

# UNDERSTANDING AND RE-USING THE CULTURAL HERITAGE BUILDINGS

*Tanaç Zeren Mine<sup>1</sup>*

## ABSTRACT

Considering the future, the most important problems of our day is how to protect the **Historical Heritage**, and how to benefit from it. And as an answer to this question, by benefiting from our cultural background, it is necessary to provide the contemporary requirements and to transfer this attitude to the future generations. Throughout the time functions may change but, old buildings may stay. This situation requires that the old buildings are open to a new contemporary uses [1-2]. Nowadays, the variations in the functions loaded onto the places we live in are frequently put on the agenda due to the requirements which continuously change and develop by social and cultural effects. The scope of this study, when faced with this kind of function variations in order to protect the meant values, the researches to be made and the ways to be followed are described in a systematically manner,

- Re-functioning process,
- Adaptation of the new function to the old building
- Design concept in the revalorization

Are discussed with many implementations from Turkey and different places of the Europe and how the architectural design concept is implemented in these buildings is researched

*Keywords: Modernization and re-use of cultural heritage building*

## 1. INTRODUCTION

### 1.1 General Definition

Carrying all the historical, cultural and architectural heritage to future can be obtained by letting all these values used by nowadays needs and uses. If a monument cannot be used for some purposes and cannot be adapted to life, it won't be able to be preserved; it will be left alone and forgotten forever.

Refurbishment can of itself take many forms, ranging from simple redecoration to major retrofit or reconstruction. Sometimes the buildings are in good condition but the services and technology within them are outdated in which case a retrofit process may be undertaken. If a particular function is no longer relevant or desired, buildings may be converted to a new purpose altogether. This is **adaptive re-use**.

### 1.2 Definition of Adaptive Re-use

Adaptive re-use is a special form of refurbishment that poses quite difficult challenges for designers. It has been successfully applied in many types of facilities including residential buildings, government buildings, industrial heritage and religious buildings.

Adaptive re-use deals with the issues of conservation and heritage policies. Whilst old buildings become unsuitable for their programmatic requirements, as progress in technology, politics and economics moves faster than the built environment, adaptive re-use comes in as a sustainable option for the reclamation of sites. In many situations, the types of buildings most likely to become subjects of adaptive re-use include; industrial buildings, as cities become gentrified and the process of manufacture moves away from city; political buildings, such as palaces and buildings which cannot

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<sup>1</sup> Associated Prof. Dr., Dokuz Eylül University Faculty of Architecture, mine.tanac@deu.edu.tr

support current and future visitors of the site; and community buildings such as churches or schools where the use has changed over time.

Adaptive re-use is seen as an effective way of reducing urban sprawl and environmental impact. By reusing an existing structure within a site, the energy required to create these spaces is lessened, as is the material waste that comes from destroying old sites and rebuilding using new materials. Through adaptive re-use old, unoccupied buildings can become suitable sites for many different types of use.

Historical buildings may have a character that can significantly contribute to the culture of a society and converse aspects of its history. Preservation of these buildings is important and maintains their intrinsic heritage and cultural values. The useful (effective) life of a building or other asset in the past has been particularly difficult to forecast because of premature obsolescence. This may be described as comprising one or more of the following:

- Physical obsolescence
- Economic obsolescence
- Functional obsolescence
- Technological obsolescence
- Social obsolescence [3]

For these reasons, buildings can become obsolete long before their physical life come to an end. It can be said that rehabilitation of historical buildings and suggesting them new usages have some benefits which are;

- **Economic benefits;** rehabilitated space can be created more quickly than new space, unless extensive structural reconstruction is required. Johnson [4] suggests that rehabilitation typically takes half to three-quarters of the time necessary to demolish and reconstruct the same floor area. The shorter development period reduces the cost of financing.
- **Environmental benefits;** environmental benefits from rehabilitation arise through the recycling of materials, reuse of structural elements and the reduction in generated landfill waste. Historical buildings are constructed using a range of quality materials that typically display a useful life well in excess of their more modern counterparts (e.g. use of solid stone walls, marble floor coverings). Furthermore, many older buildings employ massive construction in their external envelope, which can reduce energy consumption in heating and cooling.
- **Social benefits;** historical buildings provide social benefits such as intrinsic heritage values that they have. They can retain attractive streetscapes, add character, and provide status and image to an organization through the use of massive and highly crafted materials. They have significance and they are the memories of the society. Historical buildings are often in advantageous locations in the city centers.

