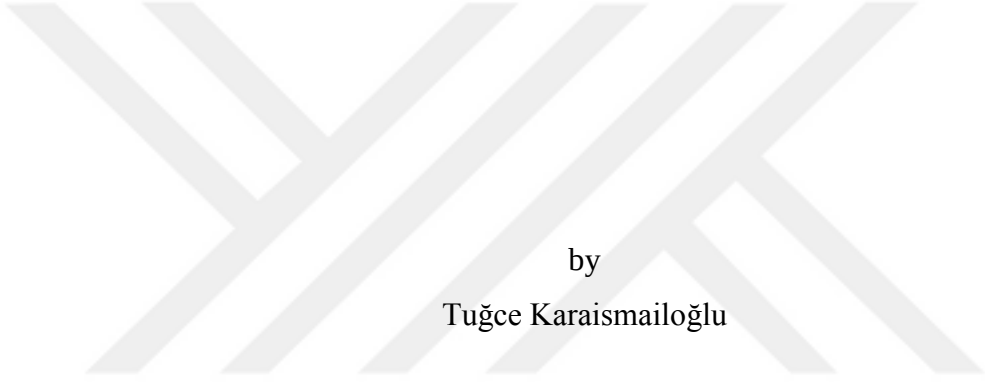


AN ANALYSIS OF THE PROBLEMS ARISING FROM THE TRANSFORMATION OF
ISLAND SETTLEMENTS CLOSELY RELATED TO THE MAINLAND: THE CASE
OF HEYBELİADA



by
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ABSTRACT

AN ANALYSIS OF THE PROBLEMS ARISING FROM THE TRANSFORMATION OF ISLAND SETTLEMENTS CLOSELY RELATED TO THE MAINLAND: THE CASE OF HEYBELİADA

Heybeliada, which is closely associated with the mainland, has undergone continuous sociological, cultural, and architectural changes since the beginning of the first settlement. It is observed that this change has accelerated particularly in recent times, and the Island has undergone a significant transformation. Accordingly, the causes of the transformation on the Island, the determination of the problems related to these causes, and the seek for solutions to the determined problems have become the main topic of conversation, which has been the major motivation of this study. In the light of this aim, a comprehensive literature review was carried out on Heybeliada, including the geographical, topographical, and geological structure, climate and vegetation, population and economy, transportation network, mines, and ports. The historical events affecting the history of Heybeliada were identified. Based on the location determination activities and the investigations on the alterations in the urban fabric of Heybeliada, the preference of Heybeliada by the new residents was determined as the most important reason among the reasons for transformation. In this context, the importance of the island culture and being an islander, the coherence of the living conditions in Heybeliada with the Cittaslow urban movement, which is one of the growing recommendations for urban ecological life and, the role and importance of Heybeliada within the conditions of the pandemic were demonstrated. The changes in the functions of public buildings were examined, the idle structures were identified, and the presence and activities of non-governmental organizations in Heybeliada were mentioned as the other reasons. In addition, the changes brought about by the course of life were described based on observations, examinations, and individual interviews on the beginning of the summerhouses to be also used as winter houses, and the process of renting the houses. The problems caused by these transformations in Heybeliada were determined with a survey. The proposed solutions for these problems were presented and classified.

ÖZET

ANA KARA İLE YAKIN İLİŞKİLİ ADA YERLEŞİMLERİNİN DÖNÜŞÜMLERİNDEN DOĞAN SORUNLARIN İNCELENMESİ: HEYBELİADA ÖRNEĞİ

Anakara ile yakın ilişkili olan Heybeliada, ilk yerleşimin başlamasından bu yana, sürekli olarak sosyolojik, kültürel ve mimari değişimlere uğramıştır. Bu değişimin, özellikle günümüze doğru daha da hızlandığı ve Ada'nın belirgin bir dönüşüme girdiği gözlenmektedir. Dolayısıyla, Ada'daki dönüşümün nedenleri, nedenlere bağlı oluşan sorunların belirlenmesi ve belirlenen sorunlara çözümlerin aranması konuları gündeme gelmiş ve bu araştırma için en önemli yönlendirici olmuştur. Bu amaç ve doğrultuda, Heybeliada'nın coğrafi, topografik ve jeolojik yapısı, iklim ve bitki örtüsü, nüfus ve ekonomisi, ulaşım ağı, madenleri ve limanları geniş bir literatür taraması ile incelenmiş olup, Heybeliada'nın tarihçesini etkileyen tarihi olaylar tespit edilmiştir. Heybeliada'nın kentsel doku değişimleri ve mekan tespit çalışmaları yapılarak, dönüşümün nedenleri içinde, Heybeliada'nın yeni kullanıcılar tarafından tercih etmelerinin başta geldiği belirlenmiştir. Bu bağlamda, Adalı olma-ada kültürünün önemi, gelişen ekolojik kentsel yaşam önerilerinden biri olan Cittaslow kentsel akımının Heybeliada yaşam koşullarına uyumu ve pandemi koşullarında Heybeliada'nın rolü ve önemi ortaya konmuştur. Diğer nedenler olarak, kamusal yapıların fonksiyon değişimleri incelenmiş, atıl bırakılmış yapılar tespit edilmiş, Heybeliada'daki sivil toplum örgütlerinin varlığından ve faaliyetlerinden söz edilerek, yazlık konutların kışlık konut olarak kullanılmaya başlanmasından ve evlerin kiraya verilmesi sürecine kadarki mevcut yaşamın getirdiği değişimler gözlem, inceleme ve bire bir görüşmelere dayalı olarak açıklanmıştır. Bu analizler sonucunda yapılan bir anket çalışması ile söz konusu dönüşümlerin doğurduğu Heybeliada sorunları tespit edilmiş çözüm önerileri sunulmuş ve bu çözüm önerileri gruplandırılmıştır.

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1. INTRODUCTION

Space is a phenomenon, which changes its form, turns into other spaces, and transforms in time. In the simplest sense, space means "shaping, limiting" for the urban people. What does the production of space stand for? How is the production of space realized? According to Lefebvre, there are two forms. The first of these is the social production of space, and the second one is the mental production.

If there is the production of space and the process of the production of space, there is also history. Productive forces (nature, working, organization of work, technique, and information) and, of course, production relations have a role to be determined in space production. The transition from one mode of production to another is of great importance since it is the effect within the social production relations, which can be included in the space by overturning the space. Since each mode of production has its own space as per the hypothesis, a new space is produced during this transition [1].

It is not sufficient to examine only the special conditions such as having a certain form, functioning, wearing, and tearing of space. General styles of production, the history and sociological structure of the societies dominated by these styles of production should also be taken into account. It is necessary to determine the functional alteration of the space over time, its adaptation to the urban population based on the changing everyday lifestyle, and the problems of the Island. In addition, sustainable solutions should be provided for these problems [1].

The perception of space, which is a general concept, is defined as "shaping, limiting"; in this context, Heybeliada was chosen as the location of the study, based on the fact that it has witnessed many productions and transformations of space, it has hosted various communities, and is in close proximity to the Metropolitan City of Istanbul. Heybeliada is located in the center of the Islands. It ranks second among the Princes' Islands in terms of size. It is the greenest island of the Princes' Islands. Its ancient name was "Halki", which means copper in Greek. It has four hills, the highest of which reaches 140 meters. Throughout history, people preferred Heybeliada for resting, retreating, exercising their religious beliefs, and worshipping. Sometimes, they preferred the Island for educational purposes or for obligatory reasons such as exile or disease. Due to its climate, vegetation, and natural beauties, Heybeliada was a symbol of peacefulness for its residents.

Heybeliada became a rehabilitation center due to its large pine forests and their benefits in the treatment of individuals with many respiratory diseases. In time, internal and external migration due to political, social, and cultural reasons caused the alteration of the residents' social and spatial structures. As a result of these alterations, the Island lost some of its qualifications as a summer resort, training center for the clergy, and a health center. The ever-changing spatial processes damaged both the natural and the historical environment of the island [2].

In the context of sustainability, Heybeliada was believed to be a convenient location for the study, based on the comprehensive literature review performed on the subject, one-on-one interviews made with the residents of Heybeliada, the problems identified about the locations examined, and the analysis of the spatial transformation processes.

1.1. OBJECTIVE

Planning studies of various scales and themes were carried out in the Princes' Islands during the Republic Period, and especially in the 1950s; however, no applicable plans were produced until recently. For this reason, Heybeliada has experienced important problems such as illegal and uncontrolled buildings, bad zoning practices, destruction of forests and coastal areas, and changing conditions of construction as a result of social and political changes thereby lost a significant part of its natural and cultural qualities.

The large construction works in the mega-city of Istanbul, which is only a few miles away from Heybeliada, and the loss of green areas, forest lands, coastal areas, and recreational urban reinforcement areas as a result of the phenomenon of urban transformation, forced Adalar to turn into entertainment and recreation areas.

The growing construction, uncontrolled daily tourism, electric vehicle traffic, and the emergence of consumption-oriented spaces led to a growing concern about the threat of deprivation and destruction of natural life and preserving the urban fabric of Heybeliada, which is known as the greenest island of the Princes' Islands. There is an increasing risk of deprivation of the city's right to the residents of Heybeliada and Istanbul due to increased construction, destruction of natural life, and loss of historical and cultural values.

The purpose of this thesis is to question the processes of spatial transformation experienced by Heybeliada along with the political, economic, social, institutional, and cultural contexts affecting these changes based on the changing concepts of daily life. In addition, it aims to address the relationship of the Island with the rapidly changing city of Istanbul and propose solutions for the Island's problems.

1.2. SCOPE

The scope of this thesis involves a detailed study of Heybeliada, which is included in the Urban Protected Areas, in terms of its urban fabric, physical anthropological characteristics, and history. In this context, documentation was made, photographs were taken, and satellite images were used.

In addition, the thesis covers the required analysis, problem determinations, and evaluations specific to Heybeliada. Accordingly, a functional analysis of the existing buildings was carried out, and examinations were made on the buildings' conditions with transformed functions, idle buildings, and the registered housing structures. Investigations were made on the residents' preferences and the effect of concreting in Istanbul on the islander and island culture. The problems were identified for the improvement of the urban architecture and urban fabric and their transfer to future generations. Sustainable solutions were proposed by taking advantage of technological developments.

1.3. METHOD

In the present study, the transformation of spaces registered residential buildings transformed and idle structures of Heybeliada, a settlement closely related to the mainland, were examined. In addition, the problems of the Island were identified through one-on-one interviews with the islanders, and proposed solutions were presented.

Following the introduction, purpose, scope, and method, the second part of the thesis involved general information about Heybeliada. The geographical location, physical characteristics, topography and geological structure, climate and vegetation, population and economy, transportation network, mining areas, and ports were mentioned on a

theoretical basis. The history of Heybeliada and the important events affecting the Island were listed in chronological order. Information was given about the island during the Byzantine, Ottoman, and Republic periods.

In the third part, the contemporary urban fabric of Heybeliada, the monumental places, religious, training, health and accommodation facilities, and recreation areas were examined and illustrated. The subject continued with Registered Housing Structures, and the analysis of the buildings was presented in a table.

In the fourth part, the basic indicators and reasons for the vital and spatial transformation on the Island over time were explained. The transformations of existing buildings' functions, the structures with transformed functions, and the idle structures were identified and presented in a table.

In the fifth part, the survey, which was administered to determine the problems of Heybeliada, was explained, and the main problems of Heybeliada were revealed. The results of the survey were evaluated by creating tables and charts.

In the sixth part, proposed solutions were presented for the problems identified in the previous chapter, considering the changing conditions. All proposed solutions were classified in terms of major proposed solutions.

In the seventh part, important outputs were mentioned as results, in line with all the data collected from the beginning to the last phase of the thesis.

2. ANALYSIS OF HEYBELİADA

The first sign of humans on the island dates back to 6th century B.C. In his works, Aristotle mentioned the precious copper that used to be mined in the past. The first name given to the Island was "Demonesos". According to Aristotle, a man named Demonesos used to live on the Island. He used to mine and process copper from the caves in the bay, known as the Cam Harbor today [3].

For this reason, the oldest and the most common name of the Island was "Halki". Halki comes from the term "halkos", which means copper in Latin. The first inhabitants of Heybeliada were the Greeks. The first settlement was on the coastal zone. The people, who came from Andros Island in the Aegean Sea, settled and engaged in fishing [4].

The French were the first foreigners who used the Islands as summer resorts at the end of the 18th Century [5]. Until the beginning of the 19th century, it was a quiet island inhabited only by the coastline fishermen. The other parts of Heybeliada were used by the monasteries [6].

With the domination of the Byzantine Empire, churches and monasteries were built. The patriarchs and other clergy, princes, and princesses had used Heybeliada as a resting and summer resort. Heybeliada was not affected much by the conquest of Istanbul by the Turks and the Ottoman Empire's rule. It continued to be an island that was mostly inhabited by the Greeks. Until the 19th century, the majority of the population on the island consisted of the Greeks [3].

In the middle of the 19th Century, the importance of Heybeliada suddenly increased when the ferry started to operate between the Islands due to the opening of the Seminary, which was the only higher education institution of the Orthodox community, the Elen Trade School, which was again a first in Turkey, and the Naval School. After the events occurred between September 6th and 7th in 1955, the Greeks from Istanbul started to immigrate to Greece, which affected Heybeliada in sociological, cultural, and architectural terms [7].

After this date, the proportion of the Turkish population in Heybeliada increased. Today, it has gained importance as a resort with an intense Turkish population, which bears natural and cultural heritages, and reaches the maximum number of tourists, especially in the

summer months. It is also important as a touristic region with a large number of second housing reserves.

2.1. GEOGRAPHICAL LOCATION

Heybeliada is 1,250 meters to Büyükada in the east, 650 meters to Burgaz in the west, and between 4 and 5 kilometers to Istanbul's Anatolian side. The surface area of Heybeliada is 240 hectares, which equals to 2.35-kilometer squares. The Island's width in the Northeast-Southwest direction is 2,750 meters long, and its widest region in the Southeast-Northwest direction is 1,375 meters long. According to the latitude and longitude degrees passing through the Seminary, Heybeliada is located on the 40° 50' 2" North Parallel and 29° 05' 54" East Meridian [3]. Figure 2.1. presents the map of Istanbul, indicating the geographical location of Heybeliada.

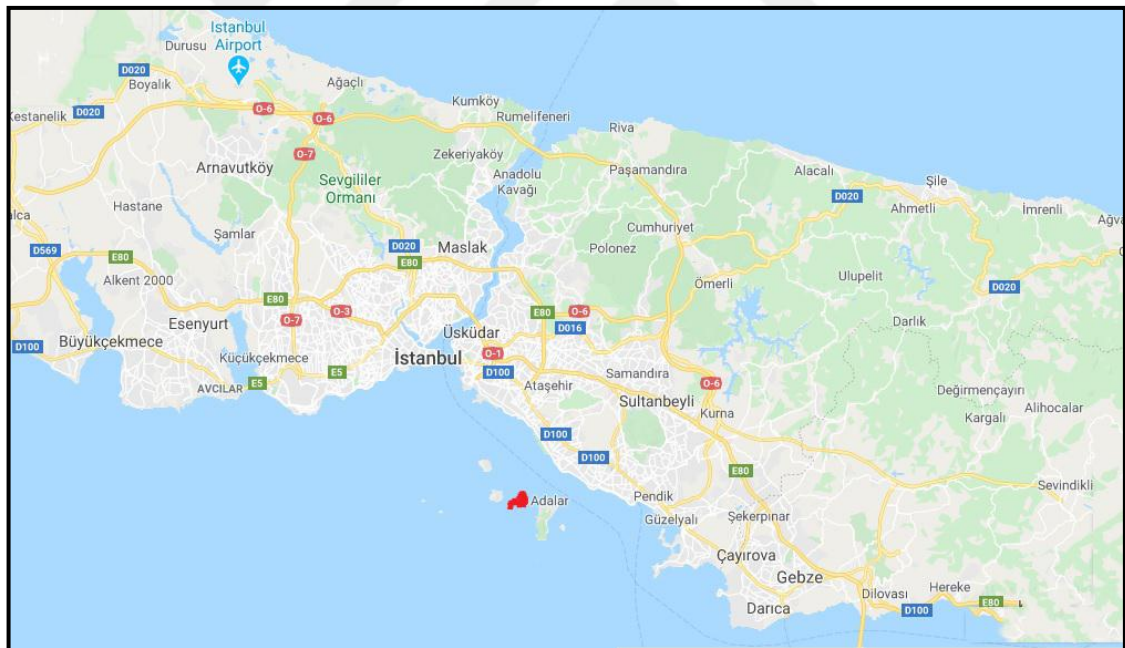


Figure 2.1. Geographical location of Heybeliada [8].

2.1.1. Physical Properties

Heybeliada consists of four hills. There are plains, beaches, and coves at the foot of the hills. Some parts of the beaches are very steep, in the form of cliffs. The highest hill of the Island is the Değirmen Hill which hosts the ruins of a mill. It is 136 meters high [4].

The hill, which is an eastward extension of the Değirmen Hill, is the Taş Ocağı Hill. It is indicated as the Köy Mill on the map. It is 128 meters high. There is a quarry on this hill. The stones used in the construction of the first pavements of the island were obtained from this hill [2]. Figure 2.2. presents the map of Istanbul, indicating the location of Heybeliada.

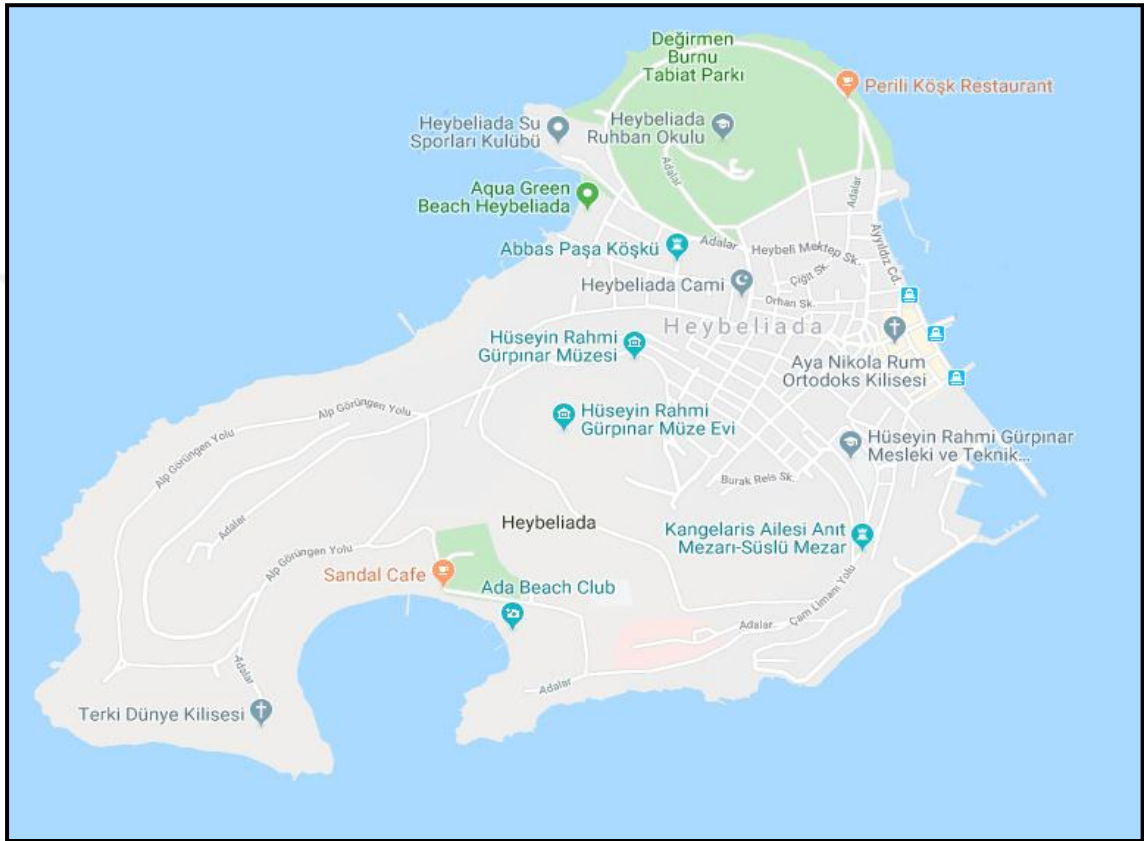


Figure 2.2. The map of Heybeliada [9].

Makarios Hill is a lower hill, which is located in the west of the Değirmen Hill and faces Burgazada. The Monastery of the Metamorphosis of Christ the Savior is located on this hill. It is 98 meters high. The Ümit Hill, formerly known as the Papaz Mountain, is located in the north of the Island. It is where the Seminary is located. It is 98 meters high [2].

Heybeliada consists of the pieces of land detached from the Kocaeli peninsula as a result of a collapse. It consists of the elevated rocks, when the South part was submerged due to the descending and ascending of the Thrace-Kocaeli peneplains (the pieces of land formed due to soft and rugged erosion). Princes' Islands consist of the ancient layers belonging to the first period. Arkose and quartzite are seen in the higher parts of the Island. The coasts and plains are covered with new alluvial deposits [4].

2.1.2. Topography and Geological Structure

The highest hill of Heybeliada is the Değirmen Hill. It is 136 meters high. The amount of land inconvenient for settlement is 8.59 hectares. The orientation of the settlement is towards the North [10]. Figure 2.3. presents the map indicating the topography of Heybeliada.



Figure 2.3. Topography of Heybeliada [11].

The Islands are located to the north of the North Anatolian Fault passing through the Marmara Sea, and they are affected by this active fault in the East direction. Paleozoic and Cenozoic deposits are seen on the Islands within the scope of the region's geological structure. Paleozoic deposits began to be deposited in a terrestrial environment. This was followed by marine deposits and concluded with the basin deposits [12].

The units of rocks forming the islands' ground were exposed to a lot of chemical and mechanical effects. In addition, Adalar contains the Aydos Formation, Kurtköy Formation, Tuzla Formation, slope debris, alluvium, and filling areas. While there were many

underground resources operated on the Islands in the past, none of them are operated today. In the District of Adalar, soil thickness does not exceed 15-20 cm [12].

2.1.3. Climate and Vegetation

The vegetation of the Island consists of the maquis, which is common in the Mediterranean climate. It is the typical vegetation of the Mediterranean. It consists of short, dwarf bushes. Maquis is called "funda" in the colloquial language. Maquis is green during the summer and winter seasons and is resistant to drought. It has hard leaves. It has a nice and strong odor. On the Island, the most common type of maquis is the British Oak. British Oak is the short type of the publicly known Valonia (Turkish) Oak. It has small acorns [6].

Genista and mimosa, which are the types of maquis with flowers, are the symbols of Heybeliada. It has a nice fragrance with yellow flowers. It grows on the steepest slopes. According to the old books, people used to get dizzy from flowers' fragrance on the Island. Strawberry Tree grows in the South part of the Island. It has a pink, reddish appearance similar to the strawberry [7].

Heather is a common type of plant that grows on the touring route. In addition, cade, olive, lavender, thyme, myrtle, hackberry, rosemary, ruscus, bushy juniper, kermes oak, mastic tree, turpentine tree, strawberry tree, genista, ryegrass, rose laurel, and honeysuckle grows on the Island. The climate of the Island is suitable for growing olives, figs, and grapes. The lands of the Island are also suitable for wheat and barley, evidenced by the mills in Değirmenburnu [2].

Heybeliada is the island with the largest pine forest compared to its surface area. Its entire area is 240 hectares and 980 m². Approximately 150 hectares of the total surface area are covered with trees. Approximately 3 hectares are covered with maquis [3]. In parallel with the weakening of the monastery life after 1453, there was a decrease in the number of cereal and vegetable cultivation fields, which had been important until then. On the other hand, it was observed that the maquis fields expanded and the intensity of the pine trees increased by the end of the 19th Century [13].

According to the old engravings, the pines used to be generally concentrated around the Monastery of Hagios Spyridon and the Sanatorium. Other areas were clear, and the forests started to grow as of 1800. The pine and red pine trees were brought to the island from outside and planted by the people. The second most important type of pine is the Aleppo pine. It is found in the entire Ümit Hill, sometimes among the maquis. Looking at the vegetation outside the settlement area of Heybeliada, the Islands are observed to have coniferous trees, maquis, and garrigue (shrub) species [2].

