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Characteristics of Housing in Darkale Rural Settlement, Soma, Manisa

Ayşen Etlacakuş[1*], Mine Hamamcıoğlu Turan[1]

[1] Department of Conservation and Restoration of Cultural Heritage, Izmir Institute of Technology, 35430 Gülbahçe, Izmir, Türkiye
[*] Corresponding author, e-mail: aysenetlacakus@iyte.edu.tr

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Abstract

Darkale of Soma, Manisa is a historical rural settlement in Western Anatolia. The aim of this paper is to identify the characteristics of Darkale houses and to present a typology based on their authentic architectural characteristics. The method is evaluation of the housing units with the tools of the discipline of architectural conservation. The characteristics evaluated are the lot size and organization, unit-neighbor relations, storey system, spatial organization, construction technique, and material usage. The houses are representatives of the "*Hayat* house" typology that has been used for centuries in Anatolia. However, the presence of limited courtyards, possibility of houses composed of a single building mass, the partial carving of the units into the hillside, possibility of single storied units and the relation of housing with each other in all three dimensions, and streets continuing throughout the house masses in form of passages differentiate Darkale houses from the other *Hayat* houses. In addition, the continuing of the maintenance of housing units with traditional materials and techniques; weaving, cuisine tradition, winter food preparation such as pomegranate juice making, olive oil soap production and their storage, domestic fowl raising on the ground floor and courtyards of the houses are intangible qualities of Darkale. The major conservation problems of Darkale houses are abandonment, the functional transformation of spaces and usage of contemporary techniques and materials in the physical interventions.

Keywords

Hayat house, rural settlement, typology, Darkale village

1 Introduction

Rural heritage is an essential part of our collective memory with its tangible and intangible values. A rural site is settled throughout history because of the natural opportunities of its position. Rural heritage should be protected as a whole, as it contains various values at different scales (COE, 1975; 1977; 1989). On the other hand, as a result of socio-economic factors and an increase in demands for contemporary life standards, rural heritage is faced with the danger of vanishing. However, the different international regulations emphasized that the depopulation of rural areas stems from the lack of job opportunities and economic resources in these areas and the neglect of physical tissues after the deterioration of the balance between human beings and nature. It has been stated that the migration of people living in rural areas to urban is not only due to economic reasons but also to social reasons. (COE, 1973; ICOMOS, 1975).

In addition, rural houses are more vulnerable to deterioration than stone masonry structures since timber is often used for both structural elements and architectural ones. In the international regulation on this subject, it is emphasized that regular observation, maintenance, and repair are crucial for the protection of these structures with all their heritage features (ICOMOS, 1999).

Darkale, like most other rural settlements in Western Anatolia, has been largely abandoned (e.g. Lübbey Village, Dereuzunyer Village, Çomakdağ Kızılağaç Village). This is the most important factor threatening the conservation of the heritage values of the mentioned rural settlements as a whole.

Like many other rural houses in Western Anatolia, Darkale houses are *Hayat* houses. Kuban (1995:p.14) points out that *Hayat* house is the widespread traditional dwelling type in Anatolia and Balkans since the 16th century. *Hayat* house has emerged in accordance with a half-rural and half-urban lifestyle. The main floor, the piano nobile, is reached from a small courtyard by semi-open stairs.

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It extends to the courtyard with an open gallery: the *Hayat*. Two rooms, with or without an in-between recess, reached from the *Hayat* is the typical plan pattern in simple examples. This scheme can be repeated on the ground floor. Stone and timber are their primary construction materials.

The majority of previous studies on Darkale are on the history of the settlement; the ancient period (Sevin, 2001), the Byzantine Period (Ermiş, 2016), the *Beylik*s period (Gökçen and Uluçay, 1939), after the 15th century (Uykur, 2020), the 16th century (Günay, 2006), and after the 17th century (Arel, 1991, 1992; Uykur, 2020). On the other hand, Arel (1991), Ermiş (2019), and Uykur (2020) focused on the also monuments in the village with an eye on their art historic significance. Altıner (1937) was a teacher who had been employed in Darkale Village between 1934–1936. He observed the domestic life in the village systematically and published these in a journal. Two architectural surveys considered the limited number of village houses (Karayazılı et al., 2011; Zeren and Karaman, 2014). Nevertheless, there is no systematic study that examines the housing in the settlement as a whole. The aim of the study is to introduce the qualities of historical Darkale houses and point out their distinctiveness from other traditional rural houses of Anatolia.

The method of this study is comprised of the tools of the discipline of architectural conservation; literature review, archive research; field survey, data analysis, and evaluation[1]. The preliminary studies were reviewed. Then, archive research was made on the official website of the state archives. Finally, basic sources on Ottoman housing and settlement were reviewed. Three field surveys were carried out in 2013, 2014, and 2015. The total number of houses documented is 133 (Table 1). 23 of them are in ruins. Only 37 have preserved their authenticity and surveyed in detail. In-depth interviews could be carried out with limited locals as the settlement was largely abandoned (18/37) (Table 1). Then, the visual documentation and analysis were carried out in two different scales: site and building. Finally, houses were classified according to their distinctive features. Plan typology was made for both living and service floors. The most significant spatial components of a Darkale house are *Hayat* and room. Their size, location, orientation, and form were evaluated. In addition, the relation between the street and overall spatial organization were taken into consideration.

Table 1 Lots and buildings surveyed usage

			Housing	Public	Service	Total
Visual analysis	Lot	Position				
		Organisation				
		Size	133	14	13	160
		Relation with neighbours				
		Storey system				
	Building	Construction technique	133	14	13	160
		Material usage				
		Roof types				
		Space organisation	37	–	–	37
		Alteration				
Measured survey			37	–	–	37
Interview			18	–	–	18

1.1 Geographical characteristics

Darkale[2] is located in Soma, a district of Manisa that is a province in Western Turkey. It is located in Bakırçay river basin, three km from Soma to the southeast (Fig. 1, Base map data Esri USGS, 2021).

