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# The Typological Analysis of Alanya Rural Houses; In Terms of Architectural Elements

Ercan AKSOY[1,*], Özlem SAĞIROĞLU[2]

[1] *0000-0001-7632-9257, Department of Architecture, Faculty of Architecture, Gazi University, Ankara, Turkey*

[2] *0000-0001-6708-3208, Gazi University, Faculty of Architecture, Department of Architecture, Maltepe 06560, Ankara, Turkey*

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**Abstract**

Traditional rural houses reflect architectural elements of a region in the simplest form. In this context, this study aims to document and reveal the typologies of the construction systems and door and window formations of the traditional buildings in rural Alanya, Turkey. It is of importance to document the wooden elements that deteriorate rapidly and ensure the continuity of the architectural elements of the region. For this reason, 395 buildings in 68 villages were analyzed, their door-window types were identified, and typologies were revealed. In addition, similar studies conducted in nearby regions were screened to reveal similarities and differences. In this way, the knowledge of the architectural features of the region will be protected.

## 1. INTRODUCTION

Rural architecture is only developed according to need with the premise effect of the production dynamics of society. These houses, which are made as required by the need and necessary features, have been constructed by combining the material obtained from the immediate environment with the least effort in the most appropriate, durable, and economical way. This architecture, which is compatible with environmental conditions and takes maximum advantage of these conditions, also demonstrates the best solutions that protect the natural landscape and topography. These structures and textures that have been perfected over the centuries are important in a multidisciplinary context, as they contain many data about users, as well as social, sociological, religious data, as well as data on construction technology originated on tradition.

Although they contain a lot of cultural, social, and physical data, rural settlements, which have entered a cycle of differentiation and metamorphosis with the transformation of production dynamics in recent years, have begun to lose their document-worthy characteristics. Especially in areas of tourism, this seems to be happening much faster. Due to the rapid migration from rural areas to cities and the transition to new housing within the context of comfort conditions particularly, qualified rural housing is being abandoned, and these houses start to decay and collapse. In the houses that are not abandoned, however, the original plan scheme and qualified elements are deteriorated and destroyed for reasons such as making them suitable for comfort conditions and/or repairing/replacing them. This process can be due to the hard-to-find and expensive original materials, the inability to find a skilled foreman, lack of labor or unawareness, as well as the effort to use a short-term solution. However, these structures, which have become works of art in the hands of artisans, and achieved a refined technical and aesthetic perfection in every way over the centuries, are decreasing every day, losing their original features. One of the best examples of this case is rural housing in the Alanya district of Antalya. These structures are

* Corresponding author: ercanaaksoy@hotmail.com

now changing and deteriorating due to the negative impact of tourism, they lose their original features, and disappear quickly with the pressure of profit.
The study conducted in the Alanya district was discussed on a broad scale within the scope of determining the characteristics of rural architecture in a physical, social, cultural, and technical context and identifying the relationship of structures with the environment, topography, and landscape, as well as documenting problems, and exploring and proposing solutions in this regard. In this context, with the field study conducted between 2018-2021, all the 68 village settlements that were converted to neighborhoods by law No. 6360 were screened, 395 houses that preserved their original features were identified and detailed studies were carried out on each of them. Within the scope of this article, technical and physical properties and typologies of doors and windows are presented in the context of documenting the architectural elements that make up a small part of the study conducted. Since the typologies included qualified elements in the entire district, it is considered important to create a holistic resource for future restitution and restoration work.

### 1.1. Alanya District and its Features

Alanya district is a coastal settlement of Antalya province in the Akdeniz region. There is a peninsula with a steep slope in the south of the district, and Cilvarda Cape is located approximately 300 m in the southwest corner of the peninsula [1]. And in the north, the Geyik and Akçalı mountains, which are part of the Toros Mountains that reach 2500 - 3000 meters sporadically, form the border of the district [2].

Of the 175.6 hectares area of the district, 17% is agricultural land, 65% is forest, 12% is non-agricultural area, and 6% is meadows and pastures. Alanya is located in a very fertile region with its location, climate, and soil quality. Therefore, the plant species that grow are very diverse and are home to numerous endemic plants. Some of the higher parts of the district are maquis shrubland, and there are also forests of larch, cedar, and fir. In the lower reaches, Pinus brutia forests are dense [3]. Incekum natural park, Sapadere Canyon and Dimçayi national park are important natural habitats within the borders of the district.

