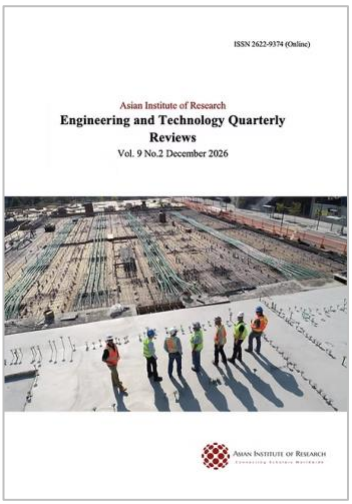


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Rural Abandonment and Heritage Transformation in Türkiye: A Comparative Analysis of Kayaköy, Sarıhacılar and Dereköy

Mariam Zakar[1], Özgün Arın[1]

[1] Architecture Ph.D. Program, Institute of Graduate Studies, Istanbul Okan University, Istanbul, Türkiye. ORCID ID: 0000-0001-6589-4226
[2] Department of Architecture, Faculty of Art, Design and Architecture, Istanbul Okan University, Istanbul, Türkiye. ORCID ID: 0000-0002-8048-6842

Correspondence: Mariam Zakar, Architecture Ph.D. Program, Institute of Graduate Studies, Istanbul Okan University, Istanbul, Türkiye. E-mail: mzakar@stu.okan.edu.tr

Abstract
The article highlights a global problem of rural abandonment that affects multiple countries around the world. Türkiye, and especially its Mediterranean zone, has suffered from this problem in recent decades. The rural landscape is as important as the urban one. When the balance is deteriorated, several problems occur in the country. The depopulation of the rural environments contributes to the overpopulation of the urban environment. This process is linked to multiple problems in both environments: deterioration of rural architecture and rural landscapes, the loss of cultural heritage, and the decline of rural social life. In the urban environment, rapid population growth contributes to major problems such as insecurity, poverty, cultural barriers, and informal settlements. To study the problem more deeply, the article aims to focus on the comparison of three case studies of abandoned villages in the Mediterranean landscape: Kayaköy, Sarıhacılar, and Dereköy. The article analyses the three villages and their abandonment and transformation trajectories based on their past conditions, current conditions, and potentials, observing their losses, transformations, and preserved heritage. The study adopts a comparative multiple-case study analysis methodology to compare them according to four main dimensions: architecture, landscape, socio-cultural, and economic factors, to identify their common points, differences, problems, and regeneration potentials. The article uses several documentary sources, demographic data, spatial information, archival materials related to the settlements, mapping, and spatial analysis to support the study. As a result, the article identifies clearly the phenomenon of abandonment of rural villages and reveals the overlapping and different problems, causes, and consequences of their transformation, showing how the villages were active in the past and how they have significantly transformed nowadays because of depopulation. This causes losses in building functions, deterioration of traditional architecture, and changes in the physical landscape, in addition to the loss or reduction of traditional social activities, crafts, agricultural activities, and local economic functions. Despite the loss of significant tangible and intangible heritage, the villages have preserved some elements that are considered important landmarks and events in the villages and that can contribute to their regeneration. Each village carries different potentials that will shape its future regeneration: its specific historical background, natural and geographical characteristics, socio-cultural activities, and economic conditions. Rural abandonment should be understood as a multidimensional and context-dependent process, affecting multiple countries from many perspectives: architecture, landscape, socio-cultural life, and economy. This article can be a valuable analytical basis for future context-sensitive regeneration strategies.

Keywords: Rural Abandonment, Rural Heritage, Depopulation, Heritage Transformation, Rural Regeneration, Türkiye

1. Introduction

1.1 Introducing the Problem

The depopulation of rural landscapes and abandonment of villages are phenomena that represent major global spatial-demographic transformations that affect rural settlement patterns, cultural heritage, and environmental landscapes throughout the centuries. These phenomena exist in many regions worldwide and represent a significant problem for multiple countries around the world.

From a conceptual perspective, rural depopulation is defined as a chronic, long-term decline in population size, where the affected zone experiences a loss of human capital that consequently causes a loss of its demographic reproductive capacity (Papadopoulos & Baltas, 2024). In comparison, agricultural land and village abandonment are defined as a discontinuation of agricultural productivity, suspension of land management, and a temporary, transitional, or permanent move away from residential places (Fayet et al., 2022).

1.2 Explore Importance of the Problem

Village depopulation, abandonment, and transformation of rural landscapes are directly related to the loss of cultural heritage (Jaszczak et al., 2018). Rural landscapes are complex social-ecological systems where social activity, architecture, and natural environments have developed in parallel over centuries to form tangible and intangible heritage (Chen et al., 2026). When human presence retreats, the balance collapses, causing physical decay, loss of local identity, and environmental homogenization (Di Fazio & Modica, 2018).

The transformation of villages after their abandonment affects systematically the physical and non-physical components of villages. First, Tangible Heritage Loss and Architectural Degradation, such as decay of traditional vernacular architecture, deterioration of iconic rural socio-spatial structures, and morphological distortion (Akman Güler & Mazlum, 2025; Mutlu & Saka Akın, 2025). Second, Intangible Heritage and Cultural Memory Erasure, such as loss of local knowledge and craftsmanship, collapse of community cohesion, and erosion of place memory and language (Mutlu & Saka Akın, 2025; Xie et al., 2022). Third, Landscape Simplification and Ecological Consequences, such as loss of agricultural landscape features (terraced fields, trees, etc.), random vegetation growth that can cause fire risks, and visual hollowing (deserted lands, empty buildings, and vacant villages) (Jaszczak et al., 2018; Liu & Xu, 2021).

In addition, this abandonment significantly affects the economy of villages and nearby environments. These impacts are defined as the decline of traditional livelihoods, agricultural production capacity, and local economic activity, increasing infrastructure costs, reducing the value of land and property, and causing the loss of aesthetic value and tourism (Lin et al., 2024; Liu & Xu, 2021; Rey Benayas et al., 2007).

1.3 Describe Relevant Scholarship

From a theoretical perspective, village abandonment and depopulation have been developed through diverse theories in literature, including economics, human geography, social-ecological systems, spatial planning, and sociology. Some significant theories were developed in literature. Among the Socio-Economic and Demographic Transition Theories, there are two main significant ones: Structural Economic Growth & Sectoral Shift Models and Push–Pull Factor Theory.

The sector shift models, such as the Lewis Model and the Petty–Clark Theorem, explain that with the development and improvement of a country, the need for industry increases, which causes the migration of rural people to urban environments (Liu & Xu, 2021). The Push–Pull Factor Theory indicates factors that push people to leave their villages and pull them toward cities, such as difficulties in farming, isolation, poor services, and lack of job opportunities (Gizzi et al., 2024).

Sociocultural, Affective, and Place-Attachment Theories highlight important sociological factors that affect people because of their place attachment, using concepts such as "root shock" and "radical hope" (Tomaney et al., 2024). In addition, Solastalgia and Detachment from Place are related to feelings such as loss, topophobia, and sadness caused by detachment from a landscape or its transformation (Quintas-Soriano et al., 2023).

Human-Environment and Spatial Morphology Frameworks include the "Village Hollowing" Theory and Ethnoarchaeological and Formation Models. The "Village Hollowing" Theory highlights the relationship between humans and the environment, linking it directly to three different factors: population hollowing, such as the migration of young people and the remaining aging population; building hollowing, such as visual deterioration of buildings, plots, and infrastructure; and cultural hollowing, such as the erosion of intangible cultural heritage and traditional activities (Liu & Xu, 2021). Ethnoarchaeological and Formation Models explain rapid evacuation after a natural disaster or a political conflict, and its reoccupation or reuse (Villani, 2026).

Multiple studies on the international context of rural abandonment were conducted in the literature, and their findings indicate that this phenomenon is particularly evident in Europe, Asia, the Middle East, and Türkiye. In Europe, the Mediterranean region, Southern and Western Europe have experienced significant rural depopulation. Spain is strongly affected, especially in the Mediterranean zone (Soria, Teruel and Las Hurdes); Italy has known very high abandonment especially in mountainous regions (Sardinia and Sicily); Greece is affected by severe rural abandonment in mountainous regions (Pindus); and Portugal experiences abandonment in inland and mountainous territories (Castro Laboreiro and Colmeal) (Fayet et al., 2022; Jaszczak et al., 2018; Liu & Xu, 2021).

In Asia, China is a country that has experienced rapid urbanization growth, which affects the rural environment and causes the abandonment of numerous villages (Hunan, Hubei, Jiangxi, Sichuan, Shaanxi, and Shanxi). Nepal faces major outmigration of working-age populations (the Madi Watershed in Gandaki Province); in India, thousands of hill villages have been abandoned (the state of Uttarakhand); and in Japan, depopulation is related to demographic aging (Satoyama) (Chidi et al., 2025).

1.4 State Hypotheses and Their Correspondence to Research Design

Several articles, theses, and literature reviews address this phenomenon; some studies also highlight the need for and importance of approaches that combine different areas for the regeneration of abandoned rural settlements (Gatti et al., 2020). Some examples exist, such as, Fayet et al. (2022) that analyzed the future trajectories of abandoned agricultural lands in Europe, and Liu and Xu (2021) that examined population, building, and cultural hollowing in traditional Chinese villages. Then, Gizzi et al (2024) that investigated abandoned settlements in Portugal, Italy, and Albania, focusing on their characteristics and heritage valorization opportunities. However, several existing studies focus on only one village or specific aspects of rural abandonment, while comparative research addressing different abandonment conditions through the same multidimensional framework remain limited. Literature addresses rural abandonment through different disciplinary perspectives, including spatial analysis, planning, policy studies, and heritage conservation but the use of all these perspectives within the same analytical framework remains limited.

This research addresses abandoned rural settlements from different perspectives: architectural, landscape, socio-cultural, and economic perspectives. The originality of the study is defined by its focus on the overlapping and different causes, consequences, and potentials of villages within a context-specific framework. By comparing three

villages from Türkiye with different abandonment conditions through the same four dimensions, the study aims to identify common characteristics and specific differences in their transformations. The selection of the three villages is not random; they are three villages from the Mediterranean landscape of Türkiye, each of which has different characteristics. Moreover, Kayaköy is a fully abandoned village, Dereköy is a partially abandoned one, and Sarıhacılar is an abandoned but partially regenerated one.

This article addresses the phenomenon as an important factor contributing to the deterioration of rural landscapes in Türkiye. It aims to study rural depopulation and analyze abandoned villages in Türkiye, particularly in the Mediterranean zone; understand the reasons for their abandonment, their consequences, and their past and present conditions; investigate the transformation of abandoned villages through four main dimensions: architectural, landscape, socio-cultural, and economic; and identify the dynamic alterations that have taken place in the selected villages. The study objective is to compare three Mediterranean villages—Kayaköy, Sarıhacılar, and Dereköy—identify common patterns and contextual differences between the three villages, and finally understand the main challenges and potentials shaping abandoned rural settlements.

The main research question is: What are the factors responsible for rural abandonment in Mediterranean landscapes in Türkiye, and to what extent do Kayaköy, Sarıhacılar, and Dereköy share overlapping causes, consequences, and regeneration potentials, or demonstrate context-specific differences?

2. Method

This article is a topic rural abandonment and the transformation of rural heritage through a comparative analysis of three villages in Türkiye: Kayaköy, Sarıhacılar, and Dereköy. The research methodology integrates multiple facets, including historical, demographic, spatial, architectural, socio-cultural, and economic data, to examine the changes undergone by the villages. The research is defined as an academic investigation involving literature reviews, geographical information and field observation, to identify similarities, differences and regeneration possibilities.

2.1 Research Approach and Research Design

The research approach consists primarily of the use of a comparative multiple-case study method by examining three abandoned rural villages in Türkiye: Kayaköy, Sarıhacılar, and Dereköy. The villages were analysed using the same analytical structure to understand their overlapping and different characteristics and potentials. The analysis consists of four main research criteria: architecture, to identify the decay of the built environment; landscape, to understand the transformation of the natural environment; socio-cultural aspects, to determine the loss of social and cultural activities; and economic aspects, to assess economic degradation.

