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İzmir İlinde Bazı Arkeolojik Sit Alanlarına Antropolojik Baskılar Üzerine Bir Çalışma

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Özet

Kent kültürünü ve kimliğini yansıtan tarihi ve arkeolojik çevrelerin korunması ve gelecek nesillere aktarılması gerekmektedir. Çalışma kapsamında, İzmir kentinde yer alan Agora ve Kadifekale akeolojik sit alanlarında gözlenen değişimlerin ve mevcut durumun değerlendirilmesi, GIS programları aracılığıyla 1987, 1997 ve 2005 yıllarına ait hava fotoğrafları ve uydu görüntüleri kullanılarak gerçekleştirilmiştir. Elde edilen veriler ışığında yapıcı öneriler geliştirilmiştir.

Anahtar Kelimeler: *Arkeolojik sit, antropojenik baskılar, tarihi çevre, uzaktan algılama sistemleri.*

A Research Study about Anthropogenic Impacts on Some Archeological Sites in Izmir City

Abstract

The historical and archeological environments are important places for the culture and the identity of cities which have to be protected and preserved for the following generations. Within the context of the study, the present status and the changes in Agora and Kadifekale archeological sites in Izmir between 1987, 1997 and 2005 were determined in GIS aided programs by using aerial photos and satellite images. The obtained data and results were used to put forward constructive proposals.

Key Words*: Archeological site, anthropogenic impacts, historical environment, geographical information systems.*

Introduction

The investigations of old cities and districts are important tools which help to understand today and identify ourselves. In cities, the historical environment includes many details relating to the social and economic structure, philosophy of life and aesthetic sensibility of past civilizations. In a world where living conditions, traditions, production techniques are rapidly changing; the historical urban spaces can be accepted as outdoor museums which show the way of living in the past (Ahunbay, 1996; Ömeroğlu, 2006).

According to Akçura (1973), "Historical Environments" are the collective evaluation of the elements which create the special characters of towns and cities which in themselves are not monuments but possess at the same time historical, traditional and visual values (Resuloğlu, 2005). According to Ahunbay (1996), historical environments are to be protected not only for their importance in archeology, history and aesthetics but also their folkloric values (Ömeroğlu, 2006).

The concept of protection is a phenomenon which had taken place since ancient times. The conservation of the values called "cultural and natural" heritage which had been made up by humans themselves or with the cooperation of nature during the history of thousands of years of civilization, adopted as a common problem in our age of humanity, and is a phenomenon which should be emphasized. This phenomenon is developing with its aims, methods and applications in the entire world. The concept of conservation is wide and its practices can be seen in different fields such as as archeological sites, natural sites etc. (Resuloğlu, 2005).

According to the 3rd article of Law Number 2863 relating to the Preservation of Cultural and Natural Entities; "Conservation Site" is defined as meaning cities and the remains of cities which being the product of various civilizations from prehistoric times up to the present day, reflect the social, economic, architectural and similar characteristics of their existence period, as well as areas where important historical events took place and areas which need to be preserved for the natural features found there (Anonymous, 1983).

"Archaeological Sites" are settlements and areas containing any type of cultural entity which reflects the products, whether above or below the ground or under water, of ancient civilization and social, economic and cultural characteristics of the eras of their existence, which have survived from the emergence of mankind

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up to the present (Anonymous, 1999).

"1st Degree Archaeological Sites" are areas which, with the exception of scientific conservation projects, are to be preserved without any modification. "2nd Degree Archaeological Sites" are areas which must be preserved, but whose conditions of protection and use are to be determined by conservation committees and which, with the exception of scientific conservation projects, are to be preserved without any modification. And "3rd Degree Archaeological Sites" are archaeological areas where new arrangements may be permitted in line with protection use rulings (Anonymous, 1999).

