A STUDY OF HOUSES WITH DALANS IN ASHEQAN WA AREFAN,
KABUL CITY, AFGHANISTAN

アフガニスタン、カブール市アシュカン・ワ・アレファン地区のダーラン付き住宅の研究

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This paper aims to study the characteristics of houses with covered walkway structures known locally as *Dalan* in the Asheqan wa Arefan quarter of Kabul Old City, Afghanistan. It examines their locations, distribution, access, number of stories, plan types, space usages, and reasons for the construction and destruction of traditional *Dalans*. The house locations and their accessibility networks are drawn based on a satellite image followed by detailed field surveys conducted between 2018 and 2019. Conclusions are drawn for the conservation of *Dalans* as part of the cultural heritage in the historical landscape.

Keywords: *Dalan*, covered walkway, traditional houses, conservation, Kabul Old City, Afghanistan

ダーラン, 覆い付き通路, 伝統住宅, 保全, カブール旧市街地, アフガニスタン

1. Introduction

Kabul, the capital of Afghanistan, was once an oasis town along the ancient trade routes between Persia and China, India, and beyond. In the present Kabul, District 1 is the oldest residential area (Fig. 1). However, many historical quarters in District 1 were damaged between 1992 and 1996 due to civil wars.¹⁾ Among the quarters, the Asheqan wa Arefan quarter is the least damaged (Fig. 2).^{2),3),4)} In this quarter, traditional houses still display the way of living of old Kabulis.⁵⁾ Some traditional houses have structures called "*Dalan*" constructed over the path (Fig. 8).

There are several terms used for the covered walkway structures in the world. A common term used in European countries is *Arcade*, referring to the glass-covered passageways that connect two major streets consisting of shops and houses.⁶⁾ Meanwhile, *Suq* and *Sabat* are common terms used across Arabic-Islamic, Turkic, and Iranian countries (Fig. 3). *Suq* often refers to old covered bazaars, and *Sabat* refers to the covered structures of residential houses.⁷⁾ In Afghanistan, the local term *Dalan* is used for walkways covered with a structure built as part of a residential house.^{8),9)} In Kabul Old City, *Dalans* are considered private property and are owned by the owners of the respective houses.

There are no previous studies specifically focusing on houses with *Dalans* in Kabul. The study on the transformation of residential settlements in Kabul by Nabizada et al. (2012)¹⁰⁾ covers the Asheqan wa Arefan quarter, but only one *Dalan* is shown on the map as a covered street. Azizi et al. (2020)⁵⁾ studied traditional houses in the western part of Asheqan wa Arefan quarter and identified several types of house plans with courtyards but did not discuss *Dalans*. Outside of Kabul, Kawish et al. (2019)⁹⁾ studied traditional houses with domical vault roofs and *Dalans* in Bagh-e Dasht, Herat city.

Thus, this paper aims to clarify the characteristics of *Dalans* in the Asheqan wa

Fig. 1 Kabul and its 22 districts

Fig. 2 Site map of the study area

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Arefan quarter of Kabul Old City (Fig. 2). It examines their locations, distribution, access, the number of stories, plan types, space usages, and analysis of reasons for their construction and destruction. The house locations and their accessibility networks were drawn based on a satellite image from 2018 (Fig. 4). Field surveys were then conducted in February 2018 (western part) and July 2019 (eastern part).ⁱ⁾

2. Physical Characteristics of Houses with *Dalans*

2.1. Distribution of *Dalans*

Based on satellite images and field surveys, the locations and types of 249 houses in the Asheqan wa Arefan quarter have been indicated on the map (Fig. 4). Three types of houses are found: 1) traditional (146 or 58.6%), 2) modern (55 or 22.1%), and 3) mixed (48 or 19.3%).ⁱⁱ⁾ 35 of the 249 houses have *Dalans*. The residents of three *Dalan* houses were unavailable or declined to respond to surveys; therefore, 32 *Dalans* were studied in total (Fig. 5).ⁱⁱⁱ⁾ In addition, through the questionnaires, it was possible to identify the locations of 11 destroyed *Dalans*.

