



A SUGGESTION TO EVALUATION OF CIVIL ARCHITECTURE: BALIKESIR EXAMPLE

Fatih SEMERCİ^{*1}, Elif BÜLÜÇ²

^{*1,2} Architecture, Nec. Erb.Üni.,Konya/Turkey

Abstract:

Cities that reflect the characteristics of the era they have existed in have identities they possess that are created through social values and environmental data. One of the important factors in the formation of the identities of cities is buildings bearing historical heritage. The preservation and revitalization of these buildings bearing traces of the past is important for ensuring cultural continuity. Aim: These evaluation studies, which are essential in the context of conservation plans, are inevitable phases to determine the principles of the plans. Method: This study is aimed to propose a method for the architectural spatial and facade evaluation phase, which is essential before conservation decisions. The proposed method is based on a gradation system. Center district Balıkesir/Turkey is determined as the area to test this method. Result: It is proposed that this method explains the systematic way for evaluating architectural features belonging to historic sites whose conservation plans are to be prepared. In the study, traditional buildings are evaluated from the point of their exterior and interior architectural characteristics and classified as different value groups: A, B, C and D. This grouping will be advantageous to conservation decisions. Different technical teams may be organized to be responsible for these various value groups. Conclusion: a different approach for conservation in architecture. This will ensure accurate determination of programmatic work and cost estimates.

Keywords: Balıkesir Houses; Historical Buildings; Civil Architecture Examples; Spatial Quality.

Cite This Article: Fatih SEMERCİ, and Elif BÜLÜÇ. (2017). "A SUGGESTION TO EVALUATION OF CIVIL ARCHITECTURE: BALIKESIR EXAMPLE." *International Journal of Engineering Technologies and Management Research*, 4(10), 1-14. DOI: 10.5281/zenodo.1040722.

1. Introduction

Historical environments are products that carry the traces of the past and reflect the lifestyle and culture of that period. Buildings in historic surroundings reflect the architectural identity of their period with their architectural styles, spatial designs, and construction techniques [1].

The preservation and sustainability of historical sites also contribute to the preservation of the identity of that city. It is much more intriguing to see a village settlement that has survived from the past, or architectural elements such as doors, cabinets, stoves, windows, ceilings and

pavilions that are components of a city in their original place and state, and to understand the completeness of the surroundings [2].

Historical environments gain importance as long as they are able to adapt to today's conditions with their cultural identities they have laid out as a result of the changes they have experienced in the course of time, and as they maintain these identities [3]. Historical and cultural spaces are disappearing as a result of changing social and economic life, rapid population growth, urbanization and technological developments. Historical spaces and their immediate surroundings that become functionally and physically obsolete with the changes that are happening need to be preserved in order to prevent their disappearance and destruction.

A city gains value with its architecture [4]. However, not taking into account the cultural values and social structure in conservation decisions brings with it significant problems. The deterioration/destruction of historical textures that have formed as a result of centuries of cultural accumulation will cause the traces of the past to be erased. This in turn will make it difficult to transfer culture and identity to the future, and will make the negative transformation of the identity of the city inevitable. This study is aimed to help determine the authenticity values of historical environments.

The aim of this study is to determine the architectural values of the traditional historical Balıkesir/Turkey houses located in Dumlupınar District of Balıkesir Province, evaluate their authenticity, and present their current state. With the method used, it is aimed to indicate the degree of conservation of registered structures at Kazım Karabekir Avenue that reflect the traditional texture. As a result of years of urban development and growth, the traditional urban texture gradually became a depressed area, leading to the dilapidation of historical buildings. With this study, the evaluation of the dilapidated urban texture was done.

2. Materials and Methods

During this study, the conceptual infrastructure was created through the works of Sedat Hakkı Eldem's "Turkish House", Cengiz Bektaş's "Turkish House", Celal Esat Arseven's "Art Encyclopedia" and Turgut Cansever's "House and City".

Kazım Karabekir Avenue, where traditional Balıkesir houses are located in Dumlupınar District of Balıkesir city, was chosen as the study area. This area is the first settlement of Balıkesir. 30 of the 45 civil architectural examples in the city center being located in this area was one of the factors for site selection. The interior and exterior architectural characteristics of the selected examples of civil architecture were examined and evaluated.