Conservation aimed development plans require more detailed and numerous surveying works in various quality rather than all sorts of planning works, to be carried out (Erdem et al. 2003). According to Berberoğlu 2003 remote sensing and Geographical information systems are ideal tools for getting ordered and coherent data which are needed in analyzing and determining landscape characteristics and change detection process (Doygun et al. 2003).

The name "Smyrna" continued to exist throughout the city's long history, and after its conquest by the Turks began to be used in the form of Izmir. From the time it emerged as settlement, by the years around 800 B.C Izmir had begun to show itself as one fulfilling the criteria of a town, situated in what is today Bayraklı, at the point where the bay to which it gives its name meets the land (Yetkin and Yılmaz, 2011).

While the historical environment of Izmir, one of Turkey's beautiful cities, adds further to its value, it is also true that, having been the recipient of migration since the 1950's, the city's wealth of history and historical identity is in danger of disappearing. (Yetkin and Yılmaz, 2011).

This research has been carried out both in order to set the problems relating to archaeological sites in general. Also the aim of the study was examine the structural transformation, which is one of the anthropogenic impacts, on two different historical environments in Izmir taking changes over the years as a basis, then to be able to suggest solutions.

Material and Method

Material

The research areas are Agora (latitudes 38º 25' 11" N – 38º 25' 01" N and longitudes (27º 08' 09" E – 27º 08' 27" E) and Kadifekale Districts (latitudes 38º 24' 54" N – 38º 24' 44" N and longitudes 27º 08' 33" E – 27º 09' 06" E).

Agora District composed of 1st and 3rd degree archeological sites and Kadifekale District, composed of 1st degree archeological site and archeological conservation area, were chosen to exemplify protected areas in Izmir. Also their importance in city identity was the other reason to be chosen as research areas.

1/25000 scale topographic maps, 1/10000 scale aerial photos taken in 1997 and satellite images taken in 1987 and 2005 were used as research material during the study, right along with the main research material (study area). Also the programs City Guide 2.0 constituted by Izmir Metropolitan Municipality and Geomedia 6.0 were used in the study.

Agora District

Izmir gained importance during the period of the Roman Empire and developed its characteristic of being a commercial city. The Agora is foremost among the important and historical remains of Roman period antiquities which have survived to the present day (Yetkin and Yılmaz 2011).

The Agora, which was linked to Kadifekale by underground passageways thousands of years ago, became an important center where political meetings were held and people bought and sold goods. As a result of excavations carried out recently. Izmir Agora has emerged as being the largest agora known to date (Karayiğit, 2005). Work on the Agora is continuing in the form of excavation, restoration, archaeological cleaning and environmental planning in five places, these being the Agora square, the north gate, the area below the basilica, the western structure and the ancient bazaar (Anonymous, 2006) (Figure 1).

Figure 1. General view of Agora (Google Earth, 2008).

Kadifekale District

The name used in ancient sources for the summit known today as Kadifekale is Pagos, which in Greek means "summit". Kadifekale, which was founded in the Alexandrian Period, has been prominent as a strong in every period of history since the 3rd century B.C. and has a strategic importance (Figure 2). It is because of this strategic quality that it came to be used in Helenistic, Roman, Byzantine and Ottoman times. Its sub-terranean cisterns and references encountered in documents to the fact that St. Polycaro's grave was

at one time with in the fortress walls make Kadifekale important from the point of view of the history of Christianity besides its other historical significance (Karayiğit 2005).

Figure 2. General view of Kadifekale.

As a result of the building of houses without permission, whose number increased rapidly with the migrations beginning in the 1960's, today the Fortress has reached a state where it is unable to breathe. As well as the unauthorized building seen around it, the inside of the Fortress is also seen to have become inhabited (Baran and Çiçek, 2006).

Method

The research method was based on the geographical rectification and digitalization of topographic maps, aerial photos and satellite images by using remote sensing techniques in order to determine the anthropogenic impacts on the research areas by examining the current status and the change in total surface area and the land use during the years 1987 – 1997 – 2005. The study was consist of two main stages, these being the collection of data relating to the existing situation for the years 1987, 1997, 2005 and their analysis.

