

ASSESSMENT OF ACCESSIBILITY IN APARTMENT MIXED-USE HOUSING -IN THE CASE OF KABUL –

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Abstract—This paper studies the types of accessibility in commercial and residential apartment mixed-use housing in a typical site of Kabul city. This paper mainly focuses on the challenges and problems which are caused by different types of access. The result show and confirm that considerable number of mixed-use apartments have a shared access space between residential and commercial users. Additionally, it unveiled that the users of commercial caused the privacy problems in current built environment.

Index Terms—Mixed-use Housing, Kabul, Access, Privacy, Space.

I. INTRODUCTION

The ‘Capital City’ Kabul is the financial and political center and largest city of the country (MUDA, 2015). Thus the population in the capital is increasing rapidly. The people are seeking shelter. As a result, the city has faced huge urban problems in both formal and informal sectors. In the formal area, the houses are built with less attention to the cultural and physical needs of the people. In other words, in many parts of Kabul city residential neighborhood, landowners to get more income from their houses, they built commercial spaces for rent purpose and it is a type of financial support for the owner, to make their investment because building and construction cost a considerable amount of budget (Hashemi and Ogura, 2019).

In most of the mixed-use houses, the owners pay more attention to the commercial spaces for instances, selecting the excellent building location for shops which can harm the residential areas. Among other problems, one of the dominant issues is the accessibility of the residential units. Allocation of the main door in the side of a building which all commercial activities are activating is a common problem in these apartments. The religious belief and the cultural values of people are the essential attributes to be considered in the design. If it has paid less attention, the users of that product will not use it sufficiently and will be discomfort as long as it is used. There the design will not be sustainable. The definition of sustainability in Potangaroa words “ it has the promise of doing something today, which will support

tomorrow’s generation. The planners and architects should pay more attention to the designing of these houses as they are making the law for the user of space for a long time. If the space has a problem, it means that generation by generation will use that building and faced that problem. The findings indicate that by changing the main gate and locate its proper place can bring privacy, safety, and comfort to the users of the buildings.

II. RESEARCH OBJECTIVE

An objective of the study is to investigate the impacts of the commercial spaces in apartment mixed-use housing. The residents of these buildings with the Islamic religious believes have their thoughts and values. It should be considered very well specifically the segregation of male and female. Another objective of this study is to find the level of satisfaction of the users and their suggest based on the problems and which they have faced regarding the accessibility.

III. DATA, MATERIALS, AND METHOD

The primary data of this paper is based on the field survey. The paper presents the results of investigations conducted in eighty-five commercial and residential mixed-use apartments in Kabul City (Fig. 1). The survey was conducted in the year 2018. For finding the resident satisfaction, a post-occupancy evaluation has done. The study area is Khair Khana which is located in the northwest part of the city center with eight kilometers distance. The apartment type housing which is a symbol of modern life in the city has built recently. Khair Khana is the first residential area with a regular net of circulation designed by the government in early 1968-70s (Nabizada and Kita, 2012). In the field survey besides POE, the physical measurement, photography, and observation of the actual site situation have carried out. The secondary data is based on the literature review of the recent researches which has conducted in the Kabul city regarding the issue and semi-structured interview with the government and city officials.



Fig. 1. The study area in the Khair Khana, in the northwest part of the Kabul city. Source: Courtesy of Google Maps 201, drawn by author