The most successful built heritage adaptive re-use projects are those that best respect and retain the building's heritage significance and add a contemporary layer that provides value for the future. Sometimes, adaptive re-use is the only way that the building's fabric will be properly cared for, revealed or interpreted, while making better use of the building itself. Where a building can no longer function with its original use, a new use through adaptation may be the only way to preserve its heritage significance.

In Paris, France, the most famous example of adaptive re-use is the Musée du Louvre, a former palace built in the late 12th century under Philip II and opened to the public as a museum in 1793. Also, in Wien, Austria, Gasometers, in Gasometer A; Jean Nouvel has created a large indoor plaza with a translucent roof playing with reflections, refractions and transparencies of the old and the new, The concept of Coop Himmelb(l)au Gasometer B adds three new volumes to the existing facade The cylinder inside the Gasometer, the striking addition of the shield that is visible from outside and the multifunctional event hall situated in the base of the Gasometer, Manfred Wehdorn created an indoor garden and an eco-friendly designed terraced structure in Gasometer C [5]. The Tate Modern, also in London is another example of adaptive reuse in the European continent, unlike other adaptive reuse galleries in Europe, the Tate Modern takes full advantage of the site of the former Bankside Power Station, which involved the refurbishment of the old, abandoned power station.

## 2. METHODOLOGY

While the process of adaptive reuse is a decision often made purely by companies establishing a particular brand or presence, there are often criteria for deciding whether a building should be

conserved and reused or just demolished for the area of land it occupies. Some of these determining criteria include;

- The societal value of a given site; that is the importance of the use of a site to the community or visitors' use.
- The potential for the reuse of a particular site; the physical damage sustained to the site and its support of future use, the character of the existing site in terms of the proposed reuse.
- The historical importance of the site; in terms of both physicality of the street-scrape and the area, as well as the site in the community's understand of the past.
- The natural ecological conditions of the site; whether the site is suitable climatically or can support the proposed environmental work needed in the site.

According to English Heritage [6] the whole notion of what constitutes reuse and the importance attached to our built heritage appears to be more definitive than ever. Reuse can mean something special, unique, and often expensive [7] and adaptation describes rehabilitation, renovation or restoration works that do not necessarily involve changes of use. Rehabilitation is the recycling of buildings involving restoration and new construction [8-9]. The difference is that restoration returns a building to the condition it was when originally constructed, whereas renovation modifies a building so that it meets current standards and codes. Although it extends the useful life of a building, renovation does not involve a change in use [9]. It can therefore be reasonably argued that adaptation is a method of extending the useful life of buildings and hence their sustainability by a combination of improvement and conversion [9-12]. And to decide whether the adaptive re-use attempt is successful or partly-successful, or not, there are some codes to clarify it such as;

- Does the adaptive re-use attempt transform the environment of the building?
- Does the adapted function's spatial organization fit to the existing structures spatial organization.
- Does the adapted function of the building eligible of preserving both the tangible and intangible value of the existing building?
- Does the adapted function make the structure livable in the meaning of sustainability?
- Do the interventions that make the structure adapt to nowadays use ruin the originality of the structure.
- Does the adapted function uses modify the envelope of the building?

As the methodology of this study, the cases will be analyzed in the frame of these criteria mentioned above.

