INVESTIGATION OF THE RELATIONSHIP BETWEEN ENVIRONMENTAL SUSTAINABILITY AND GATED COMMUNITIES IN BEYKOZ, ISTANBUL

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ABSTRACT

The aim of this study is to investigate the loss of natural areas because of urban expansion through gated communities, the numbers of which are constantly increasing and to determine how the process is developing. The field of the study was Beykoz, which is located in the megacity of Istanbul, which is home to the greatest number of gated communities in Turkey and where the first examples of gated communities appeared. The transformation of forest areas was evaluated through the examples of two different typologies that are located on the outskirts of the city: an exclusive villa community and a private town gated community.

Keywords: Gated community, environmental sustainability, Istanbul, Beykoz.

ÇEVRESEL SÜRÜLÜLEBİLİRLİK VE KAPALI KONUT SİTESİ İLİŞKİSİNİN ISTANBUL, BEYKOZ’DA İNCELENMESİ

ÖZ

Bu çalışmanın amacı, kentsel yayılma ile yaşanan doğal alanların kaybının, sayıları her geçen gün artan kapalı konut siteleri üzerinden incelenerek süreç gelişiminin nasıl olduğunu ortaya koyulmasıdır. İncelenme alanı olarak, Türkiye’de en fazla kapalı konut sitesine sahip mega kent İstanbul metropolündeki yer alan ve ilk kapalı konut sitesi örneklerinin görüldüğü Beykoz İlçesi seçilmiştir. Kent çeperlerinde yer seçen, iki farklı tipolojide seçkin villa sitesi ve özel yerleşim kapalı konut sitesi örnekleri üzerinden orman alanlarının dönüşümünü değerlendirilmiştir.

Anahtar kelimeler: Kapalı konut sitesi, çevresel sürdürülebilirlik, İstanbul, Beykoz.

1. INTRODUCTION

The concept of sustainable development was officially defined for the first time in the report entitled ‘Our Common Future’, also known as the ‘Brundtland Report’, published by the World Commission on Environment and Development in 1987. According to this definition, sustainable development is ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’ [1]. There were three basic principles of sustainable development as its general purpose at the outset was economic development and the consumption of natural resources in line with the principles of intergenerational equity.

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These were environment, society and economy. Achieving a balance through the fact that these three elements are harmonious with and respectful towards each other constituted the precise definition of sustainable development [2]. The concept of environmental sustainability, which has been in use up to now and dealt with in this study, is one of the basic principles of sustainable development in the context of the renewal of natural resources by themselves and thus maintain their sustainability. What is emphasized here is to ensure that the consumption rate of natural resources does not exceed their rate of reproducing themselves and that they will not be completely destroyed.

Space, as a reflector of culture and identity, is influenced by the change of value judgments, understandings, needs and tastes in societies and technological advancements. Especially in the rapidly growing cities of developing countries, environmentally sensitive areas are often disrupted due to the uncontrolled land markets and ineffective urban land management.

The cities, as dynamic organisms with their natural and built-up surroundings and all social elements, are in the very centre of discussions on sustainability. The reason for this can be shown as the production and consumption processes of urban space.

The urban space, which has active and passive interactions, is not only an important means of achieving sustainable development but also the reason for unsustainable development. More specifically, despite the natural progress of the worldwide population growth, natural resources and the size of habitable natural land always remain the same. However, the spread of population has changed as a result of the differentiation of the role of the cities after the transformation brought about by the industrial revolution. Therefore, for this population whose lifestyle and quality changed, living in the city in a compact form in the balance of housing - working life was considered to be more sustainable than destroying natural lands by spreading and transforming them into built-up spaces. The increasing population in the cities has brought about more complex systems. Due to the complex nature of urban systems, it has become a necessity to offer solutions to problems through sustainable approaches [3].

The same processes are also valid for Turkey. Natural and productive areas that should be protected by the principle of public interest, planning principles, principles of urbanism and many other legal grounds are now lost due to urban expansion. Istanbul is Turkey's most populous city with a population of about 15 million [4]. Therefore, this mega-city is one of the foremost cities that experience the most intense environmental sustainability problems.

There are many reasons can be listed for adversely affecting environmental sustainability in Istanbul. In this study, the case of gated communities is investigated as an example of one of the factors causing the loss of areas where the natural vegetation is forests in Istanbul.