IV. PREVIOUS RESEARCHES

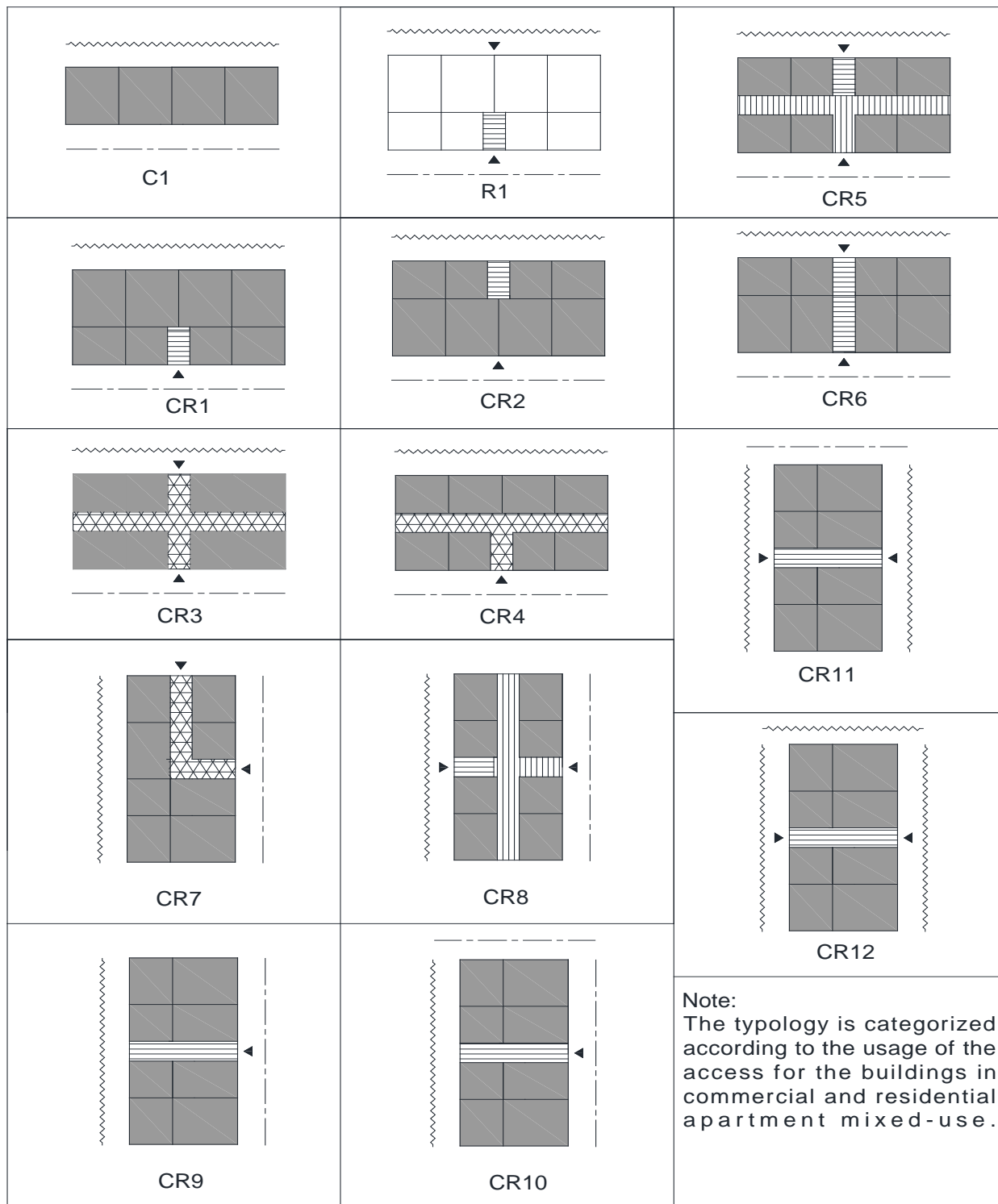
After decades of war in Afghanistan, the year 2001 was a significant event in the recent history of Afghanistan. As a result of the war, most of the infrastructure in Afghanistan has damaged. Thus, there are few pieces of research which

conducted in Afghanistan. The dominant instances are as follows: Habib studied the matter of urban cohesiveness in Kabul city. He focused on urban segregation based on ideology, ethnicity, and socio-economic class. In Habib words “This segregation can be hazardous both to the current and future stability and sustainability of the urban development, There is a lesson to be learned so that a future appropriate cohesiveness is achieved through ethnic, religious and lifestyle diversity.” The other study is performed by Nabizada and Kita on the relationship between the spatial structure of open spaces and outdoor activities in the typical residential areas in Kabul. They selected four residential areas (historical, sprawled, planned and New Township) for the investigation. These analyses of authors indicate that the lack of private outdoor space in the New Township has influenced the residents’ cultural beliefs in the area, as a result, in contrast to the other three studied areas, people of all age and genders use the spaces in the New Township.