### **3. ADAPTIVE RE-USE CASES**

Izmir is the 3<sup>rd</sup> biggest city of Turkey, and its history goes back to almost 3,500 years of urban past and possibly that much more of advanced human settlement. There are many important monumental architectural heritage buildings dating back to 16<sup>th</sup> centuries within the city. There are attempts running in the recent years to adapt a new-use for these abandoned buildings, the adaptive re-use attempts that have been implemented in recent years in Izmir will be discussed in the frame of the methodology mentioned above.

#### **3.1. Case 1 – Konak Pier**

Based on the inadequacy of their coastline, the French asked the Grand Vizier for permission to fill the sea and construct a quay in mid 19<sup>th</sup> century. Subsequent to the permit, the coast where Basmane Train Station opens to the sea has been filled and used as a storage area for goods subject to customs. The storage area between the buildings has been enclosed with steel roof trusses resting on cast iron columns. A shed with cast-iron columns has been added to the southern façade. Circular cast iron columns, steel U section columns and roof trusses produced in Belgium have been used to enclose the great hall. Considering the geometrical resemblances in the forms of the steel elements, it is probable that the structural design belongs to Gustave Eiffel School. [13]. The building used as the Customs Office until 1954, and has been recognized by the Municipality as the “fish market” between 1955 and 1960. Following the extensive renovation and modification works, the building has been refunctioned as Konak Pier shopping center as one of the most frequented place within the territory. The adaptive re-use attempt have transformed the environment of the building positively, the new uses spatial organization fit to the original spatial organization partly, preserved most of the tangible and intangible values of the building, new function make the structure livable in the meaning of sustainability, did not ruin the originality of the structure and did not modify the envelope of the structure.



Fig. 1-2 Konak Pier Exterior (Mine Tanac Zeren Archive)

CASE 1 – KONAK PIER	1	2	3	4	5
Does the adaptive re-use attempt transform the environment of the building?				X	
Does the adapted function's spatial organization fit to the existing structures spatial organization?			X		
Does the adapted function of the building eligible of preserving both the tangible and intangible value of the existing building?			X		
Does the adapted function make the structure livable in the meaning of sustainability?					X
Do the interventions that make the structure adapt to nowadays use ruin the originality of the structure.	X				
Does the adapted function uses modify the envelope of the building?	X				

### 3.2. Case 2 – Asansor (The Lift)

In connection with Mithat Paşa Street parallel to the coastline; **Asansor District** is a significant urban environment with the Elevator Building that forms a vertical differentiation in the horizontal coastal skyline of Izmir, the natural rock formation that this building leans on and several 19th and early 20th century houses located in the area used by Jewish population and two synagogues Beit Israil locating on the coastal level and Roos Aar locating on the top level. The urban development's necessitated the establishment of a connection between the coastal and upper level settlements [14]. The topographic barrier between Mithatpaşa and Halil Rifat Pasa Streets has been a practical solution for the problematic transportation caused by the natural rock formation after which the district of Karatas has been named. A Jewish businessman Nesim Levi Bayraklı commissioned the Elevator in 1907, climbing 56 meters high compensating two Jewish neighborhoods. This historical context with the historical elevator was the representation of the Jewish life occurred in this territory, and the symbol, identity of the Jewish presence in the region. This Jewish settlement was formed during 19<sup>th</sup> century due to the fact that the communication network had spread towards Karatas and that the Jews with better incomes preferred a seaside location [14].

It should be noted that Asansor-Elevator has been constructed only five years after the cast iron Santa Justa Elevator dated to 1902, constructed by Gustave Eiffel's follower Raul Mesnier du Ponsard in Lizbon to overcome a similar topographic barrier. The Lift in Izmir has steel construction walls with brick infill and a massive core. The original structure of the complex consisted of a mechanical room, elevator entrance and guardhouse on the lower level and the restaurant and vista terrace on the upper level [15]. During 1970's most of the Jewish population living in Karatas territory has moved to Alsancak District of Izmir and most of the houses were emptied. The historical Elevator has also lost its function, and was not in use till the period when the restoration process has started. The restoration of the historical Lift put this territory into use again. The historical context, which the Lift was, situated in the centre, was renovated in 1994. The cultural development project of Historical Asansor (Elevator) and its environment was designed by Architect Zehra Ekinçi and Oktay Ekinçi in 1990, and restored by the municipality in 1994.