Data collection

- Rectification of topographic maps, aerial photos and satellite images:

Using Geomedia 6.0, topographic map was geographically rectified to the Universal Transverse Mercator (UTM) coordinate system. Subsequently the satellite image of 1987, aerial photo of 1997 and satellite image of 2005 were geographically rectified to topographic map.

- Screen digitizing of aerial photo and satelite images:

Kadifekale and Agora District's total surface area in each year and also the land use types in 2005 were digitized.

- Census of building types:

The quantity of building types were examined depending on the program City Guide 2.0 constituted by Izmir Metropolitan Municipality.

Data analyse

- Spatial intersection method in GIS was used to establish the changes in surface area that occurred between the years 1987 - 1997 - 2005.
- The distribution of green area and building areas within Kadifekale and Agora District's in 2005 were determined and the percentages were calculated.
- The increment of building types determined and depending on the findings the dominant type of use in the protected area were analyzed.

Discussion

Agora District

In 2005, in Agora and its close vicinity, of the total area within the boundaries of the 1st degree archeological site, which is spread over 29151.8 m², 2408.8 m² (8.3 %) were determined as being open green area and 5754.7 m² (% 19.7) as area taken up by buildings. Meanwhile, on the 1st degree archeological site, which has a surface area of 66794.3 m², 2285.9 m² (3.4 %) open green area and 40548.3 m² (60.7 %) built-on area were detected.

Of the total 46302.94 m^2 occupied by buildings observed within the boundaries of the 1st and 3rd degree archeological sites, when the type of buildings is investigated ancient edifices, commercial, residential and public premises are encountered. When studied from the point of view of quantity, within the 1st degree archeological site boundary 14.0 % (7) of the total were observed to be antiquities, 78.0 % (40) residential buildings and 8.0 % (4) public buildings. Within the 3rd degree archeological site boundaries, 14.4 % (58) of the structures were found to be antiquities, 0.5 % (2) business premises, 83.3 % (334) residential buildings and 1.8 % (7) public buildings (Figure 3).

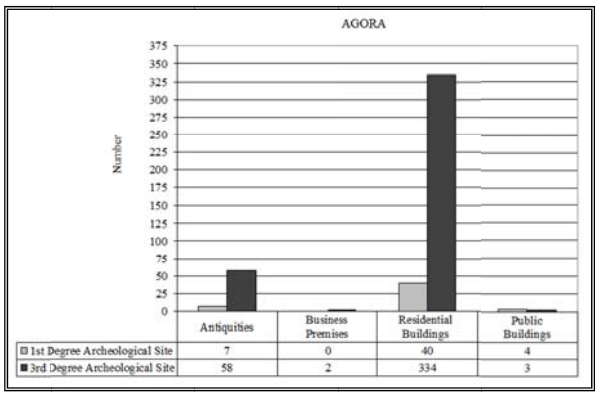
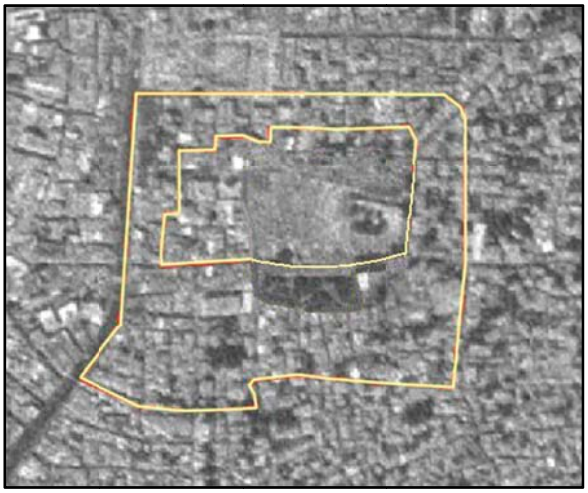
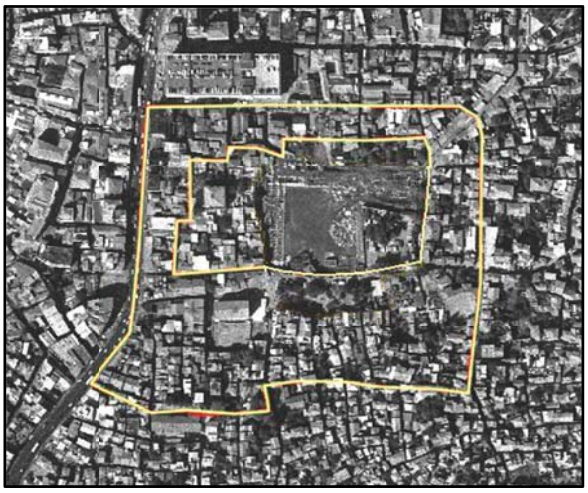