The analysis investigates the transformation of the villages after their abandonment and identifies the ways in which depopulation has affected the tangible and intangible heritage of the villages over time, while highlighting the potentials that the villages carry for future regeneration and revitalization.

2.2 Case Study Selection

The article adopts a multiple-case study approach, examining three rural villages located within the Mediterranean context of Türkiye: Kayaköy, Sarıhacılar, and Dereköy. The selection villages from the Mediterranean zone **are** related to the findings of previous academic research showing that Mediterranean countries suffer severely from this phenomenon. For this reason, the study examines this zone in Türkiye. However, the three villages were purposefully selected to represent diverse trajectories, characteristics, and potential. The analysis also highlights three different conditions: the Kayaköy case reflects a fully abandoned village, the Dereköy case exemplifies a partially abandoned one, and the Sarıhacılar case characterizes an abandoned but partially regenerated case. The locations of these villages are as follows: Kayaköy is a village located in Fethiye, Muğla; Sarıhacılar is located in Akseki, Antalya; and Dereköy is located in Gökçeada, Çanakkale.

2.3. Data Sources and Analytical Framework

The data sources of the study are based on extensive research in academic literature and previous studies, exploring historical data and archival materials related to the case studies; demographic statistics, climatic and environmental data, spatial observations and findings, architectural data, visual materials, policy and conservation data.

Historical data combine information extracted from academic articles, books, theses, and some historical Ottoman records reported in previous studies, such as historical documents, maps and plans, photographs, and heritage inventories. Demographic data are generally based on TÜİK population data and Ottoman population records, in addition to population statistics reported in academic studies.

Climatic and environmental data were obtained from published studies and specific platforms providing meteorological records, remote-sensing data, vegetation information, and topographic data, some of the platform used are CORINE, OpenTopoMap, and Google Relief/Earth.

Spatial and architectural data were derived from academic environmental studies, topographic sources such as OpenTopoMap and Google Relief/Earth, existing maps from previous studies, land-use maps, figure-ground maps, and accessibility and circulation maps. Moreover, new maps were generated based on geographical data, previous academic studies, site surveys, building inventories, and visual observations. Field surveys were conducted in the three selected villages: Kayaköy in 2025, and Sarıhacılar and Dereköy in 2026.

The obtained information was structured using the same analytical framework for the three case studies; Kayaköy, Sarıhacılar, and Dereköy. Starting with the village background, followed by physical and spatial, demographic, socio-cultural, and economic analyses, organized within the four main research criteria. The analysis considered the historical development of each village, the causes of abandonment, past and present conditions, transformations over time, and existing potential. Finally, the three cases were comparatively analyzed to identify their common patterns and differences based on to their contexts.

3. Rural Abandonment in Türkiye and the Mediterranean Context

Rural abandonment is not considered a recent phenomenon; it is a rural problem affecting several countries for centuries. In the Turkish context, this phenomenon is directly connected to multiple contexts: rural abandonment and rural-to-urban migration, historical abandonment in Anatolia, and quantitative historical evidence from the 16th and 17th centuries.

From the rural abandonment and rural-to-urban migration context, Türkiye has experienced significant village-to-city migration, caused by population movement from rural settlements toward urban centers. This process was directly linked to the post-1950 period, known for major economic, social, and political changes, industrialization, and urbanization that contributed to significant rural-to-urban migration (Güreşci & Yurttaş, 2008). Major pressures were related to this rural-to-urban migration, such as the absence of job opportunities and agricultural income in the rural environment on one hand, and industrialization that provided job opportunities in the urban environment, especially for the young population, on the other hand (Güreşçi, 2010).

However, the context of historical abandonment in Anatolia traces this phenomenon back to the 15th–16th centuries and shows that village loss intensified through the 16th and 17th centuries, with effects persisting over time. The major problems related to this Anatolian depopulation were security problems, rebellions, economic causes, geographical causes, and social factors. In the 17th century, based on some Ottoman reports, over 100 villages in Antakya were reported as abandoned, lost, or hollowed; intense abandonment was reported in Konya and Amasya as well (Özel, 2015). Related to this context, the figure below (figure 1) shows the timeline of village abandonment examples in Türkiye from the 17th century to the 21th century.

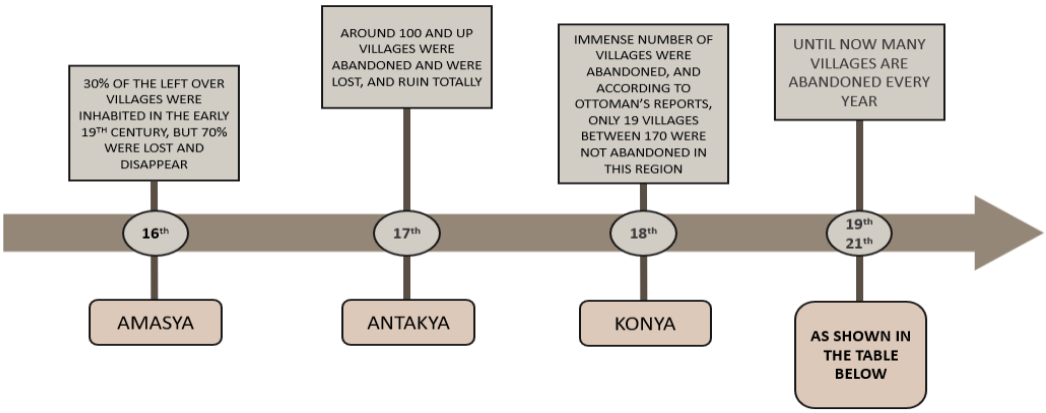


Figure 1: Historical timeline of village abandonment examples in Türkiye.

Quantitative historical evidence related to the 16th and 17th centuries highlights that, according to some academic research, these centuries were particularly significant periods of village abandonment in several Anatolian regions (Demir, 2020). The Findings indicated that, in the 16th century, abandonment rates were 66.06% for Konya, 63.93% for Manisa, 63.23% for Menemen, 55.81% for Sivas, 52% for Tokat, and 38.7% for Amasya (Demir, 2020; Henden Şolt, 2024). In the first half of the 17th century, major abandonment was linked to the Celali Rebellions, a series of revolts against the Ottoman Empire in Anatolia, and the mass displacement known as the Büyük Kaçgun, or the Great Flight, with reported abandonment in Konya (61.64%), Sivas (39.59%), Ankara, Haymana, and Trabzon(Demir, 2020; Dursun, 2016; Özel, 2015). The figure 2 shows the village abandonment rates in 16th and 17th century Anatolia in different zones of Türkiye.

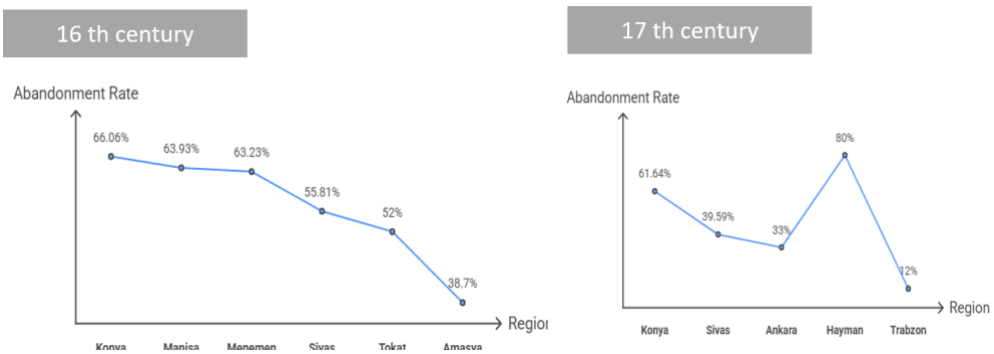


Figure 2: Village Abandonment Rates in 16th and 17th Century Anatolia.

Focusing on historical abandonment in Mediterranean cases, abandonment continued beyond the early historical periods and remains an important problem for rural settlements and their heritage. This heritage is directly connected with the historical background of the settlement, its traditional and cultural aspects, and its architectural and landscape values, which have gradually deteriorated together with village depopulation and abandonment. To understand the phenomenon more deeply, three different villages from the Mediterranean landscape, Kayaköy, Sarıhacılar, and Dereköy, were examined.

4. Case Study Analysis

The case study part of the article analyses three rural villages in the Mediterranean landscape of Türkiye: Kayaköy, Sarıhacılar, and Dereköy. Each of the villages represents a different condition of rural abandonment, highlighting the importance of the rural environment and the cultural heritage. Each of the three villages is examined with the same analytic structure, based on four main criteria: architectural, landscape, socio-cultural, and economic aspects, passing through diverse sub-criteria to examine the abandonment and transformation causes and consequences, the villages' past and present conditions, in addition to the potentials of each of them.

4.1. Kayaköy Village (Fethiye, Muğla / Lycia)

Kayaköy, historically known as Levissi, situated within the historical and geographical region of Lycia, is one of the most important abandoned villages in the Mediterranean landscape of Türkiye. The village is located 8–10 km from the Fethiye district of Muğla Province. Figure 3 shows the location and topographical context of kayaköy village in fethiye, muğla, türkiye (Ardahanlıoğlu, 2023; Bozyiğit & Tapur, 2010).

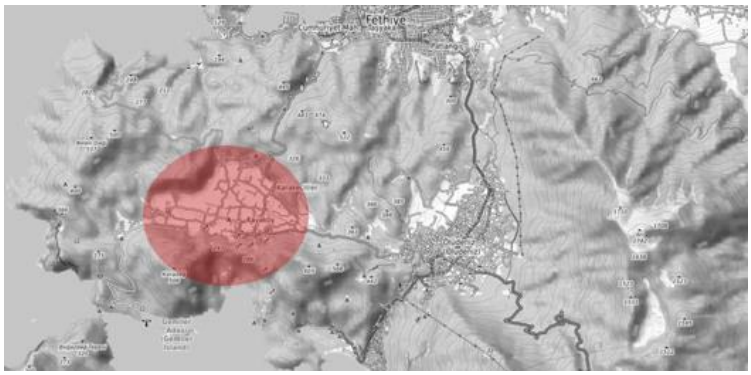


Figure 3: Location and topographical context of Kayaköy Village in Fethiye, Muğla, Türkiye.

The village is situated in a mountainous and hilly landscape, approximately 140 m above sea level, associated with a karstic depression/polje, known as the Kayaköy Polje or Kaya Çukuru (Ardahanlıoğlu, 2023; Atalay, 1995). The settlement is divided into two distinct areas: the first is a rocky slope where the buildings are located, and the second is a fertile valley floor that serves as agricultural land; this makes the relationship between the built settlement and the surrounding rural landscape strong (Atalay, 1995; Bozyiğit & Tapur, 2010). Nevertheless, the surrounding landscape does not only consist of agricultural land but also includes forests, Mediterranean vegetation, and settlement areas (Ardahanlıoğlu, 2023).

Kayaköy is characterized by a Mediterranean climate, defined by hot, dry summers and mild, rainy winters (Ardahanlıoğlu, 2023). The village experiences high annual rainfall (Ardahanlıoğlu, 2023). Because of its geographical features, such as the mountains, hills, and forests, the village is cooler and breezier than nearby Fethiye, while the forests moderate the temperature (Ardahanlıoğlu, 2023).

Kayaköy village passed through different civilizations throughout its history, which makes it a land that carries part of a multilayered historical context (Ardahanlıoğlu, 2023; Bozyiğit & Tapur, 2010). The village was considered one of the biggest villages in the region in the past (Ardahanlıoğlu, 2023), and nowadays, it is a largely abandoned historical settlement with inhabited and active areas in its wider surroundings, a fully abandoned settlement gradually destroyed over time (Bozyiğit & Tapur, 2010). Due to its historical passage, nowadays Kayaköy carries the name “Friendship and Peace Village” (Yetimoğlu et al., 2017). Its present character is strongly connected to cultural heritage, conservation, and tourism (Bozyiğit & Tapur, 2010; Yetimoğlu et al., 2017).