It is not known when Alanya was first settled and by whom. However, in the literature, its first name is referred to as "Coracesium" [4]. In 1221, Sultan Alaeddin Kayqubad I changed the name of the city to "Alaiyye"; and, the name Alanya was given by Mustafa Kemal Ataturk, who visited the district in 1935 [4]. The states that ruled the region are as follows: Lydia (B.C. 700-546), Persian (B.C. 546-336), Hellenistic (B.C. 336-301), Selaukos (B.C. 301-188), Pirates Of Pamphylia (B.C. 180-65), Rome (B.C. 65-B.C. 395), Byzantium (395-1207), Seljuks (1085-1103, 1207-1221), Principalities and Kingdom of Cyprus (1308-1426) and Ottoman (1426 -) [5].

According to the address-based population registration system data of the Turkish Statistical Institute, the population of Alanya district in 2017 was 299,464 people in total. Looking at the data for the same year, the total population of 68 neighborhoods in the rural areas was 35172 people [6].

### 1.2. Characteristics of Qualified Rural Dwellings in Alanya

In the survey conducted in the area, it is seen that 4 of Alanya rural dwellings were the single floor, 384 were built as ground floor+1, 7 were built as ground floor+2 floors, and stone was used as a building material. Although the building foundations are usually the same thickness as the wall (about 60 cm), it was noted that the foundations could be made 15-20 cm wider in villages close to the quarry, as learned from the stonemasons [oral information - Ibrahim Sönmez]. Foundation depths are 40-50 cm on average. Gravel is laid under the foundation where there is no slope and on more hollow grounds (Figure 1a).

The walls were constructed using rubble stone in the ordinary masonry wall technique with beams. In some examples, hammer-dressed stones are used in corners. In the region, the distance between the beams was in the range of 60-100 cm. Mud mortar was used as a binder between the rubble stones. In a very few examples, the drywall technique is used, which is widely seen in the Akseki-Ibradi basin (Figure 1b).

Rubble stone masonry technique with beams was used on the ground floors of the buildings. The building walls are 60 cm thick on average. Since the ground floors are usually allocated for animals and storage functions, the wall space on the ground floors is very restricted. This plays an important role in keeping the interior of the space cool in summer and warm in winter. On the upper floors of the buildings, in addition to the technique of masonry of rubble with beams, wooden carcass walls filled with stone or brick are also seen. Although stone-filled carcass walls are rare, they have a thickness of about 20 cm. Carcass walls filled with brick were more preferred. Two qualified structures in the Türktaş village in the area have a carcass wall without filling in the timberwork technique. These structures were built by nailing and plastering wooden slats of 1.5-2.5 cm thickness and 3-5 cm width on wooden pylons at intervals of no more than 1-2 cm. This type of wall formation can only be seen in 2 structures in the village of Türktaş. These structures are also the largest and most qualified structures of the village (Figure 1c).

In some of the structures, it was possible to see the nailing technique created by using brick fractures between rubble stone decks (Figure 1d).

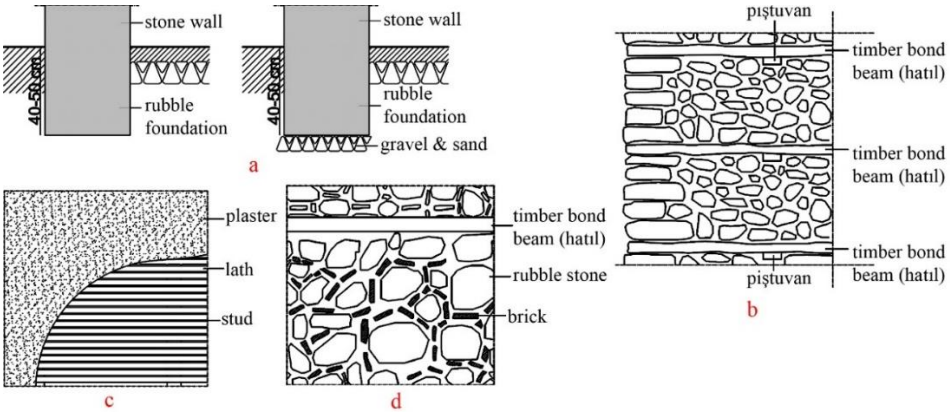


***Figure 1.*** *System details of traditional houses in Alanya's rural region ((foundation (a), drywall (b), timber-work (c) and nailing (d))*

In the buildings, it was found that the ground floor was formed in 2 ways. The first of these is based on leaving and compressing the soil in its natural state (Figure 2a), while the other is obtained by placing the slate stones with spaces (Figure 2b). The size of the stones varies between 5 cm and 80 cm, and they are obtained from the immediate environment. The laying of the first floors of the buildings was formed by covering the boast wooden beams with a diameter of 12-28 cm with wooden veneer boards (Figure 2c). The distance between the beams varies between 30-80 cm. From time to time, it is also seen that these floors are supported by wooden poles. In more qualified dwellings, the use of cladding boards on double rows of wooden beams is seen (Figure 2d). In this type of flooring, the beams in the upper row were spaced and thinner.