2.1.4. Population and Economy

Today, the population of Heybeliada is around 4 Thousand, including the people who constantly reside during the summer and winter. As with other islands, ferry services to Heybeliada started in the mid 19th century. The population of Heybeliada, which was determined as 800 in 1820, increased to 2000 after the start of the ferry service. Heybeliada, which calmed down like the other islands during the War of Independence and the population exchange, started to regain its vitality in the 1950s [14].

The population of the Islands is presented in Table 2.1. according to the census performed at different times.

Table 2.1. The population chart of Heybeliada [12].

Year	Population of Heybeliada
1997	5.623
2000	5.529
2008	3.763
2009	3.890
2010	3.921
2014	4.885
2015	4.785
2016	3.747
2017	3.757
2018	4.158

The population of Heybeliada increases nearly ten times in summer compared to the winter season, and the increase on weekends exceeds this rate [15]. Heybeliada has a high tourism potential with its natural and cultural values, and there is no industrial establishment. The residents generally work in the fields of trade, public service, tourism, and service. Some islanders are employed in Istanbul. The economy in Heybeliada, which revives with the summer season, enters a stagnant period in the winter months.

2.1.5. Transportation Network

The main transportation pier, which is used for sea transportation in Heybeliada is located in the part of the island facing the mainland, as in the other Islands. In addition to the distance between destinations, the geomorphological structure under the water is of great importance in determining the sea routes. The geomorphological feature under the water affects the structure of transportation vehicles. Transportation to Heybeliada via Istanbul is provided by the City Lines operating from Bostancı, Kadıköy, Kartal, Eminönü, and Beşiktaş, or by sea buses and private sector sea vehicles operating under Istanbul Deniz Otobüsleri Inc. In addition, freight transportation to the Islands is carried out from the Yük Pier in the Maltepe district of Istanbul in the summer and winter [16].

There is a ban on motor vehicles in all of the Princes' Islands. Fire engines, police cars, ambulances, and garbage collection vehicles are the only motor vehicles used to ensure that the islanders' public services are not interrupted. Inland transportation on the Island is provided by coaches with horses, bicycles, electric motors, and freight cars [16]. Figure 2.4. presents the map indicating the transportation stations between Heybeliada and İstanbul (mainland).



Figure 2.4. The transportation stations between Heybeliada and İstanbul [16].

In terms of inland transportation, a security team should be established consisting of people living on the Island in the summer and winter, these teams should operate in areas with heavy bicycle traffic, the number of electric vehicles should be controlled, the parking space problem should be addressed, obstruction of the sidewalks should be prevented, preventing sidewalk violations, the people living on the Island and daily tourists should be encouraged to walk, the bicycle rental shops should be relocated outside the pedestrianized areas, the rental bicycles should be well-maintained, the cyclists should be informed to wear helmets, signaling systems should be created for the cyclists, and the number of traffic signs should be increased. Public spaces, squares, and main walkways should not be used as coach stations due to the touristic activities. Environmentally friendly transportation vehicles should be provided for the elderly and disabled Islanders by the municipality; electric vehicles should replace the public transportation vehicles and the vehicles used in public institutions. Due to the nature of the protected area, a special transportation program should be developed for Heybeliada, and these programs should be implemented by the traffic commission to be established by the local government bodies with the participation of civil society [17].

WRI Turkey Sustainable Cities organized the "Sustainable Transportation Workshop for Adalar" in cooperation with the Adalar City Council, in order to propose and improve sustainable solutions for the transportation problems of Adalar. This workshop was participated by the representatives from the Ministry of Environment and Urbanization and

the Municipality, as well as the local residents. With this workshop, the sustainable transportation problems of Adalar were also expressed by the institutions [17].

In the summer of 2020, the coaches with horses were replaced with electric buses and taxis. The information on the inland transportation vehicles and their routes is presented in Figure 2.5. (a), (b), and Figure 2.6.



(a)



(b)

Figure 2.5. (a) Electric taxi in Heybeliada. (b) Electric bus in Heybeliada [18].

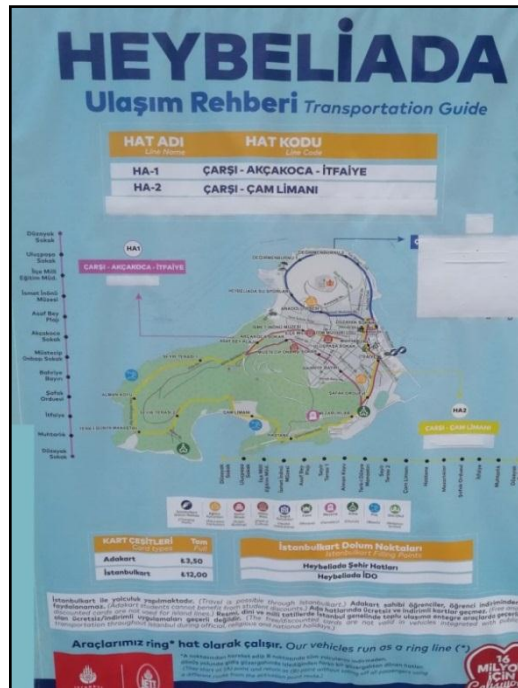


Figure 2.6. Transportation guide of Heybeliada [18].

2.1.6. Mining Areas

There are abundant iron ores in the lands of Heybeliada. The soil turns red due to the presence of red iron oxide. Therefore, the Islands have also been named the "red islands". There is a fault break in the North-South axis of the middle part of Heybeliada. Along this fault, there are copper minerals. (The fault starting from the Kablo beach and reaching the sea through the Telsiz School, the western side of the Çam Port and in the North of the Sanatorium) The area around the fault is the region with the highest concentration of copper. In addition, there is an iron fault passing through Değirmenburnu. The color of the land soil in Değirmenburnu is completely red [2].

The copper mine in the Çam Port gave the Island its name. This mine used to be operated in the past. Since Demonesos of Caledonia operated copper mine in Heybeliada for the first time, Aristothales referred to Heybeliada as "Demonesos Halkos". The Statue of Apollo was made of the copper from the copper mine in Heybeliada. A kind of eye ointment was also made from this copper. Furthermore, the people with poor eyesight hoped that they would heal by visiting the Statue of Apollo [10].

The copper mine, which had been operated in very old times, became of interest again in the 18th century. Today, the remains of the iron and copper mines, which were operated in the past, can be found on the seaside in the Çam Port. These are black, heavy stones with holes. In addition, when viewing the land from the sea at the Çam Port, there are two hills with no grass, consisting of the remains of the mines. One of the hills is close to the Monastery of Hagios Spyridon, and the other hill is located near the Women's Sanatorium. Borax, lapis, and lapis lazuli stones were mentioned to be found in the Çam Port in ancient works.

2.1.7. Ports

There are four ports in Heybeliada. The first one is the Bahriye Port facing Büyükada, the second one is the Iskele Port, and the third one is the Değirmenburnu Port. The fourth and largest port is the Çam Port. Çam Port is the most beautiful port on the Island. This port

used to be called the "Port of Saint Maria". It has been told that the Church of the Virgin Mary, which was built on the hill above the port, was named after this port [10].

2.2. THE HISTORY OF HEYBELİADA

While the historical events involve the socio-cultural and economic structure of the past periods, they also address the transformations that have caused the city to be formed in the context of human-architecture-nature due to the changing conditions in line with the outcome of events.

The story of Heybeliada, which started as an island of exile, continued with various wars, destructions, loots, political changes and transformations, large-scaled fires, and earthquakes. After the changing population strategies, the opening of the public spaces (Naval School), and Turkey's first sanatorium, it has become a summer resort located nearby Istanbul.

2.2.1. The Historical Events Affecting Heybeliada

The important events affecting Heybeliada were listed below in chronological order.

- In 809 AD, the Monastery of Hagia Triada was established on Papaz Mountain, and St. Theodore the Studite was exiled to this monastery [12].
- In 820, the former Queen Teodosie and her son Vasilde were exiled to the Monastery of Hagia Triada, which was the most important exile of Heybeliada. She was the first queen to be exiled to the Island [12].
- In 1182, the Crusaders plundered Istanbul and looted all the monasteries on the Islands [12].
- Between 1348 and 1352, the Venetian Catalanian Navy was seen near the Islands. The Byzantines, who could not survive the pirate attacks, built a high sign tower on the Değirmen Hill. In the following years, a mill was built, replacing the sign tower [12].

- In 1299, the Ottoman State was established. The Byzantine Empire was about to collapse [12].
- In 1412, Musa Çelebi approached Istanbul with his primitive navy, made a sea battle with Manuel Palailogos near the Islands, and was defeated [12].
- The Monastery of Panagia Kamariotissa in Heybeliada was established in 1431 in the name of Saint Jean Baptiste.
- In 1453, Baltaoğlu Süleyman Bey conquered the islands before conquering Istanbul [12].
- In 1562, rich Greeks took shelter in the monasteries of Heybeliada due to the outbreak of the plague [12].
- In 1597, the British Ambassador Sir Edward Burton died in the Monastery of Panagia Kamariotissa [12].
- In 1624, the Russian Kazakhs plundered Heybeliada [12].
- In 1641, Evliya Çelebi visited Heybeliada [12].
- In 1673, the corpse of Panagiotis Nikousios, one of the Sultan's translators was brought to Heybeliada with a great ceremony, and buried in the Monastery of Panagia Kamariotissa [12].
- In 1800, Selim III transformed the mansion of Yuanikos Karacas into the Selim Levent Barracks, and the Turks started to move to the Island [12].
- In 1821, the Church and the Monastery of Hagia Triada were burnt down [2].
- In 1824, the Naval School was opened in Heybeliada [2].
- In 1829, the Russian soldiers, who were captured in the Thrace region during the Turkish-Russian war, were brought to Heybeliada [12].
- In 1831, the Elen Trade School was opened within the premises of the Monastery of Panagia Kamariotissa [12].
- In 1832, the Naval School was opened on the Island for the second time [12].
- In 1839, the Tanzimat Edict was declared [12].
- In 1844, the Church and the Monastery of Hagia Triada were reconstructed, and the Seminary was opened [12].
- In 1846, the first ferry service was made to Adalar [19].
- Between 1854 and 1855, the British and French navies arrived near the Islands due to the Crimean war [12].

- In 1857, the Greek Orthodox Church of St. Nicholas was reconstructed and reached its current form [2].
- In 1859, the Monastery of Hagios Spyridon was established by Arsenios [2].
- In 1861, the municipality was established in Adalar. Large mansions and hotels started to be constructed in Heybeliada [12].
- In 1862, the Monastery of St George was reconstructed and reached its current form [12].
- In 1878, the Russian Army came to the Yeşilköy District of Istanbul, and the British Navy anchored near the Islands to threaten the Russians [12].
- In 1894, the great earthquake happened. The Seminary, the Monastery of St. Arsenios, and various other buildings collapsed [2].
- In 1899, the Ertuğrul ship sank [12].
- In 1900, the Ambela region was burnt down [12].
- In 1908, the Constitutional Monarchy was declared, and Abbas Pasha arrived on the Island [12].
- In 1914, World War I started [12].
- In 1915, the captive British General Townshend was exiled to Heybeliada [2].
- In 1918, the Naval School seized the Seminary, the Elen Trade School, and the Greek Orphan School for Girls The World War I ended, the period of armistice and occupation started [12].
- In 1919, the White Russians arrived on the Islands [12].
- In 1923, Istanbul was liberated [12].
- In 1924, the Sanatorium was opened [20].
- Between 1924 and 1932, İsmet İnönü came to Heybeliada, the Greek-Turkish exchange was performed, and the Island became a township [21]. The Heybeliada Dock was built, there was a great fire downtown, and the Middle School was opened [12].
- In 1933, Atatürk and Venizelos came to Heybeliada [12].
- In 1934, the Heybeliada Mosque was constructed, the roads were paved, electricity, and telephone services were supplied, and the beach was opened [2].
- Between 1936 and 1937, the Pier and the Breakwater were built [12].
- In 1938, the great fire of the Çam Port happened [12].

- In 1941, the Naval School was relocated to Mersin, houses of the seniors were demolished, the lands of the demolished houses were sold, the wooden parts remaining from the demolished houses were used by the islanders for heating. The Refah Tragedy happened (It was the second biggest event in Turkish maritime history. 167 mariners were martyred. The name of İsmet Paşa Street was changed to Refah Şehitleri Street after this event.) [12].
- In 1942, the Atılay submarine sunk, and the pine trees were started to be treated [12].
- In 1944, the Greek Orphan School for Girls was closed, and the Telsiz School was opened [12].
- In 1945, the Heybeliada Synagogue was officially opened [2].
- Between 1945 and 1950, the transition period to democracy was experienced, political activities started in Heybeliada, and the buildings in poor conditions were renewed [12].
- In 1953, the Dumlupınar submarine sunk [12].
- Between 1953 and 1955, the public works started in Heybeliada, and the Naval School seized the Şafak region [12].
- In 1964, the Russians were deported, and their assets were seized by the government [12].
- In 1971, Heybeliada Seminary was closed [12].
- In 1974, the Cyprus Issue occurred [12].
- In 1984, the Greek citizens were granted the right to return [12].
- In 1999, natural gas was provided for the Islands with the off-shore project [22].
- In 2016, the Coup Attempt [23].
- In 2020, the Covid-19 Pandemic started [24].

2.2.2. Heybeliada During the Byzantine Period

During the reign of the Eastern Roman Empire between the 4th and 5th Centuries, Heybeliada welcomed and served the settlement process under the influence of the empire. Many monasteries were built on the Island, and places were created for exile and seclusion. While the prince, princess, emperor, and empress, who were the members of the royal

family, were exiled to the Island for punishment, the monks and priests took advantage of the limitation of the island, determining another spatial theme of Heybeliada as a location of seclusion, avoiding both temporal and spatial worldliness. Considering the distance from Constantinople, the capital of the Eastern Roman Empire that is known as Istanbul today, the difficulties of access to the Island and the endless fights of the throne and religion in the Byzantine Empire made Heybeliada an island of exile and retreat [25].

2.2.3. Heybeliada During the Ottoman Period

While Constantinople was dealing with many invasion threats during the transition period from the Eastern Roman Empire to the Ottoman Empire between the 15th and 19th Centuries, Heybeliada remained a peaceful location. This peacefulness and tranquility did not protect the vulnerable Heybeliada in the middle of the sea from the threats that would be caused by the turmoil in Constantinople [25].

Due to the outbreak of plague in Istanbul in 1562, wealthy Christians fled Istanbul and took refuge in the monasteries in Heybeliada in order not to be affected by the plague. In 1624, the Ottoman navy was in Crimea. Taking advantage of this opportunity, the Don Kazakh Fleet crossed the Bosphorus and landed on Heybeliada, which was defenseless. The Church and Monastery of Hagia Triada were plundered [10].

Evliya Çelebi, who was traveling during the reign of Deli İbrahim, came to Heybeliada in a ship in 1641, and said; There are villages with 100 to 200 houses on these islands, the villages consist of vineyards and orchards, and the rich people of the village are the Greek fishermen [26].

In 1806, Selim III considered the alliance of the French as a security factor against the Russians. Wallachia and Moldavia were attacked by the Russians [10]. The British Ambassador Arbuthnot sided with the Russians, demanding the surrender of the Çanakkale fortifications, the delivery of the Ottoman navy to the British, and the break of all relations with the French. Thus, the Ottomans were engaged in war with both the Russians and the British. The British Navy reached the Marmara Sea and wanted to get water from the Islands; however, the soldiers could not step on the land. In response to the efforts of the navy to land on Kınalıada, the public demonstrated an effective defense together with the

people coming from Heybeliada and Haydarpaşa. On February 20, 1807, the islanders captured the son of the British Admiral. On March 1st, 1807, with a sudden decision, the British Admiral set sail and sailed into the Marmara Sea. The people of Heybeliada were exempted from tax by the Sultan due to their opposition to the enemy. Heybeliada was left alone during the period of the Ottoman Empire until the middle of the 19th Century. The Islands entered a rapid development process after the 1839 Tanzimat Edict, which allowed foreigners to purchase properties. When regular ferry services started in 1846, large mansions and hotels were started to be built in 1855, and the existing churches and monasteries were repaired. The wealthy people of Istanbul, minorities, and foreign nationals turned the Islands into summer resorts during this process of development. As a result of this development, one of the first three municipalities established in Istanbul was the Municipality of Adalar, which was known as the Seventh Chamber (1861) [10].

2.2.4. Heybeliada During the Republic Period

After the proclamation of the Republic, Adalar began to revive as a result of the interest by Atatürk and the Government of the Republic. There is no structure in Heybeliada remaining from the pre-Ottoman period. With the Tanzimat (Reorganization) Edict (Imperial Edict of Gülhane) in 1839, foreigners were granted the right to acquire properties. The ferry services launched in 1846 were the two biggest events in the main development of Heybeliada. As a result of the great earthquake in Heybeliada in 1894, the Seminary, many other monasteries, and buildings were destroyed. The Heybeliada Mosque and Heybeliada Bet Yaakov Synagogue were the works of post-Ottoman and Republican periods [12].

The earthquake that took place in Istanbul on July 10th, 1894, caused great damage to Heybeliada. Halki Seminary, being in the first place, some monasteries and buildings either collapsed or became unavailable [2].

After the declaration of the Second Constitutional Monarchy (1908) and the abdication of Abdülhamid II, the ministers and aides of the Sultan were forced to live in Adalar, and they were called "The Guests of the island" [10].

After the end of World War I, the occupation forces came to the islands following the occupation of İstanbul (1918). Later, as a result of the Bolshevik Revolution (1917), after the defeat of the counter-revolutionary Caucasian Army under the command of General Wrangel, the noble Russians escaping from the Red Army began to come to the islands and reside in the houses of the Island. With the liberation of İstanbul, a period of peace started again on the Islands [12].



3. THE URBAN FABRIC OF HEYBELİADA

Adalar was declared a "protected area" by the High Council of Real Estate Antiquities and Monuments in 1976. In 1984, it was declared a "protected area" by the High Council of the Conservation of Cultural Heritage. The 1/5000 Scaled Master Conservation Plan for the Islands was prepared by the Istanbul Metropolitan Municipality. The drafts of the 1/1000 Scaled Master Conservation Plan for the Islands were presented to the islanders by the local municipality, which prepared the plan to find the former plan insufficient. After that, it was reported that this conservation plan was not prepared for preserving the valuable lands and registered structures of the Islands. Due to its destructive features against the islands' qualification as a "protected area", and as a result of the islanders' reactions, the implementation and development of the 1/1000 Scaled Master Conservation Plan for the islands were suspended [27].

There was disagreement on the authority, parceling and the master plans for conservation among certain ministries [Ministry of Culture and Tourism, Ministry of Environment and Urbanization, Ministry of International Affairs (Greek Issue), Ministry of National Education (Seminary Issue)], certain directorates (Regional Board Directorates, the Directorate for Protection of Cultural Heritage), Istanbul Metropolitan Municipality and the Municipality of Adalar. Due to the disagreements, legal gaps, the weaknesses of the administrative authority, and the insufficiency of the existing buildings, some opportunists started to open unregistered service facilities and expropriated the beach areas, turning them into touristic businesses. The purpose of the 1/5000 Scale Master Conservation Plan for the islands, and the 1/1000 Scale Master Conservation Plan for the Islands was to transform the islands into a recreation, entertainment, and tourism area for the residents of Istanbul. Transforming the functions of the islands caused İstanbul to become a part of the Urban Ecological crisis [28].

With these implementations, İstanbul's urban, economic and ecological problems, which are 20 minutes away from Heybeliada, endanger the natural and wildlife on the islands, damage flora and fauna, and cause the destruction of cultural and urban heritage as well as the spaces of memory. Economic developments due to unearned income from zoning, commercialization of natural areas, and registered architectural structures, the

transformation of places based on daily tourism have damaged the integrity of the urban fabric in Heybeliada. It is condemned to face the threat of destruction unless these policies are regulated [28].

Major factors affecting the settlement areas in Adalar are the natural structure, climate, and distance from the mainland. The downtown, which is the first housing area, still preserves the organic urban fabric. This part of the Island is under the influence of the Northeastern winds. The housing area has turned its back to the Southwestern influence. [4]. Today, the style of the settlement consists of houses with the common use of adjacent gardens, houses with individual gardens, and apartments with no more than two or three floors. The ground floors of the structures facing the pier in the downtown are completely used as shops. The signs of commercial shops, the tables and chairs placed outside, the visual pollution caused by the use of different awnings in each shop, and the violation of the right to road damage the urban fabric.

Figure 3.1. presents the examples of buildings compatible and incompatible with the urban fabric of Heybeliada.



(a)

(b)

Figure 3.1. (a) An example of a building compatible with the urban fabric of Heybeliada.

(b) An example of a building incompatible with the urban fabric of Heybeliada [18].

Figure 3.2 (a), (b) presents an example of visual pollution and road obstruction in Heybeliada;



Figure 3.2. An example of visual pollution and road obstruction in Heybeliada (a), (b)[18].

Figure 3.3. presents an example of sidewalk obstruction by the houses without gardens, and Figure 3.4. presents an example of street obstruction by the houses without gardens.



Figure 3.3. An example of sidewalk obstruction by the houses without gardens [18].

Reinforced concrete structures, which are built near the forest and are incompatible with the urban fabric, can be seen during the ferry trip. The shanty houses, which are built at the

starting point of the natural protected area in the Değirmen Hill region, are against the architectural character and fabric of the Island [2]. Figure 3.5. presents the housing settlements of Heybeliada.



Figure 3.4. An example of street obstruction by the houses without gardens [18].

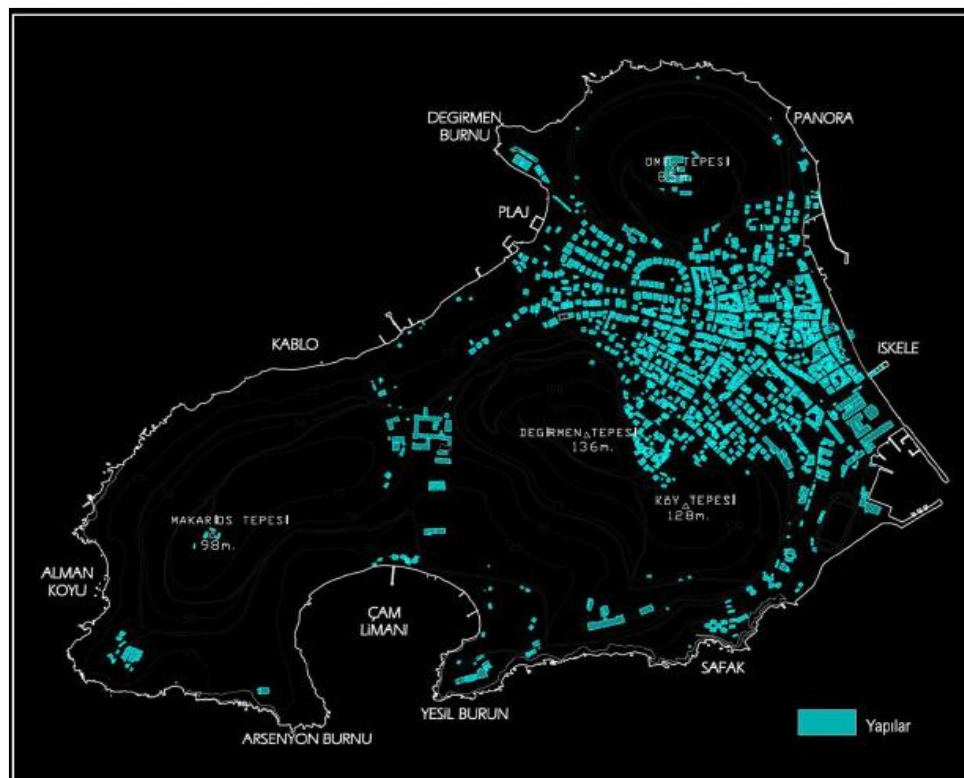


Figure 3.5. The housing settlements of Heybeliada [29].

The subsections involve important explanations about the monuments, religious, training, health and accommodation facilities, recreation and military areas, and registered housing structures, which are located inside and outside the residential and commercial service areas of Heybeliada.

3.1. MONUMENTAL SPACES

3.1.1. Mills

The inhabitants of Heybeliada used to grow barley and wheat in ancient times, and mills were required for grinding these agricultural products. There are two mills in Heybeliada, one at the end of Değirmenburnu and the other at the Değirmen Hill. The mill in Değirmenburnu belongs to the Seminary. It was used until 1900. Today, there are only remains of thick stone walls of the mill on the Değirmen Hill. This mill was built by Higumoni Neftios, the head of the Monastery of Panagia Kamariotissa, in 1710. Figure 3.6. presents Değirmenburnu in Heybeliada.