Figure 3. Numbers of building types in Agora District.



The view of 1987



The view of 1997

The view of 2005

Figure 4. The site boundaries of Agora District in each examined year

In the locality of the historical Agora, which lies within the 1st degree archeological site boundaries while in the years 1987 and 1997 an area of 17080.8 m^2 were protected from anthropogenic impacts, with the demolition of buildings on the northern and western boundaries of the site the area protected from anthropogenic impacts was seen to increase by 6316.4 m^2 to attain 23397.2 m^2. As to the structural area on the southern boundary of the Agora, lying within the limits of the 3rd degree archeological site which surrounds the locality, a change of 1272.3 m^2 was encountered between the years 1987-2005 (Table1) (Figure 4).

Table 1. The total areas in Agora District which is not structured

Agora District	Areas Not Structured (m^2)		
	1987	1997	2005
1st Degree Archeological Site	17080.8	17080.8	23397.2
3rd Degree Archeological Site	4443.3	4443.3	5715.6

When the Agora and the areas in its close vicinity which have been protected from anthropogenic impacts are scrutinized with regard to percentages, while in 1987 and 1997 79.4 % of the protected areas were within 1st degree archeological site boundaries, 20.6 % remained within 3rd degree archeological site boundaries. In the year 2005, in a similar ratio, it was found that 80.4 % were within 1st degree archeological site boundaries, 19.6 % remained in 3rd degree archeological site boundaries.

Kadifekale District

In 2005, in Kadifekale and its close vicinity, of the total area within the boundaries of the 1st degree archeological site, which is spread over 80694.7 m^2, 15196.9 m^2 (18.8%) were determined as being open green area and 4225.0 m^2 (5.2%) as area taken up by buildings. Meanwhile, on the archeological conservation area, which has a surface area of 91006.3 m^2, 11289.3 m^2 (12.4 %) open green area and 48385.2 m^2 (46.7 %) built-on areas were detected.

On the 47610.2 m^2 area taken up by buildings within the 1st and 2nd degree site boundaries, antiquities, commercial, residential and public buildings were observed of the structures within the boundaries of the 1st degree archeological site 6.0 % (26) were found to be antiquities, 9.0 % (4) commercial, and 30.0 % (13) public buildings. Within the boundaries of archeological conservation area, the proportion of residential buildings was 99.6 % (457) and that of public buildings was 0.4 % (2) (Figure 5).

In Kadifekale, situated within the first degree archeological site boundaries, and in its close vicinity, which falls within the boundaries of the archeological conservation area, there was found to have been a change in the northwest section of the area from the point of

view of anthropogenic pressure between the years 1987-2005.