***Figure 2.*** *The flooring system of traditional houses in Alanya's rural region ((packed soil flooring (a), slate stone pavement (b), single timber cross-girder flooring system (c), and double timber cross-girder flooring system (d))*

The cantilevers in Alanya has diversified as corbels, open cantilever (gazebo), and closed cantilever (çağnışır) in qualified residences. The cantilevers are wooden with unique patterns, and the use of reinforced concrete or metal materials is seen in the replaced examples (Figure 3a).

In the survey in the area, it was found that they provide access to the upper floor from outside the structure in the villages of Türktaş, Mahmutseydi, Dereköy, Seki, Dimalacami, Beyreli, Bayırkozağacı, Karamanlar and Kayabaşı, and in other villages they were found to be located inside the structure. Due to the topography, there are also structures without stairs that provide access from different elevations. As part of the study, it was found that the stairs form two different types according to their position, and three different types according to their material. These types include stone stairs (Figure 3b), wooden stairs (Figure 3c), and mixed material stairs with 4-5 steps in stone and the upper part in wood (Figure 3d). Of the stairs, 95% is single-arm stairs, while 5% is of the "L" ladder-type and there is no use of stone stairs in the houses.

***Figure 3.*** *Example of cantilever (a) and types of stair (stone stair (b), wooden stair (c), mixed material stair (d)) of traditional houses in Alanya's rural region*

It was determined within the scope of surveys and oral information that the roofs of qualified dwellings in Alanya are made in the form of flat dam originally. However, although they are still qualified examples, the original hipped roof system is also seen quite a lot in structures built more recently. Most of the flat dam structures have been converted to a hipped roof over time, and a small number of original flat dam examples are seen in the area. Although very rare, gable roof formation is also seen in the region.

## 2. TYPOLOGY STUDY FOR ORIGINAL ARCHITECTURAL ELEMENTS

### 2.1. Doors

There is no courtyard or garden formation in any of the buildings in rural Alanya. For this reason, there are no garden gates. Since different doors are used for the barn and residential entrances, which show different characteristics, the doors were evaluated as barn doors and residential doors. All barn doors are outdoor doors, as doors are not internally in the barn sections. Residential doors are classified as external doors that provide entrance to the residence and internal doors that provide passage between rooms within the residence.

#### Barn Doors

Since the ground floors of qualified structures in the Alanya countryside are used as barns, haystacks, or warehouses, the doors of these spaces show different characteristics. Barn doors are single-layer and are constructed in the form of a rear-belted batten door. Made wide for comfortable passage of animals, the wing widths of these doors are 100-130 cm, and the wing heights are in the range of 160-230 cm. In the double-wing designs of the barn doors, the wing width is 70-110 cm, and the wing heights are in the range of 180-230 cm.

Barn doors can be single-layer and simple, as well as framed. In both types, the doors are formed by juxtaposing the 2-3 cm thick woods of 8-25 cm in width, and nailing the inner parts to 4.5-7 cm thick belts. There are also examples where nails can be especially desired to appear by making the nailing from the outer part, as well as nailing from the inner part. Doors can be formed using 3 belts horizontally behind them, including the lower, middle, upper parts, as well as without a belt in the middle and with

two belts, keeping the lower and upper belts close. There is no cross-belt use in either case. Sağıroğlu, Kınıklıoğlu, and Karayazı (2016) stated that the doors of the structures in Akseki, İlvat region have a similar feature and there is no cross belt.
Motifs were made on the front side of the door with slats 2-3 cm thick on the framed doors. However, these motifs were very simple, and those used vertically are positioned at the junction of the lower layer. Slats were used both in a simple way without processing, but in a slightly formed manner. Apart from these, no element of ornament was used on the doors.

There are barn doors with and without sills. The sills of the doors are formed with 1-2 rows of wooden planks. Their average height varies in the range of 8-18 cm (Figure 4).