Figure 3.6. Heybeliada Değirmenburnu [30].

3.1.2. The Ornate Tomb

This tomb was built for the wife of Kangelidis, who was the British Consulate General of Gemlik. The tomb with domed and colored glass, which had an angel statue from Italy on a high pedestal, was built in 1868 [12]. Figure 3.7. presents the Ornate Tomb.



Figure 3.7. The Ornate Tomb [18].

3.1.3. Holy Springs

The biggest water source on the island is the Holy Spring of St. Euphemia, located at the foot of the steep cliff that coincides with the Monastery of St. George in the Southeast of the Naval Academy. Apart from that, there are other wells. The famous well in the Kuyu district, the well in the Çam Port, another well on the way to the Monastery of Hagia Triada, and the Holy Spring of St. Paraskevi constitute the other water resources on the island [10].

3.1.4. The Holy Spring of St. Nicetas

The water of this holy spring was described as the tears of Saint Nikitas and a source of healing. The water coming out of the holy spring was named the "Elixir of Life". The Greeks used to hold religious ceremonies in this holy spring, which was located within the premises of the Naval School. When the Naval School was replaced by the Naval Academy, the holy spring was closed to the public, and no religious ceremonies were allowed [31].

3.1.5. The Holy Spring of St. Euphemia

The second holy spring in the Naval School is the Holy Spring of St. Euphemia. Since it is very close to the sea, it is believed that its water is a mixture of seawater and drinking water. For this reason, a wall was built around the water. This wall prevents the mixing of fresh water and saltwater. In order to meet the water requirements of the inhabitants of the Island, the water of the holy spring had been made available to the public by pumping the fountains. This was abandoned due to the decrease in the level of water. The spring is a magnificent structure made of marble by the Naval School in 1917. As a result of a landslide in 1926, the source of the Holy Spring of St. Euphemia and the taste of the water changed; it got bitter and sour and became undrinkable. Today, the conditions of these holy springs are unknown [31].

3.1.6. The Holy Spring of St. Paraskevi

The Holy Spring of St. Paraskevi was devoted to Saint Paraskevi. It is located on the Ergen Blind Alley. The holy spring can be reached with a few steps taken down. There is a deep well under the holy spring. This well is believed to be related to the Glifa Well [2].

3.1.7. Cemeteries

The Orthodox and Muslim cemeteries are located next to each other. The Muslim cemetery was built by Abbas Pasha. The large gate and walls of the cemetery represent the

characteristics of Egyptian architecture. According to the inscription on its door, it was built in 1911. Table 3.1. presents the cemeteries of Heybeliada and their dimensions. Figure 3.8 presents the front gate of the Heybeliada Muslim Cemetery, and Figure 3.9. presents the front gate of the Orthodox Cemetery [12].

Table 3.1. Cemeteries of Heybeliada and their dimensions [12].

Heybeliada Cemetery	Greek Orthodox	Turkish-Islamic	Armenian	Total
Quantity	1	1	0	2
Area (hectares)	0.57	1.26	0	1.83



Figure 3.8. The front gate of the Heybeliada Muslim cemetery [18].



Figure 3.9. The front gate of the Heybeliada Orthodox Cemetery [18].

3.2. RELIGIOUS FACILITIES

Since the religious facilities in Heybeliada are also monumental in terms of the religious, historical artifacts, and architecture, they can also be considered as monumental spaces. Table 3.2. presents the construction years of the monuments (religious and official antiquities) in Heybeliada.

Table 3.2. Construction years of the monuments religious and official antiquities in Heybeliada [12].

No	Location	Monument	Year of Construction	Plot No	Parcel No
1	Heybeliada	The Monastery of Hagia Triada and the Seminary	1844	96	84
2	Heybeliada	Heybeliada Mosque	1935	116	13
3	Heybeliada	The Holy Spring	-	56	1
4	Heybeliada	The Greek Orthodox Church of St. Nicholas	1857	25	1
5	Heybeliada	The Ancient Mill	-	104	3
6	Heybeliada	The Bet Yaakov Synagogue	1950	60	20

7	Heybeliada	The Monastery and Church of St. George	1882	1	6
8	Heybeliada	The Holy Spring of St. Euphemia	-	1	18
9	Heybeliada	The Monastery of Hagios Spyridon	1868	98	1
10	Heybeliada	The Monastery and Chapel of the Metamorphosis of Christ the Savior	-	0	0
11	Heybeliada	The Monastery of Panagia Kamariotissa	1673-1752	101	4
12	Heybeliada	Naval School	1773	1	23
13	Heybeliada	Cemetery + Bell Tower	1882	1	9

There are three churches and two monasteries in Heybeliada. There is also a synagogue and one prayer room. Table 3.3. presents percentages of the land use for religious facilities in Heybeliada, and Table 3.4. presents the number of religious facilities in Heybeliada.

Table 3.3. Percentages of the land use for religious facilities in Heybeliada [12].

Land Use of Urban Areas		
Religious Facilities	Area (Hectares)	3.45
	Percentage by Total Area (%)	1.37
	Percentage by Non-Forest Land (%)	4.14
Non-Forest Land	Area (Hectares)	83.28
Total Area	Area (Hectares)	251.07

Table 3.4. The number of religious facilities in Heybeliada [12].

Religious Facilities	Quantity	Area (hectares)
Monastery	2	2.39
Church	3	0.79
Synagogue	1	0.07
Mosque	1	0.19
Prayer Room	1	0.01
Total	8	3.45

3.2.1. The Church of St. Nicholas

The Christian fishermen, who earned their living by fishing, built a church in the name of St. Nicholas. St. Nicholas was believed to be the patron saint of the fishermen. The church

Figure 3.11. presents the Greek Orthodox Church of St. Nicholas.



Figure 3.11. The Greek Orthodox Church of St. Nicholas [32].

3.2.2. The Monastery of Hagia Triada – Seminary

It is one of the oldest structures of the Island, which was founded on the hill known as the "Papaz Mountain" in 809. This church was attached to the Sinai Church located in Jerusalem. This church, which was formerly known as "Sion", was later named as the Church of Hagia Triada due to the influence of Holy Trinity, "Father - Son - Holy Spirit". This monastery has an impressive and long story, which dates back more than 1200 years. In 820, Empress Augusta Theodosia, the wife of Emperor Leon V, and her son Basileus were exiled to this monastery, also known as the "Monastery of the Tyrants". The Empress was one of the rare Empresses who were entitled as "Augusta", as she had given birth to a son for the Emperor. The Augusta Family had its unique style of dressing as well as their official entourage and rituals. They had banknotes printed in their names. They had the right to rule the empire by proxy. It was an important event that Augusta Theodosia and her son were exiled to the Monastery of Hagia Triada (Registration ID: HA0077) in Heybeliada, even it was only for two years [33]. Figure 3.12. presents the location of the Monastery of Hagia Triada.

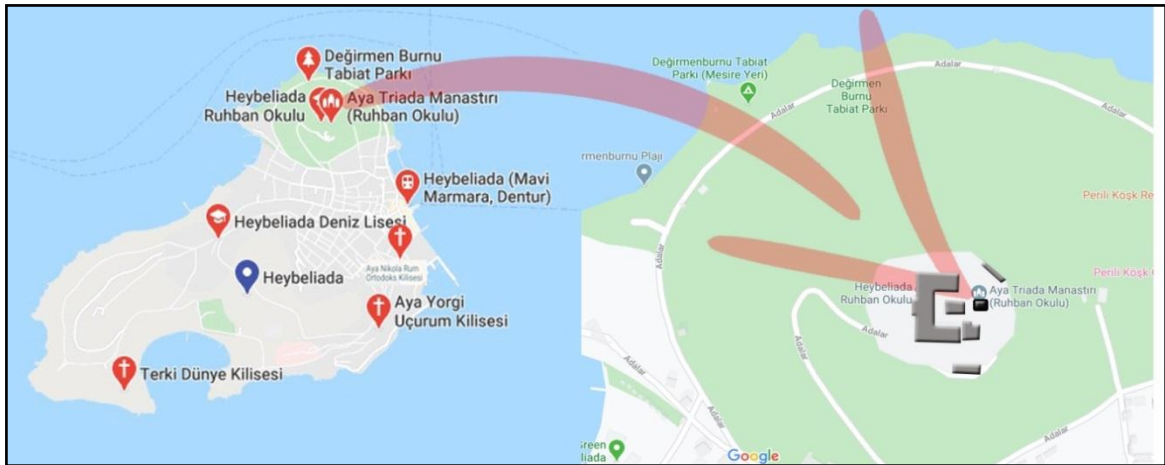


Figure 3.12. The location of the Monastery of Hagia Triada [8].

The Monastery of Hagia Triada is a structure that has survived in history despite many natural disasters, fires, and loots. It has been identified with Heybeliada. The monastery, which was looted and destroyed by the Kazakh pirates, was repaired by Patriarch St. Fotios. On the 6th day of February, the "Name Day of Fotios" ceremony is held in memory of Patriarch St. Fotios in this monastery. The glorious rituals, meetings, and ceremonies are held with the participation of the clergy from all over the world. The monastery is an important center where Christian manuscripts are collected. Today, the Church of Hagia Triada is located within the Seminary. There are many iconic figures on its walls. The iconic figure, which is called the "Blessed Virgin of Consolation", is unique with the depiction of Jesus embracing his mother, the Virgin Mary. In 1844, it was transformed into a school, where the Orthodox clerics were offered quality education of theology. The building, which was damaged to an unusable level due to the great earthquake in 1894, was rebuilt by Architect Fotiadis with the financial assistance of the Galata Bankers. Architect Fotiadis was one of the first graduates of Sanayi-i Nefise School, founded by Osman Hamdi Bey. Fotiadis built a magnificent structure with a ground floor and two floors above, in the shape of the letter "Pi". It was inspired by Greek Byzantine architecture [31].

The new Monastery style, which was built in 1894, was a mixture of neo-classical and neo-Byzantine styles. It is available for visiting today [34]. Figure 3.13. presents the Monastery of Hagia Triada.



Figure 3.13. Monastery of Hagia Triada [35].

3.2.3. Hristos Church

The Monastery of the Metamorphosis of Christ the Savior (Registration ID: HA0083) is located on Makarios Hill. It is a small church with a prayer cell inside an old monastery. It has been told that there was a magnificent mosaic in this church, God was successfully depicted in this mosaic, and it was destroyed by unidentified people. The monks used the monastery for retreating and practicing peaceful worship. The low ceilings are surrounded by stone walls. Çam Port can be viewed from the observation terrace. The Monastery of the Metamorphosis of Christ the Savior is also known as the Church of Transfiguration. It is connected to the Monastery of Arsenios, which is located in the Monastery of Hagios Spyridon. It is devoted to Jesus. In this church, a ritual is held every year on August 6 for the celebrations of the "Feast of Metamorphosis" [31].

A person called Ilia Zeiss, who worked as a textile manufacturer on the Island, established a pig farm in the garden when the church was not open to use. He was a pig farmer for a while in the garden of the church. Suddenly, he left the farm, and relocated to Greece with his family. After this event, Makarios Hill became known as Pig Hill [2].

3.2.4. The Monastery of Hagios Spyridon– and the Church of Arsenios

The Monastery of Hagios Spyridon (Registration ID: HA0079) is located on the right side of Çam Port, on the edge of a steep cliff overlooking the sea through the forest. This Monastery was built for the monks, who abandoned world affairs in order to retreat. It is known as "the Monastery of Hagios Spyridon" or "the Monastery of Tarik-i Dünya". The reason why this monastery took the name of Terk-i Dünya was the story that the aging monks threw themselves into the sea from the steep cliff of the monastery after they were unable to work anymore [13].

A monk named Arsenios wanted to establish his own church and appealed to the Monastery of St George. He was not permitted to build a new church inside. After this decision, Arsenios applied to the Monastery of the Panagia Kamariotissa and received a positive response. He was allowed to build a small church in a desolate area far from the residential area of the Island, on the edge of the cliff to the right of the Çam Port. Arsenios built a church with the help of his wife Eleni and the islander Mastor. The church was dedicated to Saint Spyridon. Saint Spyridon was a miraculous person. He was said to turn a snake into gold, enable a blind person to see, and speak to a dead person. He was depicted as "Tavmatourgos", meaning a person who created miracles. In time, people from the Greek Community started to visit the Church of Arsenios for advice and worship. Mazarakis, who taught at the Elen Trade School, was one of the leading members of the Greek Community. Thanks to the financial support of Mazakaris, the humble structure was rebuilt. The new building was also dedicated to Saint Spyridon. This church was opened for worship in 1868. It was completely destroyed in the 1894 earthquake. The church, which has survived until today after the earthquake, was rebuilt with donations collected from the Greek Community and 200 golds sent by Abdülhamit [2]. Figure 3.14. presents the location of the Monastery of Hagios Spyridon.

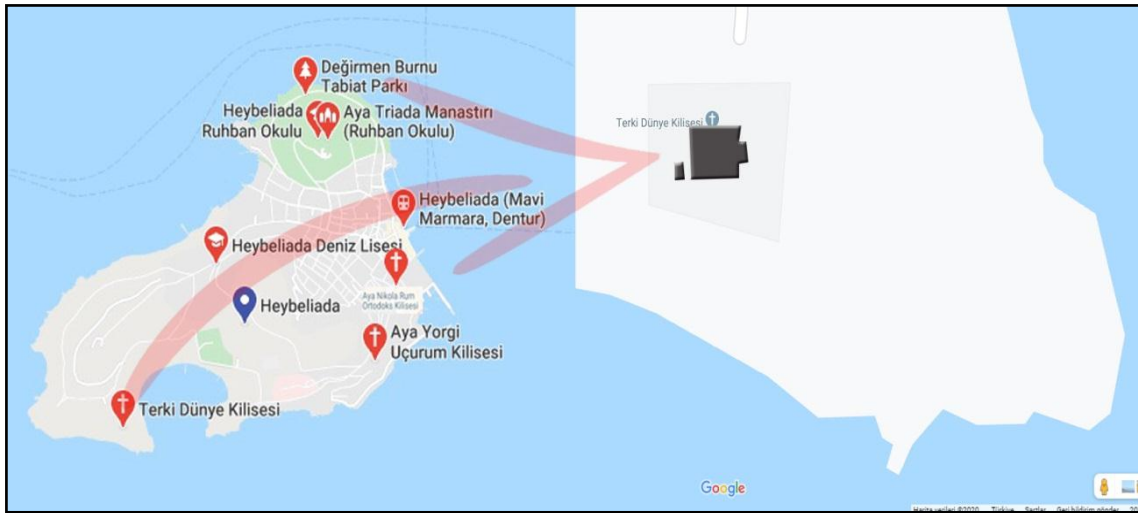


Figure 3.14. The location of the Monastery of Hagios Spyridon [8].

This church was made of stone masonry and had a unique style. In the following years, the walls of the church were plastered, and the church was painted red [2].

Arsenios fell ill with an ulcer during his fasting to live according to the rules of religion. He passed away in 1905 as he did not take the advice of the physicians into account. He was buried within the monastery. On the will of Arsenios, his bones were removed in the seventh year of his death and buried under the holy table in the church. The bells of the church were hung on the Red Pine tree in its garden [13]. On the 12th day of December, masses are held in the church for feast celebrations [2].

3.2.5. The Monastery of St George

The Greek equivalent of the word cliff is "krimnos". The Monastery of St George (Registration ID:HA0080) was built on the cliffs of Heybeliada, overlooking Büyükada and descending towards the sea at an angle of approximately 90 degrees. The name of this monastery is the Monastery of St George. It is known by the islanders as the "Monastery of Cliffs". The coast under the cliffs was landfilled by the Navy and allocated to the Naval Academy after being flattened [2]. Figure 3.15. presents the location of the Monastery of St. George.

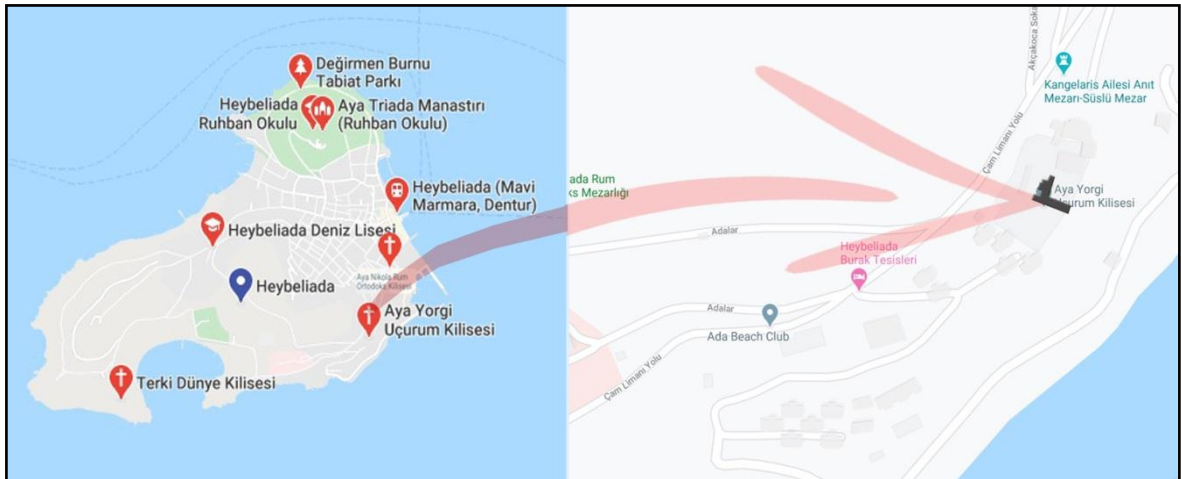


Figure 3.15. The location of the Monastery of St. George [8].

The British author Richard Pococke said the following about the Heybeliada Cliff monastery:

When I visited the Islands in 1739, people, who fled in order to protect themselves from the plague in Istanbul, was taking refuge in the Krimnos Monastery[13].

Towards the end of the 18th century, the monastery was rebuilt by Ioannikos Karacas III, the Patriarch. Karacas was sent into exile for four years as a result of a conflict with the Fener Greek Patriarchy. After his exile was over, he retreated to the Monastery of St George [7]. As Patriarch Karacas failed to come to an agreement with the Fener Greek Patriarchy, the Monastery of St George was attached to the Jerusalem Patriarchy [2]. Karacas managed to establish a collective living complex thanks to the church, school, houses, courtyards, and gardens built in the yard of the monastery [2].

Some of the Russian soldiers, who were captured during the Turkish-Russian war, were brought to this monastery. Many of the deceased Russian soldiers were buried in the garden of the monastery [13]. This monastery's architectural feature involves a plan of "L" shape and a dome sitting on four columns. It is a structure with masonry on the ground floor and wood in the top parts. It has four walls and a tile roof. The row houses, which were built in the monastery in 1861, were rented to Greek families in order to provide income to the monastery. In 1950, the Navy expropriated the monastery, and Greek families' lands expelled them from these houses. These houses were demolished in 1980 to create land for the Naval Academy facilities [2].

3.2.6. The Monastery of the Panagia Kamariotissa

It is one of the oldest monasteries of Heybeliada. It is located in the inner courtyard of a building belonging to the Navy today. It has been told that Emperor Paleologos built the Monastery of the Panagia Kamariotissa (Registration ID:Ha0078) after the death of his wife, upon the original foundations of the "Hagios Yeoryios Church", which was located in the same place. The Monastery of the Panagia Kamariotissa was devoted to the Virgin Mary [2]. Figure 3.16. presents the location of the Monastery of Panagia Kamariotissa.

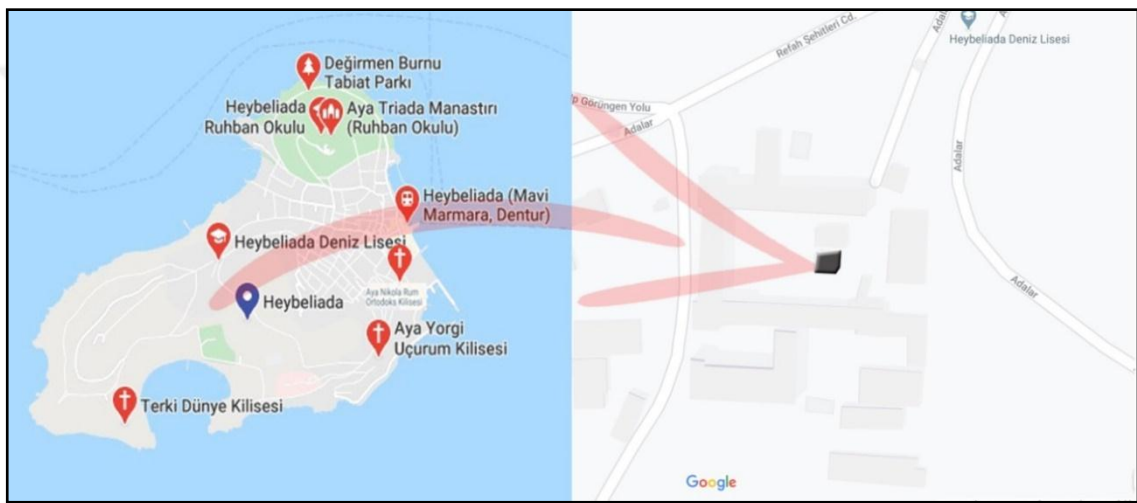


Figure 3.16. The location of the Monastery of Panagia Kamariotissa [8].

Although it has been told to be built by the Byzantine Emperor Paleologos, the Russian Archeologist N. Brunof mentioned that the founder of the church was Ioannis Paleogos, and it was built between the 11th and 12th Centuries [36].

The church was known as the "Arched Monastery" due to the four-leaf clover-shaped cross plan and the arches in its corridors. It has a dome sitting on a very high octagonal frame. It is one of the most beautiful examples of Byzantine architecture to this date [2].

3.2.7. Heybeliada Mosque

When looking at the old photographs and engravings, the minaret of an old mosque can be seen in the middle part of the Naval School. During the construction of the Bahriye Barracks, Mahmut II built a mosque with a tall minaret for the students at the Naval

Barracks to pray. After the proclamation of the Republic, the Naval Barracks and the mosque were separated from each other. The mosque was closed in 1835. In place of the closed mosque, a square planned mosque with a single balcony was built in 1936, on the land where the Ambela vineyards were located [2]. Figure 3.17. presents the location of the Heybeliada Mosque (Registration ID:HA0073).

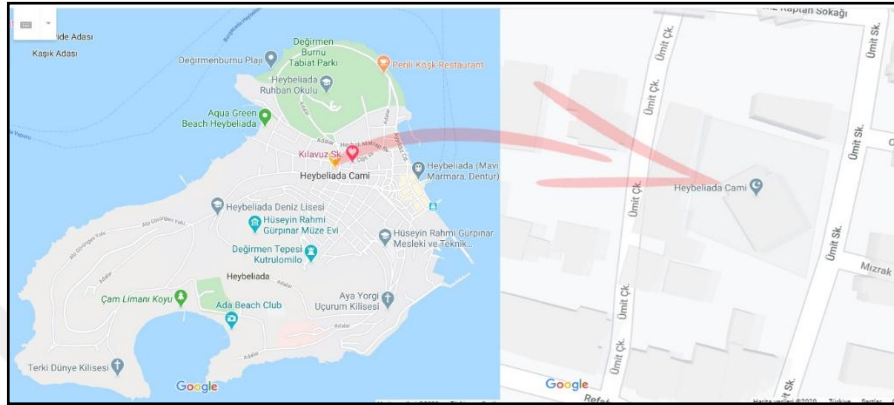


Figure 3.17. The location of the Heybeliada Mosque [8].

3.2.8. Bet Yaakov Synagogue

There are very few cities in the world where the synagogue, mosque, and church are located together. Heybeliada is an example of these cities. The Jewish population grew very rapidly in Heybeliada in the 1940s. The Bet Yaakov Synagogue (Registration ID: HA0084) was built on Orhan Street. It started to operate in 1956 after obtaining legal permissions under the leadership of Salamon Adato, one of the Parliamentarians of Istanbul [2]. Figure 3.18. presents the location of the Heybeliada Bet Yaakov Synagogue.