The purpose of the renovation project is; firstly to renovate the Elevator which was not functioning and the building complex, which stands on the upper level as a place for public to spend their leisure times with the functions such as a restaurant, a Genoese tavern, an open-air café, and a-view terrace over the city and the bay, secondly to renovate the building complex at the lower level again for public for cultural activities such as a library, an art square, and finally to rehabilitate the environs of the

Asansor, especially the 302 street that connects Asansor to Mithat Pasa Street which will be named as “Dareo Moreno” Street after the renovation implementations, [16] and 305 Street combining the square in front of the Elevator to Beit Israil Synagogue with the traditional houses bordering the streets. The 302 street was named as “Dareo Moreno Street” after the Jewish singer Dareo Moreno as a symbolic continuity of the ethnical structure of the Karatas District. The renovation of the houses locating on Mithatpasa Street never proposed or considered within the project. The most important item, which will carry this project to future, is the rehabilitation of the Elevator Building. Due to it’s being so hard to use the original working system of the lift; the mechanical structure has been renovated and replaced by an electrically powered system during restoration process. The unique old engines, and machines of the Elevator are moved to a depot where is supposed to be functioned as the art gallery after the restoration process. Afterwards the lift again started combining the two levels as in the beginning of the 20th century. Parallel to this 302 street the “Dareo Moreno Street” has been transformed into a public pedestrian way surrounded by a historical pattern which is formed of typical traditional two-storied houses combining the Elevator to Mithatpasa Street. The facades of the houses of 302 Street were renovated and rehabilitated in order to maintain a healthy, clean street pattern for the public who uses this pedestrian way to the Elevator. These houses were estimated to be used as art schools, and art galleries combining with the art square in front of the Elevator. The art square was named as the “Painter’s Square” and it is supposed that the students, artists would paint here in the middle of the square. The facades of the houses located on 305 Street, which is combining the Asansor Square to Synagogue, were also rehabilitated.



**Fig. 3-8** Asansor (Lift) and its Environment (Mine Tanac Zeren Archive)

<b>CASE 2 – ASANSOR</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Does the adaptive re-use attempt transform the environment of the building?					<b>X</b>
Does the adapted function’s spatial organization fit to the existing structures spatial organization?				<b>X</b>	
Does the adapted function of the building eligible of preserving both the tangible and intangible value of the existing building?				<b>X</b>	
Does the adapted function make the structure livable in the meaning of sustainability?					<b>X</b>
Do the interventions that make the structure adapt to nowadays use ruin the originality of the structure.	<b>X</b>				
Does the adapted function uses modify the envelope of the building?	<b>X</b>				

The adaptive re-use attempt firstly retained streetscapes that maintain sense of place, extended the useful life of buildings, is more cost effective than demolition and rebuilding, have transformed the environment of the building positively, revitalized existing neighborhood, the new uses spatial organization fit to the original spatial organization partly, preserved most of the tangible and intangible

values of the building, new function make the structure livable in the meaning of sustainability, did not ruin the originality of the structure and did not modify the envelope of the structure.

### 3.3. Case 3 – Gas Plant Building

The Gas Plant Building is one of the important industry building of Izmir built in the mid of 19<sup>th</sup> century by French [13]. The main factory building and its annexes located on a 24 square meters land. This building and its environment re-adapted by Izmir Municipality as a cultural platform for public as the industrial archeology site. The renovated building complex played a very important role in reducing the urban sprawl of the area, transformed its environment, enhanced the aesthetic appeal of the built environment, increased the demand for retained existing buildings, and retained streetscapes that maintain sense of place, visual amenity and cultural heritage. The adaptive re-use attempt of the building can be taken into consideration as successful because mainly it turned the structure into a livable place by the public in the meaning of sustainability, the spatial organization, the envelope of the original structure has been carried out to future use, the tangible and intangible values has been preserved as well.