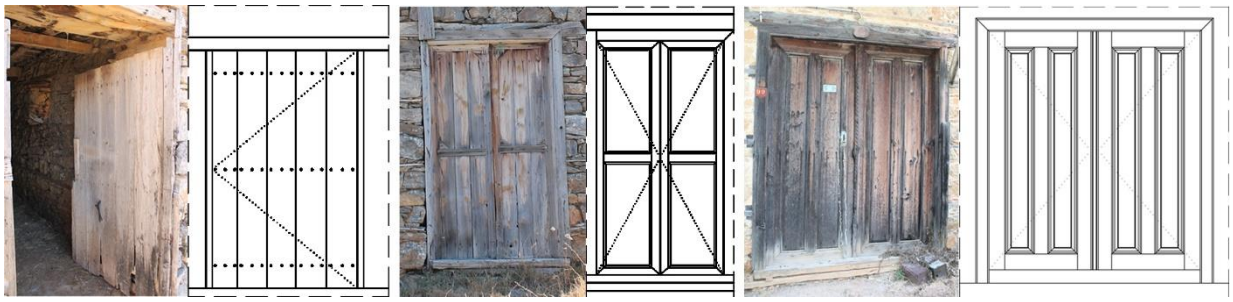

***Figure 4.*** *Types of barn doors of traditional houses in Alanya's rural region*

**Residential Exterior Doors**

Of the residences in rural area, the exterior doors are single (92.2%) or double-winged (7.8%). However, both types are seen in 2 houses with more than one entrance. The thickness of the wood in the entrance doors is in the range of 4-6 cm, the width of the door wings ranges between 80 and 110 cm in single-winged ones, and between 65 and 90 cm in double-winged ones. The height of the door wings was measured between 180 and 220 cm. Most of the exterior doors in the area are designed in paneled form. A batten door is rarely seen and accounts for 2% in the area. Paneled doors are simple and have different belt layouts. Geometric or plant motif decoration is not used on the entrance doors of the dwellings. Since an arched formation does not exist in this region in any way, all the door gaps are formed with wooden lintels in all villages. It is worth noting that only one residential entrance door has a veil panel (Figure 5).

***Figure 5.*** *Types of exterior doors of traditional houses in Alanya's rural region*

**Residential Interior Doors**

The interior doors of the houses in the Alanya countryside were made more elaborately. However, since they are rural housing, the decoration and motif are not very prominent. The use of double-wing doors outside the village of Türktaş is not seen in the interior doors. In Türktaş, double-wing doors are used in 2 large mansions. The internal door wings are 4-6 cm thick, 80-110 cm wide, and 170-220 cm high. Looking at all the structures in the countryside, panel and veil panel formations are seen on the doors only in 2 of the houses (Figure 6a). Veil panels are 4 cm thick on both doors. No material other than wood was used in the doors. Plant motifs are seen in 2 doors, one of which is a single wing and the other is a double-wing door (Figure 6b).


***Figure 6.*** *Types of interior doors of traditional houses in Alanya's rural region ((boarded interior doors (a) and floral ornamented interior doors (b))*

In the qualified residences in Alanya rural area, simple paneled doors were mostly used. In simple paneled doors, the number of compartments varies between 2-10. The belts separating the panels are both horizontal and vertical and their width ranges from 3 to 8 cm. Motifs and shapes were created by processing and carving on the upper panel on the doors, but the decoration was also made directly carving the lower panel. Although the doors are mostly used in plain form, they are also used by painting in different colors (Figure 7).

***Figure 7.*** *Types of simple panel doors of traditional houses in Alanya's rural region*

A small number of geometric decorations are also visible on the doors. Geometric decorations were carved or made with batten in a relief form. Two geometric elements were used as motifs in the decoration. The first of these is the rhombus. Another motif consists of rectangles terminated with a circle or semicircle. (Figure 8)