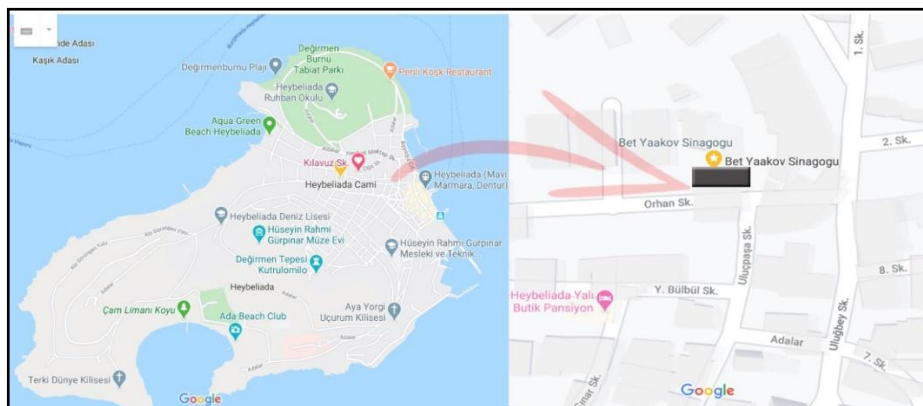


Figure 3.18. The location of the Bet Yaakov Synagogue [8].

3.3. TRAINING FACILITIES

3.3.1. Schools

Heybeliada has been very attractive among the Turkish and Greek communities with its high schools and other schools of secondary education. In an old work (Vital Cuinet, 1894), it was reported that there were ten schools on the Island. They were high, middle, and primary schools belonging to the Greek and Turkish communities. Table 3.5. presents land use for training facilities.

Table 3.5. Land use for training facilities [12].

Land Use of Urban Areas		
Training Facilities	Area (Hectares)	1.70
	Percentage by Total Area (%)	0.68
	Percentage by Non-Forest Land (%)	2.04
Non-Forest Land	Area (Hectares)	83.28
Total Area	Area (Hectares)	251.07

- Heybeliada Hürriyet School

This school was opened in a small wooden building where the Naval lodgings were located in the 1900s. The children of the naval officers were enrolled in this school. In 1909, it was named the Heybeliada Hürriyet School. When the population of the island increased, the school building was insufficient according to the number of students. The school relocated to the Bristol Hotel. Its name was changed to Orhan Gazi Numune School. The school, which was relocated again from the Bristol Hotel, was placed in the men's chamber of Abbas Pasha. Finally, the primary school was moved to the building, which is used as the Public Library today. The primary school building used today is reinforced concrete. The Public Library is currently closed [2]. Figure 3.19. presents the recent location of Heybeliada Primary School.

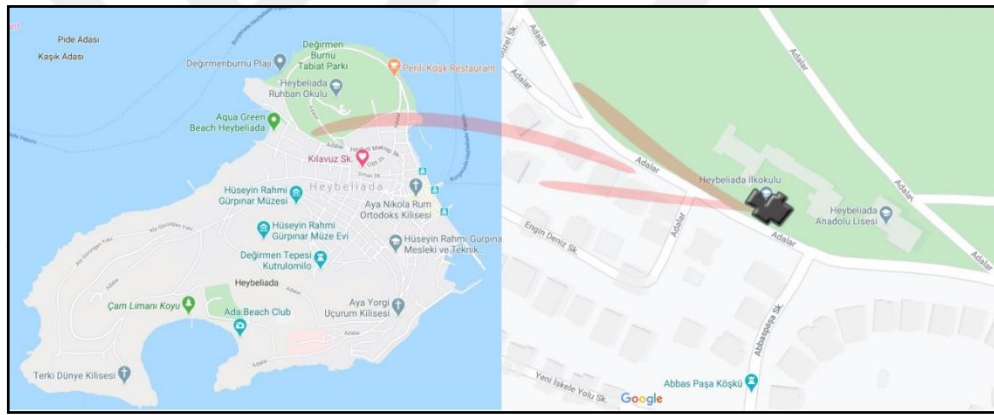


Figure 3.19. The recent location of the Heybeliada Primary School [8].

- Middle and High School

Until 1932-1933, there were no secondary schools and high schools in Adalar. The students, who completed primary school education in Adalar, had to go to Istanbul for secondary and high school. A secondary school was opened in Heybeliada due to the overpopulation and its location in the center of the Islands. The school was opened at the intersection of Hüseyin Rahmi Bey Street and Bahriye Hamam Street, in the large garden pavilion located on the left corner, while climbing uphill. The secondary school continued education in this mansion until the current high school structure was built [2]. Figure 3.20. presents the recent location of the Middle and High Schools in Heybeliada.

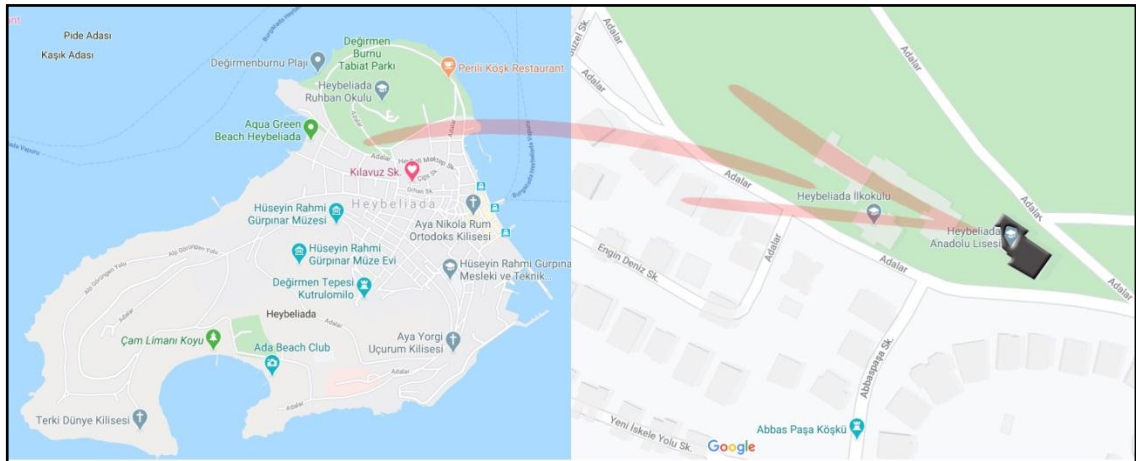


Figure 3.20. The recent location of the Middle and High Schools in Heybeliada [8].

- Greek Primary School

The primary school is located in the square, at start of the Mektep Street. The rich Greek Ilyasko had a stone school building built next to his mansion and a few lodgings for the school administrators. When the primary school was first opened, the number of Greek students was higher than the number of Turkish students. The period of education was six years. After the proclamation of the Republic, the school became a minority school. It was closed in 1980 due to the small number of students [2].

- The Elen Trade School

Trade was very important for the minority states; however, it did not have the same importance for the Ottoman State. Although the first Trade School was opened in 1882 as a part of the Academy of Commercial Sciences, the opening date of the Trade School established by the Greek minority was 1831. Wealthy Greek merchants and bankers decided to open a boarding business school, where students away from the city could deal with their lessons and found the Monastery of the Panagia Kamariotissa suitable for this school in Heybeliada. The location of the Trade School within the Monastery of the Panagia Kamariotissa is the place where the Naval High School is located today. The Monastery of the Panagia Kamariotissa. In 1626, it was attacked by the Kazakh pirates. It was completely burnt in the fire of 1672. It was renovated in 1752 (a small church was built inside the monastery in the name of Prodromos). 1829 Russian soldiers were kept in

this monastery. In 1831, it was renewed with the support of the banker Marsey Zafiropulo (the Elen Trade School was opened) [31].

The school continued its activities until 1916. A boarding primary school was opened for orphan Greek girls within this trade school. During World War I, the Navy took over the Elen Trade School and the Greek Orphan School for Girls. It started to be used as an engineering school. After the war, while the Greek Orphan School for Girls continued its activities, the Elen Trade School was not opened again. The Greek Orphan School for Girls remained in Heybeliada until 1942 [2]. Today, this building belongs to the Naval Academy. Figure 3.21. presents the first building of the Elen Trade School.

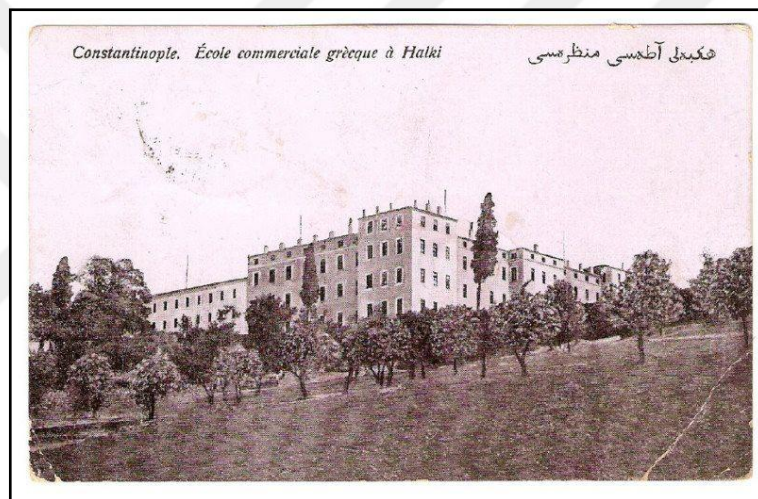


Figure 3.21. The Elen Trade School [37].

Figure 3.22. presents the recent building (the Elen Trade School), and Figure 3.23. presents the current location of the Elen Trade School.



Figure 3.22. Recent building (The Elen Trade School) [18].

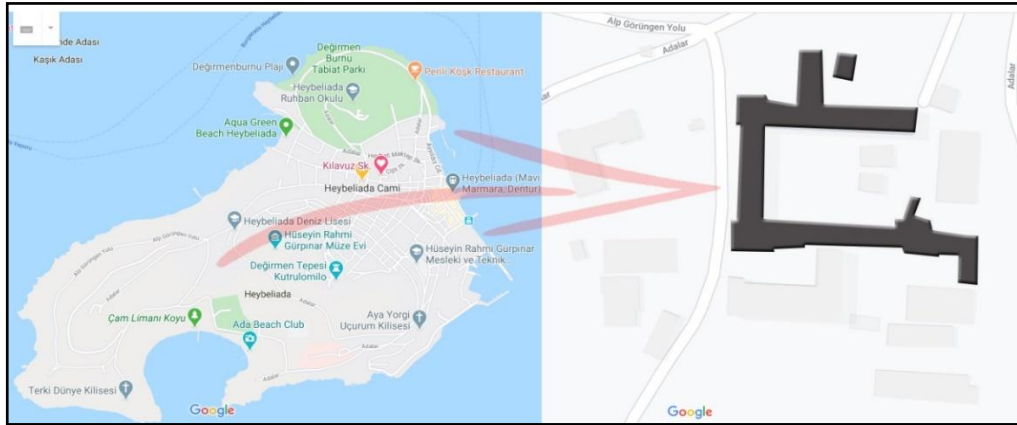


Figure 3.23. The building and location of the Elen Trade School [8].

- Naval School/ Naval Academy/ Naval High School

When the term of the Patriarch Skarlatos Karacas was over, he decided to settle in Heybeliada and built a mansion on the pier's left side on the beach. He planned the front part of the mansion as a port. Patriarch Skarlatos Karacas lived in this mansion until his death, and he was later buried in the Monastery of St George. The mansion of Karacas was repaired in 1773 and opened as a school with its new field of education under the name of the "Naval School". Selim III seized this mansion and the port located in the front. "Levent Barracks" was built next to the mansion [2]. After the extensions were built to the Levent Barracks, it was named the "Kalyoncu Barracks", and the Naval Office was relocated to Heybeliada. During the reign of Sultan Abdulaziz, the "Naval Trade School" was established with the addition of the buildings built between the Naval School and the ferry pier. During the reign of Mahmut II, Kirkor Balyan, one of the palace architects, was assigned to prepare the projects of the school buildings, and it was decided to move the entire Naval School to the island. After the construction of the additional buildings, the school was opened under the name of "Mekteb-i Bahriye-i Şahane" [2].

In the Republican period, the name of the school was changed from "Mekteb-i Bahriye-i Şahane" to the Naval Academy and Naval High School. During the reign of Mahmut II, the Naval Academy was relocated to Mersin. After the war was over, the school was relocated to Heybeliada. In 1963, the Naval High School moved to the area where the Elen Trade School buildings were located. Naval Academy moved to Tuzla in 1985. Naval High School was moved to the buildings evacuated by the Naval Academy in Heybeliada [13]. Figure 3.24. presents the Heybeliada Naval High School (Karacas Mansion), Figure 3.24.

1896. The building was built on 17 decares of land, and the bird's eye view of the building is in the shape of the letter "pi" in the Greek alphabet. The building consists of a basement and two floors. There is a dining hall and a library in the basement. The classrooms, laboratories, infirmary, and dormitory are located on the ground floor. On the second floor, there is a great ceremony hall, the office of the headmaster, teachers' rooms, and the dormitory of the students of theology. The Seminary was open for a period of 127 years between 1844 when it was opened and 1971 when it was closed. A total of 1000 students graduated within this period [2].

3.4. HEALTH FACILITIES

For the treatment of tuberculosis, which was one of the infectious diseases of the Republic period, Sanatoriums were decided to be established in regions with appropriate climate and weather conditions in Turkey by the Ministry of Health, which was called "Sihhiye ve İctimai Muavenet Vekaleti" at that time. Yeşilburun region, which was located near Çam Port in Heybeliada, Istanbul, was chosen for the establishment of the first sanatorium due to its location overlooking the sea, clean air, and pine forests. It was modeled after a sanatorium located in Switzerland [2]. Figure 3.26. presents the Schatzalp Sanatorium in Davos, Switzerland.

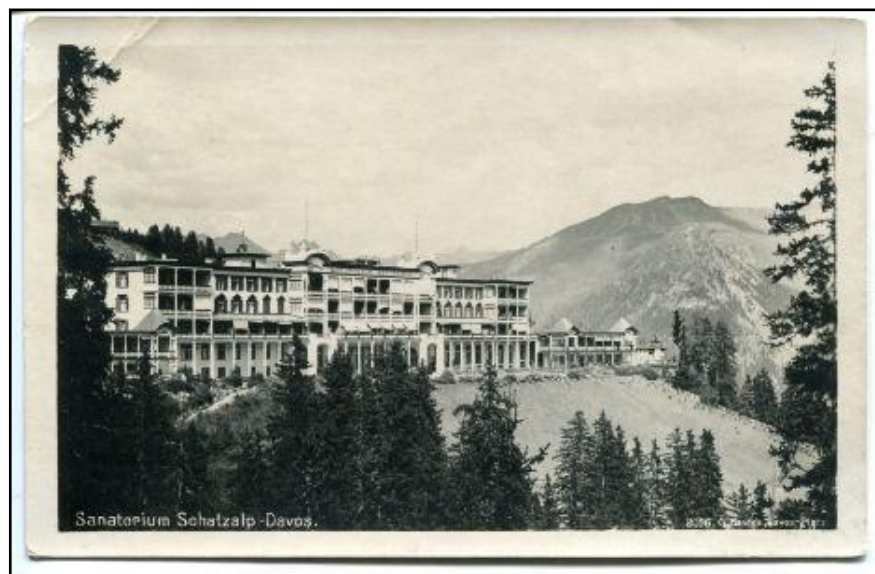


Figure 3.26. The Schatzalp Sanatorium in Davos, Switzerland [40].

In 1907, Abdulhamid II attempted to open the first sanatorium; however, he failed due to the declaration of the Constitutional Monarchy. In the following years, the attempts to open a sanatorium failed again. This region had been known to have the most favorable climatic conditions for tuberculosis patients since the 1500s. The famous travelers' travel books talked about the fresh air, pine trees, and magnificent scenery of Heybeliada [41]. Figure 3.27. presents the location of Heybeliada Sanatorium and Sanatorium Buildings.

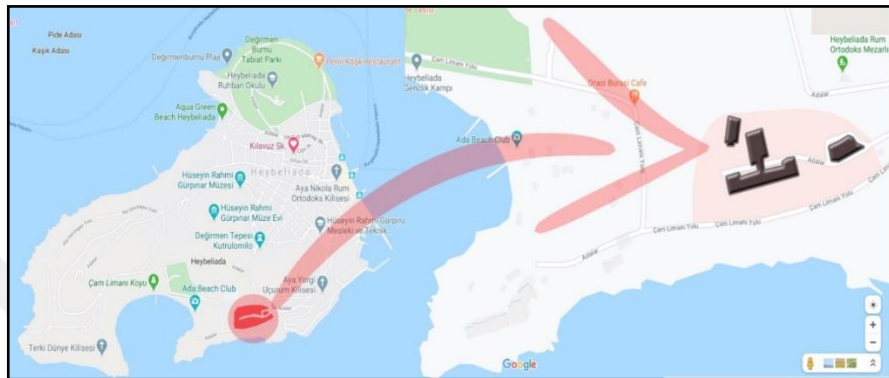


Figure 3.27. Heybeliada Sanatorium and sanatorium buildings [8].

The first floor of the Sanatorium was reserved for the physicians and public officers. Half of the second floor was reserved for women, and the other half was reserved for men. There were two wards with eight beds, each for the patients with tuberculosis. Over time, the Sanatorium became insufficient for the patients with tuberculosis, and the sanatorium was expanded. New structures were added, and the number of beds was increased to 370 in 1939. A new facility was built in Degirmen Hill, and the bed capacity was increased to 602 [41]. Figure 3.28. present Heybeliada Sanatorium.



Figure 3.28. Heybeliada Sanatorium [42].

The building was named as Block A and Block B. In the buildings, there was a kitchen and a cellar, and sections for electricity, heating, wastewater, garbage collection, decomposition, and disposal. The facility was able to meet its needs within a certain order. After a certain period, the dental clinic was put into service and started to serve the patients [41].

In 1947, Dr. Ahmet Erbelger and Dr. Siyami Ersek, who were among the most significant physicians in Turkey, started to work in Heybeliada Sanatorium. After that, the Sanatorium became the first center of chest surgery in Turkey and was recognized as a training and research center for tuberculosis. In 1954, these facilities expanded with the addition of a rehabilitation center and a nursing school. In the rehabilitation center, patients with tuberculosis were provided with training on photography and shoemaking subjects. The patients were able to have a profession after they recovered. Once a week, morale nights, movie shows, or concerts were organized for tuberculosis patients [2].

Before 1980, the state was responsible for the treatment of people with tuberculosis. All the needs of the hospital were met by the Ministry of Health. Due to the changing health policy in 1980, the Heybeliada Sanatorium was excluded from the state support and had to meet its own needs from the income of the hospital. The sanatorium was not able to adapt to this system and the sanatorium structures were left without care from the moment they started to suffer financial difficulties [41].

With the 1999 earthquake, the buildings were severely damaged, and the patients were temporarily moved to the gardens. The "Union of Employers in the Pharmaceutical Industry" provided financial support to compensate for the damage the occurred during the earthquake [41].

In 2005, the Heybeliada Sanatorium Chest Diseases and Thoracic Surgery Training and Research Hospital was transferred to Süreyyapaşa Thoracic and Cardiovascular Diseases Training and Research Hospital with the decision of the Ministry of Health [41]. The Heybeliada Sanatorium, which was completely closed on September 30th, 2005, started to decay due to neglect. In 2009, a fire started on the roof of Block A due to an unknown reason, and the first sanatorium of the Republic of Turkey became unusable [41]. Figure 3.29. (a) The front gate of Heybeliada Sanatorium [18]. (b) Block A of Heybeliada

Sanatorium with the burnt down roof [43]. (c) Interior view of the sanatorium [43]. Table 3.6. represents the calculations of the land use for healthcare facilities [12].



(a)



(b)



(c)

Figure 3.30. (a) The front gate of Heybeliada Sanatorium [18]. (b) Block A of Heybeliada Sanatorium with the burnt down roof [43]. (c) Interior view of the sanatorium [43].

Table 3.7. The calculations of the land use for healthcare facilities [12].

Land Use of Urban Areas		
Health Facility	Area (Hectares)	2.44
	Percentage by Total Area (%)	0.97
	Percentage by Non-Forest Land (%)	2.93
Non-Forest Land	Area (Hectares)	83.28
Total Area	Area (Hectares)	251.07

3.4.1. Accommodation Facilities

Due to the increasing number of visitors during the summer season, the touristic facilities that are listed in the table below remain insufficient for Heybeliada. Table 3.7. presents the accommodation facilities in Heybeliada.

Table 3.8. Accommodations in Heybeliada [12].

Heybeliada	1	Mansion Boutique Hostel
	2	Halki Prenset Pension
	3	Özdemirler Pension
	4	Selanikli Pension
	5	Perili Mansion
	6	L'isola Guest House
	7	Begonvil Apart
	8	Merit Halki Hotel

3.5. RECREATION AREAS

They are the public spaces, which are determined by the zoning plan, made accessible for the residents for meeting their needs regarding daily recreation, entertainment, picnic, beach, sports activities, eating, and drinking [44].

The beaches of Heybeliada are Değirmen Beach, Çam Port, and Kablo Beach, Ada Beach Club, Aqua Green Beach, Akvaryum Cove, and Heybeliada German Cove. All of the beaches in Heybeliada require payment for utilization. There is no public beach. The fees of the beach facilities range between 20 and 60 TL during the week, and between 50 and 100 TL on the weekends. The picnic areas of Heybeliada are Çam Port Picnic Area and

Değirmenburnu Picnic Area. There is a per person fee for entrance to the Değirmenburnu Picnic Area [45].

There is also the Heybeliada Water Sports Club in Heybeliada. Heybeliada Water Sports Club, built on the coastal landfilling area, was established in 1984 [46]. Figure 3.30. presents the recreation areas on the map.

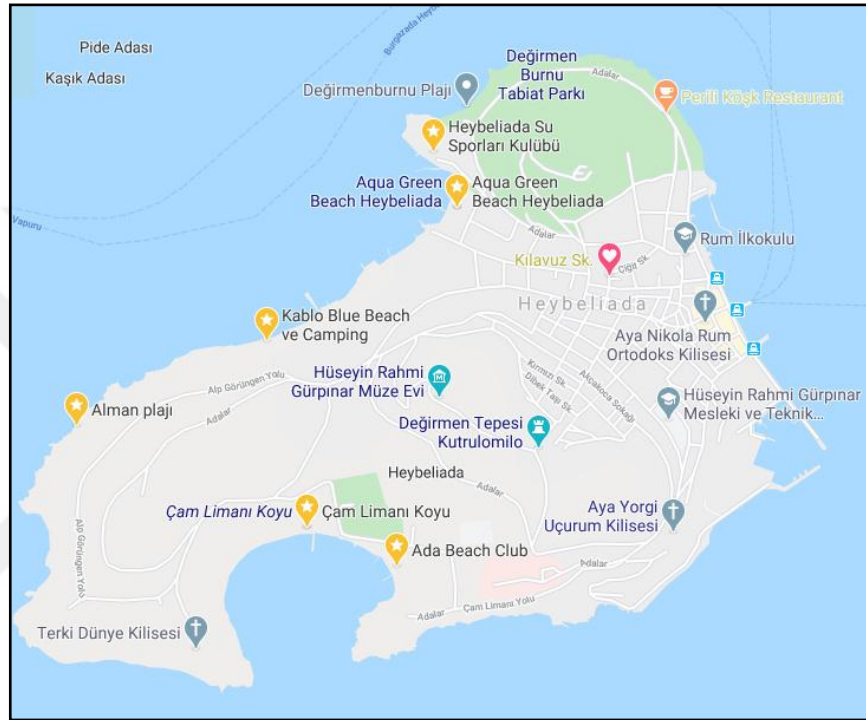


Figure 3.31. Recreation areas on the map [47].

3.6. REGISTERED HOUSING

The fact that Heybeliada temporarily hosted many cultures has added residences with high architectural heritage value to the Island. In 1976, Heybeliada was declared an urban protected area in order to maintain and protect this cultural wealth and transfer it to future generations. Although these structures were damaged by natural disasters such as earthquakes and fires, the historical buildings of Heybeliada were affected by the damage caused by the people much later, due to its distance to the mainland [12]. Table 3.8. below presents the percentage of the housing areas of Heybeliada, and Table 3.9. presents the status analysis of the buildings.

Table 3.9. Housing Areas in Heybeliada [12].

Land Use of Urban Areas		
Housing Areas	Area (Hectares)	34.50
	Percentage by Total Area (%)	13.74
	Percentage by Non-Forest Land (%)	41.42
Non-Forest Land	Area (Hectares)	83.28
Total Area	Area (Hectares)	251.07

Table 3.10. Status analysis of the buildings in Heybeliada [12].

