacent to

**Table 1** Data of five case-study wards (Hanoi Statistical Yearbook 2017, 2018)

Ward	Truong Dinh	Chuong Duong	My Dinh 1	Thuy Phuong	Sai Dong
Land area (ha)	39	103	228	287	91
Population (2017)	23,000	22,000	26,000	15,000	16,000
Population density (residents/ha)	590	214	114	52	176
Location	Inner city	Inner city	Periphery	Periphery	Outlying
Major urban development period	In the 1970s	In the 1980s	In the 1990s	In the 2000s	In the 2010s
Original status	Mixed urban residential area	Mixed urban residential area	Village	Village	Village
Level of urbanisation	Very high	Very high	High	Medium	Medium
The number of public spaces surveyed	26	20	18	18	12

new industrial zones in the 3.0 era and becoming more and more populous with thousands of migrant workers either settling in dormitory buildings or renting villagers' houses (Table 2).

In general, as the statistics have shown, the number of groups of residents using public spaces on each of the three different days of the week did not change (in My Dinh 1 ward) or did not change so much (in the other four wards). In all the five wards investigated in the survey, there is a vast difference between the two groups of young public space users (local and migrant), except for migrant students in two wards (Truong Dinh and My Dinh 1), because migrant students have more free time, especially in the evening and at the weekend. They are active to share the public spaces available with the local inhabitants. Other migrant groups, on the contrary, work from 7 am to 8 pm or 9 pm, and have therefore almost no time nor in the mood to go to public spaces. They tend to spend the evening on their own, with their roommates or within a closed group of their country fellows. On Sunday, they cook together or to go back to their home towns/villages within 50–60 km and visit their family members there. Although the public spaces in these five wards vary in size, density, frequency of use, etc., they have two things in common: (1) Spontaneous development if privately organised or delivered and (2) Uneven distribution as a consequence of lacking a long-term planning vision [12] (Table 3; Fig. 1).

In Truong Dinh ward, thousands of boarding students from the National University of Economics and the National University of Civil Engineering form a majority of

**Table 2** Characteristics of public spaces in five case-study wards [12]

Ward	Truong Dinh	Chuong Duong	My Dinh 1	Thuy Phuong	Sai Dong
<i>Type of public space</i>					
A. Streets with pavements	21	13	05	06	02
B. Official public spaces (public parks and gardens, playgrounds)	–	03	04	04	06
C. Yards within religious buildings (temples, pagodas)	–	01	03	02	–
D. Vacant land plots for other purposes temporarily used as public spaces	–	–	01	–	–
E. Sports fields (football, volleyball, tennis, etc.)	04	02	04	02	–
F. Others (school yards, office yards used after 6 pm as additional public spaces)	01	01	01	04	04
Total	26	20	18	18	12
<i>Groups of users (weekday)</i>					
Used by youth only	12	04	00	01	00
Shared by youth and others	02	07	11	11	06
Not used by youth	12	09	07	06	06
Total	26	20	18	18	12
<i>Groups of users (Saturday)</i>					
Used by youth only	12	01	00	00	00
Shared by youth and others	03	09	11	07	05

(continued)

**Table 2** (continued)

Ward	Truong Dinh	Chuong Duong	My Dinh 1	Thuy Phuong	Sai Dong
Not used by youth	11	10	07	11	07
Total	26	20	18	18	12
<i>Groups of users (Sunday)</i>					
Used by youth only	15	02	00	01	00
Shared by youth and others	02	08	11	07	04
Not used by youth	09	10	07	10	08
Total	26	20	18	18	12

**Table 3** Characteristics of public spaces in five case-study wards [12]

Ward	Truong Dinh	Chuong Duong	My Dinh 1	Thuy Phuong	Sai Dong
<i>Youth (aged 16–30)</i>					
Local young people	x	x	x	x	x
Migrant students	x		x		
Migrant workers				x	x
Migrant manual labourers	x	x			
Migrant street vendors	x	x			

public space users. Their most favourite public spaces include street restaurants and pavement iced teashops near their dormitory buildings. They also share two nicely designed open-air cafés and two out of three sports facilities in the area (except the tennis court) with local young residents after 6 pm on five weekdays, early in the morning and after 4 pm on two weekend days. The most outstanding purposes of public space use are drinking, eating and sports training. The precincts of two religious buildings in this area (one church and one pagoda) are not opened for public use.