Streets are classified into main streets, sub-streets, and streets with dead-ends (Table 1). Main streets are accessible by cars and to pedestrians. Sub-streets are accessible only to pedestrians. Streets with dead-ends have one entrance/exit, accessible only to pedestrians. The number of *Dalans* on streets with dead-ends is higher (20 or 62.5%) compared to those on sub-streets (12 or 37.5%). There are no *Dalan* on the main streets, and the degree of concentration (number of units per distance) is higher on streets with dead-ends. This indicates that *Dalans* tend to be located in fairly private areas with low traffic.

There are two types of *Dalans* identified based on construction materials (Table 1): traditional (27 or 84.4%) and modern (5 or 15.6%). Traditional *Dalans* are made of local construction materials such as stone masonry, sun-dried bricks, wooden poles, and mud. Modern *Dalans* are built with industrialized construction materials such as fired bricks, steel, concrete, and cement. The fact that *Dalans* are still being built shows that they have not been reduced to historical relics. The distribution of traditional *Dalans* and modern *Dalans* differs. The traditional *Dalans* are found more on streets with dead-ends (18 or 66.7%) than on sub-streets (9 or 33.3%). On the other hand, among the five modern *Dalans*, three are found on sub-streets (60.0%) and two on streets with dead-ends (40.0%). The degree of concentration (number of units per distance) of traditional *Dalans* is higher on streets with dead-ends. The degree of concentration of modern *Dalans* is higher on sub-streets. According to the current municipality law (enforcement year: 2000, issue no. 794), building on land not authorized by the municipality is not permitted. Therefore, building over-structures above public property such as streets is illegal. Despite the regulation, modern *Dalans* are still being built after 2000.

There are three combinations of house types with *Dalan* (Table 2). Among them, traditional houses with traditional *Dalan* are the most common (23 or 71.9%). In the case of mixed houses, four out of five have traditional *Dalans* while one has a modern *Dalan*. It is assumed that the mixed houses with the traditional *Dalan* have kept their old *Dalan* during the renovation of the houses, while the house with the modern *Dalan* has had its *Dalan* newly rebuilt during the renovation. Modern houses only have modern *Dalan*.

2.2. Dimensions and usages of *Dalans*

In this study, a one-story *Dalan* refers to a roof covered walkway without any rooms above it. There are no one-story *Dalan* located in the study area. A two-story *Dalan* refers to a structure in which the first floor is a walkway and the second floor forms part of a house.^{iv)} A three-story *Dalan* refers to a structure in which the first floor is a walkway and the second and third floors form part of a house. Among the traditional *Dalans* (Table 3), the majority (21 or 77.8%) are two-storied, and the others (6 or 22.2%) are three-storied. All of the modern *Dalans* are three-storied (5 or 100.0%). The new three-story *Dalans* built with industrialized construction materials are changing traditional landscape with two-story *Dalans* constructed with traditional materials.

Fig. 3 A renovated Sabat in Yazd, Iran

Source: Keshtkaran (2011)¹¹⁾

Table 1 Distribution of *Dalans* by types

Locations	Lengths (km)	Traditional <i>Dalans</i>			Modern <i>Dalans</i>			Total	
		No. of units	Unit/1km		No. of units	Unit/1km		No. of units	Unit/1km
Main street	1.609	0	0.0%	0.0	0	0.0%	0.0	0	0.0%
Sub-street	0.841	9	33.3%	10.7	3	60.0%	3.6	12	37.5%
Dead-end	0.650	18	66.7%	27.7	2	40.0%	3.1	20	62.5%
Total	3.100	27	100.0%	8.7	5	100.0%	1.6	32	100.0%

Table 2 Combination of houses with *Dalans*

House types	<i>Dalan</i> types	Total	
Traditional	Traditional	23	71.9%
	Modern	0	0.0%
Mixed	Traditional	4	12.5%
	Modern	1	3.1%
Modern	Traditional	0	0.0%
	Modern	4	12.5%
Total		32	100.0%

Table 3 *Dalan* types and no. of stories

<i>Dalan</i> types	One-story	Two-story	Three-story	Total
Traditional	0	21	6	27
Modern	0	0	5	5
Total	0	21	11	32

The number of stories of *Dalan* and houses is analyzed in Table 4. Of the 21 traditional two-storied *Dalans*, 12 (57.1%) form parts of houses with two-stories, while nine (42.9%) form parts of houses with three stories. Of the six traditional three-storied *Dalans*, one (16.7%) forms parts of the house with two-stories and five (83.3%) form parts of houses with three-stories. Therefore, most traditional *Dalans* match the number of stories with their houses. All five modern *Dalans* have three-stories; four (80.0%) form parts of houses with three-stories, and one (20.0%) form parts of houses with four-stories. Therefore, most modern *Dalans* also match the number of stories of their houses. When the number of floors does not match between a *Dalan* and a house, the lower roof is used as a safe outdoor space.