Status of the Buildings	Heybeliada
Good	57.4
Medium	29.02
Poor	10.06
Construction	0.6
Ruin	1.9
Wreck	0.4

Buildings registered according to the database of Adalar on architectural heritage:

- Manyakadis House

Manyakadis House is located on Ayyıldız Street, No:87 Heybeliada. Registration ID: HA0001. It is a building that belongs to the Ottoman Period. It was constructed in the 19th century. The architect is unknown. It was used for residential purposes. In terms of the architectural features, Manyakadis House is a wooden three-story building with a garden. As a result of a fire that occurred in 1990, the building was completely burnt down [48].

- Petraku House

Petraku House is located on Ayyıldız Street, No:89 Heybeliada. Registration ID of the Building: HA0002. It is a building that belongs to the Ottoman Period. It was constructed in the 19th century. The architect is unknown. It was used for residential purposes. In terms of the architectural features, Petraku House is a completely wooden three-story building with a garden. The building has survived to date [48].

- Berberoğlu House

Berberoğlu House is located on Ayyıldız Street, No:93 Heybeliada. Registration ID of the Building: HA0003. It is a building that belongs to the Ottoman Period. It was built in 1850. The architect is unknown. It was used for residential purposes. In terms of the architectural features, Berberoğlu House is a two-story masonry building with a garden. The building has survived to date [48].

- Iliasko Twin Houses

Iliasko Twin Houses are located on Ayyıldız Street, No:123 Heybeliada. Registration ID: HA0004. It is a building that belongs to the Ottoman Period. The year of construction is unknown. It was used for residential purposes. In terms of the architectural features, Iliasko Twin Houses are completely wooden two-story twin buildings with gardens. The building has survived to date [48].

- Varlaka House

Varlaka House is located on Ayyıldız Street, No:129 Heybeliada. Registration ID of the Building: HA0005. It is a building that belongs to the Ottoman Period. It is a building that belongs to the 19th century. The architect is unknown. It was used for residential purposes. In terms of the architectural features, Varlaka House is a building with a garden, a stone ground floor and a wooden top floor. The building has survived to date [48].

- Ralli House

Ralli House is located on Lozan Zaferi Street, No:3-5, Heybeliada. Registration ID of the Building: HA0006. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, the Ralli House is a completely wooden twin building with a garden. The building has survived to the present day; however, one of the twin houses has deteriorated architectural features due to the wire plaster applied, and the other is a wreck [48].

- Hacopoulo Mansion

Hacopoulo Mansion is located on Lozan Zaferi Street, No:7, Heybeliada. Registration ID of the building: HA0007. It is a building that belongs to the Ottoman Period. The architect is unknown. It was used for residential purposes. In terms of the architectural features, Hacopoulo Mansion is a four-story wooden building with 20 rooms, surrounded by joists. It has a rich interior design. The ceilings of the ground floor are decorated with gilded and colorful patterns [48].

- Özdeş House

Özdeş House is located on Lozan Zaferi Street, No:9, Heybeliada. Registration ID of the Building: HA0008. It is a building that belongs to the Ottoman Period. The year of construction and the architect is unknown. It was used for residential purposes. In terms of the architectural features, Özdeş House is a completely wooden three-story building with a basement and a garden. The building has survived to date. In the extension located in the garden of the Özdeş House, there is a bath and a laundry room.

- Prokopios House I

Prokopios House I is located on Lozan Zaferi Street, No:11, Heybeliada. Registration ID of the Building: HA0009. It is a building that belongs to the Ottoman Period. The year of construction and the architect is unknown. It was used for residential purposes. In terms of the architectural features, Prokopios House I is a completely wooden four-story building with a garden. The building was destroyed in the past and replaced with a reinforced concrete carcass structure, similar to the original [48].

- Prokopios House II

Prokopios House II is located on Lozan Zaferi Street, No:13, Heybeliada. Registration ID of the Building: HA00010. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Prokopios House II is a completely wooden four-story mansion with a garden. The building was not able to survive to date in its original form. It was demolished and rebuilt in accordance with its original form [48].

- Balkaya House

Balkaya House is located on Lozan Zaferi Street, No:16, Heybeliada. Registration ID of the Building: HA00011. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Balkaya House is a completely wooden two-story building with a garden. The building has survived to date [48].

- Nikolopoulos House

Nikolopoulos House is located on Lozan Zaferi Street, No:23, Heybeliada. Registration ID of the Building: HA00012. It is a building that belongs to the Ottoman Period. It was built in 1870. The architect is unknown. It was used for residential purposes. In terms of the architectural features, Nikolopoulos House is a three-story wooden building with a balcony, basement, and garden. The building has survived to date. The walls and ceilings of the house are decorated with colorful patterns made on gypsum plaster [48].

- Amiralis House

Amiralis House is located on Lozan Zaferi Street, No:25, Heybeliada. Registration ID of the Building: HA00013. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Amiralis House is a two-story wooden building with a basement and a garden. The building has survived to date [48].

- Etnopoulos House

Etnopoulos House is located on Lozan Zaferi Street, No:27, Heybeliada. Registration ID of the Building: HA00014. It is a building that belongs to the Ottoman Period. It was constructed in the 19th century. The architect is unknown. It was used for residential purposes. In terms of the architectural features, the Etnopoulos House is a completely wooden building with a garden. The building has survived to date [48].

- Reşid Bey House

Reşid Bey House is located on Lozan Zaferi Street, No:31, Heybeliada. Registration ID of the Building: HA00015. It is a building that belongs to the Ottoman Period. It was

constructed in the 19th century. The architect is unknown. It was used for residential purposes. In terms of the architectural features, Reşid Bey House is a completely wooden three-story building. The building has survived to date [48].

- Murunakis House

Murukanis House is located on Lozan Zaferi Street, No:57, Heybeliada. Registration ID of the Building: HA00016. It is a building that belongs to the Ottoman Period. It was constructed in the 19th century. The architect is unknown. It was used for residential purposes. In terms of the architectural features, Murukanis House is a wooden four-story building with a garden. There is a shop on the ground floor [48].

- Nikolaidis (Horozoğlu) Mansion

Nikolaidis (Horozoğlu) Mansion is located on Refah Şehitleri Street, No:1, Heybeliada. Registration ID of the Building: HA00017. It is a building that belongs to the Ottoman Period. It was constructed in the 19th century. The architect is unknown. It was used for residential purposes. In terms of the architectural features, Nikolaidis Mansion is a wooden three-story building with a garden. The building has survived to date [48].

- Kendros House

Kendros House is located on Refah Şehitleri Street, No:4, Heybeliada. Registration ID of the Building: HA00018. It is a building that belongs to the Ottoman Period. It was constructed in the 19th century. The architect is unknown. It was used for residential purposes. In terms of the architectural features, Kendros House is a wooden three-story building with a garden. It was renewed in accordance with its original form [48].

- Mesolongidis House

Mesolongidis House is located on Refah Şehitleri Street, No:10, Heybeliada. Registration ID of the Building: HA00019. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Mesolongidis House is a completely wooden building with a garden. The building has survived to date [48].

- Skiliçi House

Skiliçi House is located on Refah Şehitleri Street, No:16, Heybeliada. Registration ID of the Building: HA00020. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Skiliçi House is a wooden three-story building. The building has survived to date [48].

- Yordanupolus House

Yordanupolus House is located on Refah Şehitleri Street, No:17, Heybeliada. Registration ID of the Building: HA00021. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Yordanupolus House is a wooden two-story building with a garden. The building has survived to date [48].

- Andoniadis House

Andoniadis House is located on Refah Şehitleri Street, No:18, Heybeliada. Registration ID of the Building: HA00022. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Andoniadis House is a wooden three-story building with a garden. The building has survived to date [48].

- Inal Twin Houses

Inal Twin Houses are located on Refah Şehitleri Street, No:27, Heybeliada. Registration ID of the Building: HA00023. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Inal Twin Houses are three-story twin buildings. The design of the building is dominated by the features of the typical Ottoman architecture. It is not known who had the houses built [48].

- Virginia House

Virginia House is located on Refah Şehitleri Street, No:31, Heybeliada. Registration ID of the Building: HA00024. It is a building that belongs to the Ottoman Period. The year of

construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Virginia House is a wooden two-story building with a garden. The building has survived to date. In addition, there is a masonry laundry house in the garden of the house [48].

- Koyuncu House

Koyuncu House is located on Refah Şehitleri Street, No:37, Heybeliada. Registration ID of the Building: HA00025. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Koyuncu House is a wooden three-story building with a garden. The building has survived to date [48].

- Teogonisy House

Teogonisy House is located on Refah Şehitleri Street, No:38, Heybeliada. Registration ID of the Building: HA00026. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Teogonisy House is a two-story masonry building with a garden. The building has survived to date [48].

- Limnidis House I

Limnidis House I is located on Refah Şehitleri Street, No:40, Heybeliada. Registration ID of the Building: HA00027. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Limnidis House I is a yellow wooden four-story building with a tower and a garden. The building was restored to its original form in 1980 [48].

- Demirci House

Demirci House is located on Refah Şehitleri Street, No:42, Heybeliada. Registration ID of the Building: HA00028. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, the Demirci House is a wooden three-story building with a garden. The building has survived to date [48].

- Barba House

Barba House is located on Refah Şehitleri Street, No:44, Heybeliada. Registration ID of the Building: HA00029. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Barba House is a wooden two-story building with a detached garden. The building has survived to date [48].

- Kostaki Pasha House

Kostaki Pasha House is located on Refah Şehitleri Street, No:44, Heybeliada. Registration ID of the Building: HA00030. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Kostaki Pasha House is a completely wooden building with a garden. The building has survived to date [48].

- Şeren House

Şeren House is located on Refah Şehitleri Street, No:51, Heybeliada. Registration ID of the Building: HA00031. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Şeren House is a wooden three-story building with a basement and a garden. The building has survived to date [48].

- Hrisanti House

Hrisanti House is located on Refah Şehitleri Street, No:52, Heybeliada. Registration ID of the Building: HA00032. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Hrisanti House is a wooden four-story building with a garden. The building has survived to date [48].

- Hüseyin Sabri Bey House

Hüseyin Sabri Bey House is located on Refah Şehitleri Street, No:54, Heybeliada. Registration ID of the Building: HA00033. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential

purposes. In terms of the architectural features, Hüseyin Sabri House is a wooden two-story building with a basement and a garden. The building has survived to date [48].

- Yanopoulos House

Yanopoulos House is located on Refah Şehitleri Street, No:57, Heybeliada. Registration ID of the Building: HA00034. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Yanopoulos House is a wooden two-story building with a garden and four columns. The building has survived to date [48].

- Anagnosti House

Anagnosti House is located on Refah Şehitleri Street, No:58, Heybeliada. Registration ID of the Building: HA00035. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Anagnosti House is a wooden three-story building with a garden. The building has survived to date [48].

- Kalyopi House

Kalyopi House is located on Refah Şehitleri Street, No:59, Heybeliada. Registration ID of the Building: HA00036. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Kalyopi House is a two-story masonry building with a basement and a garden. The building has survived to date [48].

- Mavromatis Mansion

Mavromatis Mansion is located on Refah Şehitleri Street, No:59, Heybeliada. Registration ID of the Building: HA00037. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Mavromatis Mansion is a four-story masonry building with a basement and a garden. The building has survived to date [48].

- Stavroupolis House

Stavroupolis House is located on Refah Şehitleri Street, No:59, Heybeliada. Registration ID of the Building: HA00038. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Stavroupolis House is a wooden four-story building with a garden. The building has survived to date [48].

- Limnidis House II

Limnidis House II is located on Refah Şehitleri Street, No:61, Heybeliada. Registration ID of the Building: HA00039. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Limnidis House II is a four-story building with a masonry ground floor, wooden top floors, and a garden. The building has survived to date [48].

- Hiraklioğlu House

Hiraklioğlu House is located on Refah Şehitleri Street, No:62, Heybeliada. Registration ID of the Building: HA00040. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Hiraklioğlu House is a two-story masonry building. The building has survived to date [48].

- Kastasiadis House

Kastasiadis House is located on Refah Şehitleri Street, No:65, Heybeliada. Registration ID of the Building: HA00041. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Kastasiadis House is a three-story building with a masonry ground floor and wooden top floors. The building has survived to date [48].

- Abbas Hilmi Pasha Mansion Men's Chamber

Abbas Hilmi Pasha Mansion Men's Chamber is located on Refah Şehitleri Street, No:66 Heybeliada. Registration ID of the Building: HA00042. It is a building that belongs to the Ottoman Period. The year of construction is unknown. Its architect was Hovsep Aznavur.

The construction that started in 1854 was completed in 1935. In terms of the architectural features, Abbas Hilmi Pasha Mansion Men's Chamber is a wooden two-story building with a garden. The building has survived to date [48].

- Değirmencioğlu House

Değirmencioğlu House is located on Refah Şehitleri Street, No:78, Heybeliada. Registration ID of the Building: HA00043. It is a building that belongs to the Ottoman Period. The year of construction is unknown. It was used for residential purposes. In terms of the architectural features, Değirmencioğlu House is a wooden two-story building with a garden. The building has survived to date [48].

- Voridis Mansion

Voridis Mansion is located on Refah Şehitleri Street, No:82, Heybeliada. Registration ID of the Building: HA00044. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Voridis Mansion is a completely wooden four-story building with a garden [48].

- Fundopulos House

Fundopulos House is located on Refah Şehitleri Street, No:84, Heybeliada. Registration ID of the Building: HA00045. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Fundopulos House is a completely wooden single-story building with a garden. The building has survived to date [48].

- Eleni House

Eleni House is located on Çiğit Street, No: 8-10, Heybeliada. Registration ID of the Building: HA00046. It is a building that belongs to the Ottoman Period. It was constructed in the 19th century. The architect is unknown. It was used for residential purposes. In terms of the architectural features, Eleni House is a completely wooden three-story building with a garden. The building has survived to date [48].

- Iliasko Mansion I

Iliasko Mansion I is located on Zeybek Street, No:6, Heybeliada. Registration ID of the Building: HA00047. It is a building that belongs to the Ottoman Period. It was constructed in the 19th century. The architect is unknown. It was used for residential purposes. In terms of the architectural features, Iliasko Mansion I is a three-story masonry building with a garden. The building has survived to date. It was built by Konstantin Iliasko. As a building of the 19th Century, it was built in red brick and gothic style [48].

- Körmükçü House

Körmükçü House is located on Kılavuz Street, No: 2, Heybeliada. Registration ID of the Building: HA00048. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Körmükçü House is a completely wooden two-story building with a garden. The building has survived to date [48].

- Muradoğlu House

Muradoğlu House is located on Bahriye Hamamı Street, No:7, Heybeliada. Registration ID of the Building: HA00049. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Muradoğlu House is a completely wooden two-story building with a garden. The building has survived to date [48].

- Atiye Hanım House

Atiye Hanım House is located on Bahriye Hamamı Street, No:11-13, Heybeliada. Registration ID of the Building: HA00050. It is a building that belongs to the Ottoman Period. It was built in the 19th Century. The architect is unknown. It was used for residential purposes. In terms of the architectural features, Atiye Hanım House is a completely wooden two-story building with a garden. The building has survived to date [48].

- Basmacidis House

Basmacidis House is located on Bahriye Hamamı Street, No:37, Heybeliada. Registration ID of the Building: HA00051. It is a building that belongs to the Ottoman Period. The year of construction is unknown. The architect is unknown. It was used for residential purposes. In terms of the architectural features, Basmacidis House is a two-story masonry building with a garden. All doors and windows of the house are arched. There is a triangular profile on the roof. The building has survived to date [48].

- Tayyibe Hanım House

Tayyibe Hanım House is located on Müstecip Onbaşı Street, No:15, Heybeliada. Registration ID of the Building: HA00052. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Tayyibe Hanım House is a completely wooden three-story building. The exterior is covered with ornaments, and the building is well-maintained. The building has survived to date [48].

- Selahaddin Bey Mansion (Saadet Palace)

Selahaddin Bey Mansion is located on Turgut Reis Street, No:18, Heybeliada. Registration ID of the Building: HA00053. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Selahaddin Bey Mansion is a completely wooden two-story building with a basement and a garden. The mansion has old and interesting furniture, which is under protection. There is an old type of telephone handset embedded in the wall, which was used for communication between the floors. The building has survived to date [48].

- Mehmet Rüştü Bey House

Mehmet Rüştü Bey House is located on Turgut Reis Street, No:26, Heybeliada. Registration ID of the Building: HA00054. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Mehmet Rüştü BeyHouse is a completely wooden four-story building. The building has survived to date [48].

- Rosopulos House

Rosopulos House is located on Cebel Street, No:3, Heybeliada. Registration ID of the Building: HA00055. It is a building that belongs to the Ottoman Period. It was constructed in the 19th Century. The architect is unknown. It was used for residential purposes. In terms of the architectural features, Rosopulos House is a completely wooden two-story building. The building has survived to date [48].

- Mari Mansion

Mari Mansion is located on Cebel Street, No:9, Heybeliada. Registration ID of the Building: HA00058. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Mari Mansion is a wooden two-story building with a tower and a garden. The first owner of the mansion was Mrs. Mari. The mansion is one of the most beautiful mansions on the Island. The building has survived to date [48].

- Mari House I

Mari House I is located on Cebel Street, No:7, Heybeliada. Registration ID of the Building: HA00057. It is a building that belongs to the Ottoman Period. It was built in the 20th Century. The architect is unknown. In terms of the architectural features, Mari House I is a completely wooden three-story building with a garden. The building has survived to date [48].

- Mari House II

Mari House II is located on Cebel Street, No:5, Heybeliada. Registration ID of the Building: HA00056. It is a building that belongs to the Ottoman Period. It was built in the 19th century. The architect is unknown. It was used for residential purposes. In terms of the architectural features, Mari House II is a completely wooden two-story building with a garden. The plan of the house includes a hall in the middle in the "karniyarik" type, which is a type of design frequently used in the examples of Turkish architecture. It has selective elements in its architectural structure, such as the tower and the onion dome. Today, the structure of the mansion is identified with the giant trunk of the pine tree in the garden of

the mansion, and it still maintains its architectural features. The building has survived to date [48].

- Bellisoy Mansion

Bellisoy Mansion is located on Bellisoy Demirtaş Street, No:5, Heybeliada. Registration ID of the Building: HA00059. It is a building that belongs to the Ottoman Period. It was built in the 19th century. The architect is unknown. It was used for residential purposes. In terms of the architectural features, Bellisoy Mansion is a completely wooden three-story building with a garden. The mansion was built by Besim Belli. The mansion is well-maintained, and it still preserves its original architectural features. The building has survived to date [48].

- Hüseyin Rahmi House

Hüseyin Rahmi House is located on Demirtaş Street, No:19, Heybeliada. Registration ID of the Building: HA00060. It is a building that belongs to the Ottoman Period. It was built in 1918. It was used as a public building. In terms of the architectural features, Hüseyin Rahmi House is a completely wooden four-story building with a garden. It was registered as a historical artifact on September 16th, 1985, and taken under protection. The building has survived to date [10].

- İsmail Hakkı Bey Mansion

İsmail Hakkı Bey Mansion is located on Demirtaş Street, No:37, Heybeliada. Registration ID of the Building: HA00061. It is a building that belongs to the Ottoman Period. It was built in 1914. The architect is unknown. It was used for residential purposes. In terms of the architectural features, İsmail Hakkı Bey Mansion is a wooden three-story building with a tower and a garden. The building has survived to date [48].

- Markaryan House

Markaryan House is located on Amiral İhsan Özel Street, No:16, Heybeliada. Registration ID of the Building: HA00062. It is a building that belongs to the Ottoman Period. It was built in the 19th century. The architect is unknown. It was used for residential purposes. In terms of the architectural features, Markaryan House is a wooden three-story building with a garden. The house's first owner is Bedros Markarian, son of Hasep, who also built the

house. The original building was demolished and replaced with the recent masonry apartment, covered with wood veneer. The building has survived to date [48].

- Hacı İstefani Mansion

Hacı İstefani Mansion is located on Şehit Ümit Ortaç Street, No:8, Heybeliada. Registration ID of the Building: HA00063. It is a building that belongs to the Ottoman Period. It was built in the 19th century. The architect of the building is Hadji Stefanos Gaitanakis (from Maditus). It was used for residential purposes. In terms of the architectural features, Hacı İstefani Mansion is a three-story masonry building with a basement and a garden. The building has survived to date [48].

- Valcis House

Valcis House is located on Bahriyeli Şükrü Bey Aralığı, No:1, Heybeliada. Registration ID of the Building: HA00064. It is a building that belongs to the Ottoman Period. It was built in the 19th Century. The architect is unknown. It was used for residential purposes. In terms of the architectural features, Valcis House is a completely wooden single-story building. It was built by Eleni Valcis [10].

- Muradoğlu Mansion

Muradoğlu Mansion is located on Mektup Street, No:14, Heybeliada. Registration ID of the Building: HA00065. It is a building that belongs to the Ottoman Period. It was built in 1921. The architect is unknown. It was used for residential purposes. In terms of the architectural features, Muradoğlu Mansion is a three-story building with a masonry ground floor, wooden top floors, and a garden (<http://www.adalarmuzesi.org/cms/projeler/mimari-miras-veritabani>).

The mansion was built by Yordan Muradoğlu, who was also the first owner. The mansion has a very large garden with two artesian wells. The year 1921 and "YM", the initials of Yordan Muradoğlu, are written on the gate of the garden [10].

- Abbas Pasha Mansion

Abbas Pasha Mansion was located on Abbas Paşa Street, No:5, Heybeliada. Registration ID of the Building: HA00066. It is a building that belongs to the Ottoman Period. It was

built in 1897. Its architect was Hovsep Aznavur. In terms of the architectural features, Abbas Pasha Mansion is a completely wooden building with a garden. The mansion was built by Prince Abbas Hilmi Pasha, who was also the first owner. The mansion, which was known by the public as the "Vidalı Köşk", was not able to survive to date. (The posts of the garden wall still remain.) The garden of the mansion used to extend to the sea, and there was also a boathouse in the garden. The building has survived to date [48].

- Abbas Hilmi Pasha Mansion Servants' Chamber

Abbas Hilmi Pasha Mansion Servants' Chamber is located on Fettah Street, No:7, Heybeliada. Registration ID of the Building: HA00067. It is a building that belongs to the Ottoman Period. It was built in the 19th century. Its architect was Hovsep Aznavur. It was used for residential purposes. In terms of the architectural features, the Servants' Chamber of Abbas Hilmi Pasha Mansion was a wooden two-story building with gardens surrounded by three gates. The mansion was built by Prince Abbas Hilmi Pasha. Ironers, cooks, guards, and gardeners used to live in the Servants' Chamber, which was known as the "Agavat Chamber". The building has survived to date [48].

- Ahmet Rasim House

Ahmet Rasim House is located on Hüseyin Rahmi Bey Street, No:25/1, Heybeliada. Registration ID of the Building: HA00068. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Ahmet Rasim House is a two-story masonry building with a garden. The building has survived to date [48].

- Adalı House

Adalı House is located on Kırmızı Street, No:3, Heybeliada. Registration ID of the Building: HA00069. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Adalı House is a completely wooden three-story building with a garden. The building has survived to date [48].

- Topal Salamon House

Topal Salamon House is located on Hasyunus Street, No:1, Heybeliada. Registration ID of the Building: HA00070. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Topal Salamon House is a completely wooden two-story building with a basement and a garden. The building has survived to date [48].

- Par House

Par House is located on Hasyunus Street, No:4, Heybeliada. Registration ID of the Building: HA00071. It is a building that belongs to the Ottoman Period. The year of construction and the architect are unknown. It was used for residential purposes. In terms of the architectural features, Par House is a three-story including the attic. It was completely wooden and had a garden. The building has survived to date [48].

3.7. MILITARY AREAS

After the military coup attempt of July 15th, 2016, the majority of the military facilities (Şafak Music Hall, Military Lodging and Service Units, etc.) were closed and remained idle. It has still not been clarified how these military areas and facilities will be utilized. The risk of construction remains a problem after the military coup attempt [49]. Table 3.10. presents the percentages of the urban land belonging to the military facilities in Heybeliada.

Table 3.11. Military areas [12].

Land Use of Urban Areas		
Military Areas	Area (Hectares)	22.03
	Percentage by Total Area (%)	8.77
	Percentage by Non-Forest Land (%)	26.45
Non-Forest Land	Area (Hectares)	83.28
Total Area	Area (Hectares)	251.07

The plans regarding the utilization of the idle lands belonging to the military should be discussed, the valuable lands should not be made available for income, and they should serve the public. According to the current political system, military areas are excluded

from the scope of planning since they are restricted areas. Table 3.11. presents the percentages of land use in Heybeliada and per person square meters.