In Chuong Duong ward, there are many migrant manual labourers and street vendors. As aforementioned, most of them have to earn their living all day and just return to their homes/rental houses very late, even on two weekend days. Therefore, they do not participate often in the local communal activities. Public spaces here are narrow streets and pavements with many small shops or some yards within old residential blocks mostly used by young permanent residents along with middle-aged



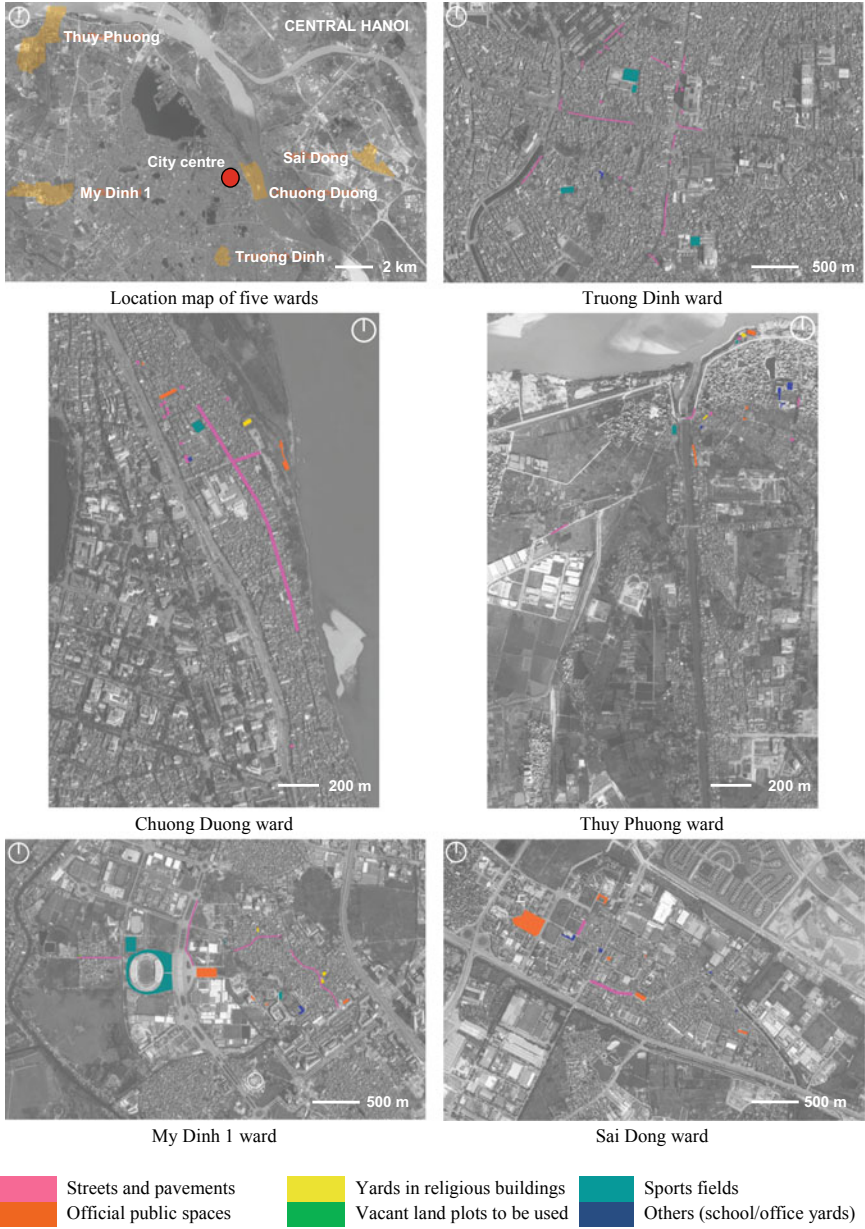


Fig. 1 Types of public spaces in five wards and their distribution [12]

and senior people. The most exceptional public space in this ward is a large open land area located on the riverbank overlooking the Red river used as an ideal playground for children and juveniles, as well as a favourite meeting point for the youth who love farming and photography.