Table 4 No. of stories of *Dalans* and houses

<i>Dalan</i> types	No. of <i>Dalan</i> stories	No. of house stories								Total	
		1	2	3	4						
Traditional	2	0	0.0%	12	57.1%	9	42.9%	0	0.0%	21	100.0%
	3	0	0.0%	1	16.7%	5	83.3%	0	0.0%	6	100.0%
Modern	2	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	3	0	0.0%	0	0.0%	4	80.0%	1	20.0%	5	100.0%
Total		0	0.0%	13	40.6%	18	56.3%	1	3.1%	32	100.0%

Fig. 4 Site map of *Dalans* in the study area

Fig. 5 Plan of 32 Dalans with houses

Three types of supports have been identified for *Dalans* (Table 5): 1) pillars only, 2) wall only, and 3) combined use of pillars and wall. On the house side, all *Dalans*, both traditional and modern, have no pillar except two *Dalans* that have both walls and pillars for reinforcement. However, on the opposite side of houses, half of traditional *Dalans* (13 or 48.1%) are supported by pillars, while all modern *Dalans* are supported by walls rather than pillars. Independent pillars are found only on the opposite side. There are several possibilities that might explain the reasoning behind using independent pillars on the opposite side. Firstly, house owners may want to create structural support for their *Dalan* by attaching beams to the walls of the house on the opposite side, in which case pillars are unnecessary. However, the residents on the opposite side may oppose modifications to their wall. Furthermore, even if the neighbours were to agree, the wall on the opposite side may not be structurally sound enough to act as a support. Thus, house owners may choose to use independent pillars on the opposite side.

The relationship between the number of stories and supports of *Dalans* is examined in Table 6. Among two-story *Dalans*, the ratio of pillar support on opposite side is more (9 or 42.9%) than that of three-story *Dalans* (4 or 36.4%). This suggests that the number of stories of *Dalan*, in other words, the structural load, is not the only factor related to the need for pillars. Taking this into consideration, other reasons for using pillars to support *Dalan* maybe lack of consensus with neighbours or the lack of structural integration of *Dalan* and the house wall.

Based on the field surveys, out of 32 *Dalans*, 20 or 62.5% are divided by the wall (150-400mm in thickness) with a door from the house, while 12 or 37.5% are not spatially divided (as shown in Fig. 5). Approximately two-thirds of *Dalans* are independent of the house functionally. Table 7 shows the number of rooms in *Dalans*. 17 or 53.1% of *Dalans* have two rooms, and 13 or 40.6% have one room. The two-room *Dalans* tend to have a larger area than the one-room *Dalans*. Table 8 shows the usage of *Dalans*. Regardless of *Dalan's* area, the most common use is the living room (23 or 71.9%). Other uses include storage, bathrooms, and a hall.^{v)}

2.3. Consideration of reasons for building *Dalans*

Most of the current residents of houses with traditional *Dalans* are not residents at the time of construction; therefore, they do not know the original purpose of the *Dalans*. There are several possible reasons for building *Dalans*.

The first is to provide protection against climate, much like an arcade or front porch. Unlike arcades, *Dalans* in the study area are not continuous. Therefore, the positional relationship between the entrance and *Dalans* is examined in Table 9.^{vi)} There are 21 or 65.6% *Dalans* with an entrance underneath and 11 or 34.4% *Dalans* without an entrance underneath. 17 or 63.0% of traditional *Dalans* and houses have their entrance underneath *Dalan*. This indicates that protection against the climate is one of the major factors to build *Dalans*. The proportion of *Dalans* with entrances underneath is higher among modern *Dalans* (4 or 80.0%) than among traditional ones (17 or 63.0%). This shows that modern *Dalans* follow the tendency that traditional *Dalans* show. The positional relationship between the entrances and *Dalans* is examined by locations in Table 10. The percentage of *Dalans* with an entrance underneath is higher on streets with dead-ends (14 or 66.7%) than those on sub-streets (7 or 33.3%). This indicates that entrances along streets with dead-ends are more protected against climate.