The historical residential area of Darkale is on the terraced, western hill skirt of Kösedağ Mountain. The brook valley system at the west houses the public area used for gathering, commerce, and production (Etlacakuş and Turan, 2017:p.14). The landscape around the settlement has been labored by man throughout centuries. There are archaeological sites on the northern and western plains, a historic castle, Asarkale, at the southeast, and Ottoman graveyards at the northeast and south representing the historical roots of the place. In addition, pastures for livestock farming and shrub lands located at the west and east, and Mediterranean woodland and rocky terrains constitute the borders of Darkale cultural landscape (Fig. 2). The residential area resembles a castle[3] with its 133 housing units and also monuments interwoven to each other very tightly in all three dimensions and carved into the rocky terrain like a sculpture so that each unit benefits from the vista, sunlight and safety of the hill skirt (Etlacakuş and Turan, 2016:p.6).

1 Ethnographic study is not within the limits of the method of this study.

2 Darkale Village has become a neighbourhood of the Metropolitan city of Manisa together with other 53 villages of Manisa with the law number 6360 in 2012. Thus, it is hard to differentiate between the population of rural and urban information of metropolitan cities anymore in TUIK (Turkish Statistic Institution) web site.

3 "Darkale" means narrow castle in Turkish.

Fig. 1 The location of Darkale (based on **Esri USGS, 2021)**

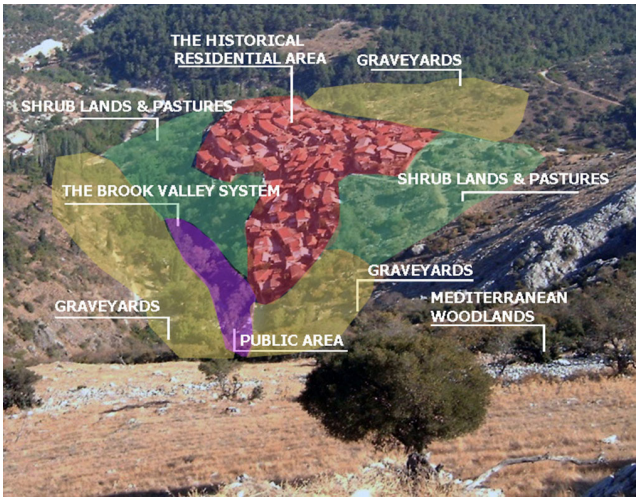

Fig. 2 The view of the landscape of Darkale rural settlement from Asarkale

The main sources of income of the native population of Soma were agriculture, animal husbandry, and forestry before the beginning of mining activity and the establishment of the thermal power station in 1957. The population of villages has decreased year after year because of migration from rural areas to urbans[4] (Karadağ, 2006) (Table 2). Darkale is one of the examples of this state. The population of Darkale is 78 today. It decreased by 50% in the last 15 years (TUIK, 2022). The local architecture of Darkale and the traditional rural way of life has been preserved.

Darkale Village is in Bakırçay river basin. This river and its branches are vital for the indigenous flora and agriculture of the region (Karadağ, 2006) (Fig. 3). Darkale village is situated on the north skirt of the Kösedağ Mountain and the Tarhala stream, a branch of Bakırçay, passes by

Table 2 The distribution of the population of Soma according to years (TUIK, 2022)

	1950	1975	1990	2000	2010	2012
Darkale	577	555	427	178	150	136
Soma (Urban)	10.256	23.713	49.977	60.674	75.345	76.305
Soma (Rural)	20.222	21.810	26.664	28.364	26.879	26.361
Soma (Total)	30.186	45523	76.641	89.038	102.224	102.666

Fig. 3 The general view of Darkale rural settlement

it (Ergün, 1997:p.180). It was also called Cennet (Heaven) Stream or Bal (Honey) Stream in the past due to its taste (Altıner, 1937:p.17). The settlement is between two stiff rocky hills; Tuzluk and Asarkale. Between the two hills, there is a very narrow valley. So, the majority of the lands of Darkale are mountainous. There are also impressive megaliths known as Soma Sivrisi at its eastern plateau. These geographic formations are huge, sharp rock pieces.

Grain agriculture was carried out in the Karşıyaka (Bağarası) hillside located at the west of the settlement until the first half of the 20th century. The cherry, olive, pomegranate, and walnut gardens and, vineyards surrounded the agricultural fields. In addition, some of the females were working in the tobacco and cotton fields in Soma. Prairies suitable for cattle, sheep, and farming were at the end of the 20th century of the settlement.

1.2 Historical background

Darkale is in the antique Mysia region. Then, it was known as Trakhoula. In 185 BC, it was a terminal headquarters of the Kingdom of Pergamon (Ermiş, 2016:p.68). Trakoula was known as a town bishopry in 787 AC[5] (Ramsay,

4 According to the census of Soma dated 1927, 82.5% of the population lived in the rural areas and 17.5% of it in the urban areas (Karadağ, 2006). On the other hand, according to the census dated 2012, 75% of the population lives in the urban areas and 25% of it lives in the rural areas.

5 Although most of the spolia materials of monuments in Darkale were dated to the Byzantine period by art historians, no information on a religious structure such as a church or chapel could be found in the