Table 3.12. The percentages of land use in Heybeliada and per person square meters [12].

Land use		Heybeliada	Area Per Person m2 (4158 People)
Open and green land	Area (Hectares)	2.37	5.7
	%	0.95	
Military area	Area (Hectares)	22.03	52.9
	%	8.77	
MSA (Municipal Service Area)	Area (Hectares)	0.00	
	%	0.00	
Religious Facilities	Area (Hectares)	2.86	6.87
	%	1.14	
Training Facilities	Area (Hectares)	1.70	4.08
	%	0.68	
Administrative Facilities	Area (Hectares)	0.15	0.36
	%	0.06	
Urban and technical Infrastructure	Area (Hectares)	0.72	1.73
	%	0.29	
Housing	Area (Hectares)	34.50	82.97
	%	13.74	
Cemetery	Area (Hectares)	1.82	4.37
	%	0.73	
Health Facilities	Area (Hectares)	2.44	5.86
	%	0.97	
Social and cultural facilities	Area (Hectares)	0.97	2.3
	%	0.39	
Sports facilities	Area (Hectares)	0.82	1.9
	%	0.32	
Touristic facilities	Area (Hectares)	1.89	4.54
	%	0.75	
Open and green land	Area (Hectares)	2.37	5.69
	%	0.95	
Road	Area (Hectares)	11.01	26.47
	%	4.39	
Forest	Area (Hectares)	167.79	403.5
	%	66.83	
Total	251.07		609.24

4. TRANSFORMATION IN HEYBELİADA

The changes observed in the societies reflect on the requirements of the people over time, thereby shaping the buildings and changing their functions based on the need for utilization according to time, religion, culture, traditions and, social and economic structure they have. As society changes, the city also changes. New spaces are produced according to the emerging requirements. The main indicators of the transformation in Heybeliada are explained in the subsections.

4.1. THE REASONS FOR THE NEW RESIDENTS TO PREFER THE ISLAND

During the Byzantine Period, the reason why people preferred Heybeliada was the only exile. In the following years, people started to escape from the outbreak of plague, seeking peace, silence, calmness, tranquility, or diseases, public service, and training purposes. The first housing area of Heybeliada was the plain area behind the pier, where the downtown is located today. At that time, there was no port in the area, there was a shore with pebbles, and there were even some buildings on the sea [10].

The settlement consisted of one and two-story wooden fishing houses from the coast towards the interior. The entire land remaining outside this area was owned by three monasteries. The settlement has developed around the Church of St. Nicholas, which has survived to date. The church was located by the sea at that time; however, it is currently downtown. Since the "Glifa" Well, which gave its name to this neighborhood, is located very close to the Church, agriculture and viticulture were performed in the surrounding areas. While pulses were planted on the plain areas, olive and viticulture were grown on the slopes. Various travelers stated that the wine obtained from these vineyards was quite tasty [2].

Since Heybeliada has the densest pine forests among other islands, it was generally preferred as a summer resort during the Byzantine and Ottoman periods; and it was a place of exile for a shorter period compared to the other islands [13].

Towards the end of the 18th Century, the French arrived and started to use the Islands as resorts. This was due to the fact that the French travelers (Jean Thevenot, Joseph Grelot), who visited the Islands in the middle of the 17th Century, introduced the Islands as resorts, and that the British traveler Antoine Olivier mentioned the Islands as the travel destinations in their works. The period of transition from the Byzantine Empire to the Ottoman State between the 15th Century and the 19th Century is known as the period of threat and occupation for the Islands. The islands were conquered 42 days before the conquest of Istanbul. Monasteries were evacuated; therefore, some of the Greek citizens migrated [25].

Although the right to use and partial administrative rights of the islands were given to the Patriarchate after the conquest of Istanbul in 1453, 42 days after the islands, the constant arrivals of the Janissary soldiers and navies on the islands and their outbursts disturbed the Greek citizens, who were residing in Heybeliada. With the increase in transportation opportunities to the Islands in the last period of the 18th century, it was inevitable that the Islands began to be a part of İstanbul's urban complex. Daily trips to the Islands by the residents of Istanbul created a demand for summer housing. At that time, the foundations were laid for the islands to form their current urban fabric, where the people from the city started to reside. Hence, the Islands turned into a construction site in the 19th Century. With the Tanzimat Edict in 1839, the islands underwent another important change. Partial administrative rights granted to the Patriarchate were revoked, and non-Muslims and Muslims were considered equal. The relocation of the public buildings (barracks, schools, etc.) to Heybeliada led to the increase of the population, and increased their needs for housing. With these developments, the Heybeliada completely lost its role as an island of monasteries and retreats. The lands owned by the Patriarchate passed to wealthy Greeks, Turkish pashas, and foreign merchants. The grapes grown in the territory of the Patriarchate and the taste of the wines made from these grapes were included in the notes of the travelers. The wine trade changed owners due to the changing owners of the lands. Wine trading has been one of the economic activities of the Island [25].

The Şirket-i Hayriye (now, Turkish Maritime Organization) was the first joint-stock company established in 1854 during the Ottoman Period. It was the first company to transport passengers and cargo from the Istanbul Bosphorus line to the islands. With this company, the boats were replaced by steam ferries with the industrial revolution. A

physical and unbreakable link was established between the mainland (İstanbul) and the islands [50].

The centralization of the cities and the establishment of an urban network started in the 1860s. The administrative link between the islands and Istanbul started in 1861 when the islands were attached to the municipality. It was named the "Seventh Chamber of the Municipality". In 1876, the islands became a district, and the District Governorship was established within the same years [10].

In the 19th century, the earthquake in 1894 caused great destruction in the Islands. It caused many buildings to collapse or become unavailable. Heybeliada faced a sociological change during this period when the Ottoman State was experiencing economic difficulties. The Christian communities (Greeks and Armenians), who used to live in the Pera (Beyoğlu) region in Istanbul, purchased lands on the Islands due to the low costs, ease of access to the monasteries and churches, and to serve the aim of dominating their past cultures on the islands. Hence, they reflected various architectural styles of Europe with the glory of their houses and landscapes. They built their houses as architectural products of the latest period by following European architecture closely. This architectural vitality experienced in the Islands after the earthquake attracted international attention [10].

Towards the end of the 20th Century, this period of unrest and threat continued by ensuring that no Greeks would remain on the islands. (The Seminary and the Greek Primary School were closed, the Turkish population increased). The Greeks and the Greek culture used to dominate the islands; however, this policy achieved its aim, and the Greeks were alienated from the Islands, remaining a minority [51].

The establishment of the Sanatorium in 1924, the visits by the relatives of the patients admitted to the Sanatorium and the families of the students enrolled at the Naval High School, and the physicians, nurses, and healthcare workers that were employed in the Sanatorium raised the need for accommodation and housing in Heybeliada. The rapid increase of population experienced in Istanbul between 1980 and 1990 also affected the island, and a large construction activity started in Heybeliada at that time. Those workers who came to work in construction sites started to stay in the outbuildings on the island [2].

4.1.1. Islander and Island Culture

One of the most important factors in the formation of spaces is the social environment that constitutes that settlement. Cultural differences, religious beliefs, and lifestyles are the determining factors. The technological opportunities of the period, the availability of materials, the topography, and the need for building and recreation areas are important factors affecting this lifestyle and the physical formation of the environment [25].

It can be mentioned that the islander and island culture have an effect on cultural formation. Despite the fact that being surrounded by the sea means isolation from the mainland for the Islands, on the contrary, it has an integrating effect. Isolation supports the homogeneity of behavior, attitude, tradition, and other socio-cultural characteristics and strengthens a sense of identity and belonging [52].

The difference between the island and the mainland: The people who settle on the Islands bring some cultural characteristics, and as a result, the people living on the island differ from the population of the mainland [53].

The connection with the mainland, relationships, shopping, health problems, the density of resorts and trips, hence the distance to the mainland often determine the degree of this isolation [25].

Islandism is a metaphysical emotion that accompanies isolation. Islandism, being an islander and being an island, mostly finds its identity within the boundaries formed by the water element, which is generally difficult to overcome. Although islandism is a feeling adopted by the inhabitants of the island, it is possible for daily visitors or the people, who come to the summer resort, to experience this feeling instantly. The people who live in islands located in different geographies share some common problems created by the isolation and limitation of island life. The concept of "islandism" emerges if the characteristics of the islanders draw attention in time and space and if the island characteristics surpass the main culture [54].

The people who spent only the summer months on the Island and returned to Istanbul a few weeks before the school opened, were called the "summer residents", and the people living on the island both in summer and winter are called the "islanders" [31].

4.1.2. Growing Movements of Ecological Urban Life

Cities have been shaped and continue to be shaped by the living spaces, where life is fast due to globalization and population growth, and which are only based on consumption without considering production. In the cities that have gone out of their original purpose of establishment, it is not possible for the human model to be sustainable within this system, and for the human beings, who have adopted this system, where people cannot continue their lives in safety and peace due to the spaces that are designed for fast movement, fast-working, and fast life, the limited life offered to the people in the form of a motion brought by the modern life, unhealthy eating habits, air pollution, traffic, noise, and the so-called modern culture, where people do not know their neighbors and the local sellers.

Where the sustainability of the human model ends, the cities also have become unsustainable. Cities shaped by fast life have lost their abilities to meet their needs, as in the case of Istanbul. The urban structures that are only oriented to consumption, the density of the traffic, long working hours, and the feeling of loneliness in the crowd cause heart diseases, cancer, and severe depression in the people. Cities, which cannot meet their own needs, reach out to the resources of the cities in their vicinity and the cities that are thousands of kilometers away to meet their needs. They attract these cities to their own city and disrupt the distribution order of the resource reserves [55].

Nowadays, in order for the people to have more consumption demands, it has become almost the only alternative to live alone in crowded public housing in smaller square meters, where they can move quickly, and there is fast transportation compared to the old type of housing [55].

The "Cittaslow" movement emerged based on the fact that the lifestyle, which isolates the people from each other and nature, does not bring happiness and peace to individuals, and the people need a social and healthy lifestyle matching their inner selves. The Cittaslow philosophy refers to a union of municipalities, which advocates living in places where people are in constant communication with each other and socialize in a self-sufficient, sustainable, and respectful way to nature, does not have infrastructure problems, is self-sufficient, and takes advantage of technology that uses renewable energy resources. It was founded in the City of Greve in Chianti in Italy in 1999. Cittaslow requires that the

improvement and development of life quality in a city will be possible by preserving its own original structure, architecture, traditions and customs, and local cuisine and historical identity. Cittaslow philosophy encourages the cities to analyze their strengths and weaknesses and to develop a strategy within the scope of their opportunities. The district, which has become a member of the Cittaslow, means that it is a place where the urban fabric, colors, music, and stories are in harmony, at a rhythm that both the residents and the tourists can enjoy. The local handicrafts, tastes, and arts are shared with the new generation and urban tourists instead of being remembered only by the elderly. People should be reminded that the only objective of life is not to achieve a certain position. The cities can grow without destroying nature, and they should enjoy the time. Cittaslow developed 59 criteria for membership in order for its members and candidates to comply with and act within the "Slow City" philosophy. In order to become a member of the union, to develop and implement projects, the standards set by the union must be met. These standards are collected under the headings of environment, infrastructure, technology, hospitality, awareness, and support for the "Slow Food" project. Since each city has different conditions, most standards of Cittaslow contain general concepts. Each city has developed projects according to their own characteristics and strategies based on the Cittaslow standards. In addition, an international application letter for membership should be prepared, which states the eligibility of the city to join the union of Cittaslow. Letter to be written for application should include the introduction of the city and the reasons for applying to the Cittaslow network, determine the projects that would meet the existing Cittaslow standards, and appoint the technical supervisor of Cittaslow in the candidate city. The communication should be established after these. Evaluation results require that the application documents must earn more than 50% points for the projects developed by the city according to the Cittaslow standards. The municipalities with Cittaslow membership in Turkey are Gökçeada, Akyaka, Seferihisar, Perşembe, Yenipazar, Yalvaç, Vize, Taraklı, and Halfeti. In 2011, "Gökçeada" was declared the first Cittaslow island in the world. Based on this example, Heybeliada can also become a Cittaslow member [55].

Due to the distinctive urban fabric and architecture, monumental and registered buildings, fishing, island cuisine, Greek and Turkish traditions, organic agriculture, non-motor vehicle use, natural beauties and pine forests of Heybeliada, and the tourism activities, alternative water sports opportunities, sustainable urban strategies, and conservation

development plans to be developed, the Municipality of Adalar can apply for the Cittaslow membership. For preserving the integrity of the island and sustainable island life, the philosophy of slow food and the slow city can be applied in the immediate vicinity of the chaos in Istanbul [55].

4.1.3. Conditions During the Pandemic

The coronavirus, which emerged in the Huanan animal market in the Wuhan City of China in 2019, caused the 2019-nCov disease and affected the entire world. The World Health Organization named this coronavirus-borne disease as COVID-19 on February 11th, 2020. The first Covid-19 in Turkey was detected on March 11th, 2020. On the day the first case was detected in Turkey, the World Health Organization declared COVID-19 a pandemic.

In 1924, Heybeliada Sanatorium was first opened with a 50-bed capacity. According to the researches and studies carried out, it was determined that Heybeliada was the ideal Island for people with tuberculosis (lung disease) due to its rich pine forests, clean sea weather, and isolated location. If the Heybeliada Sanatorium had not been closed in 2005 and left idle, it could be used today as the pandemic hospital. The common point of the tuberculosis outbreak and the Covid-19 pandemic is to cause damage to the lungs. The opening of the Heybeliada Sanatorium may be a solution proposal for the treatment and rehabilitation of patients suffering from Covid-19 disease as well as problems with their lungs [41].

The reasons that were put forward when closing the Heybeliada Sanatorium were completely eliminated with the Covid-19 pandemic.

- 1- The difficulty of sea transportation
- 2- Insufficient number of patients

Heybeliada can be reached in a very short time from the mainland by the sea vehicles used today. In our country, the number of patients with Covid-19 is increasing every day. There is a need for a health facility. A study can be initiated to evaluate the existing buildings and make the sanatorium available as soon as possible with the support of the architects, interior architects, engineers, and designers. The accommodation problems of the

healthcare workers employed in the Sanatorium can be resolved within the facility. In case they are COVID-19 positive, the healthcare workers can be isolated in the Island, and the risk of infecting other people can be reduced. Patients with COVID-19, who are under treatment or have completed their treatment process successfully, can have their quarantine process in the clean pine forests of Heybeliada. The Heybeliada Sanatorium has a great place and importance in terms of the history of medicine and the treatment of tuberculosis disease, which was an epidemic. It is a health facility with high architectural value, which fought against tuberculosis. The Sanatorium can repeat its fight against tuberculosis in the past by fighting against COVID-19 in 2020 [24].

4.2. TRANSFORMATION OF THE FUNCTIONS OF MOST PUBLIC STRUCTURES

The names of the building in Heybeliada are presented in Table 4.1. and Table 4.2. together with their functions.

Table 4.1. Buildings with transformed functions in Heybeliada, prepared by author.

The Name and Function of the Building	Transformed Building and Its Function I	Transformed Building and Its Function II.	Transformed Building and Its Function II.	Transformed Building and Its Function III.	Location Heybeliada
Abbas Hilmi Pasha Men's Chamber	Workplace	Men's Chamber	Primary School	Housing	Refah Şehitleri Street No: 66
İliosko Mansion	Hotel (Hotel de la Grèce)	Housing Mansion	Housing (Rented after dividing into apartments)	-	Ayyıldız Street No:123
Hüseyin Rahmi House	Housing	Museum (Closed)	-	-	Demirtaş Street No:19
Hacı İstefani Mansion	Housing	Hotel, Ball Room	-	-	Şehit Ümit Ortaç Street No:8
Muradoğlu Mansion	Housing	Lodging House	-	-	Mektep Street No:14
Perili Mansion	Housing	Hotel	-	-	Rıhtım Street No:3
Triandafilidis Mansion	Housing	Primary School	Public Library	-	Refah Şehitleri Street No:33

Table 4.2. Buildings with transformed functions in Heybeliada, prepared by author.

The Name and Function of the Building	Transformed Building and Its Function I.	Transformed Building and Its Function II.	Transformed Building and Its Function II.	Transformed Building and Its Function III.	Location Heybeliada
The Monastery of Panagia Kamariotissa	The Elen Trade School	The Greek Orphan School for Girls	Engineering School	Naval High School	İbrahim Aşkı Tanık Street
Karacas Mansion	Levent Barracks	Naval School (extension)	-	-	İbrahim Aşkı Tanık Street
Naval Boarding House	Music School	The First Building of the Men's Ward at the Sanatorium	-	-	Çam Port Road

- Abbas Hilmi Pasha Mansion Men's Chamber

The building, which was mentioned in the "Registered Housing Structures" section, was first built as a workplace. It was later used as the Men's Chamber. It hosted the primary school relocated from the Bristol Hotel. Today it is used for residential purposes [10].

- İliosko Mansion

It was first built as a hotel. The name of the hotel was "Hotel de la Grece." The hotel's significant guests were King Paul of Greece in 1921 and the Greek Prime Minister Eleftherios in 1933. The mansion was divided into apartments due to the need for rental housing, which arose after the relatives of the patients under treatment in the Sanatorium started to settle on the Island [10].

- Hüseyin Rahmi House

Hüseyin Rahmi House was first used for residential purposes [10]. It was opened to the public as a museum in 2001, with the cooperation of the Ministry of Culture and Tourism, the Adalar Foundation, and the Adalar District Governorate. It remained open for a certain period of time under supervision due to the damage that occurred in the wooden building. After its first owner, Hüseyin Rahmi Gürpınar museum's ownership was transferred to Istanbul Metropolitan Municipality in 2013. With the protocol signed by Istanbul Metropolitan Municipality in October 2016, the museum was transferred to the Istanbul Metropolitan Municipality Directorate of Museums and Libraries by the Adalar

Foundation. The inventory of the museum was completed in 2017. It is not open to visitors since the repair has not been completed yet [56].

- Hacı İstefani Mansion

The mansion, which was first used as a house, was later transformed into a hotel. It has hosted significant concerts and balls.

- Muradoğlu Mansion

The mansion was allocated to the teachers of the Seminary as the lodging house until 1983 [10].

- Perili Mansion

It was built by Ekrem Olguner, who was the architect of the Sanatorium. It was used for residential purposes. This house, which was only used during the summer, remained idle for a certain period of time. The family members could not use this building as a house and transformed it into a hotel with five rooms. All rooms at the hotel have sea and forest views. When the building was idle, the children on the island nicknamed the mansion the "Haunted House", and the hotel took its name from this nickname [57].

- Heybeliada Public Library

Before 1923, this building, which was known as Triandafilidis Mansion, hosted the Heybeliada Turkish Primary School. After 1965, it was used as the Public Library, and it was left idle between 2001 and 2008. It was saved from being idle with the efforts of the islanders in 2013. The building, which was restored in 2014, was affiliated to the Directorate of National Education and became a public education center. Currently, it is out of use [58].

4.3. IDLE BUILDINGS

- Hacı İstefani Mansion

The mansion, which was mentioned in the "Registered Housing Structures" section, was first built like a house. It was later transformed into a hotel. It hosted significant balls and concerts. Hacı İstefani Mansion does not have any functions today [10].

- Heybeliada Greek Primary School

The building, which is located across the Iliasko Twin Houses at the beginning of Heybeli Mektebi Street, was designed and built by Ioannis Kalfas, one of the architects of Heybeliada Greek Community in 1849. The school had to close in 1972 when there were no Greek students left on the Island. It was decided to be restored in accordance with its original form by the Turkish and Greek architects. In 2010, permissions were obtained from the Board of Monuments for restoration; however, the Greek Primary School restoration, which was a 1st Degree Protected Area, stopped due to the economic crisis in Greece that happened in the same year [59]. Figure 4.1. presents the Heybeliada Greek Primary School.



Figure 4.1. Greek Primary School [18].

- Heybeliada Sanatorium

The entire group of buildings belonging to the Sanatorium has been left idle in the period from 2005 until today. According to news reports in 2012, Doğuş Real Estate Group wanted to transform the Sanatorium into a health complex. They planned the draft schemes

and created the 3D images of the land; however, no conclusion was reached [60]. Figure 4.2., Figure 4.3., and Figure 4.4. present the 3D drawings of the Heybeliada Health Complex by Doğuş Gayrimenkul.



Figure 4.2. The 3D drawings of the Heybeliada health complex by Doğuş Gayrimenkul [60].



Figure 4.3. The 3D drawings of the Heybeliada health complex by Doğuş Gayrimenkul [60].



Figure 4.4. The 3D drawings of the Heybeliada health complex by Doğuş Gayrimenkul [60].

The land belonging to the Sanatorium located in lot 105 and block 1 in Heybeliada, and 134 hectares of the 200 hectares of land belonging to its idle building were transferred to the Directorate of Religious Affairs in order to establish an Islamic Education Center [61].

4.4. STRENGTHENING OF THE NON-GOVERNMENTAL ACTIVITIES

Non-governmental organizations are important institutions, which determine the level of development and democracy in the countries and cities of the world today, known as the age of globalization. Society informs the public about the problems and needs of the city through non-governmental organizations. Non-governmental organizations are based on legal fact and regulate society [62].

Non-governmental organizations, which deal with the problems of the island, are as follows: Island Volunteers Association, Heybeliada Library Association, Adalar Foundation, Adalar Sea Life, Sport and Culture Association (ADYSK), Rear Deck, World Heritage Islands Initiative, Burgazada Culture and Development Association, Courage Association, Kamino Sailing Sports Club Association, and Academy Foundation. These non-governmental organizations carry out activities for the issues such as the problem of coaches in the Islands, the glanders disease (the disease that infected the horses on the

island in 2020), inland transportation, animal rights and health, and the reopening of the Heybeliada Library [63].

4.5. TRANSFORMATION BROUGHT BY THE CURRENT LIFESTYLE

It is believed that the urbanization process of Istanbul and the Islands consists of three phases. The first phase was the predominance of the industry in the 19th century, modernization, and thereby urbanization and the formation of a nation-state. The second phase was the sub-urbanization period, which was a new way of life appealing to the middle class after 1945. Sub-urbanization areas were not far from the city centers; however, they were residential areas that promised a new way of life. The third phase is the period of globalization, in which production and the city were restructured depending on the economic crisis. These three phases also affected the Islands of the metropolitan city of Istanbul. While determining a spatial character with Istanbul, the Islands have also created their spatial uniqueness within themselves [64].

In Heybeliada, industrialization has not developed, and the existing copper mines are not operated. During the nation-state formation process, problems with minorities, political sanctions imposed on non-Muslims and Greeks, and political and religious disputes were felt globally in socio-spatial terms. At the end of this process, Heybeliada was reshaped in accordance with the "modern and national" perception. Sub-urbanization, which is the main idea of urban transformation, has started to produce housing suitable for the budget of the middle class; since the population of this region, which used it as a summer resort, is constantly increasing. While these residences continue to be built, employees in the service sector in Heybeliada have started to build slums on forests and the lands of the foundation. As the middle class leaves Heybeliada in the winter, civil servants and the people, who are employed in the service sector, become the owners and even the residents of the Island. With the location of Heybeliada, which is neither far from nor close to the mainland, the spatial character and user profile changes according to the seasonal cycle. Although it does not have a specific district feature and identity, it is characterized by creating unique spaces of time. Based on the third stage, we observe that an economic structure based on consumption shapes the spaces where the islander and island culture are obstructed. The sociological changes, which occurred due to the fact that some of the people living in the

Eastern and Southeastern Anatolia regions migrated to Heybeliada, these people were not successful in the works of production and craft, that they started to operate only in the tourism-oriented service sector and coaches, and the increase in the populations of the families over the years, caused the changes in the spaces [64].

As the number of consumption-oriented facilities increased and the daily visits reached the highest level of the island during the summer seasons, the agricultural areas, which were very productive in 1960 and 1970, were replaced by urban housing, recreation areas, and green areas [2].

4.5.1. Utilization of the Summerhouses Also As Winter Houses

Until 1999, there was no natural gas connection in the Princes' Islands. With the offshore project, İGDAS constructed an 11.5 km natural gas sea crossing pipeline starting from the Istanbul Kartal Dragos region to the Islands. In the District of Adalar, Büyükada, Heybeliada, Burgazada, and Kınalıada gained access to natural gas in 2007, respectively [65].