The second possible reason is to provide extra space for houses. The study area is densely built up, and there is limited space to add

Table 5 Types and supports of *Dalans*

<i>Dalan</i> types	House side						Total	
	Pillar		Wall		Pillar+Wall			
Traditional	0	0.0%	25	92.6%	2	7.4%	27	100.0%
Modern	0	0.0%	5	100.0%	0	0.0%	5	100.0%
Total	0	0.0%	30	93.8%	2	6.2%	32	100.0%
<i>Dalan</i> types	Opposite side						Total	
	Pillar		Wall		Pillar+Wall			
Traditional	13	48.1%	14	51.9%	0	0.0%	27	100.0%
Modern	0	0.0%	5	100.0%	0	0.0%	5	100.0%
Total	13	40.6%	19	59.4%	0	0.0%	32	100.0%

Table 6 No. of stories and supports of *Dalans*

No. of <i>Dalan</i> stories	House side						Total	
	Pillar		Wall		Pillar+Wall			
Two-story	0	0.0%	19	90.5%	2	9.5%	21	100.0%
Three-story	0	0.0%	11	100.0%	0	0.0%	11	100.0%
Total	0	0.0%	30	93.8%	2	6.2%	32	100.0%
No. of <i>Dalan</i> stories	Opposite side						Total	
	Pillar		Wall		Pillar+Wall			
Two-story	9	42.9%	12	57.1%	0	0.0%	21	100.0%
Three-story	4	36.4%	7	63.6%	0	0.0%	11	100.0%
Total	13	40.6%	19	59.4%	0	0.0%	32	100.0%

Table 7 Floor areas and no. of rooms of *Dalans*

<i>Dalan</i> areas (m ²)	1 room		2 rooms		3 rooms		4 rooms		Total	
0-9	5	83.3%	1	16.7%	0	0.0%	0	0.0%	6	100.0%
10-19	7	46.7%	8	53.3%	0	0.0%	0	0.0%	15	100.0%
20-29	1	20.0%	4	80.0%	0	0.0%	0	0.0%	5	100.0%
30-39	0	0.0%	4	66.7%	1	16.7%	1	16.7%	6	100.0%
Total	13	40.6%	17	53.1%	1	3.1%	1	3.1%	32	100.0%

Table 8 Floor areas and usages of *Dalans*

<i>Dalan</i> areas (m ²)	L/L+		S/S+		B/B+		H/H+		Total	
0-9	2	8.7%	2	40.0%	2	66.7%	0	0.0%	6	18.8%
10-19	11	47.8%	2	40.0%	1	33.3%	1	100.0%	15	46.9%
20-29	4	17.4%	1	20.0%	0	0.0%	0	0.0%	5	15.6%
30-39	6	26.1%	0	0.0%	0	0.0%	0	0.0%	6	18.8%
Total	23	100.0%	5	100.0%	3	100.0%	1	100.0%	32	100.0%
L: Living room L+: Living room + other S: Storage S+: Storage + other B: Bathroom B+: Bathroom + other H: Hall H+: Hall + other Other: Storage / Bathroom / Hall										
										How to read: for example, L+ means a large area is used as a living room and small area is used for other.

Table 9 *Dalan* types and entrances of houses

<i>Dalan</i> types	Underneath <i>Dalans</i>		Not underneath <i>Dalans</i>		Total	
Traditional	17	63.0%	10	37.0%	27	100.0%
Modern	4	80.0%	1	20.0%	5	100.0%
Total	21	65.6%	11	34.4%	32	100.0%

Table 10 Location of *Dalans* and entrances of houses

Locations	Underneath <i>Dalans</i>		Not underneath <i>Dalans</i>		Total	
Main street	0	0.0%	0	0.0%	0	0.0%
Sub-street	7	58.3%	5	41.7%	12	100.0%
Dead-end	14	70.0%	6	30.0%	20	100.0%
Total	21	65.6%	11	34.4%	32	100.0%

buildings on the site. Therefore, whether the residents are constructing *Dalans* above the street due to lack of space is examined. In the study area, the outer walls of the building often form the boundary of the site, leaving no room between the building and the boundary. There is no open space found around the house, such as a garden or a backyard, with the exception of a courtyard. Therefore, the lot area is determined by the area of the house and the area of the courtyard. The courtyard is one of the features of traditional houses in the study area⁵⁾ and important space for natural light, air circulation, and maintaining privacy¹²⁾. Some houses on large sites have small structures in the courtyard (Fig. 5).