***Figure 8.*** *Types of geometric ornamented doors of traditional houses in Alanya's rural region*

***Table 1.*** *Doors typology of traditional houses in Alanya's rural region*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Barn Doors | Barn Entrance Doors | Single Door | Batten Door | x | | Boarded | - |
| | | | | | | Floral Ornamented | - |
| | | | | | | Geometric Ornamented | - |
| | | | Panelled Door | - | | | |
| | | Double Door | Batten Door | x | | Boarded | - |
| | | | | | | Floral Ornamented | - |
| | | | | | | Geometric Ornamented | - |
| | | | Panelled Door | - | | | |
| Dwelling Doors | Exterior Doors | Single Door | Batten Door | x | | Boarded | - |
| | | | | | | Floral Ornamented | - |
| | | | | | | Geometric Ornamented | - |
| | | | Panelled Door | Single Partition | x | Boarded | - |
| | | | | | | Floral Ornamented | - |
| | | | | | | Geometric Ornamented | x |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | Multi Partition | x | Boarded | - |
| | | | | | | Floral Ornamented | - |
| | | | | | | Geometric Ornamented | x |
| | | Double Door | Batten Door | x | | Boarded | - |
| | | | | | | Floral Ornamented | - |
| | | | | | | Geometric Ornamented | x |
| | | | Panelled Door | Single Partition | - | | |
| | | | | Multi Partition | x | Boarded | - |
| | | | | | | Floral Ornamented | - |
| | | | | | | Geometric Ornamented | x |
| | Interior Doors | Single Door | Batten Door | x | | Boarded | - |
| | | | | | | Floral Ornamented | - |
| | | | | | | Geometric Ornamented | x |
| | | | Panelled Door | Single Partition | x | Boarded | - |
| | | | | | | Floral Ornamented | - |
| | | | | | | Geometric Ornamented | x |
| | | | | Multi Partition | x | Boarded | x |
| | | | | | | Floral Ornamented | x |
| | | | | | | Geometric Ornamented | x |
| | | Double Door | Batten Door | - | | | |
| | | | Panelled Door | Single Partition | - | | |
| | | | | Multi Partition | x | Boarded | - |
| | | | | | | Floral Ornamented | x |
| | | | | | | Geometric Ornamented | x |

When the door types of the qualified dwellings are examined, it is seen that there are similar door types in all villages. However, the doors are classified according to their purpose of use, the number of wings, types, and number of compartments. It is possible to examine the doors as the barn and residential doors. Barn doors are arranged only as barn entrance doors, and residential doors are arranged as residential entrance doors and residential interior doors. Under the main headings, all doors are classified as single and double-wing doors according to the number of wings. Paneled doors show single and multi-compartment properties according to their number of compartments. All doors are also classified as doors with panels, plant motifs, and geometric motifs.

The entrance doors of the barns were made only as batten doors and there are no motifs. Both batten door and paneled doors are available at the residential interior and entrance doors. Residential entrance doors do not have single-compartment door types both in the double-wing and paneled doors. Similarly, no double-wing batten door and double-wing, paneled and single compartment doors were found in the residential interior doors. There are examples where geometric motifs are used in the single-wing and paneled residential doors. In the double-wing doors, however, the use of geometric motifs is observed in both batten and paneled doors. In the residential interior doors, the geometric motifs can be seen in the single-wing batten doors, and panel, plant motif, and geometric motif can be seen in the single-wing paneled doors. In the double-wing paneled doors, however, both a plant motif and a geometric motif element can be seen. (Table 1).

**Door Lock System: "Traka-Tıfraz"**

There is a lock system called 'traka-tifraz', which is used in all villages in the Alanya countryside. This system, especially used in barns, is a design that does not require keys. The system, consisting of a finger-wide hole opened to the case in the opening part of the door and a wooden and flexible pulley that holds the door is designed quite simply. The protruding notch formed in the wooden pulley prevents the door from opening, and the pulley is pushed by a finger through the hole to remove the notch behind the door in order to open the door (Figure 9a).