1890:p.136). According to archeological remains belonging to the Byzantine Period (Ermiş, 2016:p.68), the first settlement of Darkale was located at the western hillside of Köseadağ Mountain[6] (Fig. 4). On the other hand, the hill skirt of Kösedağ Mountain served as agricultural areas, shrub lands and covered with Mediterranean woodlands in the Byzantine Period[7] (Etlacakuş and Hamamcıoğlu Turan, 2017:p.18). During the Emirates period, the place was known as Tarhala. It was an important center of the Emirate of Sarukhan and Karesi between the 12th and 14th centuries (Gökçen and Uluçay, 1939:p.23). Minareli Mosque and its vicinity may be the oldest portion of the village (Fig. 4). Although there is no inscription panel and information about its construction time, the architectural features point out that the mosque is the oldest among standing ones with its short minaret tower, square plan, and simple workmanship. Under the Ottoman rule, Tarhala was one of the *Hüdavendigar Liva*s between the 14th and 19th centuries. In the second half of the 16th century, Tarhala became the center of *kaza*[8] (Osmanlı Arşivi Daire Başkanlığı, 1995:p.26–27), and its surface area reached its largest limits, and it became the center of cotton agriculture (Günay, 2006:p.119). Tarhala was famous for its sumach, oat, barley, wheat, rice, and cotton. In addition, a *Tahunhane*[9] was set up by Murat III at Tarhala in the 16th century (Gökçen, 1946:p.221). There was also an open bazaar and olive oil mill in the settlement. In addition, although there is not any trace today, it is known that there was a *bedesten*[10] on the Soma-Darkale Road near the Bath (Arel, 1992:p.121). The existence of a *bedesten* proves that Darkale was an important commercial center. Leatherworking was the main source of income, and it is thought that there were tanneries located near the Kırkoluk square by the stream (Altıner, 1937:p.16; Arel, 1991:p.8). This information was also supported in the interviews during the fieldwork. In this century, the settlement expanded and most probably reached its present borders (Fig. 4). Pastures for livestock farming and shrub lands and olive yards are located at the outer ring of the site (Etlacakuş and Hamamcıoğlu Turan, 2017:p.20). In the second half of the 16th century, the criteria for positioning settlements changed: accessibility became more important than safety and health requirements. So, Tarhala lost its significance in the 17th century and the center of *kaza* shifted from Tarhala to Soma center, which was on the neighboring plain. After the 18th century, Tarhala became a village of Soma province (Günay, 2006:p.115). Soma province developed as a result of lignite mine production (Karadağ, 2006:p.33). After the proclamation of the Republic, Soma has become a province of Manisa. Tarhala continued to be a village of Soma province. The population of villages in Soma has decreased year after year because of migration[11].

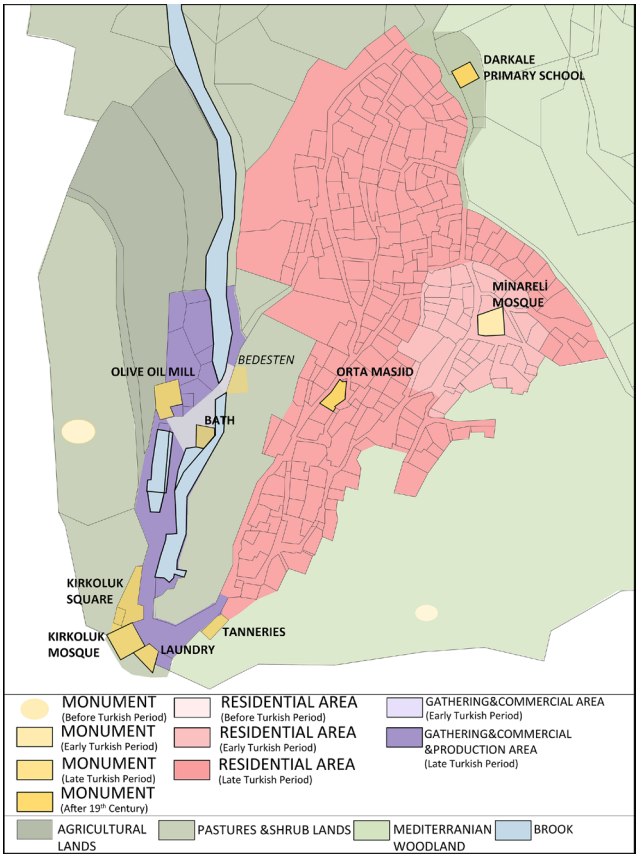

Fig. 4 Historic development map of Darkale

Immigration to cities and abandonment of the rural settlement due to mining becoming a major profession gave way to a lack of maintenance and running of housing units. Moreover, most agricultural areas were abandoned, and they were converted into Mediterranean woodlands and pastures.

Darkale was listed as a heritage site in 2012. The listing status is urban site since the Conservation Law does not

studies concentrated on this period or field surveys.

6 For dating of different portions of the residential area in Darkale, see Etlacakuş and Turan, 2017.

7 It is hard to decipher historical development of that time because there is no archaeological research started yet in Darkale and near environment.

8 It is an Ottoman administrative unit consisting of different *nefs*.

9 A mill in which oil was extracted from sesame.

10 *Bedesten* was built for sale of valuable goods that generally had rectangular plan and covered with domes.

11 The demographic information is not available for the present borders of Darkale before the being a village of Soma province.

include the rural settlement concept (Eres, 2013:p.443). Most of the authentic houses are listed (82 out of 133). At the same time, the archaeological areas surrounding the settlement have been listed as 1st and 2nd degree archaeological sites.

Starting with 2010, non-governmental organisations developed projects for the preservation of Darkale. Furthermore, Darkale village takes attention to its unique and picturesque features from universities and tourists. The landscape in the vicinity of Darkale is an attractive place for natural sports.

2 Darkale rural settlement

The valley, which is very narrow and dimly lighted; the picturesque fields and gardens around the brook, prairies surrounding them, steep hill skirt viewing the Bakırçay plain, and megaliths jutting out from this landscape are the tangible natural features that make Darkale unique. The sound of water running from the brook and the fountains by it, the dimness of the valley contrasting with the brightness of the hill skirts, feeling of coolness in all seasons are sensory experiences specific to Darkale. The settlement consists of the public area along the brook-valley system at its west and the residential area positioned at the hill skirt of Kösedağ Mountain with a terraced layout benefitting from the steep inclination (25–45%). The monuments situated along the brook make use of water in various ways: watermills, tanneries, the laundry, the bath, and the fountain (Fig. 5). The country road from Soma runs along the brook, passes by the bath ruin, *bedesten* remain and production buildings: it reaches the Mosque, fountain, storage spaces and the coffee house around the square.

The residential area comprises of 133 housing units, Minareli Mosque (14th century), Orta Masjid a praying space converted from a traditional house, Darkale School (1935), and fountains (Etlacakuş, 2015:p.52). The distribution and location of the fountains suggest that they were fed by the water coming from the mountains. The winding paths between them are narrow and steep. Independent barns and storages in the settlement are at the upper and lower borders of the settlement.