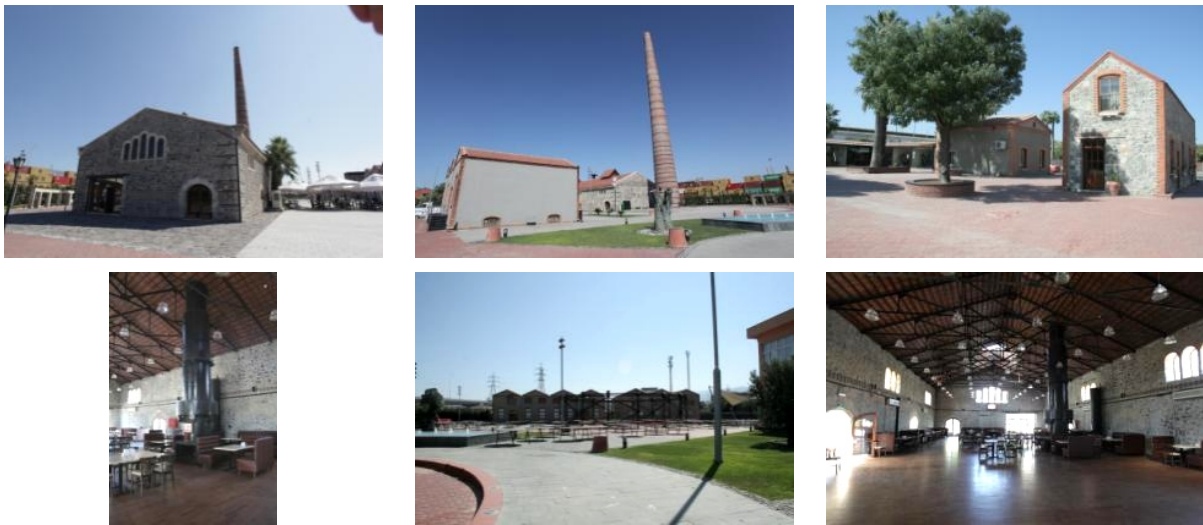


Fig. 9-14 Gas Plant Building (Mine Tanac Zeren Archive)

CASE 3 – GAS PLANT BUILDING	1	2	3	4	5
Does the adaptive re-use attempt transform the environment of the building?					X
Does the adapted function's spatial organization fit to the existing structures spatial organization?				X	
Does the adapted function of the building eligible of preserving both the tangible and intangible value of the existing building?				X	
Does the adapted function make the structure livable in the meaning of sustainability?					X
Do the interventions that make the structure adapt to nowadays use ruin the originality of the structure.	X				
Does the adapted function uses modify the envelope of the building?	X				

### 3.4. Case 4 – Former Fire Department Building

Following the Great Izmir Fire in 1922, the decision to construct a Central Fire Department Building was declared by the Municipality of Izmir in 1926. The Fire Department Building, whose construction started in 1930, could begin service in 1932. With the addition of a single-storey annex in the backyard between 1932 and 1938, and the construction of another annex for the heating systems in 1950; the building turned into a complex of buildings developed around the courtyard [13]. The courtyard organized as a garden contains the main building, service annexes, shed and the pool used as water storage. The load-bearing outer walls of the main building have been constructed with a composite use of stone and brick.

The building has been designed by Mesut Özok, a first generation local architect; the building is a significant example of his rarely known works. After the Fire Department was relocated, this building was restored in 2003 and refunctioned as the Izmir City Museum and Archive.

The adaptive re-use attempt of the building can be taken into consideration as successful because mainly it turned the structure into a livable place by the public in the meaning of sustainability, the spatial organization, the envelope of the original structure has been carried out to future use, the tangible and intangible values has been preserved as well, created valuable community resources from unproductive property, reduced urban sprawl, enhanced the aesthetic appeal of the built environment.