A gated community is an area that was isolated through security, rejects neighbourly relations and has a certain level of quality assurance in terms of space and service within a heterogeneous structure [5], [6].

The district of Beykoz was chosen as the field of study as a district in Istanbul where the first and greatest number of gated community examples appeared starting in the 1980s and increasing since 2000. Since the first examples appeared in Istanbul, the choices of location for gated communities have created controversy in public and have sometimes been brought to court. These communities in many different typologies have turned into 'urban marginalities' as Kurtuluş [7] stated and negatively affected urban health, the social life quality of the public and environmental sustainability in terms of nature by being built up after destroying natural and productive areas with their increasing number.

In this context, the relationship between environmental sustainability and gated communities, defined as a problematic issue based on their choice of location, with their types and reasons for preferring them was evaluated through two examples chosen in the district of Beykoz in Istanbul.

2. THE CONCEPT, TYPES AND EMERGENCE OF GATED COMMUNITIES AND THE REASONS FOR THEIR PREFERABILITY

There is not a single definition of gated communities. Gated communities are frequently referred to in the literature as a closed community, sheltered housing, settlement with security and liberated islands of well-being [6], [8], [9], [10]. The typical feature agreed upon gated communities is that the residents are checked when entering and leaving and that they are separated from the area where they are located by physical separators.

An investigation of the reasons for the emergence of gated communities shows that in the USA, where the first examples of gated communities were observed, there was a preference for protection and security due to the increase in crime rates caused by the problem of social justice led especially by racism and income inequality. The first examples in Europe were seen especially in the United Kingdom, France and the Netherlands, and in these examples as well, living spaces surrounded by walls and iron emerged due to the
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increase in crime rates in cities [5]. In some examples of gated communities, it has been observed that they are completely isolated from their immediate surroundings by natural or artificial elements (see Figure 1).

Figure 1. Examples of gated communities in Europe - the Netherlands [11]

Even though the preferences of residents changed over time due to the features and facilities added to the gated communities to make them competitive in the real estate market, the criterion of location continued to be one of the most important criteria. For example, qualities such as the presence of a natural environment versus an intensive urbanization in the city centre, a quiet and tidy living space versus a density of people and traffic in the city centre or the presence of areas of social facilities in gated communities versus the lack of urban facilities within a walking distance in city centres due to urban planning issues are more preferable. The promise of being novel and trouble-free life in the outskirts of the city among the natural environment, in contrast to the repulsive central urban physical and social conditions, changed the supply-demand balance.

According to Davis [12], there are 3 main factors that make up the reasons for the emergence and preference of gated communities. The first is, as put forward in each study, their being closed to outsiders, i.e. providing security; second is the fact that a gated community offers a lifestyle; and third, the houses in these communities do not lose their financial values, and in fact, they are valuable financial investment tools.

Gated communities can be divided into many types based on their technical and social facilities, aesthetic issues and the factors that make them different and privileged [6], [13]. However, in general, gated communities are classified based on unit type, target group and location [9]. According to this classification, there are 4 different types of gated communities: gated towers, gated villa settlements, gated apartment blocks and gated settlements. This classification has global coverage and also applies to Turkey.

Kurtuluş [14] uniquely classifies the gated communities in Istanbul in three main groups according to the relationship between the gated community and its immediate surroundings in the context of economic, social and cultural processes. These are non-public communities, communities in urban areas privatized by various operations, communities which are the symbols of the changing consumption among the city's new elite.

According to Geniş's classification of Istanbul [15], gated communities are divided into 3 (see Table 1).

| Characteristics | |
|---|---|
| **High-Rise Condominium** | Gated communities located in the city centre and on a prestigious street, protected by high-tech security, have the features of smart buildings, have sports facilities of utmost quality as well as other facilities but in limited space, and have a private administration. |
| **Exclusive Villa** | Gated communities that are located along the coastline and in the forest area, not very large, with prices far above the city average, protected by high-tech security and several personnel, offer communication and sports facilities of the utmost quality and limited social facilities and have private administration. |
| **Private Town** | Located in urban sprawl areas in a rural area or close to natural values such as lakes, rivers and forests; home to large houses with different typologies; protected by high-tech security and a large number of security personnel; offering communication and sports facilities of utmost quality as well as various social facilities and having private administration rules and form. |
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Because of the rapid increase in the population that migrated from the rural areas to the city since the 1950s, slums have been built in the city, and until the end of the 1980s, two different housing options emerged especially in metropolitan cities. In this densely populated city, cooperative and lodging buildings for the public or private sector emerged as a limited option [16], [17]. In the mid-1980s, a period of heterogeneous spatial segregation began gradually based on socio-economic classes [18]. Istanbul was the first city in Turkey that gated communities appeared in the late-1980s.