Household production with the collaboration of neighbors takes place on the streets between houses and around

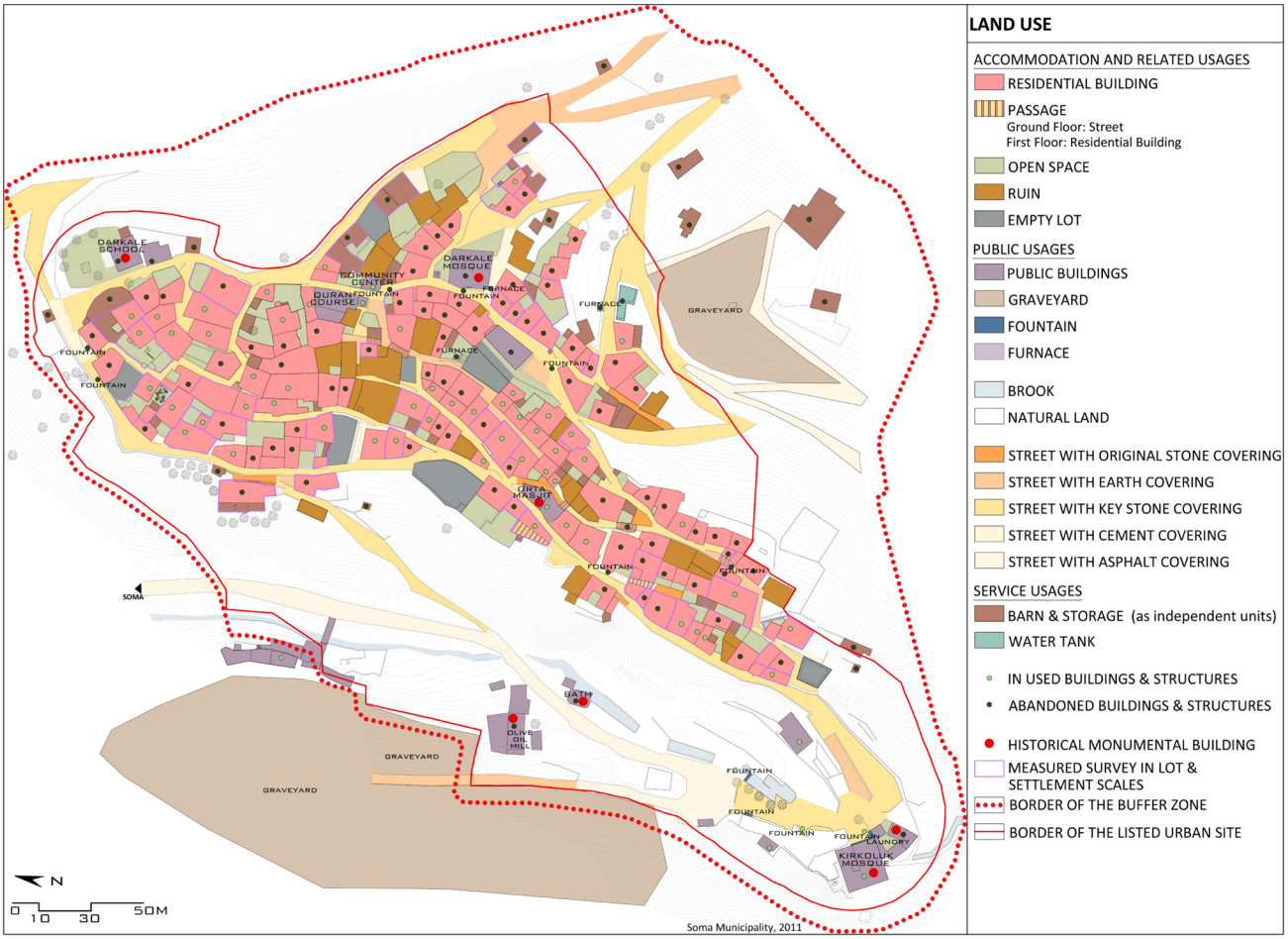

Fig. 5 Land use in Darkale

the public ovens (Fig. 6(a)). *Bastı*[12], *Çene çarpan* soup[13], *çığırtma*[14] and *kabartlama*[15], pomegranate juice and syrup, olive oil soap production and point lace are some of the home-made products. Until the 1980's, ice cream was made in Darkale. During winters, snow was stored in the snow wells (Fig. 6(b)). It was covered with raw pinecones which prevent melting, and it is the only natural way of making ice cream. In summer, the snow in the well was cut and taken out by saws and brought out in large pieces. These snow pieces were used for making ice cream. Although animal husbandry is rare, it is continuing in the pastures and shrub lands only for family needs and there are generally domestic fowl raising on the ground floor and courtyards.

Fig. 6 (a) Cuisine tradition in the public activity area, (b) a snow well

3 Darkale houses

In its simplest form, a Darkale house is composed of an elevated *Hayat*[16] with vista of the valley and a multi-purpose room accessed from it. The base is partially carved into the bedrock. Masonry walls (70–80 cm in thickness) are constructed with rough-cut stone blocks and rubble stone blocks of various sizes and made out of limestone, slate stone, and pieces of brick. Cut stone blocks reinforce the walls at their corners. rest on the rock (Fig. 7(a)). These stones are generally obtained from the rocky land and also the brook. Reused materials are also observed in the walls of the buildings (Fig. 7(c)). These antique materials bear traces of the previous civilizations settled in Darkale Village. The vista façade is out of timber frame and without any infill. The partitioning walls, 18–25 cm in thickness, are also timber frame without infill (Fig. 7(b)), but they are finished with wood lath, plastering, and whitewash. This wall technique is known as "*bağdadi*". Its representatives date earliest to the 18th century (Kuban, 1995:p.245).

In the 1930s, the majority of roofs were earth covering (*huruç*) (Altıner, 1937:p.17). The roof of a house at a lower position used to serve as the terrace of the upper house. It was laborious to maintain these roofs which had to be compressed with a cylindrical stone, "*loğ taşı*" after rains and snows[17] (Fig. 8). Many were renewed with tile coating.