In My Dinh 1 ward, just like in Truong Dinh ward, the public spaces are shared between young permanent inhabitants and migrant students of Vietnam National University and the University of Social Sciences and Humanities. Young people living here, especially migrant students, enjoy a very large square around and a well-designed park in front of the National Stadium. They can also make use of many small shops in several streets nearby. The most important activities here are walking, sitting and chatting, relaxing, eating and drinking.

In Thuy Phuong ward, most of the public spaces available are rather small. However, they are quite diverse, since this is a newly urbanised village, with one temple yard, one communal house front yard, four public parks, one football field, one playground for children jointly invested by the local authority and community, three school yards which are opened after 6 pm for local children to play football and even for some adults to play badminton. But only a few migrant workers go there. Many pavement shops can be found here like elsewhere.

In Sai Dong ward, similarly, there is a community of migrant workers living next to villagers. Some of them are living in rental houses provided by local residents. These migrant workers just go out for a walk in the evening around their houses. In the meantime, those living in dormitory buildings offered at reasonable prices by the industrial zone management unit enjoy relaxing and communicating with one another in open spaces and small flower gardens in the middle of their residential blocks as the first meeting point. A few more options, such as office yard, police station yard and schoolyard, are primarily used by local permanent residents.

Activities	Ward				
	Truong Dinh (26)	Chuong Duong (20)	My Dinh 1 (18)	Thuy Phuong (18)	Sai Dong (12)
0: None	0	0	0	0	0
1: Very few	1–5	1–4	1–3	1–3	1–2
2: Some	6–9	5–7	4–6	4–6	3–4
3: Quite many	10–15	8–12	7–10	7–10	5–8
4: So many	16–26	13–20	11–18	11–18	9–12

In all five wards, talking/chatting is the most popular activity, taking place throughout the day in public spaces. This kind of activity does not require so much space or any special context, even a small street corner or a narrow pavement with a few square metre iced tea shop can be just enough for a few people to meet and have conversations. Such an “informal” space is ubiquitous in the city, except in some compounds. The second most popular activity is drinking/eating, most notably in Truong Dinh, Chuong Duong and My Dinh 1, even in the other two wards—Thuy Phuong and Sai Dong, where many residents are migrant workers with low income, thus preferring to cook at home instead of eating out. It is apparent in most cases that there is no big difference (three grades) in the number of activities in each category (from No. 1 to No. 9 in Table 4) between one weekday and two weekend days.

**Table 4** The use of public spaces for different purposes in five wards among site studies [12]

Ward	Truong Dinh				Chuong Duong				My Dinh 1				Thuy Phuong				Sai Dong			
ACTIVITY	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1. Talking/chatting																				
Weekday	█				█				█				█				█			
Saturday	█				█				█				█				█			
Sunday	█				█				█				█				█			
2. Sitting/relaxing																				
Weekday	█								█				█				█			
Saturday	█								█				█				█			
Sunday	█				█				█				█				█			
3. Training sports																				
Weekday	█				█	█			█				█				█			
Saturday	█				█	█	█		█				█				█			
Sunday	█				█	█			█				█				█			
4. Walking/running																				
Weekday	█				█								█				█			
Saturday	█				█								█				█			
Sunday	█				█								█				█			
5. Playing games																				
Weekday	█								█				█				█			
Saturday	█								█				█				█			
Sunday									█				█				█			
6. Reading																				
Weekday					█	█			█								█			
Saturday					█	█			█								█			
Sunday					█	█			█								█			
7. Eating/drinking																				
Weekday	█				█				█				█				█			
Saturday	█				█				█				█				█			
Sunday	█				█				█				█				█			
8. Selling/buying																				
Weekday					█				█				█				█			
Saturday					█				█				█				█			
Sunday					█				█				█				█			
9. Special activities																				
Weekday					█				█				█				█			
Saturday									█				█			█				
Sunday					█				█				█				█			

Interestingly, Thuy Phuong tops the list in the number of sitting/relaxing activities (category No. 2), thanks to the beautiful waterfront landscape, four public parks, one pagoda and one traditional community house with a large yard and so many shade trees. In terms of sports training (category No. 3) and special activities (category No. 9), My Dinh 1 outperforms, because many sports facilities are open to the public. Moreover, a well-planned public space system invites people to take part in various special activities, such as pop/rock music concerts, propaganda campaigns and action programmes for the environment, etc. which often attract a large number of students and youngsters.