The possibility of expansion of space within the courtyard is examined in Table 11. The number of houses that can add a structure of the same area as their *Dalans* in the courtyard is slightly higher (18 or 56.2%) compared to those without such possibilities (14 or 43.8%). However, this depends on the size of the site area. Among the houses with small site area (under 99 m²), two-thirds of houses (12 or 66.7%) are unable to build a room within the courtyard. Therefore, for small houses, expansion of space may be a reason to build *Dalans*. Among houses with site areas over 100 m², the majority of houses (12 or 85.7%) are able to build a structure of the same area as *Dalan* in the courtyard. For larger houses, it is not necessary to build above the streets.

The correlation coefficient between the area of *Dalans* and the floor area of the houses (Fig. 6) shows a very low value of -0.07. Thus, there is no relationship between the area of *Dalans* and the floor area of the houses. This indicates that *Dalans* are constructed regardless of the size of the site. In other words, the reason for the construction of *Dalans* cannot be explained only by space limitation. Therefore, there may be other reasons for building *Dalans*.

Another possible reason is security. For example, in the ancient fortified village of Castro in Greece, a network of bridges, ramparts, and alleyways was constructed to defend the town against invaders who might have penetrated the perimeter walls.¹³⁾ The structures built on the streets in Castro are similar to *Dalans*.

The positional relationship between the entrances and *Dalans* is examined by usage in Table 12. It is found that when entrances are located underneath *Dalans*, the *Dalans* are mostly used as living rooms. When entrances are not underneath *Dalans*, *Dalans* are more often used as storage. If the *Dalan* is used as a living room, visitors can be seen from the upper floor. However, it may be possible that the usage has been changed over time. Therefore, the usage cannot directly explain the reason for building *Dalans*.

In addition, some *Dalans* have parapets with small openings facing streets in the study area (Fig. 7).^{vii)} These could have been used as crenellation for defense purposes. But such details are found only in few and their function may be just openings for women to view the street while keeping their privacy as seen in other Islamic cities.

Perhaps *Dalans* have been built for multiple purposes. However, modern *Dalans* seem to have been built to add extra space for house sites. In addition, this analysis is based only on the existing *Dalans*. In this regard, more examination of historical literature is needed to understand the role of *Dalans*.

3. Case Study: Mr. Haji Karim House

Mr. Haji Karim (38 years old) is the owner of a traditional house with a traditional *Dalan* (Fig. 8). He has been living in this house since 2007 along with his nine family members. Therefore, the exact age of the house is unknown. The entrance of the house is located on a street with a dead-end. The house has two living floors with a ceiling height of 2.3 meters for each floor. Local construction materials have been used to build the house. The exterior walls of the house are built using stone masonry foundation, sun-dried bricks (*Khesht-e Kham*), and mud supported by wooden frames and covered by a mud-straw plaster. The interior walls are covered with fine mud plaster (*Simgil*) and then painted with several colors such as pink, white, and cream.

The first floor of *Dalan*, a walkway, is supported by wooden pillars on one side and stone masonry foundation and sun-dried brick walls

Table 11 Possibility of expansion of space within courtyards

Lot areas (m ²)	Possible		Not possible		Total	
0-99	6	33.3%	12	66.7%	18	100.0%
100-199	8	80.0%	2	20.0%	10	100.0%
200-299	3	100.0%	0	0.0%	3	100.0%
300-399	0	0.0%	0	0.0%	0	0.0%
400-499	0	0.0%	0	0.0%	0	0.0%
500-599	1	100.0%	0	0.0%	1	100.0%
Total	18	56.2%	14	43.8%	32	100.0%