Fig. 7 (a) Housing unit with hybrid construction technique, (b) timber frame and timber lath construction system, (c) reused materials on the exterior wall of the housing

Fig. 8 A terrace roof finished with earth

Today, terrace roofs covered with earth are observed very rarely in the settlement.

The land use and lot organizations of housing units in the settlement have been formed according to these geographical characteristics of the village. The primary criteria considered in the design of a Darkale house are security, orientation to vista, and utilization of the limitations

12 A type of bread.

13 A soup made with green lentils and homemade macaroni.

14 A dish made with fried eggplant and tomatoes.

15 A dish made with dough and yoghurt.

16 *Hayat* is a semi-open space on the first floor. It is for living and circulation.

17 The grooms were expected to present their skill in maintaining roof prior to the wedding ceremony. After a groom completed compressing the roof of the house of his father-in-law, he could join the feast (Altıner, 1937:p.17).

of topography in the most beneficial way. The average lot size is approximately 100 m^2. The smallest lots (27–59 m^2) are generally located close to the Minareli Mosque. This area is the steepest portion of the residential areas (~29%). The houses here are positioned in a compact manner: most of them consist of only a single mass and no open space (Fig. 9, Fig. S1). Here, the examples of the earthen roof are more in number compared to other zones.

In relatively less inclined portions (22%), the street passes through the house mass, dividing the ground floor into two portions (9/133) (Fig. 9). This design feature contributes to the overall integrity of the fabric by interweaving streets and houses (Fig. 10(d)). These residential buildings have larger lots than the vicinity of Minareli Mosque. When it is possible to organise a courtyard or a garden, it is small (22–76 m^2) and never larger than the coverage area of the house (Fig. 9, Fig. 10(b)). In a limited number of developed examples, there are annexes by the courtyards (Fig. 9, Fig. 10(c), Fig. S2). It is observed that these houses have the largest lot size (140–290 m^2). They are located towards the brook-valley system or at higher altitudes of Kösedağ Mountain where the slope is the least (~2%). There are also independent gardens (22–278 m^2) within the fabric. They provide vegetables and fruits to the inhabitants living nearby. Some of these gardens are empty lots of ruined houses.

Most of these housing units flank one another: A house often juxtaposes others on its sides (Fig. 11). The independent units documented at the borders are interpreted as late constructions added to the tightly interwoven fabric (Fig. 11). A Darkale house is a generally composed of a single mass (78 of 133) (Fig. 9, Fig. 10(a)). This is different from the other representatives of the typology in which courtyards and service buildings are common[18].

There is also vertical interaction between houses, resulting in courtyards that are accessible by both units, (Fig. 12). Altıner (1937:p.20) mentioned sharing of these courtyards by the related neighbors, but an old male inhabitant[19] stated that these courtyards are divided into pieces and no more shared. In Darkale, vertical interaction between houses (12 of 133) and also houses and streets (9 of 133) is possible (Fig. 13). The interaction of houses and streets is generally limited to horizontal relations in other Anatolian settlements[20].

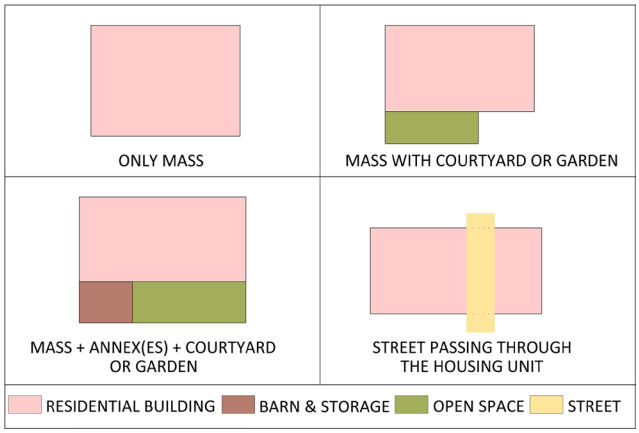

Fig. 9 Lot organizations of Darkale houses

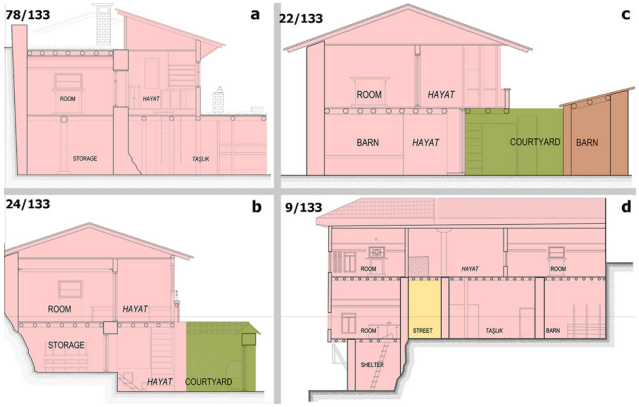

Fig. 10 (a) Only main mass, (b) main mass courtyard or garden, (c) main mass annex(es) and courtyard or garden, (d) only main with a mass passage over the street

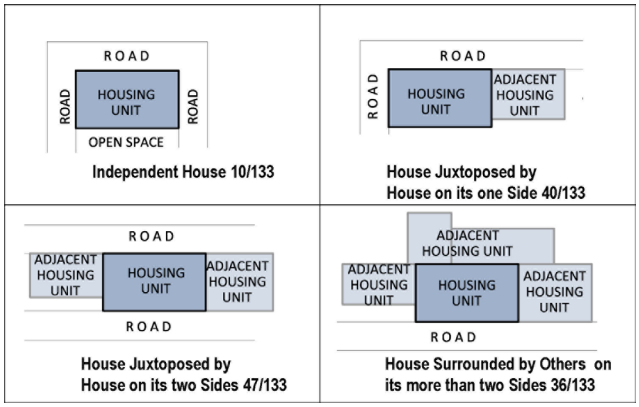

Fig. 11 Horizontal interaction between houses

The majority of the houses are two-storied (99/133): services on the ground and living spaces on the first floor (Fig. 14, Fig. S1, Fig. S3). A partial basement (6/133) is provided when the inclination is very steep (Fig. 14). This serves as a barn, which is entered from a lower street. The third storey is constructed, when the second lacks vista (18/133). *Hayat* is positioned in the most elevated position with the best vista. Even if the house is single-storied (7/133), it rests