Figure 2. The change in the number of gated communities in Istanbul between 2000 and 2017 [9], [19], [20]

In 2000 there were only 400 gated communities in Istanbul, while in 2017 there were 3258 of them which were completed (see Figure 2).

3. THE EFFECT OF THE GATED COMMUNITIES’ LOCATION CHOICE ON ENVIRONMENTAL SUSTAINABILITY OF BEYKOZ

The first examples of these gated communities that appeared in Istanbul since the late-1980s were in the district of Beykoz [14]. There are 3258 gated communities in Istanbul, 35 of which are located in Beykoz [20]. Although this number appears to be small numerically, the significant point is the location of them. The numbers of the gated communities that are located in the forest area, agricultural areas, and watershed areas which can be defined as natural, productive areas respectively 12, 6, 11 in Beykoz [20].

The focus of this study will be two examples of ‘exclusive villa communities’ and ‘private town communities’ as defined by Geniş [15] and the effect of these communities on environmental sustainability in Beykoz and Istanbul will be investigated.

Both of the chosen examples are communities located on the forest land. The first sample was selected because it shows the transition of an area which was originally a rural one. The other one was selected because it represented the transformation of an urban area.

3.1. General information about Beykoz

Beykoz is spread over an area of 31279.96 ha and surrounded by the Bosporus in the west, the Black Sea in the north, the district of Şile in the east and the districts of Üsküdar and Ümraniye in the south (see Figure 3). The population in 2018 was 246,700 people [4]. The district has 45 neighbourhoods.
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Figure 3. Beykoz's location in Istanbul and photos of its general view, developed from [3]

The characteristic of Beykoz that makes it different and valuable is that it is located at the intersection of the Black Sea and the Bosphorus at the north of the Anatolian side of the Bosphorus. It is adjacent to Şile in the east and Üsküdar and Ümraniye in the south. The settlements in Beykoz showed a linear development in the north-south direction along with the development of Istanbul.

When the formation and change of the administrative borders of Beykoz are examined, it is seen that it started to reach its present borders in the 1930s (see Figure 4).

Figure 4. The change of the administrative borders of Beykoz based on [21]-[24]

There were 6 districts within the borders of the Municipality of Istanbul before 1930. The addition of Beykoz into these districts has taken place with the District Law No. 1580, which entered into force in 1930. With Law No. 3030 on Metropolitan Municipalities, which came into force in 1984, the concept of contiguous area borders entered the literature in the context of administrative borders. This concept refers to the areas outside the official municipal borders but is within the borders of the municipality service area and where urban planning activities can be monitored. The main purpose of this law was to prevent unplanned development and rent in the immediate vicinity of municipalities. The neighbourhood of Çavuşbaşı, still within its borders, became a municipal town in 1996. With Law No. 5216 that entered into force in 2004, the boundaries of Istanbul Metropolitan Municipality reached out to the provincial borders and the borders of Çavuşbaşı Town Municipality were abolished and added into the borders of the district of Beykoz. The District continued its existence as a district municipality with the 25 neighbourhoods and 20 villages within its borders with Law No. 5747 on Establishing Districts within the Borders of Metropolitan Municipalities and the Amendment of Some Laws, in 2008. With the law on Establishing Metropolitan Municipalities in Thirteen Cities, Establishing Twenty-Six Districts and the Amendments on Several Laws and Statutory Decrees in 2012, the current administrative borders of Beykoz were formed with 45 neighbourhoods in it [21-24].

As of 2018, Beykoz is ranked fourth among 39 districts in Istanbul in terms of area covered and fifth last in terms of population.
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3.2. The Selection of Gated Community Examples for the Investigation in Beykoz

3.2.1. Hürkent Complex in Akbaba Neighbourhood, Beykoz, as an example of an exclusive villa community

Akbaba Neighbourhood is located in Beykoz, in the east of Ortaçeşme Neighbourhood, to the south and east of Tokatköy Neighbourhood and to the west and the north of the Dereseki Neighbourhood (Figure 5 (a-b)). The neighbourhood covers an area of 459.9 ha, and its population was 2,726 in 2017 [4]. The residential area of the neighbourhood is approximately 17% of its total area (78 ha) and the forest area covers a very large area of 301.9 ha.