Fig. 6 Correlation of coefficient area of *Dalans* and floor area of houses

Table 12 Location of *Dalans* and entrances of houses by usage of *Dalans*

Entrances	L/L+		S/S+		B/B+		H/H+		Total	
Underneath <i>Dalans</i>	19	90.5%	1	4.8%	1	4.8%	0	0.0%	21	100.0%
Not underneath <i>Dalans</i>	4	36.4%	4	36.4%	2	18.2%	1	9.1%	11	100.0%
Total	23	71.9%	5	15.6%	3	9.4%	1	3.1%	32	100.0%
L: Living room L+: Living room + other S: Storage S+: Storage + other B: Bathroom B+: Bathroom + other H: Hall H+: Hall + other Other: Storage / Bathroom / Hall										
How to read: for example, L+ means a large area is used as living room and small area is used for other.										

Fig. 7 Opening of *Dalan*

of the house on the other. The second floor is constructed with sun-dried brick walls. Currently, the second floor of *Dalan* is used as storage (*Pas Khana*) and as a kitchen (*Ashpaz Khana*).

The small basement (height of 1.8 meters) under the living room is empty and unused due to rainwater from the courtyard. On the first floor, the entrance is covered by *Dalan* and leads to the courtyard (*Haweli*). The living room (*Otaq Nisheman*) on the first floor is on the north side, with three wooden windows (*Se Dana Orsi*) facing the courtyard. This room is currently unused due to deterioration. On the second floor, there is a guest room (*Mihman Khana*) and a living room (*Otaq Nisheman*).

On the rooftop, there is a small toilet (*Badraft*) at the corner (northeast). The rooftop (*Takht Bam*) is used for washing clothes during winters and sleeping during hot summers. There is an opening in the parapet wall of the rooftop of *Dalan*, which allows residents to observe the street from above.

- Notes:
- 1) Indicated number for this house is ② in Fig. 4.
  - 2) All dimensions are in millimeters.

Photo of Dalan

Fig. 8 Mr. Haji Karim house

4. Destroyed Dalans

The questionnaire survey of residents provided information on the 11 *Dalans* destroyed in the study area (Table 13). The distribution of destroyed *Dalans* is found on streets of all levels. In particular, three *Dalans* have been destroyed on main streets, where no *Dalans* are currently seen. Eight *Dalans* (72.7%) were destroyed due to disasters; three (27.3%) were destroyed due to house reconstruction.

The destruction of *Dalans* by disasters dated from the late 1990s to the 2010s.

Earthquakes and rain/flood have been the most dominant disasters (three each). It indicates that some traditional *Dalans* have been

Table 13 Reasons for destruction of Dalans

Locations		Reconstructions				Disasters								Total	
		Built modern house		Improved		Earthquake		Rain/Flood		Fire		War			
Main street	No.	1	50.0%	1	100.0%	1	33.3%	0	0.0%	0	0.0%	0	0.0%	3	27.3%
	Year	2014		2012		2009									
Sub-street	No.	1	50.0%	0	0.0%	2	66.7%	1	33.3%	1	100.0%	0	0.0%	5	45.4%
	Year	2004				2002, 2016		2004		1998					
Dead-end	No.	0	0.0%	0	0.0%	0	0.0%	2	66.7%	0	0.0%	1	100.0%	3	27.3%
	Year							2008, 2014				1994			
Total		2	100.0%	1	100.0%	3	100.0%	3	100.0%	1	100.0%	1	100.0%	11	100.0%
		3 (27.3%)				8 (72.7%)									
Note: Destroyed <i>Dalans</i> are indicated as ③ ④ ⑬ ⑰ ㉒ ㉑ ㉓ ㉔ ㉕ in Fig. 4.															

deteriorating and are in poor condition. The destruction of *Dalans* due to house reconstruction began in the early 2000s. Based on the findings, the destruction of *Dalan* due to reconstruction only happened along main streets and sub-streets, not on streets with dead-ends. This shows that the demand for redevelopment is stronger in locations with good access.