18 Birgi Village (Kula, Manisa), Cumalıkızık Village (Yıldırım, Bursa) Çomakdağ Village (Milas, Muğla).

19 Interview with old male inhabitant, 25 May 2014.

20 Göynük Village (Çobanlar, Afyon), Doğanbey Village (Söke, Aydın), Beğiş Village (Korkuteli, Antalya).

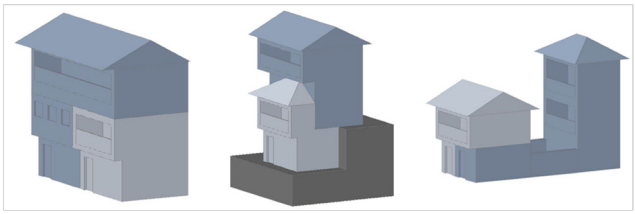

Fig. 12 Schematic 3D drawings of vertical interactions between houses

Fig. 13 View of passages of Darkale

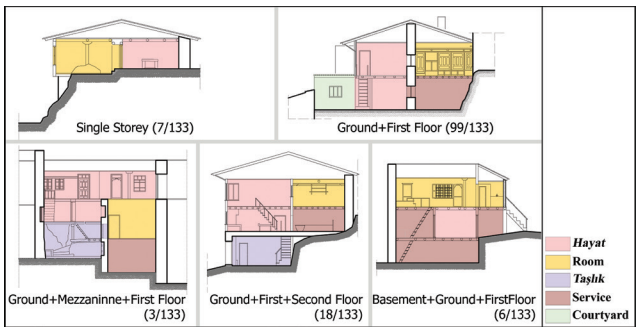

Fig. 14 The storey system of Darkale houses

on a blind masonry base (Fig. 14, Fig. S2). Then, the rear portion of the house has direct access from the street and has the services.

The most important criteria affecting a façade organization are opening the vista and receiving sunlight. Thus, the authentic facade organization is formed by the rhythm created by the timber posts in the *Hayat* which elevated a sturdy base. Timber lattice can be observed between the timber posts. The rooms of the first floor also have rhythmic top and bottom windows with lattices and shutters (Fig. 15(c)). Fountains carved into the base (Fig. 15(a)), *Kalem işi* below the wide eaves (Fig. 15(b)), brackets supporting the first floor and are some other façade elements (Fig. 15(d)).

The service spaces, which are generally on the ground floor (109/133) are *Taşlık*[21] and *mağazas*[22] (Fig. 16). The entrance from the street is to the *Taşlık*. There is rarely a second entrance leading directly to the service spaces (17/133). *Taşlık* is generally dimly lit and ventilated

Fig. 15 (a) Fountains carved into the base, (b) *Kalem işi* below the eaves, (c) lattices, (d) brackets supporting the first floor

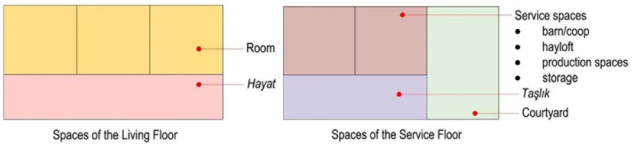

Fig. 16 Schematic drawings of the typical living and service floors of a housing unit

Fig. 17 (a) Spatial organisation of *Taşlık* space, (b) a *Taşlık* including barn, (c) toilet, (d) fireplace and basket

through the staircase leading to the upper story's porch (Fig. 16, Fig. 17(a)).

In the *Taşlık*, a fireplace, fountain, basin, manger, and a large basket are provided for daily cooking, washing,

21 An entrance space paved with stone.

22 Service units entered from the *Taşlık*.

feeding, and processing of fruits, etc. *Taşlık* is rarely semi-open and entered from a courtyard (Fig. S4).

A gate provides entrance to the courtyards, which are enclosed with high walls. Then, the architectural elements stated for *Taşlık* are placed here by flower beds and fruit trees. So, the daily cooking and washing activities take place in this zone.

The *mağaza*s flanking the bedrock and accessed from the *Taşlık* receive almost no daylight. Oil lamps were used for lighting. They could be used for sheltering animals (52/91) (Fig. 17(b), Fig. S5), processing fruits (16/91), and storage (18/91). In addition to a toilet (Fig. 17(c)), niches, and cupboards, there is a manger, fireplace (Fig. 17(d)), or a basket in the *mağaza* (Fig. 17(d)) respectively.

The major living space is *Hayat*: a porch at the vista façade of the living floor (Fig. 18(a), Fig. S3). It is accessed from the *Taşlık* through a flight of stairs (Fig. 18(c), Fig. S1). Wooden screens at the sides provide privacy. A fireplace, *köşk*[23] (Fig. 18(b)), *sedir*[24], built-in cupboards, niches, *tahtabaşı*[25], counters, chests, an *abdeslik*[26] (Fig. 18(d)), and wooden ceiling decoration enrich the *Hayat*. Its authentic semi-open quality was preserved only in one third of the houses: 42/133.

The rooms entered from the *Hayat* receive only indirect daylight from the *Hayat* (84/97). In addition to the interior elements stated for *Hayat*, a *gusülhane*[27] (Fig. 19(a)) is hidden at its corner. The rooms are for both living and sleeping. According to the interview with a middle-aged female inhabitant, the wealth of the owners was evident from the amount and quality of the items presented on their *tahtabaşı* (Fig. 19(b)). The rooms are enriched with fireplaces (Fig. 19(c)), *sedir* (Fig. 19(d)) cupboards (Fig. 19(e)) and counter (Fig. 19(f)). Sometimes (7/93), a smaller storage space may be accessed from the room. Rooms may be used for storage of mats, fruits, etc. The floor and ceiling of all of the rooms are covered with timber.