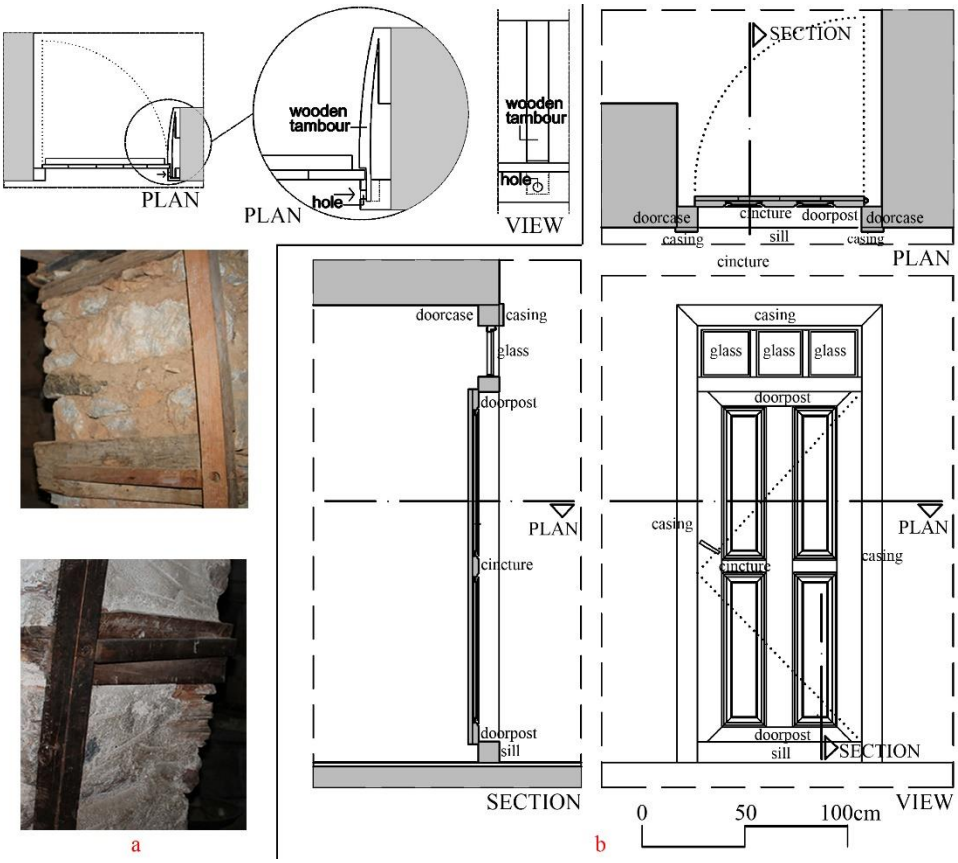


***Figure 9.*** *Door lock (a) and sample door details of traditional houses in Alanya's rural region*

As a result of the literature review, it was understood that the traka-tifraz lock system is used in Akseki, Ilvat Region [8] and Ürünlü village of Ibradi District [9] and Incirkiri rural settlement of Alanya district [10]. In this system, which is completely wooden, cedarwood is used, which can also be obtained from the immediate environment and is supposed to be used in dwellings [9]. In addition, it was found that this system is also used in the village of Gokyurt (Kilistra) in the Meram district of Konya [11]. Although it has been stated that the tifraz system is used on the doors of traditional residences located in the center of Alanya district and which are outside the studied area due to their lack of village status, it is stated and shown that this system is not mounted on the wall at waist level as in the countryside, it is mounted on the top of the door and runs upward [12].

## 2.2. Windows

The windows in Alanya rural buildings are divided into ground floor and upper floor windows in terms of quality and quantity. Since the ground floors are service floors, the window sizes are small, and the upper floors are larger since they are the living floors. Wood was used as material in all windows. Especially the use of the wooden networks is widely observed.