Within the scope of the study, internal and external evaluation of Balıkesir Houses was carried out in order to show the extent to which historical values have been preserved or changed. As a result of the evaluation, a grouping scheme from A to D was created. Buildings showing a good example of preservation were in group A, while the worst performing buildings entered group D. This study is an important evaluation for preserving Balıkesir's original identity and to raise awareness of urban users.

3. Conceptual Infrastructure

Historical textures that cities have are important in terms of reflecting past lifestyles, spatial characteristics, socio-economic and cultural values. The fast but negative changes of historical environments, which have an important place in terms of the readability and perceptibility of living spaces, and which share a common language and therefore are familiar and known environments, and historical environments facing extinction, make them more and more difficult to be perceived as a whole [5]. These historical environments, which are disappearing as a result of changes that happen, need to be carried to the future. In addition to the social responsibility during the evaluation and conservation of monuments, many cultural, economic, and social benefits are also provided to the society [6]. Monuments must be preserved in order for historical continuity to persevere, and to give individuals and societies an awareness of history. The environment they live in must be able to make the traces of the past reach the individuals [7]. While laying the foundations of today and tomorrow, it is our social duty to integrate our historical values with today's architecture through a modern interpretation without forgetting them [8].

Traditional Anatolian houses are accommodation units that are shaped by the climate and topography characteristics of the region and the cultural and social habits of the users. One of the most important characteristics of these structures is that they are in perfect harmony with the natural texture of their location. Authentic planning of the traditional residence is of importance in terms of architectural and quality works preserving their value today [9]. Arrangements and spatial constructions of structures that constitute local settlements create the character of the settlement [10]. Historical environments and traditional urban textures characterize differences in cultural and spatial meaning as evidences of the past [11]. Therefore, the protection of these structures is directly proportional to the preservation of the identity and character of the city and its maintenance in a positive direction. The cultural architectural structures that need to be preserved differ from each other by analyzing their current situation [12]. Therefore, the analysis of the current situation of these structures is important in terms of creating a database for future conservation work. The conservation/renovation of a traditional structure/environment, which has already been evaluated, will be beneficial to increase the efficiency of the work while also accelerating the process.

4. General Characteristics of Balıkesir City

A large part of Balıkesir is located in the Marmara Region, and the rest of the city is in the Aegean Region. It is a city with a population of 1,186,688 according to TURKSTAT 2015 data. This city, which has a surface area of 14,299 km², has coasts on Marmara and Aegean Sea. Bursa and Kütahya surround the city to the east, Izmir and Manisa to the south, Aegean Sea and Çanakkale to the west, and Marmara Sea to the north.



Figure 1: City of Balıkesir in Turkey

Dumlupınar Quarter of the central district of Balıkesir was selected as the study area. Kazım Özalp and Ulus streets were chosen as priority areas.