4 Typology

The *Hayat* house, composed of multipurpose rooms and a semi-open communal (*Hayat*) space between them

Fig. 18 (a) The view of *Hayat*; (b) a *Hayat* including *köşk*, (c) staircase and its shutter, (d) *abdeslik*

Fig. 19 (a) A room including fireplace, (b) *sedir*, (c) cupboard, (d) *tahtabaşı*, (e) *gusülhane*, *sedir* and *tahtabaşı*, (f) counter

(Küçükerman, 2007:p.59), is represented widespread in different geographies of Anatolia: Kastamonu (Eyüpgiller, 1999), Safranbolu (Günay, 2004), Kula (Çil, 2008); Birgi (Diri, 2010), Mudurnu (Yıldırım, 2011), Lübbey (Güler, 2016), Bayındır (Akyüz Levi and Taşcı, 2017), Kadıovacık (Akış et al., 2013), Gölde (Eken and Kul, 2021), Kırklareli (Gençer and Yüksek, 2022).

In the previous classifications, the positioning of the *Hayat* was often considered[28] (Eldem, 1954). Darkale houses present three variations in terms of the positioning of their *Hayat*s: linear *Hayat* by the room series, *Hayat* terminated with a kiosk or main room, and central *Hayat* (Figs. 20 and 21). Service floors are not taken into consideration generally in the previous studies since there are many variations in their organizations (Eldem, 1954; Küçükerman, 2007; Kuban, 1995) but it is possible to classify Darkale houses in terms of the light and ventilation quality of their main service space: totally enclosed space,

23 The timber architectural element for sitting which is the elevated sitting platform and is higher than floor's level. It is generally located at *Hayat*.

24 The timber architectural element for sitting and/or sleeping which is the elevated sitting platform and is higher than floor's level.

25 The timber shelves surrounding the room above windows.

26 The counter located at the *Hayat* space used for ablution.

27 The bathroom section with the closet system in the room itself.

28 First Eldem (1954) suggested a classification based on positioning of the communal space on the elevated floor. However, examples from rural settlements were not focused on, but mainly those in urban sites were considered; eg. Istanbul mansions.

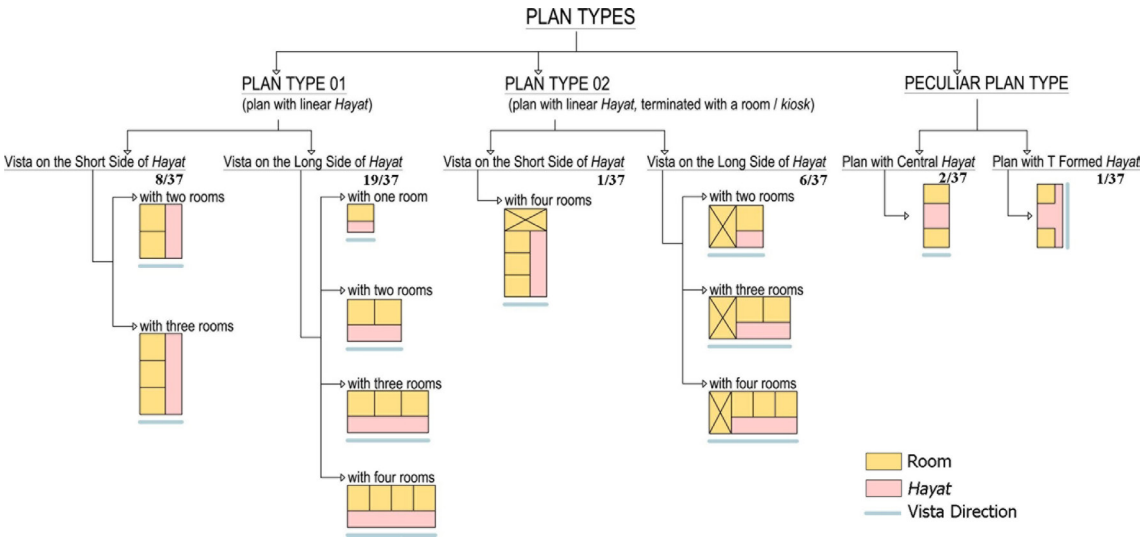

Fig. 20 The diagram of the housing typology

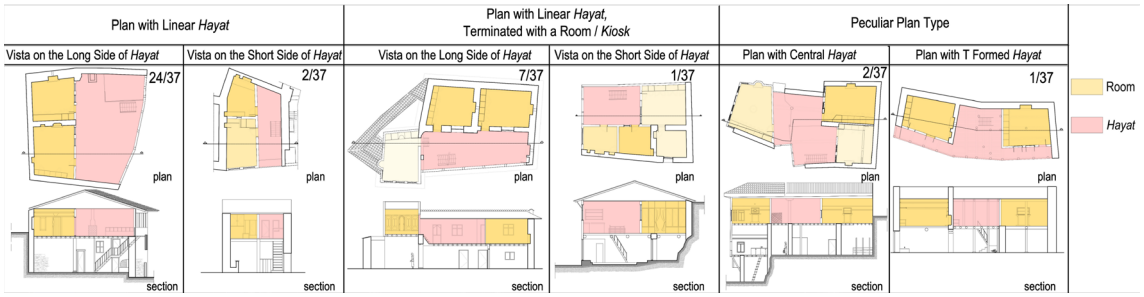

Fig. 21 Spatial organisations of living floor

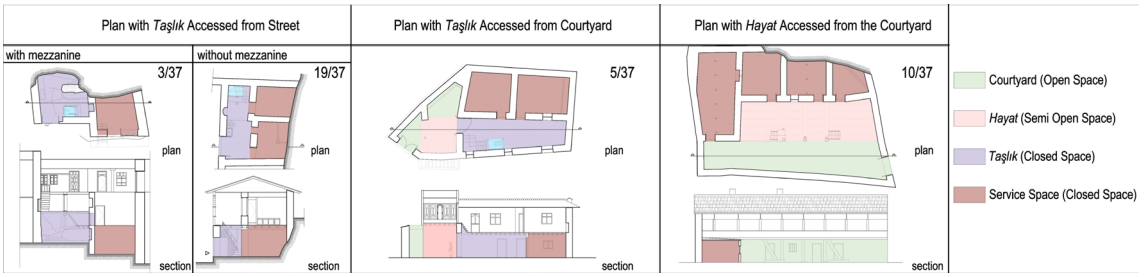

Fig. 22 Spatial organisations of service floor

open, semi-open, closed service spaces (courtyard, *Hayat*, *Taşlık*), and half open-half semi-open space (courtyard and *Hayat*) (Fig. 22).