When there was no provision of natural gas, almost all of the houses in Heybeliada were used as second residences (summer houses). For this reason, the residences did not change owners much. Purchase rates of the houses varied between 1% and 2% [12].

Heybeliada, which is the closest summer resort to İstanbul, has become the preferred spot for people who go to Istanbul for business, who want to stay close to nature away from the traffic stress after natural gas was provided and the routes of the ferry services were increased.

As the summer houses started to be used during the winter season, the houses' rate of ownership increased. The number of people who rent their houses fully furnished in the winter season has also started to change. To avoid being affected by the cold, some changes that were made to the facades to ensure heat comfort continue to damage the urban fabric Figure 4.5. (a), (b) presents the transformation of the buildings, including the use of summerhouses also as winter houses. Figure 4.6. presents an example of a

summerhouse drawing in Heybeliada and Figure 4.7. presents the drawing of a summerhouse also used as a winter house.



(a)



(b)

Figure 4.5. Transformation of the buildings including the use of summerhouses also as winter houses (a), (b) [18].

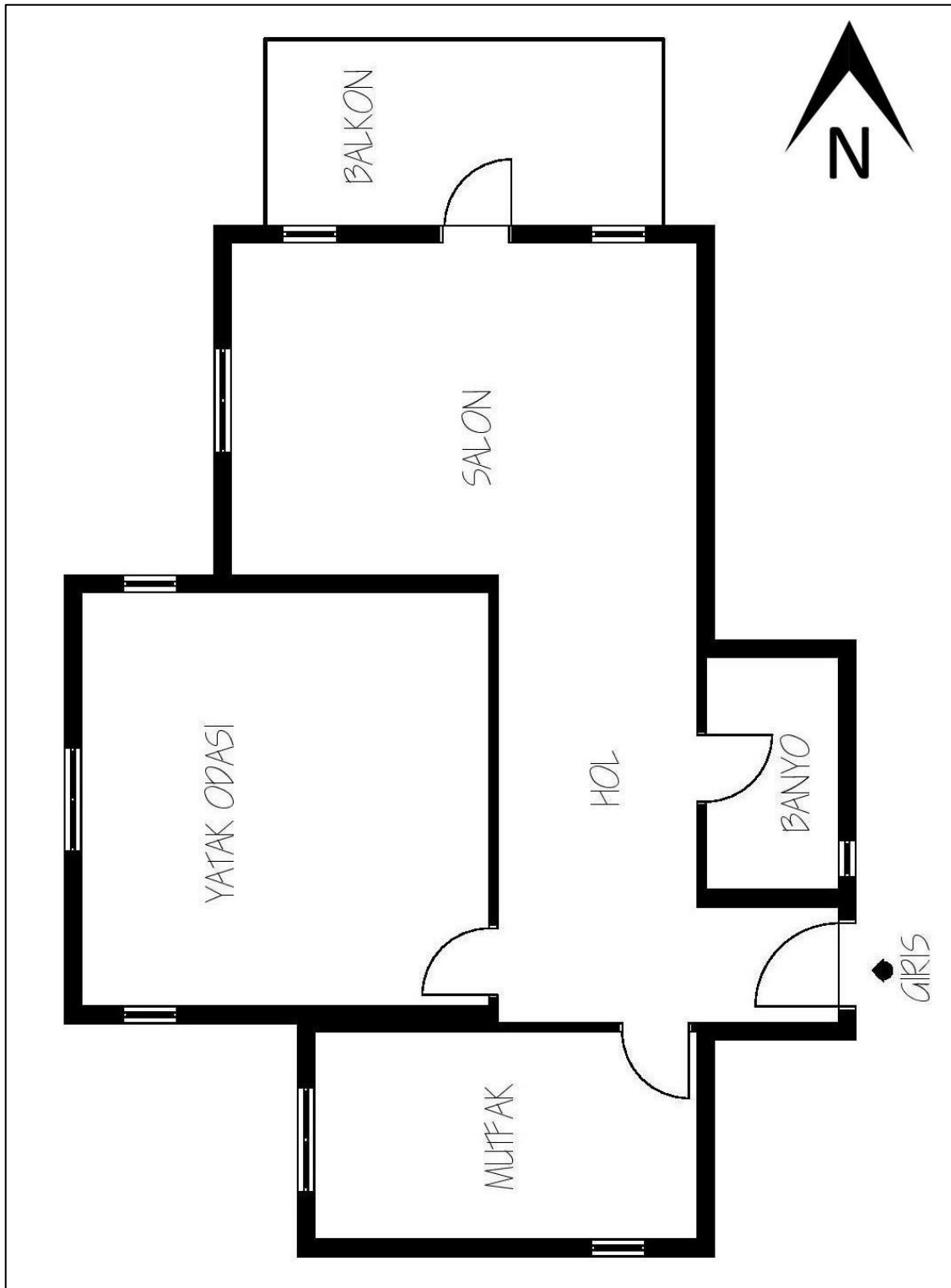


Figure 4.6. An example of a summerhouse drawing in Heybeliada, prepared by author.

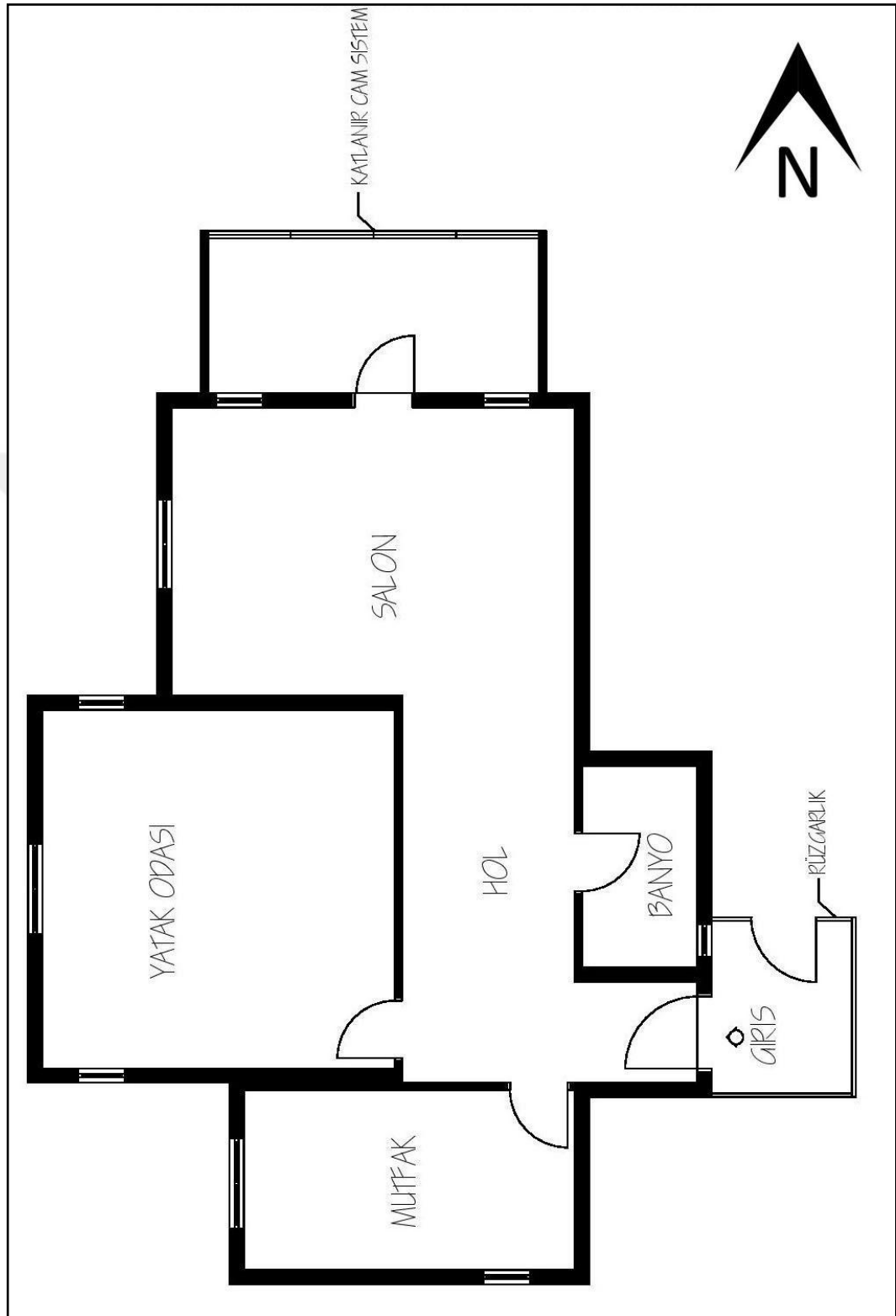


Figure 4.7. Drawing of a summerhouse also used as a winter house, prepared by author.

As seen in the sample summer house drawing in Figure 4.6., the hall and balcony, which are the most used volumes, face the North in accordance with the use in the summer. In addition, a shelter against cold winds is designed at the entrance.

As seen in the sample summer and winter house drawing in Figure 4.7., the balcony in front of the hall facing north is surrounded by a folding glass system suitable for winter use. In addition, a shelter against cold winds is designed at the entrance. In the observations made in Heybeliada, the examples of the transformation of the houses from summerhouses to the year-round use, as indicated in Figure 4.6 and Figure 4.7.

4.5.2. Renting of Houses in Heybeliada

Until the 1900s, none of the residents rented their houses in the summer. The people who visited Heybeliada used to stay in hotels. There were about eight or ten hotels on the Island. The Greeks, who came for a change of air or due to disease, used to stay in the mansions with large gardens. After the 1900s, some of the Turkish people also bought or built houses on the Island. Military officers and teachers started to settle on the Island. The density of construction increased. The owners of the mansions started to rent out their outbuildings. As the demand increased, large mansions started to be rented after dividing into separate apartments. Until the 1980s, construction workers were not allowed to stay on the Island. Construction workers also started to stay on the Island after 1980, due to transportation and other costs [2].

Due to the shrinking family structure and the houses' good rental income on the Islands, the two and three-story houses and the mansions were divided into apartments. They started to be rented in seasonal terms. Today, the number of tenants is greater than the number of owners. With the pandemic, the low population density and clean air during the winter months attracted the interest in rental houses.

5. THE PROBLEMS OF HEYBELİADA

All the indicators related to the transformation of Heybeliada, which were described in the fourth part, have caused a series of problems. While the population of the Island is at a minimum level in winter, it reaches its maximum level in summer due to the summer vacationers and daily vacationers. The flood of local and foreign tourists exceeding the capacity of the Island in the summer season, and the end of the touristic activities in the winter season, and the abandonment of the buildings have brought many problems. In order to determine the problems of the Island, the following survey was administered to the individuals living on the island during the summer and winter.

5.1. SURVEY

As a result of the observations, interviews and examinations performed in this study, the following survey questions were asked to the female and male participants between the ages of 18 and 70, who lived on the Island both in the summer and winter, in order to determine the problems and the degrees of their importance to the Island. Table 5.1. presents survey questions.

Table 5.1. Survey questions.

SURVEY	
DEMOGRAPHIC CHARACTERISTICS	
Gender	:
Female ()	Male ()
Marital Status	:
Married ()	Single ()
Age	:
18-29 ()	30-49() 50-69 () 70 and above ()
Level of Education	:
Literate ()	Primary School () Middle School () High School() Associate Degree ()
Undergraduate ()	Post Graduate () Doctorate ()
How long have you been living in Heybeliada?	:
0 – 5 Years()	6 – 10 Years() 11–15 Years() 16–20 Years() 20 Years and longer()
SURVEY QUESTIONS	
WARNING: Please tick only one option for each question.	
Strongly Disagree (1), Disagree(2), Undecided (3), Agree (4), Strongly Agree (5)	

1. The infrastructure is insufficient

Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)
-----------------------	--------------	---------------	-----------	--------------------

2. The transportation between the Islands is a big problem.

Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)
-----------------------	--------------	---------------	-----------	--------------------

3. The stray animals are neglected.

Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)
-----------------------	--------------	---------------	-----------	--------------------

4. The equipment and fields of service are insufficient.

Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)
-----------------------	--------------	---------------	-----------	--------------------

5. I have problems with the garbage.

Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)
-----------------------	--------------	---------------	-----------	--------------------

6. The coachmen have problems with the studs.

Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)
-----------------------	--------------	---------------	-----------	--------------------

7. There is a housing problem.

Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)
-----------------------	--------------	---------------	-----------	--------------------

8. The original vegetation is not preserved.

Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)
-----------------------	--------------	---------------	-----------	--------------------

9. The buildings are protected.

Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)
-----------------------	--------------	---------------	-----------	--------------------

10. There is no encouragement for concretion.

Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)
-----------------------	--------------	---------------	-----------	--------------------

The things you would like to add...

--

The analysis of the responses to the questions asked to 100 individuals, who were residing in Heybeliada, were presented in the following tables. The responses were presented in the tables according to marital status. They were classified as a married female, single female, married male, and a single male. This was performed to determine whether the individuals who had the responsibility of a family or the single people were more sensitive towards the Islands' problems. According to the results, marital status does not affect the interest in the problems of the Island. For this reason, the tables based on marital status were not included in the content of this thesis, and the responses to the survey were evaluated according to the total number of participants to whom the survey was administered. Table 5.2. presents the evaluation of the survey with 100 participants.

Table 5.2. Evaluation of the survey with 100 participants.

Questions of the Heybeliada Survey		Evaluation of the 100 Participants					Ratio
		Strongly disagree	Disagree	Undecided	Agree	Strongly agree	
1	The infrastructure is insufficient.	-	4%	9%	51%	36%	100%
2	The transportation between the Islands is a big problem.	-	3%	-	34%	63%	100%
3	The stray animals are neglected.	3%	10%	9%	38%	40%	100%
4	The equipment and fields of	1%	8%	3%	49%	37%	100%

	service are insufficient.						
5	I have problems with garbage.	-	-	3%	26%	%71	100%
6	The coachmen have problems with the studs.	-	1%	1%	37%	61%	100%
7	There is a housing problem.	2%	3%	7%	44%	34%	100%
8	The original vegetation is not preserved.	-	15%	29%	36%	21	100%
9	The buildings are not preserved.	1%	1%	6%	50%	41%	100%
10	The concretion is encouraged.	2%	2%	21%	40%	31%	100%

5.2. EVALUATION OF THE SURVEY

Figure 5.1. presents the chart, which indicates the problems and the change in the numbers of the types of responses based on the total results of the data.

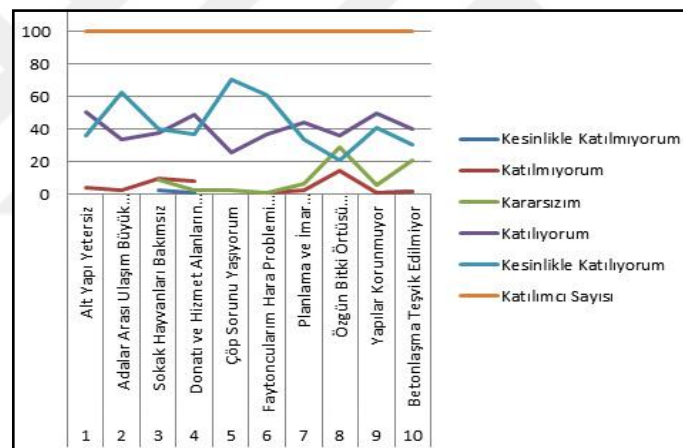


Figure 5.1. Variation of the types of responses to the problems according to the number of participant.

As presented in the chart in Figure 5.1., the numbers of responses as "strongly agree" and "agree" were higher compared to the other responses. For this reason, the weights of the problems were calculated over the sum of these two types of responses to each question, and their degrees of importance were revealed with the bar chart plotted in Figure 5.2.

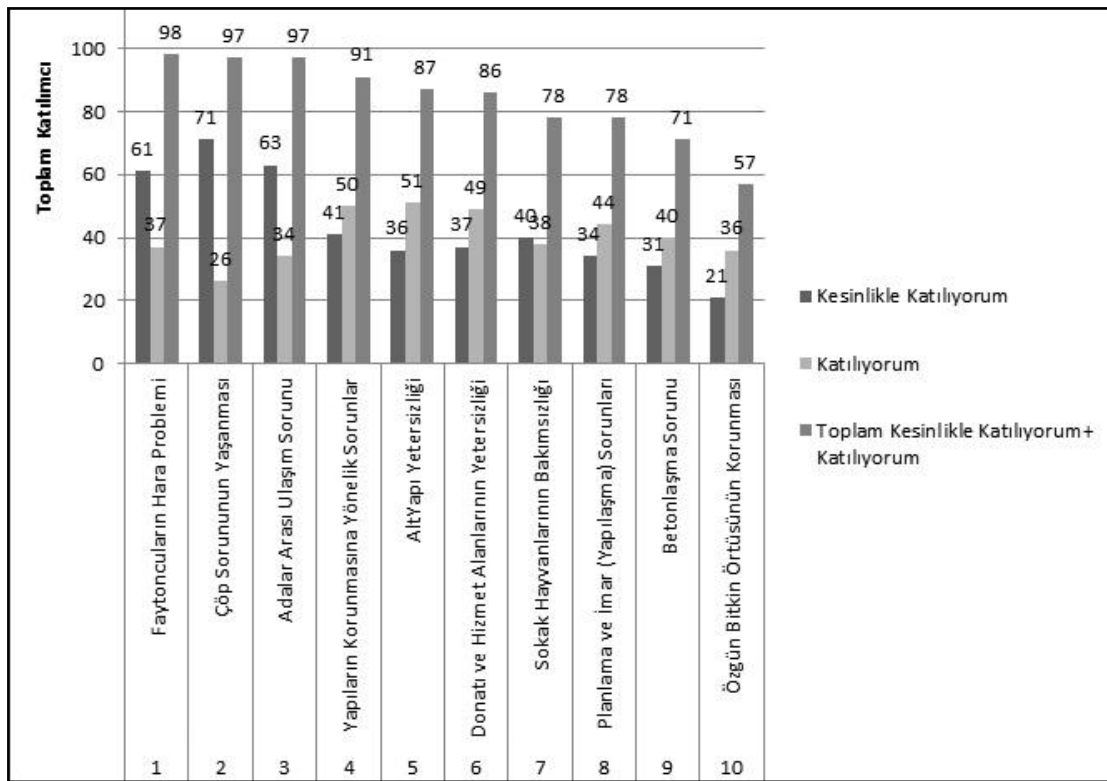


Figure 5.2. The problems of the island were listed according to the degrees of importance determined by the descending alignment of the participants.

The problems of the island were listed according to the degrees of importance determined by the descending alignment of the participants, who responded to the surveys as “agree” and “strongly agree”, as demonstrated in the chart displayed in figure 5.1. The total numbers of participants who responded to the questions as "agree" and "strongly agree" were aligned in descending order in Figure 5.2. and Figure 5.1., and the problems of the Island were listed in Table 5.3. according to the degrees of importance.

Table 5.3. The problems of Heybeliada and the degrees of importance.

Degree of Importance	Problems
1	The stud problems of the coachmen
2	The garbage problem
3	The problem of transportation between the Islands
4	Problems regarding the protection of the buildings
5	Insufficiency of infrastructure
6	Insufficiency of the equipment and fields of service
7	The neglect of the stray animals
8	Problems of planning and zoning
9	The problem of concretion
10	The inability to preserve the original vegetation

According to the results of the survey, the following evaluations can be made regarding the priorities in the order of the problems:

The foremost problem in Heybeliada was the coachmen's stud problem, which continued until the time when the survey was administered. The fact that inland transportation was provided only by the coachmen for both residents and the tourists visiting the Island caused this problem to remain at the forefront. Nowadays, it does not pose a problem for the islanders, since the transportation within the Island is not provided by the coaches with horses anymore. Nonetheless, giving up a nostalgic means of transport, which had an important place in Island life since the past, goes against the problem of preserving the island culture. The second problem was the garbage problem. The most important reason that ranked this problem the second place was the low number of Garbage Containers and recycling bins, and the problem of transporting garbage to the mainland instead of being recycled on the Island, affecting the health of all Islanders at the same time. The third problem was the difficulty in transportation between the islands, which again a problem of transportation. The most obvious reason for this can be mentioned as the same cost of transportation between the Islands, and between the mainland and the Island, even to the subscribers of 'Adakart', which continues to be unresolved in terms of the island culture and rights, as the main reasons for preferring to live on the Island. The fourth problem was that the buildings were not preserved, and they were left idle. The fifth problem was the

insufficiency of infrastructure. The insufficiency of the equipment and service areas ranked the sixth, and the neglect of the stray animals ranked the seventh. Planning and zoning problems were in the eighth place, and concretion ranked in the ninth place. The inability to preserve the original vegetation was the final problem. Failure to preserve the original vegetation is associated with solving other problems since it is a result of all kinds of construction and concrete problems. Hence, it ranked in the final place. In Table 5.3., the problems were aligned according to the order of the questions in the survey, and the degrees of importance were indicated.

Table 5.4. The degrees of importance regarding the survey questions according to the order of the questions.

The order of the Survey Question	Problems	The Degree of Importance	The order of the Survey Question	Problems	The Degree of Importance
1	The infrastructure is insufficient.	5	7	There is a housing problem.	8
2	The transportation between the Islands is a big problem.	3	8	The original vegetation is not preserved.	10
3	The stray animals are neglected.	7	9	The buildings are not preserved.	4
4	The equipment and fields of service are insufficient.	6	10	There is encouragement for concretion.	9
5	I have problems with garbage.	2			
6	The coachmen have problems with the studs.	1			

6. SOLUTION SEEKING AND RECOMMENDATIONS

The solution proposals for the problems identified during the survey and one-on-one interviews with the islanders were discussed in accordance with the recent conditions.

6.1. THE INSUFFICIENCY OF INFRASTRUCTURE AND PROPOSED SOLUTION

The intervention and improvement work for rainwater problems, wastewater, and sewage lines, which have been a major problem in the islands for many years, started in Heybeliada as of June 2020. There are continued efforts to eliminate the explosions, blockages, and collapses that occur over time in the lines and the insufficient sewage system problems due to the increase in the population in the summer months. The efforts to increase the capacity of the infrastructure still continue. Figure 6.1. presents the example of infrastructure work carried out in Heybeliada in August 2020.



Figure 6.1. Infrastructure works in Heybeliada [18].

Protection of natural areas, mobility, bicycle accidents, soil and water pollution, garbage problem, forest fires, infrastructure, and spatial pressure problems associated with population growth during the summer should be identified and analyzed [66].

6.2. THE PROBLEM OF TRANSPORTATION BETWEEN THE ISLANDS AND PROPOSED SOLUTION

One of the islanders' biggest problems is transportation in the Island and between the Islands, which ranked the third. The people living on the Island have to travel for the issues related to banking, municipalities and etc. The fact that the transportation fees between the islands and between the mainland and the island challenged the islanders economically.

The people living on the Island were provided with the "Islander Cards" by the Municipality of Adalar and they became able to travel by taking advantage of the discounted tariff when traveling between the Islands or between the mainland and the Island, despite the fact that the fees are the same. They were also provided with the opportunity to benefit from the recreation area of Değirmenburnu. Nonetheless, at least for the important days of density in transportation, the arrangements for the transportation between the Islands by vehicles should be separated from the transportation between the mainland and the Island.

6.3. THE PROBLEM OF STRAY ANIMALS AND PROPOSED SOLUTION

Although many charities for stray animals work actively in Heybeliada, they cannot meet the needs of the stray animals sufficiently. Stray animals have to struggle with many problems in Heybeliada. Stray animals struggling with the problem of hunger in the winter season have problems finding water in the summer. Since these problems are not resolved, many animals either die, or many dogs that are thought to be scabies can be poisoned with food by the islanders due to the concern of getting infected.

Organizations supported by the Municipality should interfere with the stray animals. The stray animals should be rehabilitated and maintained under control. All stray animals should have earrings, and their species should be determined. Life support opportunities

should be increased, their vaccines should be kept under control, and the islanders should be informed about these issues. There is still the fact that many islanders take care of and care for the stray animals without receiving any support. By getting organized in cooperation with these people, it should be possible to increase the number of Islanders dealing with the stray animals and contribute to the limited shelter and health facilities provided by the people who attend.

6.4. INSUFFICIENCY OF THE EQUIPMENT AND FIELDS OF SERVICE, AND PROPOSED SOLUTION

It is an important need to benefit from green spaces in order for people to lead a healthy life. Green areas are of great importance for urban and human health. The equipment and service areas should reflect the urban identity. More livable spaces should be created for the island people.