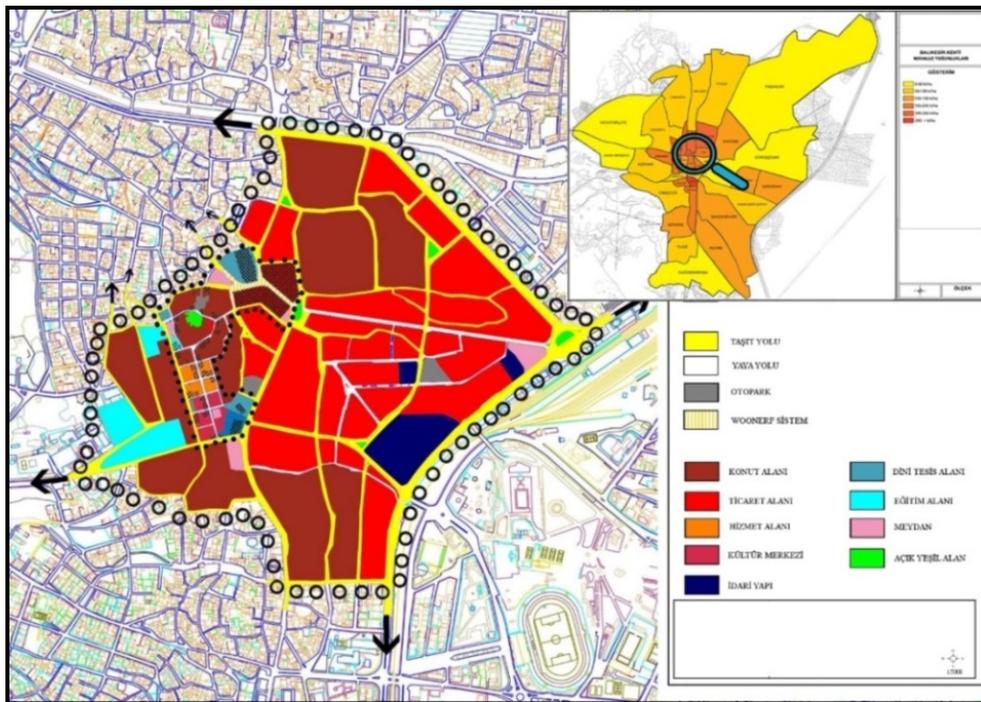


Figure 2: 1/5000 Development Plan of Dumlupınar Quarter

Dumlupınar Quarter, which is among the most protected areas of the city against earthquakes and floods, is one of the first settlements of Balıkesir. Karaoğlan Mosque, built by Karaoğlan, one of the Karasid commanders, and Zağnos Pasha Complex, built by Zağnos Mehmet Pasha, who was the vizier of Sultan Mehmet the Conqueror, allowed the city structure to grow in that direction and to gather around these religious buildings.

The examples of civil architecture in the city, which first encountered Turkish settlements in the 12th century, gained an identity during the periods of Karasid Principality, Ottoman State and Republic of Turkey. However, due to wars, immigration, famine, fire and especially the 1898 earthquake, only 19th century civil architecture examples reached our day. It has been determined

that 2146 of the 4196 buildings in the center of Balıkesir were completely demolished with the earthquake, 1999 had to be repaired and 51 were slightly damaged.

46 of the traditional examples of civil architecture that have been disappearing due to natural disasters and various reasons over time have reached present day. 30 of the 45 civil architecture examples in the city center being located in this area were influential in selecting this area. 9 of these examples of civil architecture are unoccupied, and 21 are occupied.

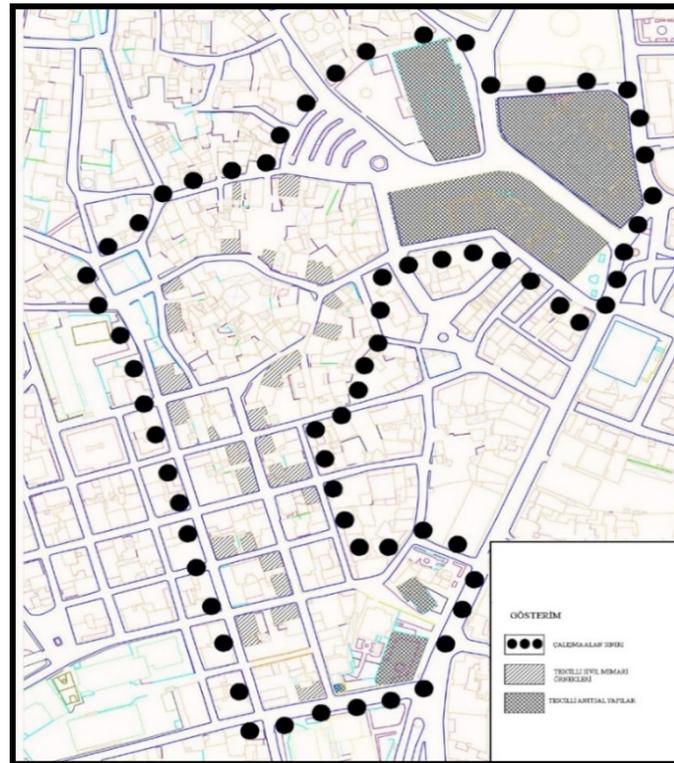


Figure 3: The Analyze of registered structures

There are 3 registered monumental structures in the study area. These structures are the Clock Tower, Kuva-yi Milliye Museum, and Zağnos Pasha Mosque.