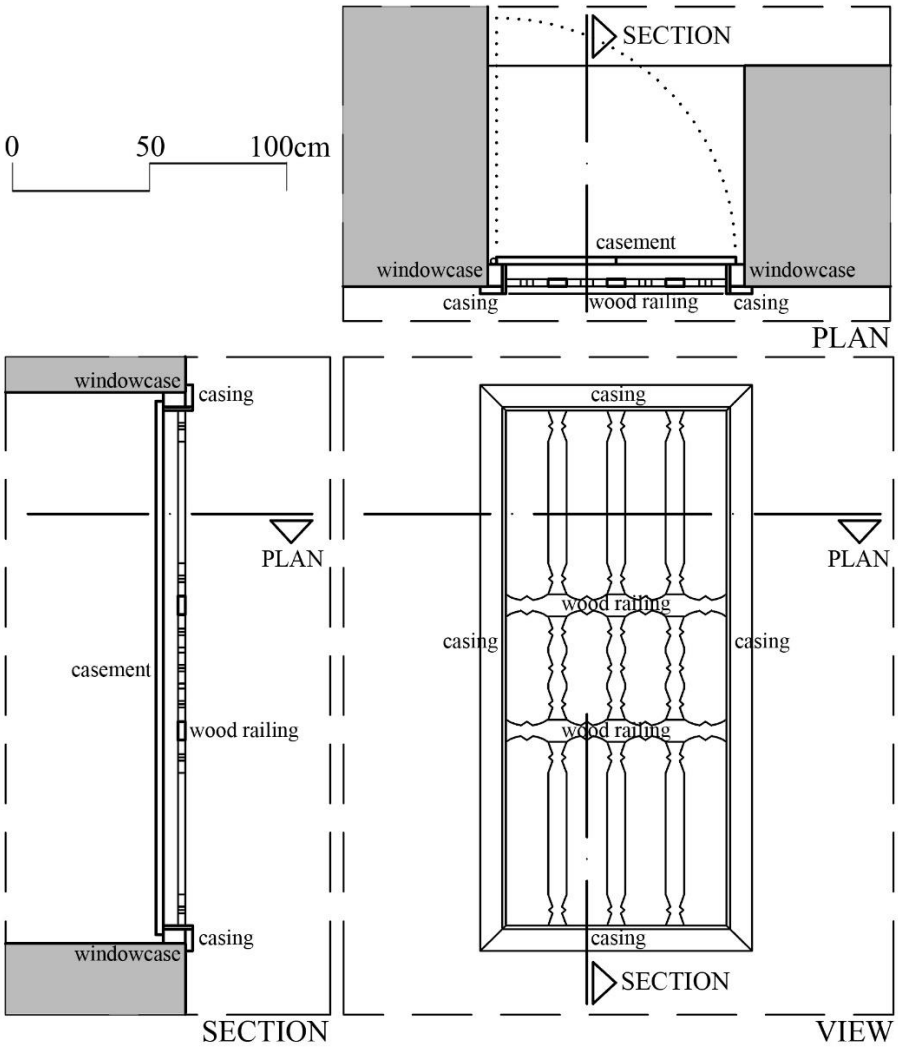


***Figure 10.*** *Wood railing window detail example*

## Ground Floor Windows

The windows of the places such as the barn, warehouse, and haystack belonging to the ground floor were made in very small sizes with a width of 40-70 cm and a height of 50-90 cm and were not closed with any joinery except 5 villages (Figure 11a,b). The only difference in this situation is the residences located in the village of Türktaş (Figure 11c). Since there is also residential use on the ground floors in the village of Türktaş, window sizes are large as on the upper floors. In the windows of the lower floor, a ratio of 1/1.2 and 1/1.5 can be seen in this village (Figure 11d,e). One residence has a 1/2 window (Figure 11f). The windows have wooden joinery and iron fence, and the shutters are on the lower floors, typical of this village. In the windows with wooden sashes, the sashes are located on the outer surface of the windows and the opening directions are also outward. Only Başköy has sashes that open inward. The sashes used are both batten and paneled, the thickness of those with batten sashes was 2-3 cm, and those with paneled was 4-5 cm thick.


***Figure 11.*** *Types of ground floor windows of traditional houses in Alanya's rural region*

In Alanya's qualified rural buildings, all the upper floor windows are wooden, with sashes (one, two, and three sashes) and guillotine formation. The windows were shuttered, and they have wooden networks with motifs in the original examples. However, in the late period, it seems that these networks were replaced by networks made of cast iron. The location of the windows is related to whether there is a furnace in the space. In spaces with a furnace, windows are usually located on both sides of the furnace, but single windows use is also available on one side of the furnace in a small number of examples.

**Guillotine Windows**

Guillotine windows are often preferred in rural Alanya dwellings. These windows have 1/1 and 1/2 aspect ratios and are made of wood. The joineries are divided into 2 (Figure 12a,e), 4 (Figure 12c,f), 8 (Figure 12b) and 16 (Figure 12d) glazed compartments. The window thickness is 4-5 cm and they are all single-layer glass. The lower part was used as a single (Figure 12a,e) or mullioned (Figure 12b,c,d,f), kept wider when mullioned. Large windows were preferred in the later period. Guillotine windows in the countryside could be used in plain form, as well as by adding iron bars in front of them (Figure 12a,c).