In the global context, Matsushita et al. have studied the multiethnic neighbor network in a mixed-use building in Wanchai, Hong Kong. They have focused on neighbor interaction inside the mixed-use building. They concluded that the neighbor network structure is related to the mixed-use built environment in associated with the flat location, flat usage, and occupant’s attributes in regards to ethnicity and duration of stay. Additionally, Hashemi and Ogura have studied the commercial and residential mixed-use housing in Kabul. They considered the mixed-use housing from environmental aspects. They concluded that lack of government regulations and expert architects caused that these houses are built with less consideration for the parking area. The same author has studied the emergence of mixed-use housing in Kabul city. Based on the literature review, each has a different endeavor from this study. The impact of commercial activities in mixed-use housing has been given little attention. Therefore this study as a new endeavor focusing on accessibility of mixed-use housing.

V. CONTEXT OF RESEARCH AREA

Khair Khana has three main phases; First Part, Second Part, and Third Part. These mixed-use apartments are located in the first part of Khair Khana. Most of the apartment are mixed-use which the shops and commercial activities are done in the first floor and basement. Based on the survey it has unveiled that most of these commercial activities have an impact on mixed-use housing mostly negative. The apartments are more than three stories, and most of them are five stories. In a few cases, some of the commercial activities are located in upper levels of the apartment. In this case, the offices are activating in the upper levels such as construction companies offices and consultants office. Most of the apartment are built before 2001, but some of them has built after 2001 more than five stories.



- No Commercial Space
- Commercial Space, such as shops
- The entrance corridor is used by both commercial and residential users
- The entrance corridor is used only by residential users
- The entrance corridor is used only by commercial users
- The backside of the apartment
- The front view of building, street side
- The access to apartment
- N

Fig. 2. The types of access gates in the commercial and residential apartment mixed-use