4.1.1 Historical background

As mentioned previously, Kayaköy village experienced diverse civilizations throughout its history, which was marked by four significant periods: Ancient Origins and Historical Civilizations, Turkmen Arrival and 19th-Century Development, 1923 Population Exchange and Abandonment, and From Abandonment to Conservation.
In the Ancient Origins and Historical Civilizations period, today’s Kayaköy was known as Levissi , dating back to ancient times, with the influence of the oldest civilization recorded in the area was Lycian civilization when the settlement was known as Karmylassos. After the influence of the Lycians, they were followed by the Macedonians, with Alexander the Great’s arrival between 334–333 B.C., the Romans, the Byzantines, the Menteşeoğulları Principality in 1284, and the Ottoman period in 1424 (Ardahanlıoğlu, 2023; Bozyiğit & Tapur, 2010; Karaca, 2013).

In the Turkmen Arrival and 19th-Century Development period, the history of the village was marked by the arrival of Turkmen and Yörük tribes, followed by an important expansion of the village during the 19th century (Oyman & Erdal Sideli, 2018). In 1856, the village experienced a major earthquake, the "Makri earthquake," which destroyed a substantial part of the surrounding Fethiye area (Bozyiğit & Tapur, 2010). The earthquake caused significant damage, and the survivors decided to move to the rocky ground for earthquake resilience (Bozyiğit & Tapur, 2010). In the 20th century, Levissi was considered an active social and commercial center with approximately 6,500 inhabitants, mainly Greek Orthodox. In this period, the village attained its socio-economic peak; it contained diverse infrastructure such as churches, chapels, schools, pharmacies, a hospital, a post office, and a vibrant bazaar (Ardahanlıoğlu, 2023).

The 1923 Population Exchange and Abandonment period was the major turning point, when dramatic abandonment was experienced. In 1923, due to some diplomatic agreements, a population exchange between Greece and Türkiye occurred (Kısa Ovalı & Delibaş, 2016). The Greek residents were transferred to Greece, mainly to Nea Makri near Athens, while Turkish populations from Western Thrace and Thessaloniki were moved to Kayaköy (Ardahanlıoğlu, 2023). The new occupants of Kayaköy could not adapt to the steep topography of the village, in addition to the traditional houses and limited water resources. Many of the occupants moved from the hills to the flat valley floor of the village and other cities (Bozyiğit & Tapur, 2010). Following this process, the village gradually lost its population until it became completely deserted; its traditional stone buildings were gradually destroyed, and the village turned into the "Ghost Town" (Hayalet Köy) seen nowadays (Bozyiğit & Tapur, 2010).

From Abandonment to Conservation, the village acquired a new identity as a cultural and historical landmark in the late 20th century, receiving protection as a first-degree urban protected site and third-degree archaeological site in 1991 (Ardahanlıoğlu, 2023). The figure 4 shows the historical timeline of kayaköy village: from ancient origins to conservation.

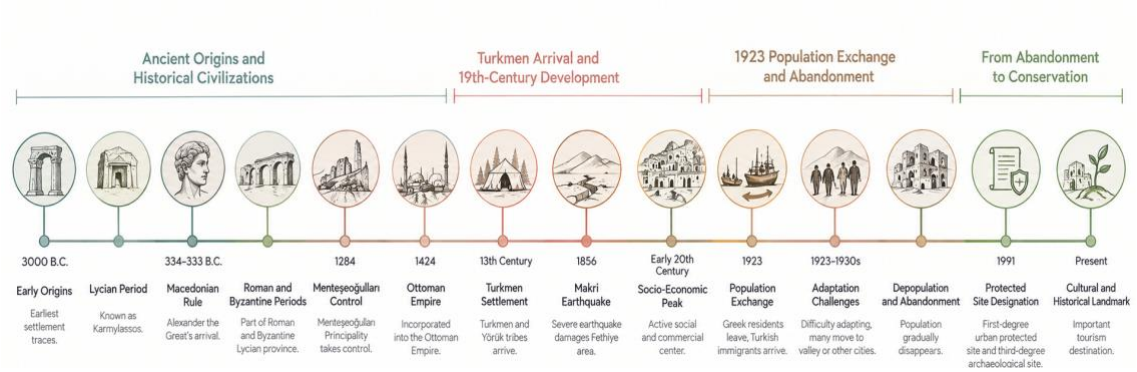


Figure 4: Historical Timeline of Kayaköy Village: From Ancient Origins to Conservation.

4.1.2. Architectural analysis

Kayaköy has an efficiently organized settlement pattern, characterized by a staggered organization on the slopes and a great integration with the natural topography and weather conditions. The construction of buildings was deliberately organized in response to the sloping topography and to adapt to the climatic conditions of the region, such as the staggered arrangement (şaşırtmalı) of building blocks that avoids blocking the view, sunlight, or wind of one another.

A figure-ground analysis was presented to understand the boundaries of the village, in addition to its buildings and the relationships between the built fabric, building functions, ruins, circulation, and topography, the figure 5 shows a Figure-ground analysis for Kayakoy (based on Alyanak, H. (2012) . The village includes buildings with different functions that formed an active village in the past but have nowadays lost their original functions: residential, religious, social, educational, commercial, and public buildings.

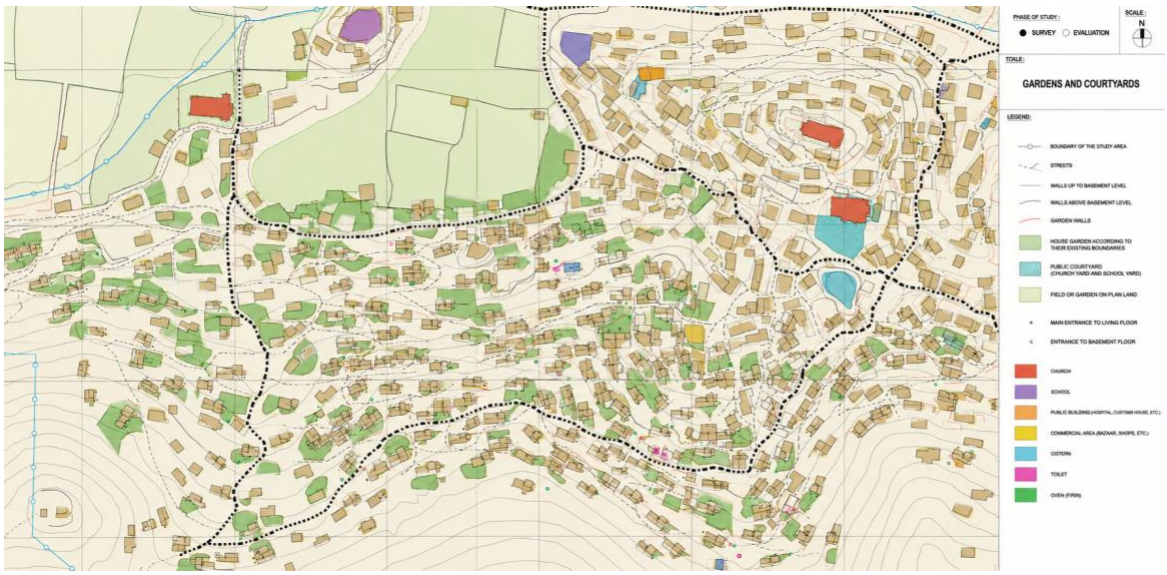


Figure 5: Figure-ground analysis for Kayakoy (based on Alyanak, H. (2012)

- **Residential buildings:**

A significant number of building blocks in the village are residential buildings, making the residential function dominant in the built fabric. Reports show that there are approximately 802 stone houses (Kısa Ovalı & Delibaş, 2016). These traditional houses were built with a rectangular morphology as two-storey structures, using the ground floor as a stable (*ahır*) or fodder storage for livestock, while the upper floor was used as the main residential living space. The houses were built out of natural stone, a vernacular building material (Bozyiğit & Tapur, 2010). (Figure 6) shows the traditional stone houses of kayaköy and its stone masonry technique. Due to the steep topography, the water supply was limited; each of the structures included a cistern located inside or near the house, serving as a collector for rainwater (Bozyiğit & Tapur, 2010).

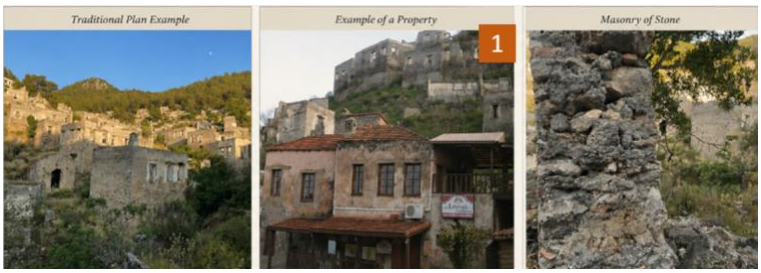


Figure 6: Traditional Stone Houses of Kayaköy: (Bozyiğit & Tapur, 2010)

- **Religious and educational buildings:**

Kayaköy has important religious and educational buildings, such as two major churches: the Upper Church (Taxiarhis) and the Lower Church (Panayia Pirgiotissa); 14 small chapels spread throughout the village; and two primary schools: the Boys' School, located at the top of the hill, and the Girls' School, located near the Turabi Fountain (Bozyiğit & Tapur, 2010). Figure 7 shows the historical upper and lower churches of Kayaköy.



Figure 7: historical churches of Kayaköy: (Bozyiğit & Tapur, 2010)

- **Social and public and commercial functions:**

Kayaköy embraces diverse social, public, and commercial building functions that were established in the past when the village was at its peak of activity. The village included a hospital, private doctors' offices, several pharmacies, two libraries, a post office, a customs house, a bazaar, shops, and coffee houses. The presence of these facilities clearly reflects the level of social infrastructure that existed before the village abandonment and also shows the multifunctional aspect of Kayaköy (Ardahanlıoğlu, 2023; Kısa Ovalı & Delibaş, 2016). Figure 8 shows an art house and a café restaurant in Kayaköy.



Figure 8: Tourist Facilities, Including Restaurants, Cafés, and Art Houses (Bozyiğit & Tapur, 2010)

4.1.3. Landscape analysis

The landscape analysis of Kayaköy explores the relationship between the village and its natural landscape and how the land was organized according to different functions, highlighting the use of the topography, natural land characteristics, and water resources. To understand the current situation of the landscape, an analysis of the historical land use and its transformation after the abandonment is crucial, shedding light on the landscape characteristics and potential.

- **Natural landscape and topography:**

The location of Kayaköy is very important in terms of natural topography. It is located within the Kaya Çukuru polje, a karstic depression surrounded by hills and mountains. The polje is approximately 5 km long, 2 km wide, and 5 km², at approximately 140 m elevation (Ardahanlıoğlu, 2023). The village creates a balance within a very rigid topography, while it combines a rocky slope and a flat fertile valley, in addition to Mediterranean vegetation and forests that include especially maquis and red pine, and agricultural vegetation that feeds the village and its surroundings within the valley floor of Kayaköy (Ardahanlıoğlu, 2023; Bozyiğit & Tapur, 2010). According to recent records, figure 9 show a vegetation cover and natural landscape characteristics and use of kayaköy , showing a mixed agricultural areas represent 6.4%, while non-irrigated arable land represents 2.0%, showing the remaining agricultural presence within the landscape (Bayrakdar et al., 2020). The village has a large forest and natural vegetation fabric, particularly red pine and maquis, with needle-leaved forests covering 42.9% (3,004 ha) and maquis/sclerophyllous vegetation approximately 19% of the studied area in recent land-cover records (Ardahanlıoğlu, 2023; Bayrakdar et al., 2020).