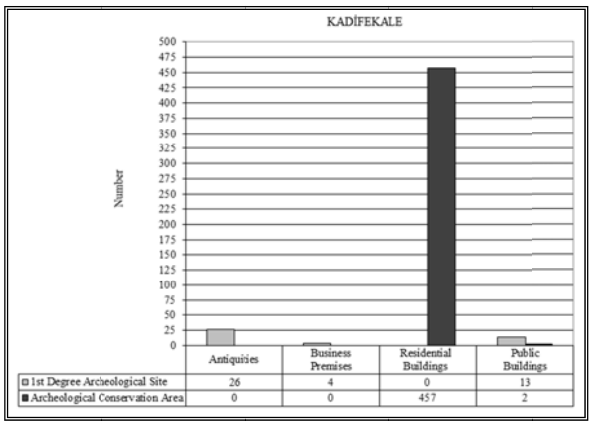


Figure 5. Numbers of building types in Kadifekale District.

Within the site district which remained the same in the years 1987, 1997 and 2005, it was observed that in 1987, while 74275.4 m^2 (69.4 %) of the areas protected from structural impacts were within the boundaries of the 1st degree archeological site, 32672.2 m^2 (30.6 %) were within the archeological conservation area boundaries. On the other hand, in 1997, while 75020.4 m^2 (69.4 %) of the areas protected from anthropogenic impacts were within the 1st degree archeological site boundaries, it was found that 33034.0 m^2 (30.6 %) were within archeological conservation area boundaries. When the year 2005 was examined, it was determined that there was a general increase in the areas protected from anthropogenic impacts and that, while 76469.7 m^2 (67.8 %) were within 1st degree archeological site boundaries, 36279.0 m^2 (32.2 %) of them were situated within the boundaries of the archeological conservation area (Table 2) (Figure 6).

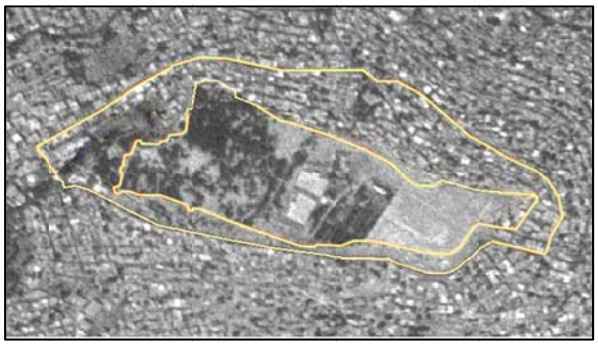
Table 2. The total areas in Kadifekale District which is not structured

Kadifekale District	Areas Not Structured (m^2)		
	1987	1997	2005
1st Degree Archeological Site	74275.4	75020.4	76469.7
Archeological Conservation Area	32672.2	33034.0	36279.0

According to data, it was observed that between the years 1987-2005 an area of 2149.3 m^2 within 1st degree archeological site boundaries and an area of 3606.5 m^2 within the archeological conservation area boundaries were saved from anthropogenic impacts.

Results and Suggestions

As a result of this study it has been concluded that; over the years, in the Agora, the limits of the areas protected as 1st and 3rd degree archeological sites have been expanded. Excavation and research work continuously carried out here. The form of settlement which constitutes the greatest pressure on the Agora District is residential buildings. Despite this fact, the total area saved from the structural impacts in Agora was increased 37,0 % in the 1st degree archeological site and 28.6% in the 3rd degree archeological site between the years 1987 - 2005. Even though the structural impacts on Agora District have been reduced, it has been concluded that the conservation efforts are still not enough and the district needs to be protect with its vicinity.



The view of 1987

The view of 1997

The view of 2005

Figure 6. The site boundaries of Kadifekale District in each examined year.

In Kadifekale there are no on the border of the 1st degree archeological site; however, in the archeological conservation area dwellings constitute the greatest pressure. Nonetheless, thanks to conservation projects which have been constantly on the agenda, the total area saved from the structural impacts was increased 3,0 % in the 1st degree archeological site and 11.0 % in the archeological conservation area between the years 1987 - 2005. But unfortunately within Kadifekale District, the historical environment has not been planned and laid out in a way suitable for attracting the interest of general public.