![Figure 5. Aerial photos of (a) Beykoz district and (b) Akbaba Neighbourhood](image-url)

A western part of the neighbourhood is located within the borders of Bosphorus Back View and Areas of Influence. The village of Akbaba became a neighbourhood, like the other 25 villages in Beykoz, with Law No. 6360 in 2012. Akbaba neighbourhood is located in the region described with the legend of ‘Critically Important Areas’ in terms of Environmental Sustainability’ in the 1:100000 scale Istanbul Environmental Plan approved in 2009. The other features mentioned in the plan were ‘an area where natural and rural character are to be protected’ and ‘an area of ecological agriculture and nature tourism’ [25].

While displaying a rural character in the 1930s when it was first established by people coming intensively from the Black Sea Region in a wave of migration in the 1950s and the people who chose to be located in the area of urban fringe, Akbaba Neighbourhood reached a transition format from rural to urban with its strong transportation links with central Beykoz, particularly Ortaçeşme, and the coast (see Figure 6). With 60 houses in 1935, the neighbourhood had 246 houses in 1980 and 775 in 2017 [4]

![Figure 6. A general view of Akbaba Neighbourhood](image-url)

The size of formerly forested 2B (the abbreviation of the related regulations) areas in Akbaba Neighbourhood is 31.6 ha, which makes up 8.5% of the forested land within the borders of the neighbourhood. Just as with many neighbourhoods in Beykoz, Akbaba Neighbourhood is a valley settlement built around a stream bed. As the main street of the neighbourhood is on the stream bed, there are floods due to seasonal rainfalls. One of the biggest disasters in the past occurred in 2006 when the neighbourhoods of Akbaba, Dereseki and Tokatköy were directly influenced by the flooding of Akbaba Stream (see Figure 7) [27].
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Figure 7. Photos of the flooding in Akbaba Neighbourhood [27]

Construction in Hürkent Complex in Akbaba Neighbourhood, which is the field of study, started in 1987. The foundations of many projects in Beykoz were laid at close dates. Whereas its construction started illegally as the project was located in forested land, it was completed in 1988.

Figure 8. Information on land title and land parcel in Hürkent Complex, developed from [28]

Located on a single parcel of 1.48 ha., the complex includes 31 twin-triplex villas of 180m² each in the same typology (see Figure 8). The complex has quite luxurious architectural features considering the period of its construction.

3.2.1.1 The Process of Construction and Planning at the Site

As for the whole Beykoz District, the first high-scale plan covering the Akbaba Neighbourhood is the 1980 Istanbul Metropolitan Area Development Plan. According to this plan, the village settlement plans were defined
except for the use of state forests, Akbaba village and Polonezköy were defined as rural recreation centres and other areas were accepted as agricultural areas.

Next, 1:25000 Scale Environment Layout Master Development Plan for the Villages in Beykoz District came into force in 1988. In this plan, Akbaba Neighbourhood (a village at the time) was defined under the legend of ‘areas under urban pressure’. With the maintenance of urban pressure, in 1991 Akbaba-Dereseki Reclamation development plan was prepared and construction up to 2 floors in discrete order was granted permission, and all regions which had already been built without permission were legalized with this plan [24-25].

Istanbul Metropolitan Area Master Development Plan, approved by the Istanbul Metropolitan Municipality in 1995, includes many decisions as results of the housing pressure and issues in Beykoz, including those regarding special forest areas, illegal housing and identifying formerly forested lands and zoning them for housing. The administrative court first stopped the execution of this law with an intervention from Istanbul Cultural and Natural Heritage Conversation Board No III and later completely abolished it since it violated the natural vegetation of the area as revealed in a report on the plan which also discussed decisions towards protecting the northern forests. After the cancellation of the plan by the Administrative Court, the area was announced as a natural protected area and it was stated that a reconstruction plan for protection was to be prepared immediately and that the zoning conditions for the transition process loyal to the upper scale plans would be valid until the plan is prepared.

The construction process in the area which remained without a development plan at all led to the rapid development of front-view and back-view regions in Beykoz, especially around the neighbourhoods of Kavacık and Ortaçşme, which owe their development to the Fatih Sultan Mehmet Bridge. The development process in these areas triggered the rural texture, which is characterised by urban sprawl areas, and the process of construction in these areas as transition areas between the urban and rural also gained speed with the reclamation development plan.