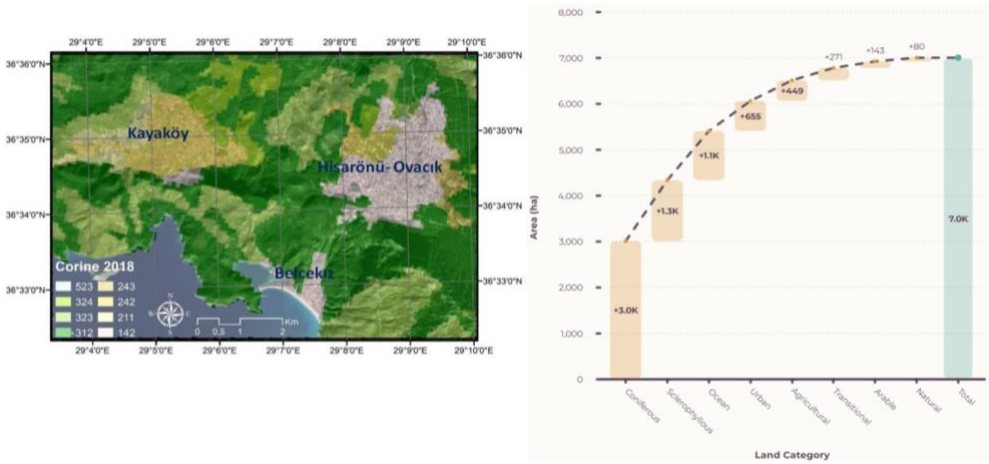


Figure 9: Vegetation Cover and Natural Landscape Characteristics of Kayaköy Based on CORINE 2018 Data.

However, the village combines a natural water system and a man-made water system for water use. The village has no permanent river; the system depends on seasonal drainage (Bozyiğit & Tapur, 2010). After rainfall, the water infiltrates through the karstic soil to the bottom part of the slope through natural sinkholes (Ardahanlıoğlu, 2023; Bozyiğit & Tapur, 2010). Figure 10 shows natural topography and seasonal flooding of the kayaköy polje, with seasonal flooding. Part of the water is stored in wells, while another part is stored in the cisterns of the houses (Bozyiğit & Tapur, 2010). The village also has some important springs used by the inhabitants (Bozyiğit & Tapur, 2010). Moreover, the blockage of these sinkholes sometimes causes flooding in the valley (Ardahanlıoğlu, 2023).



Figure 10: Natural Topography and Seasonal Flooding of the Kayaköy Polje. *Topography map prepared based on Google Relief, Google Earth, and OpenTopography; seasonal flooding and post-flood drainage images adapted from Ardahanlıoğlu (2023).*

- **Historical land use:**

Historically, Kayaköy created a great balance and relationship between the built environment and the agricultural landscape. It used the infertile rocky slopes to build resistant buildings and used the fertile polje floor, which receives rainwater through a natural infiltration system from the hills and mountains, for agricultural lands (Bozyiğit & Tapur, 2010; Kısa Ovalı & Delibaş, 2016). This fertile land benefited from its terra rossa and alluvial soils (Kısa Ovalı & Delibaş, 2016). In the past, when the village was commercially active, wheat, olives, barley, tobacco, grapes, millet, and Kaya figs were produced in the village (Bayrakdar et al., 2020; Bozyiğit & Tapur, 2010), and the local figs continue to be cultivated and marketed nowadays (Kısa Ovalı & Delibaş, 2016). Moreover, plants including walnut, thyme, quince leaves, and barberry root were historically used by women for textile production (Oyman & Erdal Sideli, 2018).

- **Landscape Transformation:**

After the population exchange between the two countries, Türkiye and Greece, inhabitants progressively moved from the rocky hillside toward the valley floor and other surrounding villages (Ardahanlıoğlu, 2023; Bozyiğit & Tapur, 2010). This caused multiple problems for the village; the move from the rocky hills to the valley caused a rupture in the balance of land use. While the valley was fertile ground for agriculture, it became land occupied by residential buildings, creating competition between buildings and agricultural lands and causing a shift in the historical settlement–agriculture relationship (Bayrakdar et al., 2020; Bozyiğit & Tapur, 2010). Moreover, the progressive migration toward nearby regions led to the abandonment of the historical settlement, turning the active village into a ghost village (Bozyiğit & Tapur, 2010). From another perspective, the polje drainage system and the excessive seasonal rainfall make the valley vulnerable to periodic flooding; for example, the January 2019 flood affected approximately 110 ha of land for several months (Ardahanlıoğlu, 2023).

4.1.4. Socio-Cultural Analysis

In the 19th century, Kayaköy village became the largest social and commercial center in the region, with the existence of an active bazaar, pharmacies, hospitals, customs facilities, and post offices, in addition to coffee shops and other entertainment places where Greek occupants and Turkish populations from nearby regions gathered (Bozyiğit & Tapur, 2010; Kısa Ovalı & Delibaş, 2016). With a rich socio-cultural structure, formed by community life, education, religion, craftsmanship, and the coexistence of different cultural groups, the village was known as a wealthy social and commercial center and one of the most important settlements in the whole area (Ardahanlıoğlu, 2023).

Therefore, the socio-cultural analysis of this village will be examined from different aspects: demographic transformation, social life, cultural heritage, and their transformation after abandonment.

- **Demographic and social transformation:**

Based on previous records, in the 16th century, Kayaköy/Levissi experienced a slight population increase from approximately 350 inhabitants to around 550 inhabitants (Bozyiğit & Tapur, 2010). In 1856, a major earthquake hits the region, and surrounding villages population migrates to Kayakoy, know as a rocky-land. In 1912, the village experienced its most significant population expansion, when the village developed into an important social and commercial centre, and the population rose to 6,500 Greek Orthodox inhabitants; some sources provide higher estimates (Ardahanlıoğlu, 2023).

However, a demographic rupture took place in 1923, related to the population exchange between the Turkish and Greek populations. Turkish populations from Thessaloniki and Western Thrace were resettled in Kayaköy (Ardahanlıoğlu, 2023; Bozyiğit & Tapur, 2010). This rupture was directly linked to the difficulties in the adaptation of the new occupants of the village to the hillside houses, topography, and limited water resources, causing a progressive migration of the new population (Bozyiğit & Tapur, 2010; Kısa Ovalı & Delibaş, 2016).

Between 1935 and 1960, the population decreased to around 655–703 inhabitants, progressively declining to approximately 521 by 1990 (Bozyiğit & Tapur, 2010). The village reached a significant recorded population in 2000 of 1,524 people, related to seasonal tourism workers, which decreased to approximately 640–680 residents between 2007 and 2009 (Bozyiğit & Tapur, 2010). Figure 11 shows a Timeline summarizing the demographic evolution of Kayakoy.

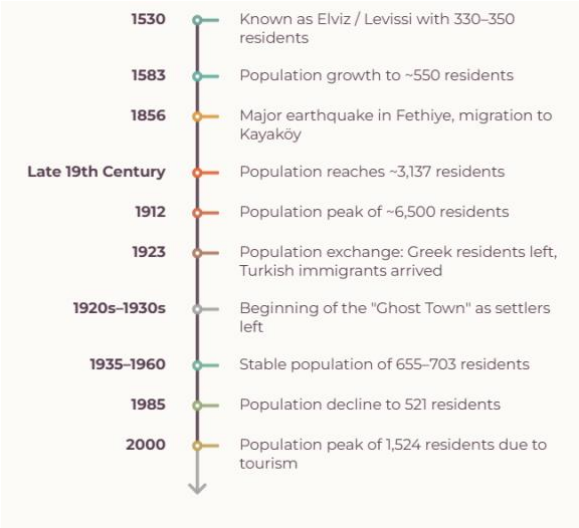


Figure 11: Timeline of the demographic evolution of Kayakoy

- **Social Life and Cultural Heritage**

As mentioned before, the village had an active social structure supported by multifunctional activities, education, religion, commerce, craftsmanship, and communal gathering spaces. The village prioritized the social gatherings of the village occupant and the population coming from the nearby villages, such as coffee houses that functioned as communal meeting places. Craftsmanship formed a social gathering of women, especially for handmade textile products, in addition to some community activities such as Friday wrestling matches in the valley and religious celebrations such as Easter festivities and fairs (Kısa Ovalı & Delibaş, 2016).

The depopulation of the village caused major problems for the social continuity of the village, such as loss of everyday practices, community relationships and cultural activities. Nowadays, even with the village abandonment, it still carries a memory of a significant cultural heritage and tourism.

4.1.5. Economic Analysis

The trajectory of Kayaköy economy passes though different processes. Before the abandonment the village economy consists of agriculture, animal husbandry, craftsmanship and entertainment, after the abandonment, its economy was dominated by tourism and services. The analyses will examine the Historical Economic Activities and their transformations.

During the 16th century, the village economy was directly related to agriculture and animal husbandry, including wheat, olives, barley, tobacco, grapes, millet, Kaya figs, barley, corn, rice and viticulture. The village used to produce two main agricultural products the wine and pekmez and the (Bozyiğit & Tapur, 2010), in addition to different craftsman activities; such as silk weaving, carpet weaving and copper-smithing, blacksmiths, carpenters, stonemasons, shoemakers and tailor activities. The village includes 138 saltpans that has a great influence in the economy.

In the 19th century the village reached its peak and became an important social and commercial center for the surrounding region. Supported by its bazaar and a customs house, that facilitates the trading and increases the economy of the village. After the population exchange between Greece and Turkey in 1923, the depopulation of the village caused a major transformation in the village economy, while agricultural and animal husbandry activities decreased due to some functional land changes.

Nowadays, the most dominant economic activities are tourism and services, attracting visitors to the tangible and intangible heritage of the village, to visit the ruins as an open-air museum and to watch craftsmanship activities in the touristic part, as tourist attractions and economic activities. Some continuing agricultural activities, such as Kaya figs, grapes, plums, and walnuts, are still contributing to the economy of the village.

4.2. Sarıhacılar Village (Akseki/ Antalya)

Sarihacilar is a historical mountain village located in the Akseki district of Antalya Province (Altun et al., 2007). It is located 4 to 9 km from Akseki and approximately 160 km from the city center of Antalya (figure 12) shows the exact location. Being a mountain village, Sarihacilar is a village of altitude, rising approximately 1,070 m above the ground, due to its geolocation in the Western Taurus Mountains.

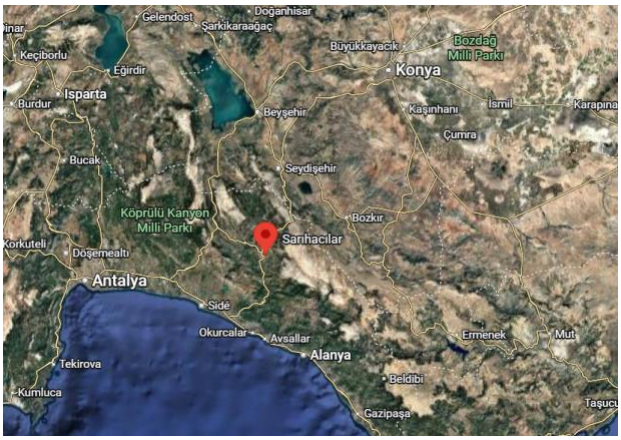


Figure 12: map of the location of Sarihacilar in Akseki based on open google earth portal

Sarihacilar was founded by Turkmens and has a significant historical background related to the Seljuk and Ottoman periods (Girgin, 2020). The village had a strategic location that supported its historical development as an important commercial and caravan settlement; it was a strategic junction on the historical Silk Road, connecting the Mediterranean region with Central Anatolia (Altun et al., 2007).

The historical village embraces a unique traditional architectural identity, characterized by the some timber buttons, giving the house “Buttoned Houses” name, locally known as Düğmeli Evler (Hadimli, 2017). Structures were mainly constructed using local stone and timber, creating the characteristic buttoned-wall construction technique. The village has diverse facilities such as the Mosque, Sarıhacılar Han, the historical caravan road, and historical cisterns, which defined the village as an important landmark (Altun et al., 2007; Girgin, 2020).

In the 1960s, the village experienced a major depopulation issue, caused by economic difficulties, limited local income, tough geographical conditions, limited agricultural opportunities, and migration toward larger urban centers (Girgin, 2020). The village became progressively depopulated until its full abandonment.

Unlike the other case studies, Sarıhacılar was selected as part of the Akseki-Ibradı Development Project, where traditional buildings were restored and some were given new functions related to tourism and cultural activities (Altun et al., 2007).

The climate of Sarıhacılar is defined as a transitional climate between the temperate Mediterranean climate of the coast and the cold continental climate of Central Anatolia (Çalışkan & Manav, 2017). And due to the high altitudes of the Taurus Mountains, the village climate remains different than the coastal areas of Antalya with a notable cooler summer and severe winter with heavy snowfall. an annual average temperature of the region is approximately 13.1°C, with recorded extreme temperatures reaching 39.5°C and -14.0°C (Çalışkan & Manav,

2017). The region experiences significant precipitation approximately 1,335.5 mm and an average relative humidity of approximately 57% (Girgin, 2020).