Note: In consideration of the quantity of public spaces in each ward, the level of use per space for grading the frequency of activities should be adjusted to ensure equivalence as follows:

### 3 Quality Will Definitely Become an Essential Issue

Apart from quantity, quality of public space has always been a great concern to the community. People decide whether or not they should go to a public space in consideration of the quality it offers. In terms of quality, a wide range of factors will be taken into account. Based on the observation of the most frequently visited public spaces in the five selected wards, a good public space must be well-designed and well-equipped (Table 5).

**Table 5** Physical aspects of a good public space [12]

Design	Equipment/facilities
Hard and soft ground cover (permeable for rainwater)	Park benches and other kinds of seats
Decorative lighting at night and on special occasions	Trash bins
Water surfaces	Lighting systems
Walk ways	Watering systems
Shade trees and ornamental plants	Other technical systems (parking, firefighting, etc.)
Artworks (sculptures, mosaic wall pictures, etc.)	Sports facilities (for adults)
Kiosks and pavilions	Play facilities (for children: swings, see-saws, etc.)

## 4 Attractiveness Should Be Regarded as Another Crucial Issue in Organising Public Spaces

In addition to the above-listed components of quality, people as users, especially the youth, pay attention to the following nine factors: safety, accessibility, diversity, flexibility, convenience, comfort, friendliness, inclusive services and interactive/creative atmosphere. Each factor contributes to the overall concept—attractiveness (Table 6; Fig. 2).

For young migrant people in five wards, a no-entrance-fee and no-fence public space policy, particularly adopted and/or supported by private developers, is an

**Table 6** Attractiveness of a public space from five study cases [12]

Component of attractiveness	Interpretation
Safety	No injury or accident happening, including security (no threat/violence)
Accessibility	Easy to access for all people. Centrally located and/or evenly distributed
Diversity	Many mini-spaces are combined. Many different activities are organised
Flexibility	One space can be suitable for many people and activities
Convenience	Easy to use all the equipment/facilities available
Comfort	Pleasant feelings. Protected from excessive sunlight, rain, hot/cold winds
Friendliness	Easy and happy to make contact and communicate with people
Inclusive services	Meeting the demands of the public (playing, drinking, relaxing, etc.)
Interactive and creative atmosphere	Ready to exchange and share with other people. Encouraging arts/talents



**Fig. 2** Informal but preferred public space in Hanoi, where attractiveness means crowded, chaotic and happy to many migrant young people and even local permanent residents. Taken by NUCE students, 2019

important feature of an attractive public space. They tend to choose “informal” public spaces with “popular” services, primarily pavements with tea and vermicelli stalls, street cafés and mini-parks, where they sometimes just need a place underneath a shade tree to sit and relax for hours. Another option is vacant land temporarily used by the local communities as a playground or a sports field. In their opinions, “attractive” means “crowded and happy” in short, even when it goes without basic facilities for public use [12].

Among these nine factors of attractiveness, diversity and flexibility should be understood in both spatial design and organising activities. A small public space will look nicer with several design concepts for the foreground and background, corners and sides. It is advised to combine water surfaces and green areas in semi-public and public places in view of creating better landscape and maximising the cooling effect against the urban heat island effect in a densely constructed city like Hanoi. Simple facilities, such as trash bins or park benches, also require new designs rather than *déjà-vu* patterns, if urban designers really think about users first. Similarly, a variety of activity scenarios can be developed for each case study, so that different groups of users can share the space at the same time and all of them would like to go there several times a week. Each time, they will find something new and interesting in the activities organised. Creating an interactive and creative atmosphere is a new idea, enhancing the attractiveness of a public space, especially when the creativity is emphasised as a key factor. Then, not only professional but also amateur artists in the community will have the opportunities to contribute their talents to the spatial design with their installation artworks which can change over time and intensify the interactions between artworks and users, as well as among users. In fact, this has been successfully applied in many countries worldwide, as seen in the Top 20 liveable cities like Vienna, Melbourne, Copenhagen, Toronto and Tokyo, and also penetrated into Vietnam in recent years, promising to be a future development trend. The Creative City project in Hanoi has already demonstrated this potential.