With the Master Development Plan for the Protection of the Contiguous Area in Beykoz, which was approved in 2005, the current zoning plan of Akbaba Neighbourhood came into force. In the same year, Beykoz Stage II Implementary Development Plan for Protection, which also covered Akbaba Neighbourhood, was also approved.

Akbaba Village, which was accepted as a rural recreation centre in 1980, was transformed into a rural area under urban pressure over time, was reclaimed through development plans when the housing pace increased and in 2009, was identified by decision-makers as critical to the environmental sustainability within their decisions on the plan, and it was to be protected with its natural and rural character [24], [25]. In 2012, it was transformed into a neighbourhood, i.e. received an urban character, with the change of law in 2012. The master development and implementation plan in force in Akbaba Neighbourhood belongs to 2015, and the judicial process is still ongoing in the upper court for 1:5000 Revision Development Plan for Protection in Stage III Bosporus Back View and Areas of Influence in Beykoz prepared in 2016 for its parts in Bosporus Back View and Areas of Influence whereas works of a 1:5000 Scale Master Development Plan for Protection in the Villages of Anadolu Feneri, Akbaba, Dereseki, Elmali, Görele, Kaynarca, Örnekköy and Zerzavatçı and the Neighbourhoods of Acai lar and Centre.

Therefore, it was determined that upper-scale decisions taken at the beginning of the planning process that started in 1980 could not be transferred to sub-scale decisions and that lower-scale decisions could not be included in the implementation. Uncontrolled and irregular construction, settlement around the stream bed in the valley floor and housing in forested lands in Akbaba neighbourhood have led to the loss of natural and productive areas.

As of 2018, the sale price of a house in the complex is 1.540 $ per m² (exchange rates for Feb 15, 2018, 1$=3.77 TL) [29], but reconstruction and recovery at the same price are not possible after the lost areas are overbuilt.

A gated community in the case of Hürkent Complex led to the loss of 14480 m² of forested area with its choice of location. The destruction of forested areas as an important part of the ecosystem and thus environmental sustainability was led by the legalization of all processes with, first, relevant laws and regulations, and then, with the development plans, which are one of the tools of urban planning.

3.3.2 Acarkent In Acai lar Neighbourhood, Beykoz, As An Example Of A Private Town Community

As an example of a private town community, which is another type of gated community threatening urban environmental sustainability, Acarkent, located in the Acai lar neighbourhood of Beykoz District (see Figure 9), was investigated.
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Acarlar became a neighbourhood in 2007. It was previously connected to Çavuşbaşı Neighbourhood, which had become a municipal town in 1966 [24]. Acarlar covers an area of 543.8 ha. and has 7319 people as of 2017. Acarkent was built inside Privately Owned Saip Molla Forest in 1988. It is located on a single parcel of 229.1 ha. (2 million 291 thousand 280 m²) (see Figure 10).

Just as in the case of Göksu Complex built in the same period, Acarkent led to a huge controversy in public with its choice of location, and the judicial process is still ongoing for the complex at relevant administrative courts for its current plans as of 2019. The controversial issue about Acarkent in 1988 was its spread over a very large area that was unprecedented in Istanbul and its aggressive expansion of construction conditions in a
privately-owned forest. The complex includes 1452 villas, 80 flats viewing the Bosporus, 64 apart flats, 72 studio flats, commercial units and social and sports facilities.

Acarkent, which is located at the intersection of the development direction which started from Ҫavuşbaşı Neighbourhood in Elmalı Basin and continuing towards Riva Neighbourhood, is foreseen to be overbuilt in an increasingly inhabitable area in the near future.

3.3.2.1 The Process of Construction and Planning at the Site

The privately owned Saip Molla Forest, where Acarkent is located, belonged to Saip Molla, who was a Shaykh al-Islam in the Ottoman Empire. It was converted into public land and became a state forest with law No. 4785 in 1945. Upon the objection of the shareholders, they were returned to their owners by the decision of the Council of State dated July 25th, 1948 and numbered 3425/1524, and then, the shareholders transferred all their shares to a single person [30].