In Agora and Kadifekale Districts, residential buildings were observed to exert the greatest structural area pressure. Meanwhile, the structures constituting ancient edifices come second. It has been seen that the quality of both structure types are very low in the research areas and the preservation of historical environment in both districts will only be possible with the restoration of these works and with the landscaping of the surrounding area in harmony with the historical fabric.

Agora and Kadifekale Districts which have great importance for the identity of the city also have a significant potential for tourism in the city because of the historical reflections of the places. However, today these properties of the research areas had been overlooked. With the necessary planning and design studies of these areas, they need to be recovered to urban life in harmony with the concept of protection. As mentioned in Doğan (2006), in order for the historical environment to integrate with contemporary economic and social life, taking the course of rehabilitation and exploitation of its tourism potential is one of the ways forward.

In town planning, in conformity with the rules applied in most large cities with a historical past, it is first of all necessary to determine the areas containing antiquities which have come to light and have not yet been excavated. These historical monuments should be shown in their unadorned state and their immediate surroundings should be framed by beautiful gardens and views. The monuments should be surrounded by gardens, separating them from vehicle traffic and should be arranged in a way suitable for archaeological tours. The old and the new city can and must live side by side without encroaching on and without causing harm to one another (Köse, 2007).

With regard to the preservation and handling – down to future generations of the historical and cultural entities which have emerged in our country over thousands of years, the point reached as a result of years of continuous neglect and plunder is that of having lost, even if not all of these entities, the greater part of them (Tuncer, 2011).

One of the foremost problems in historical environment conservation is that of ensuring the continuing of history despite the changing world and living conditions (Anıl, 2007). In the process of planning their towns, preserving the heritage of their past and meeting new demands, civilized people endeavor to transform their cities in a way which is compatible with the past, Due to our country's special conditions, Turkey's cities are undergoing rapid change. In order for this change to have an essence which is regardful of a past stretching over thousands of years, it will be beneficial for new generations to know the history of the city in which they live (Yetkin and Yılmaz, 2011).

If the problems relating to this subject are examined in the sense of problems in Turkey as a whole, according to Tuncer (2011), in Archaeological Conservation Sites boundaries are indeterminate and change continuously. With preservation committee rulings, modifications and transfers of status are made between 1st, 2nd and 3rd degree archaeological sites, which arouse the belief among people that these decisions are "changeable". Therefore, it is necessary that boundary determinations based on scientific studies be made once and that, unless based on new knowledge and documents or other findings, no change be made to these boundaries (Tuncer, 2011).

Central and local governments have to consider the fact that, the conservation of cultural and historical heritage is a necessity and a responsibility. Also from local to central governments, all the administrators have to work with a common policy (Anonymous, 2005).

References

Anıl, M., 2007. Tarihsel Alanlarda Turizm Olgusunun Tasarım – Koruma İlişkisi Üzerindeki Etkileri: Bodrum Örneği, Dokuz Eylül Üniversitesi Fen Bilimleri Enstitüsü, Şehir ve Bölge Planlama Bölümü, Kentsel Tasarım Anabilim Dalı, Yüksek Lisans Tezi (Basılmamış), İzmir, 200 s.

Anonymous, 1983. T. C. Kültür ve Turizm Bakanlığı, Kültür ve Tabiat Varlıklarını Koruma Kanunu, Kanun No: 2863, Yayımlandığı Resmi Gazete: Tarih: 23/7/1983, Sayı: 18113, Tertip: 5, Cilt: 22, Sayfa: 444.

Anonymous, 1999. T. C. Kültür ve Turizm Bakanlığı, Kültür ve Tabiat Varlıklarını Koruma Yüksek Kurulu İlke Kararı, Arkeolojik Sitler, Koruma ve Kullanma Koşulları. Karar No: 658 / Karar Tarihi: 05.11.1999. Ankara.