Zağnos Pasha Mosque ¹

It was built in 1461 by Zağnos Mehmed Pasha, one of the viziers of Sultan Mehmed the Conqueror. It is a complex made up of a mosque, tomb and bathhouse. In the complex, only the bathhouse has maintained its original state until today. The mosque and the tomb, which were destroyed in 1897, were rebuilt in 1908 by Balıkesir governor Ömer Ali Bey. It is the largest mosque of Balıkesir, and has a square plan. It is made of smooth grinded stone and cut stone. It was made of four corner domes placed around a central dome on four feet in the center, and by placing half-circle vaults in between. The inner section is entered with double-winged wooden

<http://www.balikesirkulturturizm.gov.tr/TR,65923/tarihi-yapilar.html>¹

doors to the north, east and west. There are porches in front of the doors on three sides, with wooden ceilings, lead-lined, inclined roofs, carried by quadrangular marble columns.

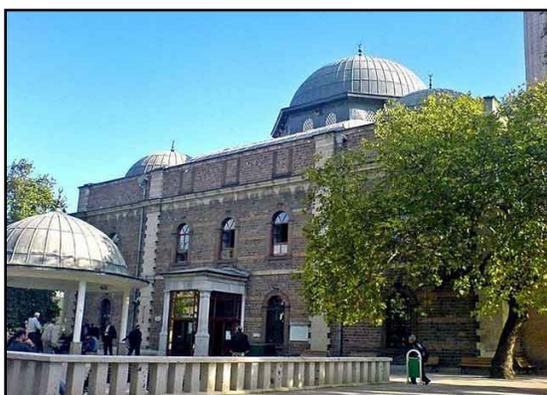


Figure 4: ZağnosPaşa Mosque



Figure 5: Kuvay-i milliye Museum

Kuvay-i milliye Museum ²

It was built in 1840 as the mansion of the Karasid Principality Treasurer Girid-i Zade Mehmet Pasha. After the occupation of İzmir on May 15, 1919, the building was used for a long time as the 2nd Army Corps Command headquarters. The building, which was used as a municipal service building between 1947-1988, was restored and opened as "Balıkesir Kuva-yi Milliye Museum" on 6 September 1996.

5. Traditional Housing Texture of Dumlupinar Quarter

The buildings in the study area are 2-3 storey traditional residential structures planned as attached and detached layouts. These structures, which were built between the end of the 19th century and the beginning of the 20th century, are located on sloping terrain. It is seen that the structures located on the streets, which have a checkerboard plan and cut each other perpendicularly, are shaped according to the form of the land and the street. Balıkesir houses are placed on a stone foundation, and the structures are designed so that they do not eclipse each other. *"The houses usually consist of a basement, which is created as a result of the level difference of the land, and one or two floors built on it. The ground floors of the buildings are arranged as service areas such as kitchens and cellars. The upper floors are used as living spaces located on both sides of the sofa (hall)."*³ It is noteworthy that the slope of the terrain has been utilized by adding functionality to the houses. Thanks to the characteristic of the terrain, the whole environment can be perceived easily from every point. The architectural features of outcrops, window forms, and the construction reflect the city's authentic values. Street texture is planned on a human scale. Having a rectangular, short-distance street texture with frequent turns increases the permeability of the area and improves its perception. Furthermore, when looking at the width of the windows used in the buildings, the influence of the Mediterranean climate is seen in the design. The fact that buildings have different design features according to their

<http://www.balikesirkulturturizm.gov.tr/TR,90611/muzeler.html>²

<http://www.balikesirkulturturizm.gov.tr/TR,65895/halk-mimarisi.html>³

locations, although seems a bit complex, is an important element preventing the uniformity of the street. At the same time, fountains found in every street are important elements reflecting the culture of everyday life.

5.1. Street Texture

When we look at the ratio between the height of the buildings and the width of the road, it is seen that the street texture is planned on a human scale. With 2-3 storey buildings, the street texture planned with short-distance turns increases the feeling of permeability. Thus, the street can be perceived better. It is seen that the street texture has its own unique appearance with porches, stalactites and entrances of the buildings [13].