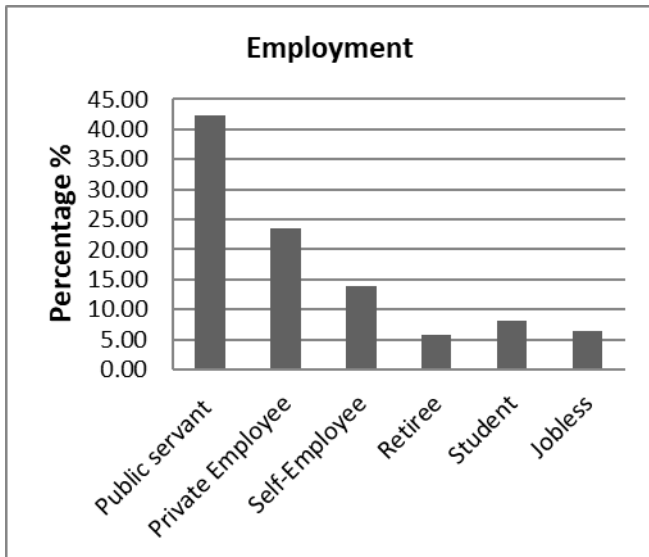


Fig.3. Overview of interviewees' demographics, employment

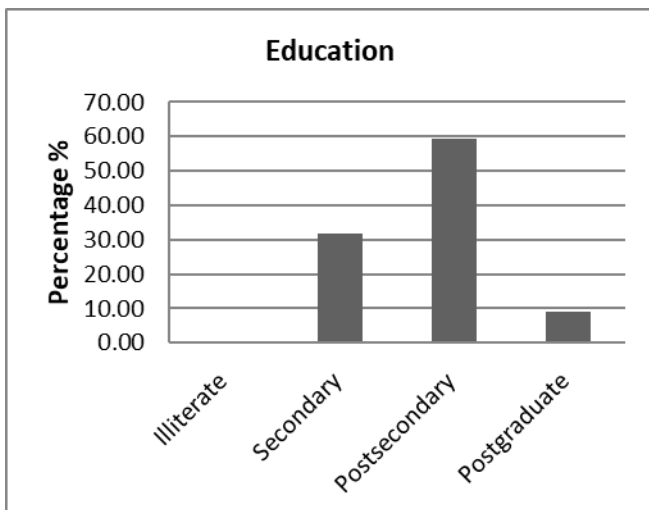


Fig.4. Overview of interviewees' demographics, education

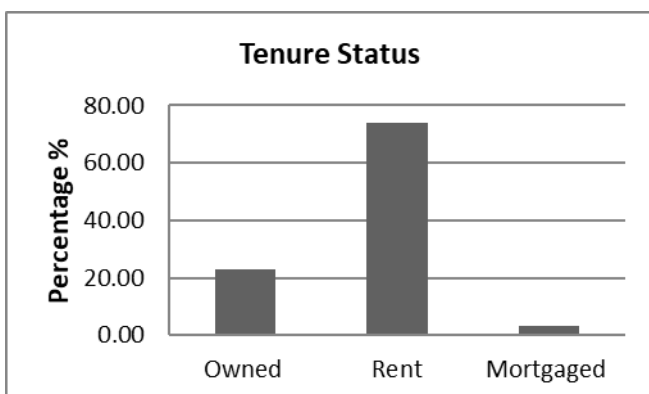


Fig.5. Residents tenure status

VI. TYPES OF ENTRANCE IN APARTMENT MIXED-USE

In most apartments in the study area, the access gate for the residential units are used by commercial users. The shops and other commercial spaces such as office are located on the first floor, and the first floor has the same corridor. The women who live in the upper units of apartments are passing the passage which is a shared space for all user of the commercial spaces. According to the cultural values, the segregation between men and women are a significant matter for Muslims. Based on the survey (Fig. 3-5) these are the type of entrance gate in the study area as follow:

1. C1: Type of building which has only commercial spaces. The entrance gate and corridor is used only by commercial spaces users. These buildings have one or more than one stories which have shops and offices.
2. R1: A residential apartment which has only residential units and the entrance gate is used only by residents.
3. CR1: Commercial and residential mixed-use building which has a corridor and the corridor and the entrance is only for residential residents. The entrance is located on the street side, and the street side has the users of shops.
4. CR2: Type of mixed-use building which has a separate corridor in the back side of the building.
5. CR3: This type of mixed-use building has entrance gate in both street and back sides of the building. The corridor is used for accessibility of both functions.
6. CR4: Type of mixed-use building which has one entrance gate on the street side of the building. The corridor is used for both commercial and residential users.
7. CR5: Type of mixed-use building which had the same corridor. The corridor was connected street and back side of building in the past. But currently, the users have separated the corridor by a partition in order to have more privacy for residential units.
8. CR6: Type of mixed-use building which has two gates in both side of the building and used only by residents.
9. CR7: Type of mixed-use building which has two gates and used by both users. The orientation of the gates is different.
10. CR8: Type of mixed-use building in which a temporary partition separates the corridor.
11. CR9: Type of mixed-use apartment which has two entrances and used only by residential residents.