## 5 Conclusions

In five wards investigated in the survey conducted by NUCE academic staff and students, it is noted that even the best public spaces to date have not yet been able satisfy the urban design and social planning requirements, as far as living quality and social sustainability are concerned. Key factors to attractiveness of public spaces, such as safety, accessibility, diversity, flexibility, convenience, comfort, friendliness, inclusive services and interactive/creative atmosphere, will soon be regarded as fundamental criteria and incorporated into rating systems. The quality should be offered to people from all walks of life and also targeted at migrant young people, because they have made major contributions to the socio-economic development and socio-cultural diversity of a city, and thus they have the right to use well-designed and well-organised public spaces with all the services available to improve their spiritual

lives and succeeded in integrating into the local communities. Hereby it is possible to establish and achieve social sustainability as an ultimate goal of urban development.

**Acknowledgements** This academic paper has been written as a summary of Phase One (2018–2019) within the framework of a large research project called TRYSACES with four participating cities over three continents: Montreal and Mexico City (North America), Paris (Europe) and Hanoi (Asia). The National University of Civil Engineering (NUCE) is a member institution based in Hanoi (Vietnam). The authors would like to thank the National Institute of Scientific Research of Canada and Canadian Research Council in Social Science for the generous support, not just financially. Our special thanks also go to the NUCE students as well as other collaborators for the site surveys and data collection in Phase One of the project.

## References

1. Boudreau JA, Labbé D, Geertman S, Charton L, Pham TTH, Dang NA (2005) Hanoi youth public space. In: Social Sciences and Humanities Research Council of Canada (SSHRC), pp 15–17
2. Tran THG (2015) Old villages and new streets—stories about public space: public space system in Trung Hoa—Nhan Chinh new town. *J Constr* 74:52–53 (Ministry of Construction, Hanoi)
3. Ta AD, Manfredini M (2016) The production of plural evolutionary spatialities: conclusions and complicity between public and private space in the streets of Hanoi, Vietnam. In: Proceedings of CDUD16 international conference on planning cities, the past and the future, Istanbul. <https://www.researchgate.net/project/The-production-of-plural-evolutionary-spatialities-Collusions-and-complicities-between-public-and-private-in-the-streets-of-Hanoi-Vietnam>
4. Gehl J (2001) Life between buildings. Danish Architectural Press, pp 11–14, 17, 71–75, 83–123
5. Willey H (2005) Urban open space and active recreation. Taylor and Francis, London, pp 12–74
6. Carmona M, Heath T, Oc T (2003) Public places urban spaces. Architectural Press, London, pp 96–99
7. Carmona M, de Magalhaes C, Hammond L (2008) Public space (the management dimensions). Routledge, pp 2, 6–9
8. Martínez-Bäckström N, Petrella L, Garau P (2014) Public space in the Global Agenda for sustainable urban development—The Global Public Space Toolkit. UN Habitat report, pp 17–25, 29–31, 39, 48
9. Gehl J (2010) Cities for people. Island Press, Washington DC, p 239
10. Rigolon A, Browning B, Lee K, Shin S (2018) Access to urban green space in cities of the Global South. *Urban Sci* 2:67. <https://doi.org/10.3390/urbansci12030067>
11. To K, Nakaseko A (2017) Public space as a key drive towards liveable cities for all. In: Proceedings of 2017 international conference of Asian Pacific planning societies. [https://www.academia.edu/37631446/Public\\_Space\\_as\\_a\\_Key\\_Drive\\_towards\\_Liveable\\_Cities\\_for\\_All](https://www.academia.edu/37631446/Public_Space_as_a_Key_Drive_towards_Liveable_Cities_for_All)
12. Nguyen QM, Doan TT, Ta QH, Nguyen MT, Tran MT (2019) Survey of five wards (Truong Dinh, Chuong Duong, My Dinh 1, Thuy Phuong and Sai Dong)