Figure 6: The street texture of study area

5.2. Facade Features

The decisive elements of the buildings' facade concepts are oriels, gates, doors, and windows. While the oriels and balconies used on the upper floors of the buildings form the front façade of the house, the weight of the oriels and balconies are transferred to the ground with wooden carrier elements. In civil architecture examples, wood supported brick is used as building material. The ground floors were built with small windows due to the culture of privacy. The oriels and balconies and large windows on the upper floors ensure that the building is integrated with the street [13].



Figure 7: Facades of buildings in the study area

5.3. Oriels

Oriels are among the elements that define the façade conception of the building. Due to elevation difference, the buildings were built on stone foundations. The ground floor is planned as a cellar

and warehouse with the idea of privacy. The upper floor is designed as a living area with the increased indoor space of the second floor by oriels and bay windows. The buildings are shaped in harmony with the street texture. Therefore, different oriels can be seen according to the position of different buildings. This allows the building to integrate with the street texture [14].



Figure 8: Examples of oriels

5.4. Entrances of the Buildings

Another element that determines the façade conception of the structure is the entrance of the building. The most prominent feature of Balıkesir houses, which have stairs in front of the building, is the receded main doors in the shape of a portico. The portico shaped main entrance is the type chosen to increase the privacy of structures that do not have dooryards. As a principle, the entrances of Balıkesir houses are placed under two symmetrical oriels or one single oriel [14].



Figure 9: Examples of entrances

5.5. Windows

Another element that gives movement to the structures is the windows. On the ground floor, windows are designed in smaller forms in terms of usage style and due to privacy. As upper

grounds emerge as living spaces, the windows on the upper floors have been chosen in large forms in order to maximize the utility of sunlight [15].



Figure 10: Examples of windows

5.6. Building Materials

There are differences between the examples of civil architecture and the religious and administrative structures that make up the cultural texture of the city in terms of materials. While rubble was used as material in religious and administrative buildings, wood supported brick was used in examples of civil architecture. Brick and wood are used in structures rising on stone foundations. The geographical location and the economic capabilities of the period are also important factors in material selection. The disadvantage of the materials used is that they are not protective against fires[16].



Figure 11: Examples of building materials

6. Evaluation of the Area

In this section, exterior evaluation of the traditional houses in the Dumlupınar quarter was carried out. 12 buildings in the area were covered within the exterior evaluation process. The position of the structures that were evaluated is shown in Figure 12.

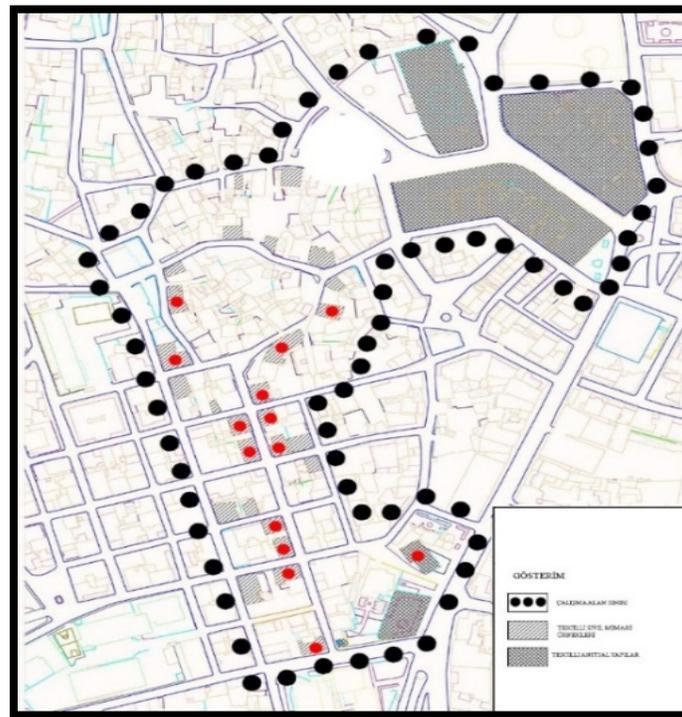


Figure 12: Buildings that examined

6.1. Exterior Evaluation

The evaluation of authenticity of the civil architecture examples in the Dumlupınar quarter was done with the **Exterior Evaluation**= $(Kd \times Kc \times Ce) + 10 + Fd$ formula. The formula was used from Ipekoglu's publication [17]. Kd is the coefficient of change, Kc is the façade variation coefficient, Ce is the type of the façade elements, and Fd is the physical change.