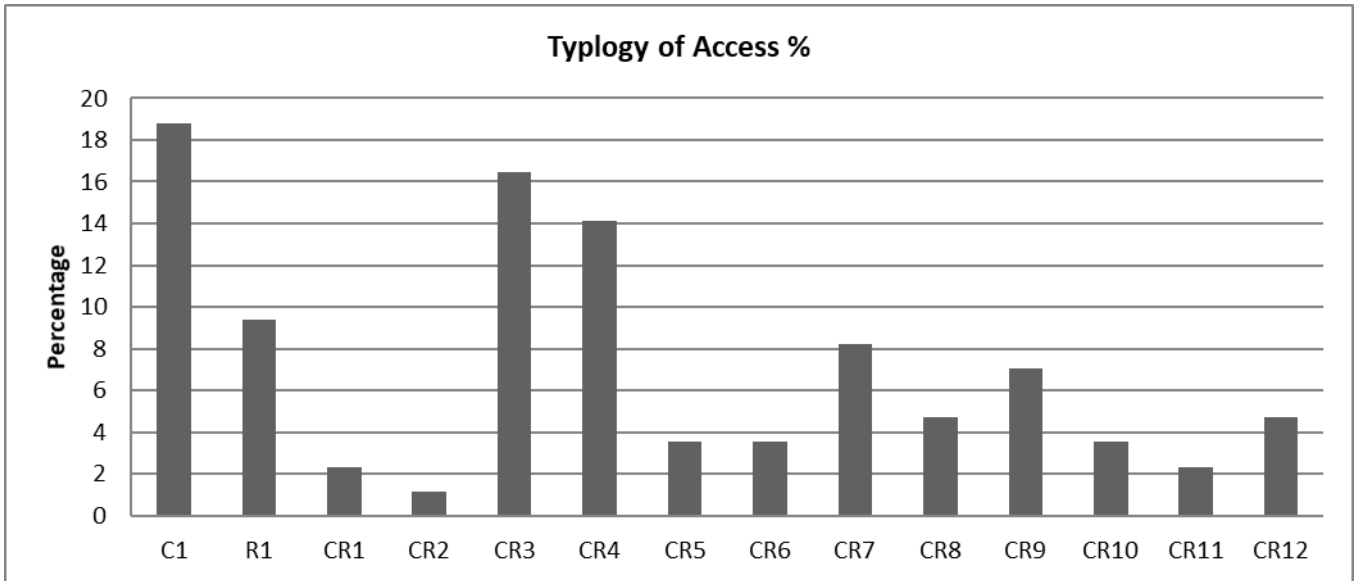


Fig. 6. The typology of mixed-use percentage based on types of access gates.

12. CR10: Type of mixed-use apartment with two entrances. It has access to the street by two sides of the building.
13. CR11: Type of mixed-use apartment which has two entrances and the entrance are located in the landscape side of the building.
14. CR12: The only type of mixed-use building which has no view to the street and used only by residential residents.

The diagrams for a typology of accessibility (Fig.2.) are drawn, and the usage of corridor space is shown.

VII. RESULTS AND DISCUSSIONS

The typology of mixed-use apartments has a direct relation to the privacy and security of the building. Based on the survey it is found the most of these apartments have a shared corridor which is used by both residential and commercial users. The type C1 has nearly nineteen percent of total apartments. The users of these buildings have an impact on semi-public spaces of residential apartments. Type R1 with none percent of the total number of the apartment has corridors with more privacy and security. The owners of these apartments quit the commercial shops and commercial spaces. They preferred to rent only the units for residential purposes. Type CR1 has the access in the street side of the building. Although this access is used just for residential, the users are not feeling privacy. The main reason is that the families have to cross from the front of the commercial shops and spaces. Type CR2 is better than CR1 because the entrance is allocated in the back side of the building which has more privacy for the crossing of families. The other significant mater is the car parking in backside of apartments. Usually, in the case of the street-side entrance, the cars do not designate the area for parking.

On the other hand the backside entrance at least it has area for car parking. Both CR1 and CR2 has three percent of total apartments. The types CR3, CR4, and CR7, have shared access. The problems in these types of apartments are serious. The users of commercial spaces which are all stranger and come from outside are not proper for using the same corridor that is used by residents of upper residential units. The significant number of buildings have such a shared passage with commercial spaces. As per interview, most families have a concern regarding the security and privacy while crossing from these spaces. The other problem is for children, and their families will not be allowed them to go for playing in the backside of the building. The three types which have shared corridor it has a considerable percentage with nearly forty percent of total apartments. CR5 with almost four percent of the overall building recently made a partition to separate the commercial and residential spaces. The barrier is a temporary structure. By this small change, it brings not only privacy and more security for families but also a safe space for children. The families felt safe and allowed their children for getting the benefit of playing in open spaces in the back side of the building. CR6 with two entrances from the front and back side of the building which used only by residents of residential units. Although in the case of two entries from two sides some non-residents use the corridor.