<b>CASE 4-FORMER FIRE DEPARTMENT BUILDING</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Does the adaptive re-use attempt transform the environment of the building?		X			
Does the adapted function's spatial organization fit to the existing structures spatial organization?				X	
Does the adapted function of the building eligible of preserving both the tangible and intangible value of the existing building?			X		
Does the adapted function make the structure livable in the meaning of sustainability?					X
Do the interventions that make the structure adapt to nowadays use ruin the originality of the structure.	X				
Does the adapted function uses modify the envelope of the building?	X				



Fig. 15-17 Former Fire Department (Mine Tanac Zeren Archive)

### 3.5. Case 5 – Abacıoğlu Han (Inn)

Abacıoğlu Han is one of the important nodes of historical city center of the Town. The inn hosted merchants of copper and straw throughout history, the building is especially known for hosting merchants of silk and broadcloth. With its two-storied building defining a courtyard belongs to the “courtyard type inn” typology seen in Izmir along with passage type inns [17]. The building was abandoned for years even if it is located nearly in the heart of the city center. It has been transformed into a social meeting place; the buildings have been turned into cafes and restaurants.

<b>CASE 5 – ABACIOGLU HAN (INN)</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Does the adaptive re-use attempt transform the environment of the building?				X	
Does the adapted function's spatial organization fit to the existing structures spatial organization?				X	
Does the adapted function of the building eligible of preserving both the tangible and intangible value of the existing building?					X
Does the adapted function make the structure livable in the meaning of sustainability?					X
Do the interventions that make the structure adapt to nowadays use ruin the originality of the structure.	X				
Does the adapted function uses modify the envelope of the building?	X				

The adaptive re-use attempt of the building can be taken into consideration as successful because mainly it turned the structure into a livable place by the public in the meaning of sustainability, the spatial organization, the envelope of the original structure has been carried out to future use, the tangible and intangible values has been preserved as well, created valuable community resources from unproductive property, reduced urban sprawl, enhanced the aesthetic appeal of the built environment.



**Fig. 15-18** Abacioglu Han Before Adaptive re-use Attempt(Mine Tanac Zeren Archive)



**Fig. 19-21** Abacioglu Han After Adaptive re-use Attempt (Mine Tanac Zeren Archive)

#### 4. COMMENTS AND CONCLUSION

Old buildings often outlive their original purposes. Adaptive reuse, or re-use, is a process that adapts buildings for new uses while retaining their historic features. An old factory may become an apartment building. A rundown church may find new life as a restaurant... And a restaurant may become a church. Adaptive reuse relates to historic preservation and sustainable development.

With the debate of adaptive reuse as a sustainable avenue in the development of key sites, there are many advantages to using certain sites for redevelopment. Some of these advantages include the site's location; in many cases, historical sites are often located in the centers of large cities due to the spatial development of a given area, these buildings can often be heritage-listed and therefore sold as an entity, rather than just for the land that they occupy, which the new tenants then have to retrofit the building for their particular purpose. Older buildings also often have a specific period character through the detailing and joinery of their constructed eras that newer or reconstructed developments lack, in certain cases, such as the hospitality industry; the grand character of a site can influence the feel of their building and are used for maximum potential to enhance the site's physical attractiveness to a client.

Although there are many qualifying factors, the concept of adaptive reuse has significant support as a positive strategy to make the built environment more sustainable. Adaptive reuse enhances the longer-term usefulness of a building and is therefore a more sustainable option than demolition and rebuilding. The positive benefits for adaptive reuse identified during the research also support the tenets of sustainability and include:

- reducing resource consumption, energy use and emissions;
- extending the useful life of buildings;
- being more cost effective than demolition and rebuilding;
- reclaiming embodied energy over a greater time frame;
- creating valuable community resources from unproductive property;
- revitalizing existing neighborhoods;
- reducing land consumption and urban sprawl;
- enhancing the aesthetic appeal of the built environment;
- increasing the demand for retained existing buildings;
- retaining streetscapes that maintain sense of place;
- retaining visual amenity and cultural heritage.