Factors such as urban furniture, recreation areas, electric poles, square, beach, and pier arrangement will make significant contributions to the island culture and urban fabric in terms of space. The importance of this matter can be explained with the images displaying the current urban furniture and equipment in Figure 6.2., Figure 6.3., Figure 6.4., Figure 6.5. (a), (b), (c). By including the impaired citizens in this process, starting with the concept of "an island without barriers", design competitions can be organized by the municipality in order to eliminate the deficiencies and renew the reinforcement areas and service units in accordance with the island culture.

In terms of the function of the service provided on the island, it is an important solution proposal to allocate sufficient facilities and areas for health, education, and culture. In this regard, it can be benefited from the gentrification and regaining of the idle buildings, which are included in the problem of protecting the buildings. In addition, the opportunity to allocate space for these functions should be provided in the zoning plans to be developed

The problem of health structure and health personnel should be resolved by identifying the population during the summer and the winter. The authorities should plan by ensuring that

a sufficient amount of services are provided. Nursing homes and care service units should be considered for the elderly, orphans, and the islanders in need.



Figure 6.2. The electric pole on Refah Şehitleri Street [18].



Figure 6.3. An example of urban furniture on Refah Şehitleri Street [18].



Figure 6.4. An example of urban furniture in front of Heybeliada library [18].



(a)



(b)



(c)

Figure 6.5. (a) Heybeliada- Kartal Pier [18]. (b) Heybeliada- Kadıköy-Eminönü Pier [18].
(c) Heybeliada- Bostancı Pier [18].

Studies should be carried out and developed on the ill-developed strategies for tourism, the regulation of insufficient legal measures, the scarcity of tourism accommodation, and the need for ports. Considering the increasing number of marinas and yachts in the mainland of Istanbul, the Çam Port area can be arranged as a yacht harbor provided with daily anchoring opportunities, and it may bring economic income to the island. A link should be established between the naval school and this port. Competition can be opened for the port project [67].

The arrangement of the beach and pier in Heybeliada should be considered. The 275-meter-long pier square, where the people of Heybeliada socialize, is far from being a livable city coastline due to the piers that are built irregularly. The sea transportation piers (Eminönü, Kartal, Bostancı, Kabataş, İdo, and historical pier), which started to operate without planning, should not be transferred the future with their current condition. Pier and coastal square projects should be developed with more regular and greener areas. Urban furniture should be renewed. Street lamps should be redesigned using solar panels to match the urban fabric of the Island. Trees suitable for the island's climate should be planted by the pier, and the historical pier should be preserved [67].

6.5. THE PROBLEM OF GARBAGE AND PROPOSED SOLUTION

The problem of garbage, which ranked the second according to the results of the survey, is known as the filling of the forest areas with piles of garbage and rubble. The garbage of the Island remains on the Island. Although the Istanbul Metropolitan Municipality allocated the Tuzla-Aydınlı region as a garbage dumping place for the Municipality of Adalar, this project could not be implemented due to the high costs of garbage transportation. Garbage containers should be divided into paper, glass, metal, and plastic sections. Studies should start for a waste recycling facility for the sake of a sustainable environment and renewable energy. Another problem is that the number of garbage containers very few, and they are not available in every street of Heybeliada. The garbage is collected in front of the houses, and it is usually destroyed by stray animals. This causes bad odor and appearance, as well as a health hazard. In addition, due to the carelessness and neglect of some tourists, who visit the Island, and the continuous pollution of the streets on the Island with the garbage

leads to the problem that the local administration cannot provide sufficient service. Figure 6.6. presents the view of a street on the Island after the end of the farmers' market.



Figure 6.6. The view of pazar street, which hosts the farmer's market on Wednesdays, after the end of the farmer's market (Heybeli mektebi street) [18].

There should be at least one underground container on each street (with separate paper, glass, metal, plastic sections). Aboveground containers are not preferred by the islanders. The islanders, who spend time on the balconies, terraces, and verandas, especially in the summer months, feel uncomfortable due to the odor and the flies caused by the garbage. They get the containers removed from the front of their homes. Due to the small number of containers, the islanders leave their waste on the streets. When these reasons are evaluated, it is appropriate to use underground containers on every street.

Resources should be created for the problem of garbage, the insufficient number of containers, and the recycling project. The garbage should be separated and recycled to produce energy. Renewable energy sources should be utilized. Technological devices should be used for placing rehabilitation machines on the surface of the sea in the pier area. This system can recharge itself with solar energy, and it has the ability to refine the waste materials and oil wastes on the surface of the sea without harming sea life [68].

6.6. THE PROBLEM OF THE COACHMEN WITH THE STUDS, THE NEGLECT OF HORSES, AND PROPOSED SOLUTION

The neglect of the horse stud in Heybeliada, located on the road to the Monastery of Hagios Spyridon, attracts attention by local and foreign tourists and islanders, who use the walking path. There are also problems with the transmission of electricity and water to this stud. Horses that were used for transportation in the summer used to die due to insufficient food, lack of fluid, and health problems. Figure 6.7. presents the studs of the coachmen in Heybeliada.



Figure 6.7. The studs problem of the coachmen [18].

Istanbul Transportation Coordination Center (UKAME) prepared a report on transportation by coachmen in Adalar. This report involved items such as the use of the coaches as a touristic and nostalgic vehicle, the use of the coaches as a means of public transportation, the high prices of the coaches, and the inability to fully meet the care, health, and food needs of the horses. UKAME has made some decisions according to this report. These decisions included the decrease in the number of coaches with horses, the use of electric coaches, and the expropriation of the coaches [69]. There were approximately 30 coaches in Heybeliada.

Decisions were taken to establish a new horse farm in a region proposed by the Municipality, provide the routine check-up of horses by expert veterinarians, and regulate their vaccinations.

In 2019, glanders was detected in 81 out of 1378 horses screened by veterinarians for the disease. Since glanders can be transmitted from animal to human, horses' activities on the Islands were completely terminated on January 16th, 2020. In line with these decisions, coaches have been removed and replaced with electric vehicles [69].

By paying a certain amount of fee per horse and coach to the coachmen, it was ensured that healthy horses survive in the natural habitats of the Ministry of Agriculture and Forestry under veterinary control [69]. It is discussed whether the electric buses and taxis are compatible with the fabric and culture of the Island.

6.7. PLANNING AND ZONING PROBLEMS AND PROPOSED SOLUTION

As in other islands, most of the construction in Heybeliada was realized without planning. Despite the protected area's decisions and being under protection, the construction problems could not be prevented. Unplanned structuring continues today with the construction conditions of the transition period, legal deficiencies, and the decisions made based on the blocks [41].

For the new development plans for conservation, it is necessary to draw up maps about the changes of the population during the summer and winter, the reasons for change should be determined, and the factors affecting the islanders and tourists positively or negatively should be identified. For instance, the 1/5000 Scaled Master Conservation Plan for the Islands states that residential and commercial areas should be located near the pier and its surroundings. This specified area corresponds to 13 hectares. In addition to residential and commercial areas, accommodation facilities such as hotels, motels, and pensions are also allowed. Based on the decree, which does not provide detailed information, it is stated that the pensions in and around the pier can change their types of plans and façade features as they wish [41].

According to the 1/1000 Scaled Master Conservation Plan for the Islands, it is stated that the housing buildings can be used for other purposes (pension, cafe, restaurant, etc.), and accommodation facilities can be opened in the blocks larger than 500 square meters without causing deterioration in the basic features such as the type of plan and the facade. Nonetheless, the 1/1000 Scaled Master Conservation Plan for the Islands have not been revised and implemented yet.

Tall buildings should not be allowed, arrangements should be made for the facade and commercial signs, and the downtown should be turned into a greener model street.

Unfortunately, the current laws on zoning and planning are not sufficient to protect the existing architectural structure and pass it on to future generations. Social support for issues such as zoning, planning, restoration, and restitution should be increased. The 1/5000 Scaled Master Conservation Plan for the Islands is unable to eliminate the construction problems. According to the draft of the 1/1000 Scaled Master Conservation Plan, the "legislation on the conservation of cultural heritage and management of the historical area, and scientific principles" should be revised and rearranged both as a touristic center and based on the concepts of preserving the historical values, improvement and sustainability, and renewable energy. If these arrangements are not made, unplanned and illegal construction will continue, and the urban fabric of the Island will be completely destroyed [12].

In addition, in island settlements that are closely related to the mainland the silhouette is of great importance in settlements, as in all coastal settlements.

The evaluation of the aesthetics of the city is revealed with the city silhouettes and city facades (projections), which determine the urban landscape. City silhouettes and projections are shaped by the reflection of the diversity created by the natural and physical differences, such as the cultural structures of different periods, which make up the urban fabric and green texture [70]. Therefore, Heybeliada, which can be reached from the mainland by sea, should be determined as the back view of the lines and rear facades that reveal the city facade, in other words, as the front view. Hence, the island-city silhouette should be evaluated and protected. This issue is an indispensable solution proposal for the planning and zoning problems of the Island, through zoning plans for the protection of the coasts and the controlled development of the urban fabric.

6.8. THE PROBLEM OF INABILITY TO PROTECT THE ORIGINAL VEGETATION AND PROPOSED SOLUTION

The biggest problem regarding this issue in Heybeliada is that the fires experienced in the summer months damage the vegetation. In the fire that broke out in the forest area around the Heybeliada cemetery on July 12th, 2020, 5 hectares of land burned to ashes. In the climate and vegetation part of the thesis, information was given about the climatic diversity and plant species of Heybeliada. The neglecting behavior of the excursion tourists during the summer months adversely affects flora and fauna of the Island. Signboards should be placed to raise awareness in the tourists, emphasizing the necessity of giving importance to the environment and nature. The philosophy of protection, use and transfer to the future should be conveyed to the islanders through training, spatial pressure analyzes should be prepared, social organizations should be established, forest officials should be present at certain points in the forests. In addition, considering the difficulty of access to some points of fire trucks in forest areas, water towers can be established for emergency response by determining the challenging areas.

In addition to these, monumental trees in Heybeliada contribute significantly to the urban identity of the island. The types, physical dimensions, location, and monumental characteristics of the monumental trees found in Heybeliada are presented in Table 6.1. below.

Table 6.1. Table of monumental trees in Heybeliada [71].

No	Type of Tree		A.AK.D.A	Sizes				Location	Monumental Value
	Turkish	Latin		Age (years)	Diameter (cm)	Length (mt)	Diameter of the trunk (cm)		
30	Mastic Tree	Pistacia Atlantica	K.D.A	154	96	12	670	Heybeliada District, Ministry of National Education The Greek High School for Boys	Physical and Visual Features, Local Historical Space
31	Olive Tree	Olea Europaea	K.D.A	123	77	11	275	Heybeliada District, Ministry of National Education The Greek High School for Boys	Physical and Visual Features, Local Historical Space
32	Calabrian pine	Pinus Brutia	K.D.A	297	73	18	405	Heybeliada District, Ministry of National Education The Greek High School for Boys	Physical and Visual Features, Local Historical Space
33	London Plane	Platanus Acerifolia	K.D.A	102	85	13	335	Heybeliada District, Rıhtım Street	Physical and Visual Features, Local Historical Space

Monumental trees should be protected, and their rehabilitation should be continued. Maintenance of forest areas and rejuvenation efforts should be improved. The original vegetation should be preserved, and the sustainability of the ecosystem should be ensured.

6.9. THE PROBLEM OF PRESERVING THE BUILDINGS AND PROPOSED SOLUTION

Since the legal procedures for idle and unowned structures are under the responsibility of various institutions, the efforts spent on the future of these buildings conclude with long and fruitless struggles. The Municipality of Adalar should be authorized to put an end to the confusion of authority, the right to use protection, to ensure that the projects are

sustainable and supervised by a single authority. Many registered buildings are in ruins. Especially the buildings that changed hands as a heritage have become unusable due to the high cost of woodworking, the lack of material optimization, and the long application process for a restoration permit. The Municipality should reach the titleholders of these buildings and create financial resources to restore these buildings according to the original. Abandoned buildings are seized by people other than their real owners, and they continue to stay in the buildings despite the danger of collapse. These structures can be determined and handed over to the Municipality. The Municipality should renew them for the benefit of the public, and open for public use.

Unity should be ensured in terms of the materials. The Municipality can establish craft centers within itself and direct the islanders to this profession by providing woodworking training. The Municipality can encourage restoration by supplying the materials.

Another important problem regarding the conservation of buildings in Heybeliada is related to “Idle Buildings with Transformed Functions”. Buildings that do not meet the needs of the day and lose their major functions are lost as a result of remaining neglected and idle before completing their structural life. In this cycle, historical civil architectural works disappear, and the buildings, which lose their main function, preserve their structural characteristics. It is an alternative building production technique to change the buildings' functions, which preserve their building functions and put them into use. The best method to avoid increasing the building stock in Heybeliada is re-functioning [72].

The buildings should be transformed by adhering to the spatial and structural features, which are shaped according to the conditions and needs of the day. Especially the studies carried out with a protective approach on historical buildings allow the buildings to live in interaction with the environment.

The unused building stock in Heybeliada should be used as a resource. Regardless of its historical value, each building should be used by determining a new function. All kinds of buildings, which have not completed their structural lives, should be identified. Maintenance and repair activities should be carried out in accordance with the needs. All interventions and renovations to be performed on the building should comply with the requirements of the new function (addition or removal of the windows or walls, etc.). In this regard, idle buildings should be reexamined. Flexible design methods should be

implemented by maintaining the carrier system, core, and wet areas as the support system. Thus, a reduction can be achieved in the number of spaces, and multi-purpose spaces can be created according to the transforming function of the building. Accordingly, the buildings can be converted instead of remaining idle. This method can be considered as one of the proposed solutions that could address the problem of the inability to preserve the buildings of the Island [72].

In registered and idle residential buildings, it is necessary to approach with the awareness of preserving the architectural memory and transferring it to future generations within the context of bringing the building back to life and maintaining the communication with the environment in addition to the re-functioning.

6.10. THE PROBLEM OF CONCRETION AND PROPOSED SOLUTION

As concretion continues in Istanbul, a study by the "World Cities Culture" declared the "Metropolitan Cities and the Proportion of Green Spaces ". Among the 44 metropolitan cities of the world (Oslo, Singapore, Vienna, Zurich and etc.), Istanbul ranked in the last place with its green spaces of 2%.

This problem of Istanbul also affected Adalar. Traditional wooden buildings of civil architecture have been replaced by the reinforced concrete structures. Today, reinforced buildings are encouraged due to the decrease in the number of forest areas, lack of industrial afforestation, and accordingly, the decrease in the tree species of qualified types. In addition to these, the lack of investment in the facilities to be established for drying the quality materials, the lack of an understanding to support the construction of the wooden buildings, the few numbers of companies producing the wood attachment tools (nails, qualified wood adhesives, etc.) also lead to increased reinforced construction. The fact that the synthetic chemical materials such as insect repellents and the materials used for protection from fire and moisture are imported, the materials of wooden construction are expensive, and that the reinforced concrete materials are cheaper and easier to obtain also leads to the preference of reinforced concrete. Woodworking has become almost extinct, our country fails to keep up with the wood technologies, and there is a lack of research and development studies, which are the other causes of the increased reinforced construction.

In addition, there is confusion that four and five-story buildings are allowed instead of 2 and three-stories. Therefore, the demolished wooden structures cannot be built in accordance with their original plans. For these reasons, reinforced concrete structures are preferred instead of wooden structures [73].

It should be encouraged that the wood building materials are sustainable, environmentally friendly, recyclable, and demounted in a region with high earthquake risk, such as Istanbul. In order to maintain the urban fabric of the Islands, the existing wooden buildings should be preserved, and new buildings should be built in the wood [73].

Non-governmental organizations were established against concreting in Adalar. The support for non-governmental organizations should increase. The problem of concretion should be shaped with the cooperation of the state and the municipality, in accordance with the history and architecture of the city and its surroundings. Financial resources should be created, industrial afforestation should be encouraged, and qualified timber and drying process should be performed. The public should be acknowledged about timber care and false beliefs about wooden buildings (about the fact that they are not fire-resistant). Figure 6.8. presents an activity carried out by the nongovernmental organization located in Adalar. Also, figure 6.9. presents an example of construction on the same street with different materials.



Figure 6.8. An activity by the Non-Governmental organization located in adalar [74].



Figure 6.9. An example of construction on the same street with different materials [18].

The coastal lines should be protected, landfilling should not be allowed, and the problem of ground resistance should be addressed. The problems such as the occupation of the public beaches by individuals, opening them for paid use after fencing, and the problem that there are no more free beaches for public use should be resolved. The rights of impaired citizens

to access the beaches should be protected. In addition, the litter on the beaches and the sea should be cleaned at the end of the day.

6.11. CLASSIFICATION OF THE PROPOSED SOLUTIONS

It was necessary to evaluate the solutions of the problems explained so far qualitatively and classify them under certain major headings. Based on these main headings of the solution, it was predicted that all problems could be evaluated under the general headings of preservation, use, and gentrification. Table 6.2. presents the major solutions based on the problems of the Island.

Table 6.2. Major proposals for solutions based on the problems of the island.

PROBLEMS	MAJOR PROPOSALS FOR SOLUTION
The problems of the coachmen with the studs	The gentrification of the buildings The gentrification of the transportation lines, squares, parks, piers, and ports.
The problem of garbage	Protection of the Continuity of the Ecosystem Preservation of the coastal and beach hygiene,
The problem of transportation between the Islands	The gentrification of the transportation lines, squares, parks, piers, and ports.
Problems regarding the protection of the buildings	Protection of the historical civil architectural artifacts The gentrification of the buildings The gentrification of the facades of the buildings
Insufficiency of infrastructure	The gentrification of the infrastructure and the related materials
Insufficiency of the equipment and fields of service	Gentrification of the transportation lines, squares, parks, piers and ports, preservation of the Island culture
The neglect of the stray animals	Protection of the Continuity of the Ecosystem Preservation of the Island culture
Problems of planning and zoning	Preservation of the silhouette of the coastal line and the Island, improvement of the existing infrastructure, protection, and improvement of the public spaces
The problem of concretion	The gentrification of the urban landscapes and open spaces, urban furniture, pavement, and the elements of reinforcement
The inability to preserve the original vegetation	Preservation of the flora and fauna, preservation of the monumental trees, rehabilitation and regeneration of the forest areas

6.11.1. Preservation and Use

Looking at the proposed solutions, the solution of certain problems related to Heybeliada, the preservation of the flora and fauna, preservation of the monumental trees, ensuring the sustainability of the ecosystem, preservation of the historical works of civil architecture, preservation of the "Island culture" as the combination of different elements of culture, cleaning and maintenance of the sea, coast and beach areas, and the organization of the public spaces according to the needs of the Islanders could be classified as the main solutions of "Preservation" and "Use".

6.11.2. Gentrification

The other solutions for the problems of the Island such as the rehabilitation and rejuvenation work for forest areas, reviewing the legal regulations that encourage concretion, the gentrification of the urban building stock, performing the data analysis of the idle structures, the adoption of a nature-friendly construction developing perpendicular to the shore, abandoning the form of construction that completely covers the shores parallel to the coast, bringing dimension standards to the sidewalks, preventing street obstructions, harmonizing urban furniture and reinforcement elements with the urban fabric, examining the historical structures of building facades and renewing them with appropriate materials, optimizing building materials, making legal regulations regarding the use and operation of beaches, and the organization of the squares, parks, piers and ports in accordance with a healthy urban fabric could be classified as the solutions based on "gentrification". Table 6.3. presents the classification of the proposals for the solution.

Table 6.3. Classification of the proposals for solutions.

Preservation – Use	Gentrification
Preservation of the flora and fauna	Rehabilitation and regeneration of the forest areas
Preservation of the silhouette of the coastal line and the Island	The gentrification of the urban landscapes and open spaces
Preservation of the monumental trees	The gentrification of the buildings
Protection of the Continuity of the Ecosystem	Improvement of the idle building stock
Protection of the historical civil architectural monuments	The gentrification of the urban furniture, pavement, and the elements of reinforcement
Preservation of the Island culture	The gentrification of the building facades
Preservation of the cleanliness of the seas, coast, and the beach	The gentrification of the infrastructure, and the related materials
Preservation and improvement of the public spaces	Sanitation of the transportation lines, squares, parks, piers and ports.

7. CONCLUSION

In this thesis study, Heybeliada was examined as an example of the island settlement associated with the mainland. The Island has a rich settlement history based on its extensive historical past, as in many island settlements associated with the mainland. Ensuring the sustainability of the Islands by adapting the developments of the new periods and preserving the cultural structure depends on the evaluation of the transformations.

The emerging of new users, who prefer the island due to reasons such as the culture of being an islander, developing ecological urban life currents, (particularly Cittaslow) and the conditions of the pandemic, started a multifaceted transformation on the Island together with the transformation of the function of many public buildings, the emergence of the idle structures, and the changes brought about by the current life. The transformation of the island over time has caused a number of problems, which also develop over time.

According to the results of the survey, the problems of the Island were listed in order from 1 to 10 in order of importance. The most important problem was determined as the coachmen's stud problem and the neglect of the horses; however, this problem has been addressed today. Nonetheless, the abandonment of coach transportation negatively affected the island culture.

As a result of the study, it was found that "the problem of garbage" ranked the second, "the problem of transportation between the Islands" ranked the third, the problems related to the "inability to preserve the buildings" ranked the fourth, "insufficiency of the infrastructure" ranked the fifth, "insufficiency of the equipment and fields of service" ranked the sixth, "the neglect of the stray animals" ranked the seventh, "planning and zoning problems" ranked the eighth, "concretion" ranked the ninth, and "the inability to preserve the original vegetation" was ranked as the final problem.

All the problems on the Island are associated with each other. The fact that the problem of "inability to protect the original vegetation" is in the last place is not due to its insignificance; it is rather associated with the fact that it has the opportunity to be solved in parallel with the solution of many other problems such as the problems of concretion, planning, and zoning.

The proposed solution for all the problems in Heybeliada is based on the major proposal for the solution listed under "preservation and use, and gentrification". The major proposals for the solution were determined as "the preservation of flora and fauna", "rehabilitation and regeneration of the forest areas", "preservation of the silhouette of the coastal line and the Island", "gentrification of the urban landscape and open spaces", "preservation of the monumental trees", "preserving the sustainability of the ecosystem", "gentrification of structuring", "improving the stock of the idle buildings", "preservation of the historical works of civil architecture", "gentrification of the urban furniture, pavements and the equipment", "preservation of the hygiene of the sea, coast and the beach", "gentrification of the infrastructure and the related materials", "preservation and improvement of the public spaces", "gentrification of the transportation lines, squares, parks, piers, and the port".

The major problems, which were determined as a result of the literature review, survey, and one-to-one interviews with the Islanders, indicated that the urban fabric, urban culture, and architectural structure of Heybeliada should be preserved as a protected area within the scope of the concept of sustainability based on major solutions such as preservation and use, improvement and gentrification and the flexible structural planning.

The conservation and development plan should be prepared and implemented as soon as possible considering the factors such as the preservation of flora and fauna, and the forest reserves, rehabilitation of the areas damaged by the fire, tourism activities, water sports, fields of social activities and controlled fishing, and taking into account the views and opinions of the Islanders.

The opinion that the consumption-oriented understanding and the effect of Istanbul damages the island culture of Heybeliada, leading to the concretion and urbanization of the Island has started to dominate.

Inclusion in the Cittaslow movement and supporting the Gourmet tourism based on slow food and slow mobility are important proposals of solution. In order for the rich island cuisine to be improved, preserved, and passed on to future generations, the Turkish, Greek, Armenian, and Jewish cuisines should be maintained through activities, training, and promotions. It should be considered that food and beverage tourism can bring financial resources to Heybeliada. Eating and drinking locations should be organized, the places that

obstruct the streets should be warned, and the signboards and billboards should be organized [55].

International art events, various exhibitions and concerts, weekend festivals, and activities should be organized. The toilets for the physically-impaired citizens should be built in the public restrooms. Training should be given to improve the awareness of the islanders about urbanization.

This thesis study was conducted based on the example of Heybeliada. It is believed that this thesis could form a preliminary approach to the review and evaluation of the other Island settlements, which are closely associated with the mainland.

At the same time, it is suggested that the methodical approach system of the thesis can be used to solve the problems arising from the transformation of any secondary settlements connected to the mainland as well though outside the island settlements.

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