CR7-CR12 are types of commercial and residential mixed-use buildings which are oriented north-south. CR7 with two access has L-shape and used by both users. The north-south oriented structures are allocated with distance from the main street, but a secondary street is built. CR8 and CR5 have the same situation, but the CR8 with orientation has a different result. CR9 with seven percent of total buildings has one entrance gate. The CR10 has two side

street access, and three sides of the building have the shops with their entrances. CR11 and CR 12 have differences on the location of the building and its relation to the street or back side of the building.

VIII. CONCLUSION

In this paper, the accessibility of mixed-use buildings has studied. This paper clarifies the types of access entrance of the commercial and residential mixed-use building in a typical modern site of housing in Kabul city. It is found that commercial and residential mixed-use buildings divided into twelve types according to the usage of the entrance. Most of the building has central access on the street side of the building, and it is used by users of both commercial and residential residents. It is found that the usage of the same access by commercial users and clients harm the security and privacy of the residential users. It is a lesson to be learned that a small change in space design can bring security and privacy to the residents. CR5 and CR8 are types of mixed-use apartments which a temporary partition is built to separate the commercial and residential access. As result they residents are more satisfied. The females and children are the most affected people in a situation that, the building has shared entrance and corridor. Designing and allocating the access in the backside of the building will improve the privacy and security of the residents.

REFERENCES

- [1] Hashemi and Ogura, Types of Commercial Activities and Their Impact on Mixed-use Housing: in the Case of Khair-Khana Kabul City, ISAIA 12th, Pages 510-513, 2018
- [2] Hashemi and Ogura, Development of Mixed-use Housing in Kabul City. AIJ, Kyushu Chapter Architectural Research Meeting. Vol. 57, 133-136, 2018
- [3] Matsushita et al., Multi-ethnic neighbor network in mixed-use building in Wanchai, Hong Kong, J. Archit. Plann., No. 607, 1-7, Sep 2006
- [4] Potangaroa, Sustainability by design: the challenges of shelter in post disaster reconstruction, Procedia-Social and Behavioral Sciences 179, pp. 212-221, 2015
- [5] Nabizada and Kita, A study on The Process and Mechanism of Transformation in Settlements in Kabul city: The relationship between the typology of spatial structure and residents demands, AIJ Vol. 77 No. 681, Pages 2533-2543, 2012.
- [6] Nazire and Kita, Specifying Characteristics of Informal Settlements by Comparing Four Areas from the Aspects of Houses, Land Tenure and Social Factors in Kabul Afghanistan, AIJ Vol.81 No.728, Pages 2197-2205, 2016.
- [7] Nabizada and Kita, A Study on the Relationship between the Spatial Structure of Open Spaces and Outdoor Activities in the Typical Residential Areas in Kabul City, AIJ Vol. 78 No. 686, Pages 817-827, 2013.
- [8] Habib, J., Urban Cohesiveness in Kabul City: Challenges and Threats. International Journal of Environmental Studies, Vol. 68, No.3, 363-371, 2011
- [9] Japan International Cooperation Agency (JICA), Draft of Kabul City Master Plan, RECS., 2011
- [10] Ministry of Urban Development Affairs. (2015), State of Afghan Cities. Vol-1, 1-156
- [11] Hashemi, N.A. and Ogura, N. (2018), Development of Mixed-use Housing in Kabul City. AIJ, Kyushu Chapter Architectural Research Meeting. Vol. 57, 133-136
- [12] Bashir.A.K. and Najimi, A.W. (2017), Analyses of Urban Regeneration and Architectural Heritage Saving in Kabul since 2001. International Journal of Heritage Architecture, Vol.1, No. 4, 671-682
- [13] Kabila Faris Hmood, "Traditional Markets in Islamic Architecture: Successful Past Experience," WIT Transactions on the Built Environment, Vol 171, pp. 263-272, 2017.