At the broadest level, the historical and cultural heritage belongs to all people. We each have a right and responsibility to understand, appreciate and conserve its universal values. Our past is the most important resource in creating our future and, leads us to integrate our cultural identities with our new living environments. Obviously the cultural and historical values that one cultural landscape or city owns, form the local identity of that settlement.

Keeping and reusing historic buildings has long-term benefits for the communities that value them. When done well, adaptive reuse can restore and maintain the heritage significance of a building and help to ensure its survival. Rather than falling into disrepair through neglect or being rendered unrecognizable, heritage buildings that are sympathetically recycled can continue to be used and appreciated.

## REFERENCES

- [1] Altınoluk Ü. (1998) Binaların yeniden kullanımı, YEM Yayınları, İstanbul.
- [2] Kuban D. (2000) Tarihi Çevre Korumanın Mimarlık Boyutu, YEM Yayınları, İstanbul.
- [3] Seeley IH. (1983) Building economics: appraisal and control of building design cost and efficiency, 3rd ed. Macmillan Press.
- [4] Jojnson A. (1996) Rehabilitation and re-use of existing buildings. In: Mills ED, editor. Building maintenance and preservation: a guide to design and management. 2nd ed. Oxford: Architectural Press.
- [5] Icons of Architecture (1998) Ed. Sabine Thiel-Siling, Pretzel Press, New York.
- [6] English Heritage (2000) Power of Place: The Future of the Historic Environment, English Heritage, London.
- [7] Holyoake K. and Watt D. (2002) The sustainable re-use of historic urban industrial buildings: interim results and discussion, COBRA 2002, available at: [www.rics-foundation.org/index.html](http://www.rics-foundation.org/index.html)
- [8] Gregory J. (2004) Rehabilitation-new ways for older housing, New South Wales Department of Housing, available at: [www/housing.nsw.gov.au/rehab.htm](http://www/housing.nsw.gov.au/rehab.htm)
- [9] Douglas J. (2002) Building Adaptation, Butterworth-Heinemann, Woburn.
- [10] Lowe R.J. (2004) Lessons from climate change: a response to the commentaries, Building Research & Information, Vol. 32 No. 1, pp. 75-8.
- [11] Kohler N. and Hassler U. (2002) The building stock as a research object, Building Research & Information, Vol. 30 No. 4, pp. 226-36.
- [12] Cooper I. (2001) Post-occupancy evaluation-where are you?, Building Research & Information, Vol. 29 No. 2, pp. 158-63.
- [13] Architectural Guide Book of Izmir (2005), Ed. Deniz Güner, Mimarlar Odası Yayınevi, İzmir.
- [14] Tanac M. (2003) Osmanlı Kentlerinde Sefarad Kültürünün Dönüşümünün Mimariye Yansıması İzmir Örneği (Reflections of Sefardim Culture in Ottoman Cities Case Izmir), Phd Thesis, Izmir, pp. 276.
- [15] Aksoy Y. (2000) Benim Asansörüm (My Elevator), İzmir Kent Kültürü Dergisi (Izmir City Culture Journal), İzmir, pp. 18.
- [16] Ekinci Z. Ekinci O. (1990) İzmir Tarihi Asansörü ve Çevresi Kültürel Geliştirme Projesi Üzerine Düşünceler,(Thoughts About Izmir's Historical Asansor and Environment Rehabilitation Project) Kültür ve Tabiat Varlıklarını Koruma 2 No'lu Bölge Kurulunun Raporu, pp. 2.
- [17] E. Bozkurt (1991) İzmir Hanları, Atatürk Kültür Merkezi Yayınları, İzmir.