4.2.1 Historical background

Sarihacilar village dates back to the Roman period, although information from this period remains limited (Ergün & Mutlu, 2016). However, based on the records, the village was founded around 980 AD by immigrant Turkmens coming from Central Asia (Girgin, 2020), followed by Seljuk control. The village in this period had great importance in the protection of trade caravans travelling through the region, due to its strategic position, functioning as a junction on the historical Silk Road, connecting the Mediterranean coast, particularly Alanya and Antalya, with Central Anatolia and Konya (Altun et al., 2007; Ergün & Mutlu, 2016). Between the 13th and 20th centuries, the trade of the village increased, and it became a commercial and barter centre (Altun et al., 2020).

However, in the Ottoman period, the village was developed to host travellers and their animals along the caravan route within its buildings, including the most known Sarıhacılar Han, built in the late 18th century (Altun et al., 2007). Related to this period, the village mosque was built in the 19th century, representing important architecture and a landmark of the village (Yaman et al., 2019), in addition to some water cisterns to respond to its water needs (Girgin, 2020).

In the 1960s, the village experienced significant migration to cities related to diverse problems such as geographical difficulties, decreasing local income, climatic conditions, and limited agricultural opportunities (Girgin, 2020). This population decline affected social opportunities, particularly textile weaving, and impacted the economy of the village, contributing to massive depopulation.

In the 2000s, the village was practically abandoned, with only seven families remaining and numerous residential buildings falling into ruin (Altun et al., 2007). Later, the government selected Sarıhacılar as part of the Akseki-İbradı development initiatives, planning restoration and conservation actions and providing several traditional buildings with new tourism and cultural functions (Altun et al., 2007). Figure 13 shows a the historical timeline summarizing the historical transformation and evolution of Sarıhacılar.



Figure 13: Historical Evolution and Transformation of Sarıhacılar Village

4.2.2. Architectural analysis:

Sarihacilar village has a great relationship between between its built environment whitin the village natural environment, and its historical background, directly related the Silk Road commercial context (Altun et al., 2007; Çalışkan & Manav, 2017). The village has a varity of function within its built environment includes residential, commercial, religious, educational, and water-related structures (Ergün & Mutlu, 2016; Hadimli, 2017), the exact rates are shown in Figure 14. The buildings in the village carry the heritage of the villages, while the structures adopt traditional construction thechnics, local vernacular materials, respecting the topography and the historical continuity (Altun et al., 2007; Ergün & Mutlu, 2016).



Figure 14: Land use and built environment of Sarıhacılar Village based on Altun, S 2007

- **Settlement Pattern:**

As mentioned before, the village built environment has a direct relation with its rugged mountain topography and the historical needs of the community (Altun et al., 2007). The location of building blocks was deliberately chosen to be on top of rocky ground to ensure a rigid foundation and provide more safety, while preserving fertile soil for agricultural activities (Altun et al., 2007).

The village has a historical 3,400-meter road connecting the village with downtown Akseki, which forms an important element of its historical settlement structure (Altun et al., 2007). Other roads remain narrow, including traditional residential houses (Ergün & Mutlu, 2016; Hadimli, 2017).

- **Residential buildings:**

The traditional houses of the region mainly represented by the Buttoned Houses, locally known as Düğmeli Evler, The architectural building techniques of this village consist of the use of a dry-stone masonry system without mortar, supported by timber beams with uncovered ends, creating the characteristic “buttons” defining the façades of the village houses (Figure 15),(Hadimli, 2017).



Figure 15: Features of traditional houses of Sarihacilar (Girgin, 2020)

The houses were planned to accommodate a maximum number of persons, mainly crowded families. The ground floor was planned without windows for multiple uses as barns, haylofts, or pantries, for animals and storage, while the upper floor was reserved for family living, including a central hallway and separated rooms (Ergün & Mutlu, 2016; Hadimli, 2017). The structures mostly have overhangs or covered balconies extending over the street, acting as an additional part for the inner surface with providing multi-directional natural light(Ergün & Mutlu, 2016). The roofs of the houses were two-direction sloping roofs covered with hardwood shingles for ancient structures and red tiles for restored ones (Ergün & Mutlu, 2016).

- **Religious, Educational, Commercial and Public Buildings:**

Sarıhacılar village includes one religious and one educational building. The religious building is a mosque that was constructed in the 19th century in the Ottoman period, and is still under the same function until now. It is also a registered cultural asset, constructed with semi-masonry with the local techniques, combining the buttoned walls technique with Taurus cedar wood carvings. However, the educational building was a single school building, which is now out of service (Altun et al., 2007). Figure 15 shows the village Hann and mosque.



Figure 16: Sarıhacılar Mosque and Sarıhacılar hanı (Girgin, 2020)

The village had important commercial aspects. Its most significant structures are the Inns (Hans), built in the 18th century in the beginning of the Ottoman period, to provide accommodation for travellers and their animals along the caravan route (Altun et al., 2020). The village had other significant public structures, such as twelve historical cisterns, established to respond to the water needs of the village. After the Akseki-İbradı Development Project, multiple historical buildings were transformed to new functions, especially for tourism activities such as museums, culture houses, restaurants, and guesthouses (Hadimli, 2017).

4.2.3. landscape analysis:

The physical environment of Sarıhacılar is influenced by its location, being located at an high altitude , on a steep land in the Western Taurus Mountains. This influenced its isolation, architecture, accessibility, and land use (Altun et al., 2007). To understand the landscape of the village and its relationship with the built environment, its ancient and current situation, the analysis will examine Natural Landscape and Topography, Historical Land and Land Transformation.

- **Natural Landscape and Topography:**

The village's main natural landscape characteristic is its steep and rugged topography, due to its location on the southern hillsides of the Taurus Mountains, at an altitude of approximately 1,070 m (Altun et al., 2007). The land composition is mainly Red Mediterranean Soils and rocky outcrops, with karstic limestone characterized by caves, sinkholes and dolines (Girgin, 2020). Due to its geological characteristics, surface water resources are limited, while rainwater and melting snow rapidly pass underground, which consequently limits agricultural activities in the village (Girgin, 2020).

The village is surrounded by several forests, particularly Taurus Cedar, Pine, Juniper, Fir and Oak (Hadimli, 2017). The Taurus Cedar is considered a local tree historically used for the construction of traditional buildings. The natural landscape has rich and diversified flora, medicinal and aromatic plants such as sage, thyme, nettle and rosehip, together with Mediterranean, Iran-Turan and Euro-Siberian species, figure 17 shows maps for forest and green areas, and land use of Sarıhacılar (Girgin, 2020; Hadimli, 2017).

The winters in the region are severe and characterized by heavy snowfall, while this snow was melted and used before the development of the water system. Later on, twelve historical cisterns were constructed to respond to the limited availability of surface water, together with small-flow fountains and springs.



Figure 17: Maps for forest and green areas, and land use of Sarıhacılar based on site survey and opentopomap portal

- **Historical Land and Land Transformation:**

In historical times, the land was organized according to the natural topography and climate conditions. The house blocks were settled on rocky ground to provide rigid foundations with more safety while preserving the fertile soil for agricultural activities (Altun et al., 2007). Although the agricultural activities were limited due to the geological and topographical characteristics of the village, only 5.48% of the total ground of the Akseki district was dedicated to agricultural activities (Altun et al., 2007). However, in this percentage, agricultural areas mainly supported wheat, barley, almonds and medicinal plants such as mountain thyme (Figure 18).

The village nowadays includes different conditions, including ruins, historical buildings, restored buildings, green spaces and forests. Introducing the main historical element into the newly restored village, the historical 3,400-meter caravan road connecting Sarıhacılar with Akseki is currently used as an area for hiking and historical tours. Some historical buildings were transformed into recreational areas for tourists. The historical caravan road itself remains a registered cultural asset, preserving its original stone steps and paving, in addition to some open spaces for sport and entertainment activities (Altun et al., 2007).

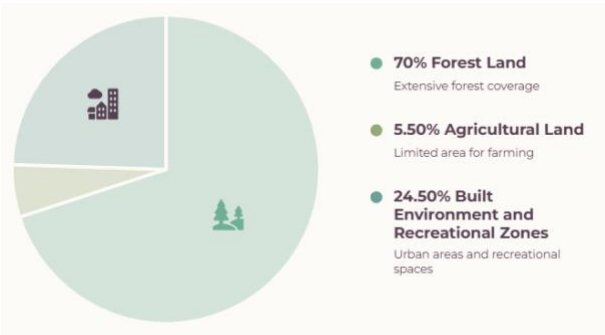


Figure 18: historical Land Distribution of Sarihacilar based on Altun, S 2007

4.2.4. Socio-Cultural analysis:

The cultural identity of Sarihacilar is directly linked to its original occupants, Turkmen and Yörük origins, developed through traditional social activities and craftsmanship. Sarihacilar has both tangible cultural heritage represented by its historical structures and intangible heritage represented by traditions, skills, social practices and cultural activities. To understand the socio-cultural aspect of the village, the analysis will represent Demographic and Social Transformation, followed by Social Life and Cultural Heritage.

- **Demographic and Social Transformation:**

Before the abandonment, according to records, the village embraced 94 inhabited residential buildings, with families estimated at approximately five to six people, corresponding to an estimated population of around 470 inhabitants (Girgin, 2020). In 1960, a significant population decline occurred, related to limited employment opportunities, low local income, climatic conditions, and limited agricultural land (Altun et al., 2007; Girgin, 2020). The migrants were particularly from the younger generation, migrating especially in search of better conditions. This population decline affected traditional activities and social opportunities, particularly textile weaving, which represented an important activity for the village population. In 2007, only seven families, approximately 30–35 people, remained in the village; according to records, in 2015, only 24 people occupied the village, representing the least populated neighbourhood in the Akseki district. Figure 19 summarize the timeline of demographic transformation of Sarıhacılar.



Figure 19: demographic transformation of Sarihacilar based on Altun, S 2007

- **Social Life and Cultural Heritage:**

The social and cultural identity of Sarıhacılar is related to the region's traditions, craftsmanship and social values extending from its historical Turkmen background. This cultural heritage is categorized into two main categories: tangible heritage as important landmarks, and intangible heritage as skills and traditions. The Buttoned Houses belong to both categories, being tangible buildings projecting the historical traditional building style in this region, and emphasizing the traditional technique of Yörük culture transmitted between generations as family heritage (Hadimli, 2017).

The intangible heritage of the village includes traditional weddings, funerals and communal meals, reflecting the traditional gastronomy, including aromatic plants and traditional village breakfasts, creating a significant tourism service (Girgin, 2020). In addition, textile weaving and craftsmanship declined after the abandonment (Altun et al., 2007); however, some social activities have been reintroduced through modern cultural events, including the World Children's Friendship Meeting in the Taurus Mountains (Hadimli, 2017).

4.2.5. Economic analysis:

In the history, the village was known for its Silk Road, representing an important component of the village economy through trading, hosting travellers, village gastronomy and handicrafts. Between the 13th and 20th centuries, the village functioned as a busy barter centre and connected the Mediterranean coast with Central Anatolia (Altun et al., 2007; Altun et al., 2020). The Ottoman inns (hans) supported caravan trade and hosted travellers and their animals, representing an important source of income for the village economy. Moreover, traditional craftsmanship provided job opportunities for families and participated in the village economy.

However, a turning point happened in the 1960s. The young population migrated to urban areas due to limited local income and employment opportunities; this migration created progressive abandonment that led to major depopulation, affecting the built environment, landscape, socio-cultural context and, obviously, the economic context, which was connected with the other three (Altun et al., 2007).

After the conservation project of Sarıhacılar held by the government, the buildings were restored, and some buildings shifted their functions to museums, cafés, restaurants and guesthouses. This led to a new transformation of the economy; the economic direction of the village shifted toward sustainable and creative rural tourism. The village also developed handicraft-related activities and workshops, creating a connection between traditional production and tourism (Altun et al., 2007; Hadimli, 2017).

The village exhibits great economic potential related to its buildings, such as the Buttoned Houses; its landscape, such as hiking routes; its socio-cultural context, such as the population's skills and activities; and its economy, mainly through tourism.