The construction technique in Darkale houses presents unity. All of them are masonry excluding the vista facades of the living floors and the courtyard facades of semi-open *Taşlık*s. This is in parallel with the steepness of the hill skirt. It is different from the overall tendency in other *Hayat* houses: Their bases are masonry, while the upper floors are timber frame, excluding the service wall with the fireplaces and *gusülhane*s[29].

The evolution of the roofs from terrace roof finished with compacted earth to hipped roofs finished with over and under tiles shows parallelness with other *Hayat* houses Anatolia[30].

5 Alterations

Darkale rural settlement is reshaped in parallel with the changing social structure, increasing demands for better health and education services and contemporary standards ascending migration to Soma center and metropolitan cities nearby. The young population in the settlement has decreased over the years. As a result of the changing

29 Birgi Village (Kula, Manisa), Çomakdağ Village (Milas, Muğla), Kütahya, Kırklareli.

30 Babadağ Village (Denizli), Lübbey Village (Ödemiş, İzmir), Kula.

lifestyle, the settlement is exposed to socio-economic and physical changes. The basic socio-economic change is an abandonment of traditional rural activities and the promotion of mining[31]. In addition, the transformation of the socio-economic life causes a decrease in quantities of agricultural areas. The physical changes are the construction of unqualified mass additions such as storage, kitchen, and wet spaces to meet contemporary necessities, and the degradation of structures due to the lack of maintenance giving way to voids contrasting the authentic solid-void organization pattern. Even though the rural settlement preserves its overall authenticity and integrity, when these features of the settlement are compared with those of the previous century (Fig. 23), the differences in the homogeneity of the built areas and their authenticity are distinguishable (Fig. 23). In addition, the loss of liveliness in the residential area and agricultural areas ruin the spiritual integrity of the settlement.

The spatial organization of houses has been altered: 13 of 37 (Fig. 24). The alterations of houses, e.g., mass additions and the functional transformation of spaces are observed frequently. The most common addition type is the mass addition near the housing units for service necessities (Fig. 24(c)). Moreover, the additional timber or brick walls or glass panels to close *Hayat* is another addition type (Fig. 24(a)). The conversion of the function of the spaces is often observed; part of *Hayat* or *Taşlık* spaces are converted into a room or rooms, room is converted into a kitchen or service space, and service spaces are converted into rooms (Fig. 24(b) and (d)).

Fig. 23 The 2015 view of the historical residential area

Fig. 24 (a) The conversion *Hayat* into a room, (b) the conversion semi-open *Hayat* into closed space with additional timber wall, (c) mass addition for service necessities, (d) the conversion room into a kitchen

6 Discussion and conclusion

The earliest portion of the settlement is around the Minareli Mosque. The houses are composed of a single mass. They are adjacent to each other and have relatively smaller lot sizes. In the progress of time, the expansion of the settlement took place towards the brook-valley system in the southwest. The earliest residential area around the oldest mosque of the settlement with organic formed, dense lot organization has been recorded in other rural settlements of Anatolia: Çarşı neighborhood in Kula, Manisa province (Çil, 2008:p.285), the neighborhood around the Great Mosque in Birgi, Ödemiş (Diri, 2010: p.33) and the vicinity of Dereuzunyer Mosque in Dereuzunyer village, Ödemiş (Güler, 2016:p.165), the neighborhood around Great Mosque in Muğla (Akçura, 1993:p.246).

The housing units are the primary components of the rural settlement. They are characterized by living floors in piano nobile character and oriented to the vista, and service floors on the lower level. These are typical characteristics of the *Hayat* house. Darkale houses have some peculiarities: the steepness of each lot due to the limitations of the deep valley and the steep rocky terrain, very close relations with neighbors, rare presence of courtyards. The houses in Aydınlar village in Denizli are similar to Darkale houses in terms of their location on the steep hillside and their earth-covered terraces and their relationship with each other in the third dimension (Akyüz Levi, 2009:p.167). The lots of the houses around the Ulu Mosque, which is thought to be the earliest settled portion

31 Unfortunately, 301 people lost their lives because of the underground mine fire on 13 May 2014 in the Eynez mine, Soma, which was the worst mine disaster in Turkey and also in 21st centuries history. After these bad experiences, starting with Eynez mine, totally 94 mines were closed by the Ministry of Labour and Social Security, and Ministry of Energy and Natural Resources in Soma because of being vulnerable to occupational accidents. However, there are 11 mines in Soma and the local people continue to work in these mines.

of Muğla, are small and have limited open spaces (Akçura, 1993:p.249) like those in Darkale. The indispensable interaction with the rocks and the neighbor housing units have given way to another quality; timber frame utilization only at the vista facades and interior walls of the upper floors.

Rural residential buildings cannot be conserved by taking into consideration housing units alone. The rural settlement elements that are part of traditional life such as snow wells, neighborhood ovens, fountains, and communal gardens should also be kept alive.

The result of this study is that the most crucial conservation problem in the rural settlement of Darkale is the shift of the main source of income from agriculture to mining due to living conditions. This caused both the village to be abandoned and neglected together with its landscape.

The need for holistic preservation for the sustainability of rural areas draws attention in Darkale as well. The issues specified in the international regulations on rural settlements should also be fulfilled in Darkale.

Furthermore, Darkale rural houses can be conserved if education and health services are improved in the village, migration is minimized, agriculture is promoted, and mining activity is realized in a limited amount.

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