For evaluating coefficient of change (Kd);

- Structures without any change were given 3 points
- Structures with minor change were given 2 points
- Structures with excessive change were given 1 point[17].

For evaluating façade variation coefficient (Kc);

- Structures retaining their original façade were given 3 points
- Structures with minor change on the original façade were given 2 points
- Structures with excessive change on the original façade were given 1 point[17].

For evaluating type of façade elements (Ce), an evaluation was made at intervals of 1, 2, 3, and 4 points based on the characteristics of the structures. In the physical analysis (Fd), the building was evaluated over 4 points based on its characteristics of receiving sunlight, climatic comfort, aesthetic value, adaptation to street texture and functionality. At the end of evaluation, classification of the structures was performed as follows;

- Structures with a score of 0-25 were included in group D

- Structures with a score of 26-50 were included in group C
- Structures with a score of 51-100 were included in group B
- Structures with a score of 101-150 were included in group A.

This scoring system was made using Ipekoğlu's article [17].

Based on the evaluation, 5 out of 12 houses were in group A, 2 in group B, 4 in group C, and 1 in group D.

Table 1: Exterior Evaluation (the table was produced by using İpekoglu's [17] publication)

Dwelling	Coefficient of Change			Façade Variation Coefficient			Location			Type of Façade Elements												Physical Analysis					TOTAL	VALUE				
										Oriental						Entrance of the Building																
	Structures without any change	Structures with minor change	Structures with excessive change	Retaining their original façade	Minor change on the original façade	Excessive change on the original façade	On street corner	At the end of the street	On the street	Throughout the room	Throughout the façade	One way	Two way	Console with buttress	Beamed console	Entrance through the street	Entrance the middle of the building	Entrance the lateral façade of the building	Entrance with the alcoves	Rectangular window	Simple door type	Wooden detail door	Detailed buttress	Console	Adaptation to street texture	The condition of receiving sunlight	Climatic comfort	Aesthetic value	Functionality			
	3	2	1	3	2	1	10	10	10	3	4	3	4	3	4	2	3	1	4	4	1	4	3	4	4	4	4	4	4	4		
		x			x		x								x	x	x		x	x				x	x	x	x	x	x	118	A	
		x			x		x								x	x	x		x	x				x	x	x	x	x	x	118	A	
		x			x			x						x	x	x		x	x	x				x	x	x	x			110	B	
			x			x			x	x				x	x	x				x	x				x	x	x			39	C	
			x			x			x					x	x	x				x	x				x	x	x			39	C	
			x			x			x							x										x	x			24	D	
		x				x			x						x		x									x	x			50	C	

On the axis examined, interior evaluation of the KuvayıMilliye Museum, Balıkesir Bar, Chamber of Architects, and of one residence were made. As a result of the evaluation, 1 of the 4 buildings was found to be in group A, 2 in group B, and 1 in group C.

Table 2: Interior Evaluation (the table was produced by using İpekoglu's [17] publication)

Dwelling	Coefficient of Change			Plan Type Condition			The Condition of Plan Elements										TOTAL	VALUE
	Structures without any change	Structures with minor change	Structures with excessive change	Structures with an inner and central sofa	Structures with an inner courtyard	Structures without a particular plan	Alcoves	Decorated Ceilings	Decorated Doors	Lounge	Decorated Cupboards	Simple Cupboards	Interior Staircases	Wooden Ceiling Coverings	Decorated Ceiling Rose	Cellar and Warehouse		
	3	2	1	10	10	5	3	4	4	2	3	1	2	3	4	2		
		x			x			x				x	x	x	x	x	192	B
		x		x			x		x			x		x		x	132	C
		x		x					x		x		x	x		x	168	B
		x		x					x	x	x		x	x	x	x	240	A