4.3. Dereköy Village (Gökçeada/ Çanakkale)

Dereköy is a village located 14–17 km from the center of Gökçeada Island, historically known as Imbros. The village is a part of Çanakkale Province (Diker, 2022). Figure 20 Shows the exact location. The village surface is generally large, occupying a significant area in the western part of Gökçeada and representing the region's most significant historical Greek village (Çırak, 2024). In history, Dereköy shifted from a strategically protected settlement into one of the largest villages in the country, before its depopulation (Bayram, 2016). The village has multicultural aspects relating together Greek and Turkish histories; nowadays, it reflects the effects of depopulation and the survival of an important rural heritage (Bayram, 2016; Diker, 2022).

The geography of the village is interesting; it is situated in the Büyükdere Valley, between two steep hills, İkiz Tepe, approximately 478 m high in the south, and Koçbaşı Tepe, approximately 484 m high in the north (Diker, 2022). Its geography had a great relation with the history of the village. Generally attacked by pirates, the village was established away from the coastline and between two main hills, which ensured the protection of the village from pirate attacks (Bayram, 2016; Diker, 2022). One main road, "Dereköy–Uğurlu," passes through the middle of the village, dividing it into two parts: Chalakas, the Upper Neighbourhood located to the northwest, and Pera Chorio, the Lower Neighbourhood located to the southeast (Çırak, 2024).



Figure 20: Geographic location of Derekoy based on *Google Earth*

The climatic conditions of Dereköy are defined as a typical Mediterranean climate, with an average summer temperature of approximately 25 °C, while winter temperatures generally remain above 6 °C (Bayram, 2016). However, the village is built at an altitude and experiences more precipitation than other parts of the island, with an annual average of approximately 739–750 mm. Rainfall is experienced mostly during winters, while in summer,

precipitation is rare. The position of the village between two hills produces strong wind conditions, with North-Northeast Poyraz and Southwest Lodos representing the dominant wind directions (Güler & Kahya, 2018).

4.3.1. Historical background:

Dereköy village, historically known as Shinudi, Schinudi or İskinit, has a long historical background, passing through different phases. It passed through an important transformation from a strategically protected settlement into one of the largest villages in Türkiye, followed by a significant period of depopulation (Bayram, 2016). According to records, the region surrounding the village was related to the Neolithic period, recorded through archaeological excavations around Uğurlu-Zeytinlik (Bayram, 2016; Diker, 2022).

However, its earliest mentions trace back to Ottoman records from the 16th century. Related to evidence, the village of İskinit, nowadays known as Dereköy, was also mentioned in Piri Reis' Kitab-ı Bahriye together with the castle known as Paleokastro, or Kala-i İskinid (Bayram, 2016; Diker, 2022). In 1519, the village was considered a part of the pious foundation of Kanuni Sultan Süleyman, where Dereköy taxes contributed to the maintenance of his mosques (Bayram, 2016; Diker, 2022). During the 16th century, the village experienced significant growth, recording approximately 62 households in 1519, and significantly rising to 1,200 inhabitants in 1569 (Diker, 2022). After the population exchange between Greece and Türkiye, Gökçeada was not included in the compulsory population exchange between Türkiye and Greece following the Lausanne Treaty of 1923; therefore, the village was able to maintain its original socio-cultural structure for a longer period compared with other Greek-inhabited villages (Diker, 2022).

In 1935, during the early Republican period, Dereköy village reached its peak population with approximately 2,000 inhabitants. Defined as a self-sufficient centre, the village had active commercial, social and productive functions (Bayram, 2016).

In the 1960s, political tensions between Türkiye and Greece related to the Cyprus crisis triggered the abandonment of many families. The closure of Greek-language schools in 1964 led some families to abandon the village for their children's education (Diker, 2022). Therefore, the turning point causing the major depopulation was the establishment of an Agricultural Open Prison in 1965. Approximately 22,500 acres of fertile agricultural land were expropriated; this affected the local economy and the security of the village, contributing to its abandonment (Diker, 2022).

In the 1970s, the Greek population migrated to Greece or Istanbul, while Turkish families from other regions, particularly Trabzon, migrated to Dereköy to settle in the recently constructed Şahinkaya neighbourhood (Bayram, 2016). However, the population decreased progressively, changing the village from one of the most populated villages in Türkiye into a predominantly abandoned village (Bayram, 2016; Diker, 2022). Figure 21 summarize the timeline of Dereköy historical development.

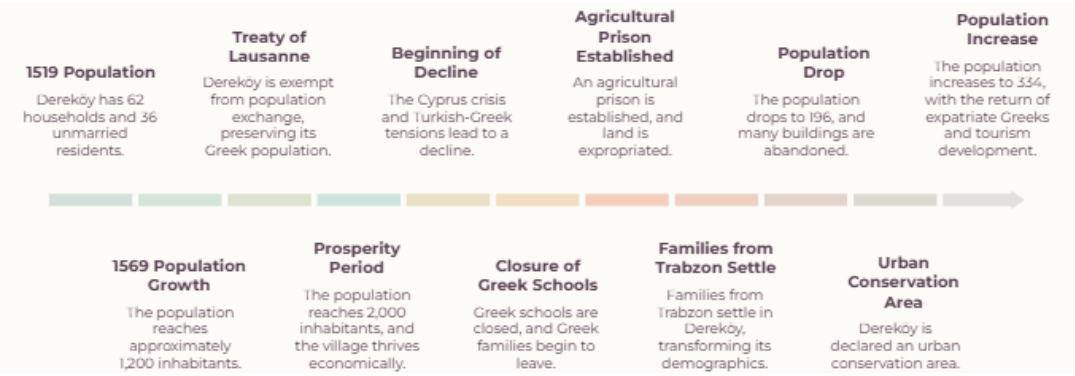


Figure 21: historical development of Dereköy Village

4.3.2. Architectural Analysis:

Historically, Dereköy village was one of the most populated villages of Gökçeada and Türkiye. It was more than just a residential village; it was a significant village for the region, establishing a highly developed rural settlement. It was defined as a self-sufficient structure with important architectural diversity, where residential, religious, social, commercial, public and production functions existed within the same settlement (Diker, 2022).

The architecture of the village was directly related to its natural landscape and topography, creating a dense and organic settlement pattern adapted to the hills and the slopes of the settlement (Bayram, 2016; Diker, 2022). The village represented an architectural structure with diverse functions, such as residential, commercial, social, public, religious, production and industrial buildings (Diker, 2022).

The figure-ground analysis represents the current situation of the village, its historical built environment, the disappeared buildings, ruined plots, abandoned structures and the limited number of buildings that are still in use (Figure 22), (Diker, 2022). Within the primary study area, 655 buildings were identified. Among them, approximately 297 buildings are in ruins, while 286 buildings are still structurally standing but abandoned or unused (Diker, 2022). Only a small number of buildings are still in use or are used only seasonally.

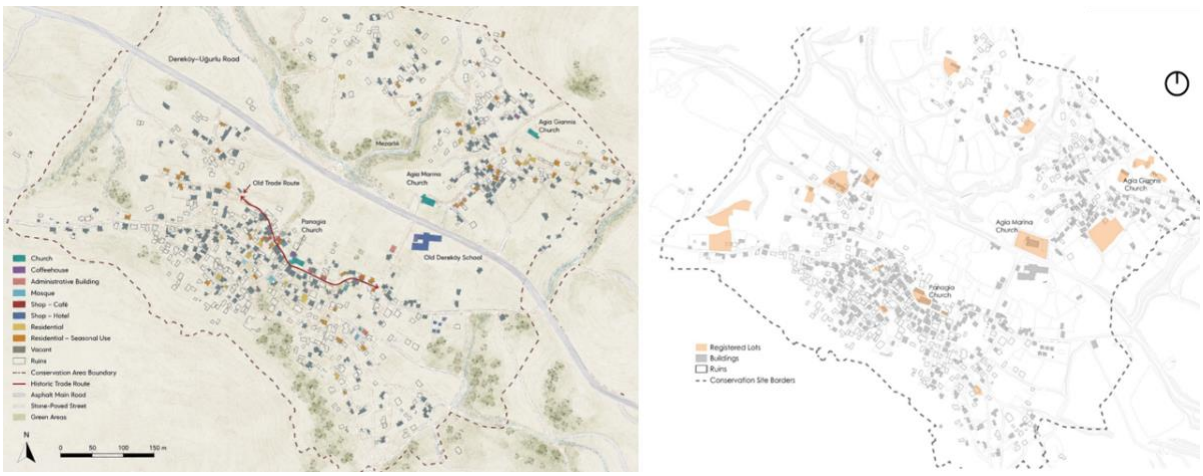


Figure 22: Figure Grund Map of Dereköy village (based on site survey and D.İrem, 2022)

- **Residential Buildings:**

During its peak, the village of Dereköy had approximately 1,500 households, making residential houses the dominant architectural component of the village. These traditional houses were generally constructed as two-storey stone houses, reflecting the local construction techniques and vernacular materials of the village (Figure 23), (Karayel, 2019). Generally, the ground floors were used as stables for animals and as storage for agricultural products, including wheat, barley, wine and olive oil, while the upper floors contained the main living spaces (Karayel, 2019).



Figure 23: Traditional Residential Architecture of Dereköy Village.

The relationship between the built environment and the topography was balanced, with the buildings perfectly adapted to the sloping ground. Stone masonry, external traditional staircases and paved passages were adapted to the slope to facilitate movement through this rough topography, forming important characteristics of the traditional houses (Bayram, 2016).

After the depopulation of the village, the buildings progressively lost their functions, leaving some of them deteriorated, while others became ruins (Diker, 2022). Nowadays, only 17 houses are permanently occupied, while 43 houses are used as seasonal residences, mainly by summer visitors and returning expatriates (Bayram, 2016). However, multiple houses were renovated and converted into contemporary residences, with contemporary functions and without animal stables, creating two-storey houses fully used as living spaces, with no storage functions on the ground floor anymore. This transformation shows a real shift from the original productive-residential use to predominantly residential and seasonal use.

- **Religious Buildings:**

In the past, Dereköy was a village inhabited by a Greek-Orthodox population, making religious buildings an important component of the architectural and cultural heritage of the village, including major churches, numerous small chapels, a monastery and a historical cemetery (Bayram, 2016; Güler & Kahya, 2018).

The major historical religious building constructed in the village was Panagia, also known as Meryem Ana, constructed in 1775 and reconstructed after its deterioration in 1938, followed by Koimesis tis Theotokou, also known as Aya Yorgi, which was constructed during that period. According to records, its construction was before 1784. Agia Marina was described as one of the oldest and largest churches in central Dereköy, existing since at least 1843 according to the available evidence (Bayram, 2016).

However, a significant number of chapels were spread around the village in different zones. Each of these chapels was related to a different saint and religious celebrations (Güler & Kahya, 2018). The village also contained a monastery and a historical cemetery, which are currently in ruins (Güler & Kahya, 2018).

After the abandonment of the village, a variety of buildings completely lost their functions, and some of them are in ruins. However, the religious context of the village has maintained physical and religious continuity, with significant buildings such as Panagia and Agia Marina continuing to be used for religious services on alternate Sundays, Figure 24 shows some churches of the village (Diker, 2022).

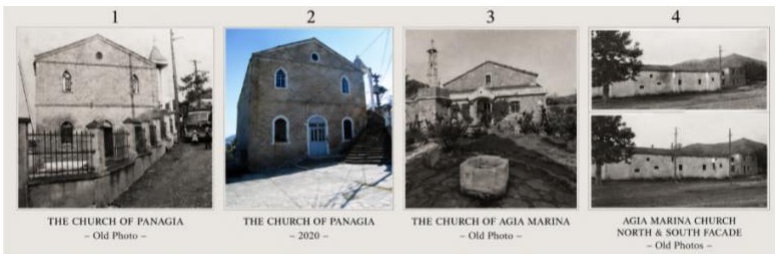


Figure 24: Traditional religious buildings of Dereköy Village. (Chalkia, E. 1992 and D.İrem, 2022)

- **Public and Social Buildings:**

In the historical period, Dereköy had an important public infrastructure supporting its high population and their needs, including two elementary schools and a police station, known as the karakoli, which had previously functioned as a girls' school (Diker, 2022). From another perspective, the village had significant gathering spaces, such as three traditional stone laundries, which also formed part of the public structure of the village (Diker, 2022).