5. Conclusion

The purpose of this study has been to investigate the characteristics of *Dalans* in the Asheqan wa Arefan quarter. Presently, there are more *Dalans* on streets with dead-ends. There are no *Dalan* on main streets today, but some existed until recently. This is partly due to the demand for redevelopment in locations with good access. There are two types of *Dalans* found in the study area: traditional and modern. The degree of concentration (number of units per distance) of traditional *Dalans* is higher on streets with dead-ends. The degree of concentration of modern *Dalans* is higher on sub-streets. Among traditional *Dalans*, the majority have two-stories. In contrast, all of the modern *Dalans* have three-stories. The new three-story *Dalans* built with industrialized construction materials are changing the historical landscape with traditional two-story *Dalans* constructed with traditional materials. There are several possible reasons for building *Dalans*: climate, space limitation of the sites, and security being among them. In addition, one of the characteristics of *Dalans* in the Asheqan wa Arefan quarter is that there are cases where pillars are used as support due to structural reinforcement or lack of consensus between neighbouring residents. Further investigation of historical literature is necessary to understand the reasons for building *Dalans*.

Finally, whether or not *Dalans* should be conserved is a critical issue. *Dalans* are illegal structures on the public land under current municipality law and cannot formally be constructed today. It is also clear that in the event of a fire, *Dalan* interferes with fire fighting activity. In addition, the *Dalans* are not in good condition, and many are in need of repairs. A large number of *Dalans* have been removed in recent years because of a lack of durability. However, it is important to note that *Dalans* are part of the historical landscape from the past and are irreplaceable. The historical landscape with *Dalans* in the Asheqan wa Arefan quarter is unique within Kabul, as much of the historical landscape has been lost due to the long civil war. Under such circumstances, conservation of the remaining *Dalans* in the quarter is critical for the future of the cultural heritage of Afghanistan. An additional study, including deteriorating conditions of traditional houses and *Dalans* is needed to learn how to effectively conserve the area and raise awareness of their historical value among residents.

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Notes

- i) In the first survey, Mr. Atta Mohammad, the 72-year-old representative of *Gozar* (community) helped us to collect data in the western part of the Asheqan wa Arefan. In the second survey, the Ministry of Interior- District 1's Kabul Police (*Hawzi Awal Police Kabul*) assisted the study in the eastern part.
- ii) There are three types of houses found based on construction materials: 1) traditional, 2) modern, and 3) mixed. Traditional houses are built of local construction materials such as stone masonry, sun-dried bricks, wooden poles, and mud. Modern houses are built with industrialized construction materials such as fired bricks, steel, concrete, and cement. Mixed houses are a combination of traditional houses and modern houses (partially).
- iii) There were two traditional houses with *Dalans* that were locked and no residents were living. One house owner of traditional house with *Dalan* refused the survey and allowed neither photographs nor the questionnaires.
- iv) The term house stands for a built-up structure located inside of a lot excluding *Dalan*.
- v) Room terms used in this paper have a different meaning. Living rooms are used for all-day activities, including living, eating, and sleeping. Halls are used as a circulation room to enter/exit yards, basements, living rooms, dining rooms, storages, kitchen, bathroom, and toilet.
- vi) The term entrance is used for the main door located on the ground floor.
- vii) Based on the observations, four traditional *Dalans* (No. 2, 18, 20, and 39 indicated in Fig. 4) have similar openings in their parapet wall facing streets.

Summary in Japanese

本研究は、アフガニスタンのカブール旧市街地のアシュカン・ワ・アレファン地区を対象として、ダーラーン（住宅の一部である構造物が上部を覆っている通路）を備えた住宅の特徴を明らかにすることを目的としている。まず、衛星写真を用いてベースマップを作成した上で、2018年から2019年にかけて現地調査を行なった。ベースマップと現地調査により、ダーラーンの分布傾向、規模、平面形状、および利用状況などを把握し、分析を行なった。さらに聞き取り調査により、ダーラーンを撤去した理由などを調査した。最後に、歴史的景観としてのダーラーンの重要性を指摘し、その保全の必要性を述べている。

Summary in English

This paper aims to study the characteristics of houses with covered walkway structures locally called *Dalan* in the Asheqan wa Arefan quarter of Kabul Old City, Afghanistan. It examines their locations, distribution, access, the number of stories, plan types, space usages, and analysis of reasons for their construction and destruction. The house locations and their accessibility networks are indicated based on a satellite image followed by detailed field surveys conducted between 2018 and 2019. Conclusions are drawn for the conservation of *Dalans* as part of cultural heritage in the historical landscape.

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