Anonymous, 2005. Kültürel ve Tarihi Mirasımızı Korumak Zorunluluk Olması Yanısıra Sorumluluktur,

TMMOB Şehir Plancıları Odası Yönetim Kurulu, Planlama, ISSN 1300-7319, 2005 / 1 (31), 128s.

Anonymous, 2006. T.C. Kültür ve Turizm Bakanlığı, Kültür Varlıkları ve Müzeler Genel Müdürlüğü

İzmir – Agora, http://www.kultur.gov.tr/TR/ belge/1-41252/eski2yeni.html. (Erişim Tarihi: Aralık 2011).

Baran, H. ve Ü. Çiçek, 2006. Kadifekale'nin Durum Değerlendirmesi, İzmir Ticaret Odası, http://www.izto.org.tr/NR/rdonlyres/BE32F5AA-8A7A-40F0-8D72-D6DF903ED892/9244/ kadifekale.pdf, (Erişim Tarihi: Aralık 2011).

Doğan, A., 2006. Kentsel Doku, Geleneksel Yerel ve Kültürel Özelliklerin Turizm Mekanına ve Türüne Etkileri Ayvalık Örneği, Yıldız Teknik Üniversitesi Mimarlık Fakültesi, Yüksek Lisans Tezi (Basılmamış), İstanbul, 122 s.

Doygun, H., Berberoğlu, S. ve Alphan, H., 2003. Hatay, Burnaz Kıyı Kumulları Alan Kullanım Değişimlerinin Uzaktan Algılama Yöntemi ile Belirlenmesi. *Ekoloji Çevre Dergisi,* 12 (48) 4 - 9, Türkiye.

Erdem R., Durduran, S., Cay, T., Dülgerler, O. N. and Yıldırım, H. H., 2003. An Experimental Study of GIS-Aided Conversation Development Plan the Case of Sille, Konya. CIPA 2003 XIXth International Symposium, 30 September – 04 October, 2003, Antalya, Turkey.

Karayiğit, A., 2005. Kadifekale'nin Sosyo-Ekonomik Profili Ve Sorunları, İzmir Ticaret Odası, http://www.izto.org.tr/NR/rdonlyres/E1A13BFC-7F56-429D-94F6-407D932A12C6/9249/kalesosyo.pdf. (Erişim Tarihi: Aralık 2011).

Köse, N. B., 2007. Kastamonu Taşköprü Tarihi Kent Dokusunun Peyzaj Mimarlığı Açısından Değerlendirilmesi, Ankara Üniversitesi Fen Bilimleri Enstitüsü, Peyzaj Mimarlığı Bölümü, Yüksek Lisans Tezi (Basılmamış), Ankara, 184 s.

Ömeroğlu, C., 2006. Antakya Kentinin Özgünlüğü ve Günümüz Koruma Sorunlarının Antakya Kentsel Sit Alanında İrdelenmesi, Gazi Üniversitesi Fen Bilimleri Enstitüsü, Şehir ve Bölge Planlama Bölümü, Yüksek Lisans Tezi (Basılmamış), Ankara, 197 s.

Resuloğlu, S., 2005. Koruma Olgusu ve Kültür ve Tabiat Varlıklarını Koruma Kurullarının Yaklaşımları, Dokuz Eylül Üniversitesi Fen Bilimleri Enstitüsü, Şehir ve Bölge Planlama Bölümü, Şehir Planlama Anabilim Dalı, Yüksek Lisans Tezi (Basılmamış), İzmir, 198 s.

Tuncer M., 2011. Türkiye'de Tarihsel ve Kültürel Çevreleri Koruma Olgusu, http://www.kentli.org/makale/m_tuncer6.htm. (Erişim Tarihi: Aralık 2011).

Yetkin, S. ve Yılmaz, F., 2011. İzmir'in Tarihi. İzmir Büyükşehir Belediyesi. http://www.izmir.bel.tr/Standart_Pages.asp_?menuID=824&MenuName=. (Erişim Tarihi: Aralık 2011).