7. Conclusions and Recommendations

Based on the results of this study where interior and exterior evaluation of buildings in the Dumlupınar Quarter of Balıkesir city was made, it is seen that the Traditional Balıkesir Houses remain only in this street texture. Buildings have significant value in terms of reflecting the unique identity that a city has. As a result of the observations made, the traditional texture was found to be disappearing. It is seen that the buildings have changed over time and suffered a loss of authenticity due to lack of emphasis of conservation efforts, neglecting the value of identity of structures, and incorrect interventions made to the buildings. This study aims to present an alternative proposal for architectural evaluation of traditional textures in historical settlements. This proposed method is a guiding step in making initial assessments of historical textures for which conservation plans are to be prepared. The identification and evaluation of interventions

applied to historical buildings, which have important values in terms of urban identity, play an important role in increasing the quality of constructions and spatial quality of the city.

References

- [1] Semerci, F., Uğur, B.S., Geleneksel Konya Evlerinin Mimari Değerlerinin Analiz Edilmesi, Uluslararası Hakemli Tasarım ve Mimarlık Dergisi, Kocaeli, Doi: 10.17365/TMD.2017.1.005.x, 2017, 33.
- [2] Ahunbay, Z., Tarihi Çevre Koruma Ve Restorasyon, Yem Yayınları, İstanbul, 1996.
- [3] Arabacıoğlu, F., P., Aydemir, I., (2007). Tarihi Çevrede Yeniden Değerlendirme Kavramı, Megaron Dergisi, Cilt 2, Sayı 4, 2007, 204-212.
- [4] Adams, J., S., “Cities and Their Vital Systems: Infrastructure Past, Present and Future”, Washington, D.C., National Academy Press, 1988, s:108-145
- [5] Mazi, F., Tarihi Çevrenin Korunmasında Sosyo-Ekonomik Faktörlerin Etkisi, Mevzuat Dergisi, Sayı 138, ISSN 1306-0767, 2009.
- [6] Kuleli, E., Özgün İşlevini Sürdüremeyen Anıtların Yeniden Kullanım Sorunları, DEÜ, Fen Bilimleri Enstitüsü, Yüksek Lisans Tezi, İzmir, 1998.
- [7] Tekeli, İ., Kentsel Korumada Değişik Yaklaşımlar Üzerine Düşünceler, Türkiye II. Dünya Şehircilik Günü Kolokyumu, Ankara, 1989.
- [8] Özer, B., Olumlu ve Olumsuz Uygulanışlarıyla Mimari Yaratmada Tarih ve Geleneğin Yeri, Yapı Dergisi, s: 35, 36-38, İstanbul, ISSN 1300-3437, 1989.
- [9] Gabriel, A., Une Capitale Turque, Brousse, Paris, 1958.
- [10] Eyüce, A. Geleneksel Yapılar ve Mekânlar, 2005.
- [11] Koçan, N., Çorbacı, Ö.L., Tarihi Çevreleri Koruma Sürecinde Yeni Yaklaşımlar: Kongre Turizmi, Safranbolu Çarşısı Örneğinde Bir Araştırma, MAKÜ FEBED 3(2): 31-36, ISSN Online: 1309-2243, 2012, 31-36.
- [12] Semerci, F., Gümüş, B., Sivil Mimarlık Örneklerine Bir Değerlendirme Önerisi: Afyonkarahisar Örneği, Uluslararası Hakemli Tasarım ve Mimarlık Dergisi, Kocaeli, Doi: 10.17365/TMD.2017.2.6, 2017, 36.
- [13] Öncü, F., Tarihi Balıkesir Evleri, Balıkesir, 2010.
- [14] Bektaş, C., Türk Evi, YEM, İstanbul, 2016.
- [15] Eldem, S., H., Türk Evi, Türkiye Anıt Çevre Turizm Değerlerini Koruma Vakfı, İstanbul, 1989.
- [16] Cansever, T., Ev ve Şehir, İnsan Yayınları, İstanbul, 1993.
- [17] İpekoğlu, B., (2006), “An Architectural Evaluation Method for Conservation of Traditional Dwellings”, Building and Environment, Sayı:41, s.386-394

*Corresponding author.

E-mail address: fsemerci@ gmail.com