After the depopulation of the village, a variety of buildings experienced different levels of abandonment and loss of functions, followed by severe deterioration and functional transformations (Diker, 2022). While the former elementary school was transformed into a hotel operating seasonally nowadays, the former girls' school was converted into a karakoli, a police station, which is currently an inactive building (Diker, 2022). Figure 25 shows some traditional public and social buildings of dereköy village. Among the three traditional laundries, only one remains functional (Diker, 2022).

Many other buildings shifted their functions, especially residential ones. Some of them were transformed into guesthouses, a mosque, a muhtar's office, restaurants, cafés and a real estate office.



Figure 25: Traditional Public and social buildings of Dereköy Village. (Chalkia, E. 1992 , Güler, A. C., & Kahya, Y. 2018) and Harmankaya, S., & Erdoğu, B. 2001).)

- **Commercial and Production Buildings:**

In the peak of its era, Dereköy functioned as an important local economic centre, with a concentrated commercial axis located in front of the Panagia Church (Diker, 2022). The most important commercial buildings were seven food businesses, seven butchers, four shoe shops, three barbershops and specialized shops selling products such as paint and kerchiefs (Diker, 2022). The commercial activities were directly linked to the inhabitants' social life and gatherings, such as coffeehouses, bars and two cinemas (Diker, 2022). After its abandonment, all those buildings were destroyed or shifted to ruins, and a very limited number of commercial buildings were re-established again: a corner coffee shop, a breakfast place, a restaurant and a small number of cafés and accommodation facilities operating seasonally.

However, Dereköy village was considered a great productive village, related directly to the local agricultural recolts of the village, such as olives and milk, boosting the village's self-sufficient economy. The village contained three olive oil factories (Figure 26), three kaşar cheese factories, four windmills and approximately 10–13 watermills used for grinding grain and producing trachana. After the abandonment, these buildings were destroyed and lost their functions, with some of them in ruins.



Figure 26: Traditional olive oil factory as productive buildings of Dereköy Village. (B.Samet, 2016)

4.3.3. Landscape Analysis:

The landscape analysis of the village consists of examining the topography, vegetation, water resources and landscape character of the village through studying the natural landscape and historical transformation of the land. The analysis highlights the relationship between the village and its natural environment, and how the natural environment influenced the historical development of the village and its settlement characteristics.

- **Natural Landscape and Topography.**

Dereköy village is an inland village, defined by its location, valleys, hills, high altitudes, steep terrain and strategic location. The village was built in the inner land of Gökçeada, far from the coastal line, offering its settlement protection from pirate attacks. Dereköy was built in the Büyükdere Valley, between Koçbaşı Tepe, approximately 484 m high in the north, and İkiz Tepe, approximately 478 m high in the south (Çırak, 2024). Constructed on sloping ground between two facing hillsides that shape the physical structure of the village, the village used the natural landscape within the construction of its settlement, while creating steep pathways using stone steps to access different levels and facilitate climbing the steep hills (Bayram, 2016; Diker, 2022). Figure 27 shows open and green space analysis map of Dereköy Village.

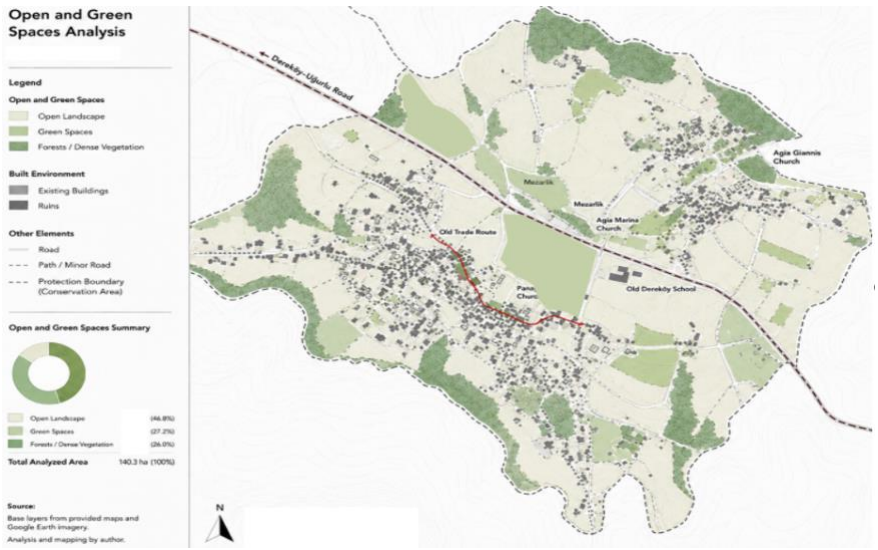


Figure 27: open and green space analysis Diagram Map of Dereköy Village (based on site survey, google earth)

The vegetation aspect of the village was important. The village includes forests and Mediterranean maquis and garigue vegetation, contributing to the ecological system and the landscape character of the village, in addition to specific herbs and vegetation such as abdestbozan, geven, oak, daphne, carob, oleander and thyme (Bayram, 2016; Diker, 2022). The village was active agriculturally and productively, having fertile farmlands surrounding the village, including more than 2,000 decares of olive trees and crops such as wheat, barley, beans, corn, sesame and potatoes (Diker, 2022). Moreover, the houses integrated vegetation within traditional building courtyards and gardens, supporting families' daily life.

The village is located on an island, Gökçeada, naturally rich in water resources (Bayram, 2016), embracing multiple rivers and creeks, including Ballıdere, Yarlı Dere, Strovilos and Steno (Bayram, 2016). Strovilos, in the old times, participated in the operation of watermills used for processing grain and agricultural products (Bayram, 2016). In addition to the natural resources, the village contains artificial water resources such as the pond and Zeytinli Dam, and several springs and fountains, ensuring the daily needs of occupants and supporting their social gatherings.

- **Historical Land Use and Land Transformation:**

The historical background of Dereköy is mainly so rich, especially in terms of land use and its agriculture-based economy. The village was defined as a self-sufficient ecosystem, not only for itself but for the surroundings on the island. Its agriculture was directly linked to the use of fertile lands for farming and the productivity of its inhabitants. The settlement was characterized by diverse agricultural activities, extensive olive groves, vineyards and fields, and the production of wheat, barley, beans, corn, sesame and potatoes (Bayram, 2016; Diker, 2022), in

addition to significant industrial infrastructure such as olive oil factories, watermills and windmills (Bayram, 2016; Diker, 2022).

Related to the history of the landscape, the establishment of the major Agricultural Open Prison in 1965, where approximately 22,500 acres of the village's most fertile agricultural land were expropriated for the Agricultural Open Prison (Diker, 2022), represented a turning point in the village trajectory. The land experienced important transformations in its functionality and situation. While the village became depopulated, agriculture and productivity decreased gradually until the collapse of agricultural and farming activities in the village.

Nowadays, significant productive lands surrounding the settlement have lost their historical agricultural function and have been transformed into pasture areas for animals. While animal husbandry activities remain until today but in limited amounts, the cultivation of olives continues in some areas but has lost its vibrant activity and massive productivity. The current landscape has turned into randomly overgrown paths, non-constructed areas, gardens, orchards, vegetated residential plots, forest areas, the built environment and ruined structures.

4.3.4. Socio-Cultural Analysis:

The socio-cultural analysis of Dereköy analyses the demographic and social transformation of the village during years, the turning points nd the depopulation causes, together with its cultural heritage.The analysis highlights how depopulation affected the social and cultural structure of the village, while identifying the cultural elements that have remained until today.

- **Demographic and Social Transformation:**

In the past, Dereköy was inhabited by a Greek-Orthodox population. Historically, it was considered one of the most populated villages of Gökçeada and Türkiye, remaining stable around 1935 and reaching 1,878 inhabitants in 1950 and 1,727 inhabitants in 1960. According to some records, its population reached a peak of approximately 2,000 inhabitants (Çırak, 2024).

Related to political tensions between Türkiye and Greece and state interventions, the village experienced a major population decline between 1965 and 2000. However, the turning point affecting the major abandonment was the establishment of the Agricultural Open Prison in 1965 and the expropriation of fertile agricultural lands, provoking a real demographic transformation. The population gradually decreased until the 2000s, when the village reached its lowest population level, with records varying between 42 and 196 inhabitants (Diker, 2022). This demographic transformation affected several aspects of the village, especially its social and cultural life. In 1973, a large part of the Greek community migrated to Greece and Istanbul, and some Turkish families from Trabzon settled in the village. Then, in the 1980s, other families from Muş and Van settled in the village. Figure 28 summarize the demographical transformation of Dereköy Village.

Nowadays, Dereköy has a mixed population. During summer, the population temporarily increases, particularly during the Panagia Festival, when Imbrian Greeks living elsewhere return to the village (Bayram, 2016).



Figure 28: demographical transformation of Dereköy Village:

- **Social Life and Cultural Heritage**

In the past, Dereköy represented a vibrant village in terms of social life, with crowded coffeehouses, two cinemas, taverns and a local sports club (Diker, 2022). The village also published its own journal, Imroz. The female community was also active productively and economically, with women practicing some handmade craftsmanship activities, such as weaving in a cooperative (Bayram, 2016; Diker, 2022; Güler & Kahya, 2018).

The village had some gathering places for the community, such as churches, chapels, traditional houses, stone laundries, watermills, windmills and schools, defined as social places and tangible cultural heritage of the village (Bayram, 2016; Diker, 2022; Güler & Kahya, 2018). The laundries especially were important landmarks, used for their own function in addition to providing significant social interaction. Dereköy was very rich in its social and cultural places, but also had a rich intangible heritage, such as significant socio-cultural events. Baptisms, weddings and religious celebrations also formed part of the cultural traditions associated with the village (Bayram, 2016; Güler & Kahya, 2018). These events were very important for the village, and some of them continue nowadays.

4.3.5. economic Analysis:

As highlighted previously, historically, the village was a vibrant settlement based on a self-sufficient system connected to fertile agricultural lands, farming, animal husbandry, productive infrastructure and handicrafts (Bayram, 2016; Diker, 2022). This included agricultural productivity such as olive production, vineyards and different crops, while olive oil factories, cheese production, watermills and windmills supported the productive economy of the village (Bayram, 2016; Diker, 2022). Handicraft activities were especially practiced by women, contributing also to the local economy through activities such as sericulture and cooperative production (Diker, 2022).

After the depopulation, the village lost a high number of its population, causing a decrease in productivity and agricultural activities, land abandonment and deterioration of the factories, shifting from a diverse productive economy to limited activities. Nowadays, very limited activities still remain, such as animal husbandry, limited olive cultivation and seasonal tourism related to events. The village carries great agricultural and productive potential, in addition to important social and cultural heritage and historical memories, making the village an interesting place for organic agriculture, agro-tourism and eco-tourism.

5. Comparative Analysis and Results

This section has great importance for a better understanding of the article. It compares the three selected case studies using the same analytical framework, structured according to the four criteria related to the study: architecture, landscape, socio-cultural and economy. The findings from the detailed analyses, which were based on literature reviews, archives and site surveys, are examined in two stages: overlapping patterns between the three villages and the context-specific differences in their trajectories. To achieve this examination, the analysis compares the villages across different time frameworks: their historical conditions, conditions after abandonment, current conditions and potentials related to their future, a comparative matrix was prepared (Table 1).