Several legislative arrangements, mentioned in the previous sections of the study, were about the settlements which are rich in natural values like forested areas and located on both sides of northern Istanbul such as the Fatih Sultan Mehmet Bridge, which is the second bridge on the Bosphorus where construction began on January 4, 1986. In the same year, with the amendment made in the 17th article of the Forest Law No. 6831 in 1986, private forest areas were opened to construction in accordance with the zoning plan conditions provided that permission was obtained and construction did not exceed 6% of the horizontal area. In 1988, construction permits were obtained, and the construction of villas and many commercial buildings was completed in Acarkent. The construction of the 2nd Bosphorus Bridge was completed the same year. At this point, the area of 6% was at the centre of the discussions that started with the relevant professional chambers and non-governmental organizations working for nature conservation. According to Article 10 of the Regulations on the Actions and Procedures to be Performed in Forests Owned Privately and by Public Utility Institutions published in the Official Gazette No 24736 in 2002, private forests will be protected by the characteristics of the forest and a construction permit will be given at the weakest part of the forest and 'all kinds of infrastructure, including facilities taken over by the public and other social, administrative and commercial facilities and the connection paths between them in the zoning plan, cannot cover an area larger than 6% of the whole private forest. The construction in Acarkent continued after 2002, the same article of the same law was amended again in 2005. With this amendment, the areas covered by 'energy transfer lines, natural gas lines, communication lines, sewage lines and infrastructure facilities' were excluded from the 6%. Due to the legal regulations that were not changed until 2012, the construction in the complex has increased. Many legal steps such as, Law No. 6292, Additional Article 9 on Forest Law No. 6831, 'Regulation on Forests Owned Privately and by Public Utility Institutions' dated May 4th, 2016, the approval of the Ministry of Forestry and Water Affairs to higher education institutions to use 15% of the forest area for construction etc. gave more rights for housing.

The latest constructions on sale are the residences built inside the 30-storey AcarBlu twin towers where construction was completed in 2017. Therefore, it is possible to state that construction is still going on in the privately owned forest area, that the forest tissue is completely destroyed and that life in gardens continues in houses bought to live in a natural environment.

The construction of this gated community has also encouraged the construction of others. An example of this is the constructions in the neighbourhood of Soğuksu, which is adjacent to the private town in Acarkent (see Figure 11).

Figure 11. The locations of gated communities in Soğuksu Neighbourhood adjacent to Acarkent [30]
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18 complexes were built only between 1999 and 2009. All complexes have different typological features. 7 of the multi-storey residential or villa-type complexes are located on the natural protected area [30].

The sale prices of the flats in the complexes where sizes vary between 0.2 ha. and 18.3 ha. varied between 7.690 TL and 32.670 TL per square meters in 2018. The average m² value of the houses in different typologies in Acarkent is approximately 10.000$ (exchange rates for Feb 15, 2018, 1$=3.77 TL) [31].

4. RESULTS

In this research gated community phenomenon as only one of the examples in the city is chosen to attract the attention about sustainability’s environmental aspect for showing adversely results. The development processes of two different types of gated communities, which are located at the peripheries of the city and among forest areas and in Beykoz district of Istanbul, were studied. In the review process, legal plans, reports, parcel title information as well as aerial photographs used in urban planning were evaluated chronologically. As a result of the evaluation; the areas that still have a rural character do not have an

information as well as aerial photographs used in urban planning were evaluated chronologically. As a result of the evaluation; the areas that still have a rural character do not have an

hand frequent change of laws and regulations for the planned areas are found to be noteworthy.

Transforming and losing naturally rich areas that should be protected or the areas that should be constructed according to the relevant regulations can cause a harm not only to the ecosystem but also to the human life as it occurred in Akbaba case due to flooding. The transformation of forest areas of 229.1 ha. and 1.48 ha. into gated communities in urban and rural areas was investigated as one of the examples that adversely affect environmental sustainability. The protection of the environment, one of the most important components of the globally accepted sustainable development target since 1987, has the same importance today. In addition to decreasing the size of the natural productive areas, it is not possible for forest areas, watershed areas, wetlands etc. to perform the same function in the ecosystem again after being built-up. Beykoz had a dramatic experience by having 29 out of 35 gated communities that are already constructed in these areas. The gated communities are manifestations of the spread of urban development with the increasing population of Istanbul as a megacity in the world-scale. However, the fact that these gated communities are built at the peripheries of the city, where natural values were still maintained, creates a problem for the near future as seen in the examples that were investigated.

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