5.1. Comparative Matrix

Table 1: Comparative Matrix between kayakoy, Sarihacilar, and Derekoy

Comparative Element	Kayaköy	Sarıhacılar	Dereköy
Abandonment condition	Fully abandoned settlement	Abandoned but partially regenerated settlement	Partially abandoned settlement
Main causes / turning point	Population exchange between Greece and Türkiye in 1923; adaptation difficulties of the new occupants to hillside houses, topography and limited water resources	Migration of the young population to urban areas; limited local income and employment opportunities; progressive abandonment	Political tensions between Türkiye and Greece; state interventions; Agricultural Open Prison in 1965; expropriation of fertile agricultural lands
ARCHITECTURE			
Past condition	Dense hillside settlement; residential houses; churches, chapels, schools; commercial and public buildings; traditional stone construction	Traditional Buttoned Houses; local materials; relationship with rugged mountain topography; Han and public structures	Dense and multifunctional architectural structure; residential, religious, public, social, commercial and productive functions; traditional stone houses
Transformation / consequences	Buildings lost their original functions; abandonment and deterioration; large part of historical settlement became ruins	Buildings gradually deteriorated and became ruins; loss of a great part of architectural heritage	Buildings lost their functions; abandonment and deterioration; ruined structures; major loss of commercial functions
Current condition	Largely abandoned historical settlement; heritage and tourism character; ruins functioning as an open-air museum	Conservation and restoration; historical buildings transformed into museums, guesthouses, restaurants, cafés and cultural spaces	Large number of ruined and abandoned buildings; limited permanent and seasonal residential use; some religious buildings maintain their functions
Potential	Traditional architecture; churches; historical settlement; conservation; cultural heritage tourism	Buttoned Houses; traditional construction; restored buildings; adaptive functions; tourism	Remaining public, religious and residential buildings; adaptive reuse; future conservation projects
LANDSCAPE			
Past condition	Rocky slope and fertile valley; agricultural land; forests and Mediterranean vegetation; strong settlement-agriculture relationship	Steep and rugged topography; Western Taurus Mountains; forests; agricultural land; relationship between natural landscape and settlement	Valleys, hills and steep terrain; forests, Mediterranean maquis and garigue; fertile agricultural lands; olive groves, vineyards and fields
Transformation / consequences	Fertile agricultural land progressively decreased; new residential structures expanded into the fertile polje floor; settlement-agriculture relationship affected	Agricultural activities affected by difficult topography, limited water resources and population decline	Agricultural productivity decreased; productive lands lost their historical agricultural function; agricultural land transformed into pasture
Current condition	Agricultural activities continue; Kaya fig cultivation; forest, polje morphology, rocky slopes, agricultural valley and natural vegetation remain	Natural landscape and forest remain important characteristics; transformed agricultural landscape	Pasture areas; limited animal husbandry and olive cultivation; overgrown paths, gardens, orchards, forest areas and ruined structures
Potential	Fertile land; Kaya fig cultivation; forest; polje morphology; agricultural valley; landscape conservation	Forest landscape; natural environment; hiking routes; landscape and rural tourism	Agricultural land; olive cultivation; natural landscape; organic agriculture; agro-tourism and eco-tourism
SOCIO-CULTURAL			
Past condition	Multicultural coexistence; community life; education; religion; craftsmanship; trade; social gatherings and entertainment	Yörük traditions; craftsmanship; textile weaving; traditional gastronomy; community activities	Greek-Orthodox population; vibrant social life; coffeehouses, cinemas, taverns and sports club; craftsmanship and cooperative activities
Transformation / consequences	Demographic rupture; loss of everyday practices, community relationships and cultural activities	Population migrated to bigger cities; decline of textile weaving and traditional craftsmanship; loss of knowledge, skills and traditional memory	Major demographic transformation; decline of social and cultural life; loss of population and productive social connections
Current condition	Symbolic cultural landscape; cultural memory; craftsmanship and weaving; heritage-tourism destination	Cultural activities reintroduced after restoration; former residents participate again in cultural revival	Mixed population; some traditions and religious events continue; seasonal returns; connection with former community
Potential	Artisanal branding; carpets; cultural heritage tourism; workshops and academic activities	Buttoned Wall construction; textile weaving; traditional gastronomy; traditional events; cultural and tourism activities	Cultural events; religious traditions; social and cultural heritage; historical memories
ECONOMY			
Past condition	Agriculture; animal husbandry; craftsmanship; entertainment; bazaar; customs house; trade	Silk Road; barter centre; inns; trade; gastronomy; handicrafts	Self-sufficient system; fertile agricultural lands; farming; animal husbandry; productive infrastructure; handicrafts
Transformation / consequences	Depopulation caused major economic transformation; agricultural and animal husbandry activities decreased	Limited local income and employment; young population migrated; economic context affected by depopulation	Loss of population; decrease in productivity and agricultural activities; land abandonment; deterioration of factories
Current condition	Economy dominated by tourism and services	Economy shifted toward sustainable and creative rural tourism; handicraft activities and workshops	Limited animal husbandry; limited olive cultivation; seasonal tourism related to events
Potential	Tangible and intangible heritage; tourism; craftsmanship	Buttoned Houses; hiking routes; population skills and activities; tourism	Agricultural and productive potential; social and cultural heritage; organic agriculture; agro-tourism and eco-tourism

5.2. Discussion and Results:

According to the above detailed analysis and research, the findings show some overlapping patterns, repetitive in the three cases as common Mediterranean patterns. However, context-specific differences are findings that are different between villages belonging to a similar landscape, showing how these three cases can have contexts that are unique and different, related especially to their historical and cultural backgrounds.

- **General Discussion:**

The analysis of the four dimensions shows that rural abandonment is not limited to demographic decline, but is a multidimensional problem affecting the physical, social, cultural and productive structures of rural settlements together. It also shows that different causes can lead to the abandonment of villages, but since these four criteria form a balance within a village, whatever the causes are, if one of these criteria is affected, the balance collapses and the other criteria are affected as well. This is what these overlapping patterns highlight in the study.

From the architectural perspective, the decrease in population provoked a loss of building functions, abandonment, deterioration and the transformation of part of the traditional built environment. In the architectural context, a used building is a protected one, and its abandonment directly causes a form of deterioration, starting from the lack of maintenance and other related problems. After the depopulation, the abandonment of buildings affected not only the physical condition of the structures but also the diversity of functions in the built environment. A huge number of buildings lost their functions, became abandoned, deteriorated and some of them shifted into ruins. The residential buildings shifted from productive-residential use toward limited permanent or seasonal residential use. The most significant functional loss was in the commercial buildings. However, the religious buildings showed the strongest continuity, such as some churches that still maintain their original religious functions.

From the landscape aspect, the three cases experienced a decrease or transformation of agricultural activities and a weakening of the historical relationship between the settlement and its productive landscape. With the abandonment of a settlement, the land becomes randomly overgrown, while fertile and productive agricultural land loses its effectiveness and then its productivity. The productive lands turn into devastated, randomly grown plots with ruins.

From the socio-cultural perspective, this carries a deep meaning as a common characteristic of the three cases: not only population loss, but also the loss of historical memory and intangible heritage, summarized through social gatherings, craftsmanship, community relationships and the continuity of cultural activities, which disappear together with depopulation.

The economic aspect is directly linked to the three other aspects, while the deterioration of structures, agriculture, productivity and social life are all elements causing a deterioration of the settlement's local economic activities, affecting the three villages.

Nowadays, the village is defined as a combination of abandoned buildings, ruins, and surviving heritage structures, forming a heritage conservation and tourism site and acting as an open-air museum for the Fethiye region. This shows the shift of the village from an active ecosystem to a deteriorated settlement.

Unlike a completely abandoned settlement, Sarıhacılar experienced a transformation through conservation and restoration, related to the Akseki-İbradı Development Project (Altun et al., 2007), including new functions into historical buildings, such as museums, guesthouses, restaurants, cafés, and cultural spaces, preserving the traditional architectural character of the village and turning the village into a touristic open-museum concept (Altun et al., 2007; Altun et al., 2020; Hadimli, 2017).

After the restoration projects, new opportunities for cultural activities emerged and encouraged former residents to participate again in the cultural revival of the village. This restoration is connected to the village's potentials, such as the Buttoned Wall construction, which forms part of the architectural heritage as a landmark of the village and as a cultural and learning resource, exhibiting historical Yörük construction methods. Many skills and forms of craftsmanship can support cultural and tourism activities, such as textile weaving and traditional gastronomy. Nevertheless, traditional events can represent communal activities and social interaction.

The context-specific dimensions show that the trajectory of a village's history, experiences, depopulation causes and abandonment influences can transform each case differently, even if they share the same components and the same region. The study shows the importance of villages in rural landscapes in shaping architectural, landscape, socio-cultural and economic elements. This balance does not only affect the rural landscape, but it also affects the urban landscape from a multidimensional perspective due to migration from villages to cities.

- **Overlapping patterns:**

The comparative analysis shows that the three case studies experienced different historical trajectories and different abandonment trajectories, but share several overlapping transformations related to the four analysed dimensions: architecture, landscape, socio-cultural life and economy.

From the architectural perspective, the decrease in population provoked a loss of building functions, abandonment, deterioration and the transformation of part of the traditional built environment. In the architectural context, a used building is a protected one, and its abandonment directly causes a form of deterioration, starting from the lack of maintenance and other related problems.

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The economic aspect is directly linked to the three other aspects, while the deterioration of structures, agriculture, productivity and social life are all elements causing a deterioration of the settlement's local economic activities, affecting the three villages.

Therefore, the analysis of the four dimensions shows that rural abandonment is not limited to demographic decline, but is a multidimensional problem affecting the physical, social, cultural and productive structures of rural settlements together. It also shows that different causes can lead to the abandonment of villages, but since these four criteria form a balance within a village, whatever the causes are, if one of these criteria is affected, the balance collapses and the other criteria are affected as well. This is what these overlapping patterns highlight in the study.

- **Context-specific patterns:**

Despite several overlapping patterns, they are some context-specific different patterns . Since the three cases do not have the same historical trajectory and do not have the same current conditions, they still experience patterns that differ according to their specific contexts.

Kayaköy, after its abandonment, gradually became depopulated until becoming fully abandoned and took the name of Hayalet Köy, meaning the hollowed village. Nowadays, it acts as an open museum related to heritage and tourism. Sarıhacılar experienced a more gradual abandonment, where the government integrated it into a conservation project that reactivated the village and gave the opportunity to researchers to analyse a conserved model of a village in a Mediterranean rural landscape, understanding the opportunities and challenges of this kind of application. Dereköy experienced a major demographic transformation that caused the depopulation of the village. However, the village was never completely devastated. It experienced a major population loss, then regained a specific number of occupants. It became a seasonally visited village by its old Greek population for cultural events that represent a cultural heritage. This case offers an understanding of a semi-abandoned village, its context-specific challenges and opportunities.

The context-specific dimensions show that the trajectory of a village's history, experiences, depopulation causes and abandonment influences can transform each case differently, even if they share the same components and the same region.

- **Potentials and comparative results:**

The study shows the importance of villages in rural landscapes in shaping architectural, landscape, socio-cultural and economic elements. This balance does not only affect the rural landscape, but it also affects the urban landscape from a multidimensional perspective due to migration from villages to cities.

Despite their loss, each of the cases still preserves important potentials related to the four criteria of the research: architectural, landscape, socio-cultural and economic elements. These potentials are related to their historical experiences and situations, such as craftsmanship, tourism, organic agriculture, agro-tourism, eco-tourism and similar potentials. These potentials are a way to rebuild the deteriorated balance in each case, bringing together the deteriorated buildings, the harmed landscape, the lost socio-cultural system and the broken economy as a powerful cycle to regenerate abandoned villages in Türkiye. These analyses and potentials can be important tools for upcoming academic studies and future application models.

Author Contributions: The first author conceptualized the research topic and conducted a comparative study of three villages. The methodology was based on four criteria: architecture, landscape, socio-cultural aspects, and economy, combining historical, demographic, spatial, architectural, socio-cultural, and economic analyses. The first author conducted the literature review, geographical research, and field observations to complete the analysis and identify similarities, differences, and regeneration potential. The first author collected and organized the research data, conducted the analysis, wrote the article, and prepared the figures, comparative tables, and maps to support the study.
The second author provided academic supervision, guidance, and support. The second author reviewed and edited the research and contributed to the methodology and conceptual framework of the study.
Conceptualization, X.X. and Y.Y.; Methodology, X.X. and Y.Y.; Validation, X.X. and Y.Y.; Formal Analysis, X.X.; Investigation, X.X.; Resources, X.X.; Data Curation, X.X.; Writing – Original Draft Preparation, X.X.; Writing – Review & Editing, X.X. and Y.Y.; Visualization, X.X.; Supervision, Y.Y.

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