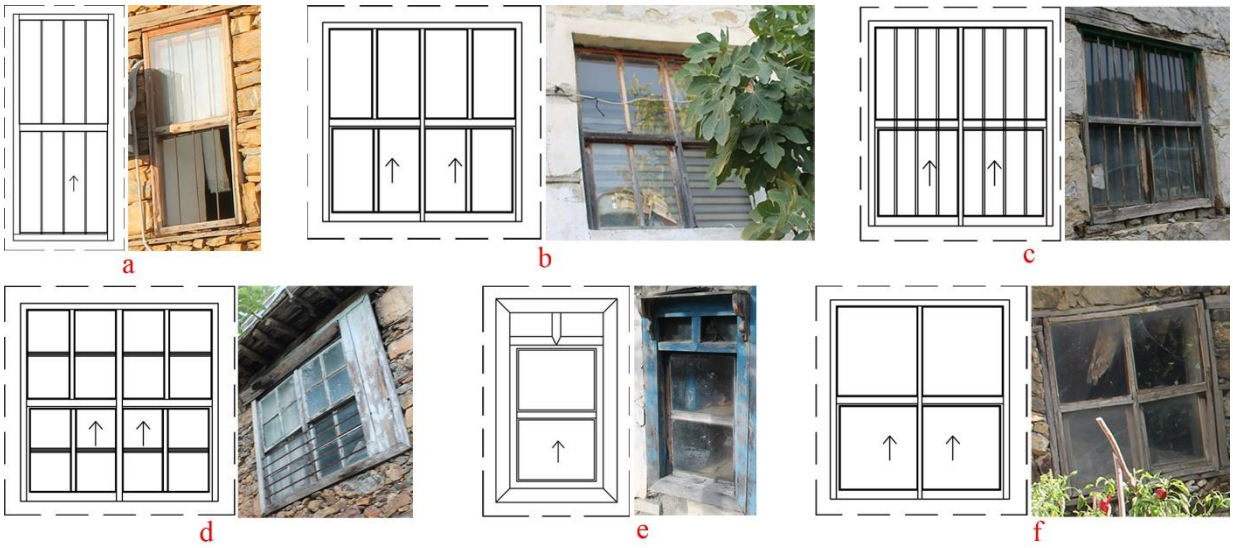


***Figure 12.*** *Guillotine windows of traditional houses in Alanya's rural region*

**Casement Windows**

Alanya qualified residences have single, two, and three sash windows. In the original examples, the windows were built without glass, only with a wooden sash (Figure 13). The oldest of these examples are single-sash glassless windows. Although there is a formation of double-sash windows without glass, this ratio is 8% for closed windows (Figure 13g). The window sashes are made as fastening (Figure 13c,d,f,g) by placing 2-3 cm thick boards side by side, but they are also constructed with 4-5 cm thick sashes in a paneled form (Figure 13a,b,e). There are carved single (Figure 13a,b) and double-compartment panel planes (Figure 13e) on the sashes, which are made in a simple paneled form. The sash ratios are 1/1, 1/1.5, and 1/2, and very few examples have iron (Figure 13f) and wooden fences (Figure 13a) in front of them. In this type of window, the sashes are opened inward and have a width of no more than 75 cm.

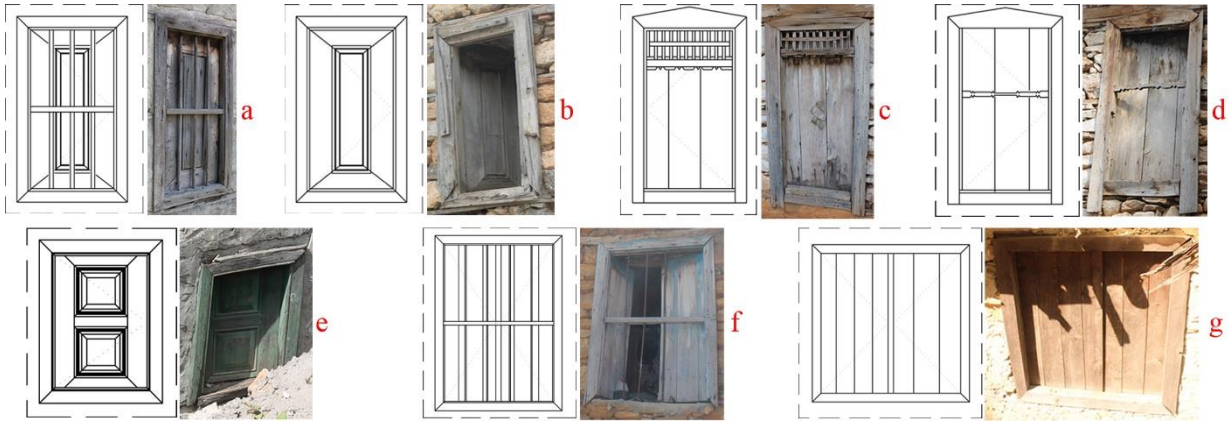


***Figure 13.*** *Gapless casement windows of traditional houses in Alanya's rural region*

Another closed type window seen in the countryside is glassless windows with a skylight on them and these skylights consist of 2 (Figure 14b,c,d) and 3 sections (Figure 14a). This type of window can also have single (Figure 14b,d) and double sashes(Figure 14a,c), the sashes have 1 or 4 compartments, and can be both batten (Figure 14c) and paneled type (Figure 14a,b,d). Paneled ones have a transom (Figure 14a,d), which is decorated directly with carving (Figure 14b), and their thickness is 3-5 cm. Window proportions are 1/1, 1/1.2, or 1/1,5, but the skylight can either be glassless and empty (Figure 14b,c,d) or glazed (Figure 14a).


***Figure 14.*** *Gapless casement windows with skylight of traditional houses in Alanya's rural region*

In qualified residences, glazed windows were made as single, double, and triple sashes. Although there is only one type of window with a single sash and glass, the number of other types is large and they are found in all villages. The glasses inside the single sash window are square in shape and cover 1/6 of the window surface area (Figure 15a). The aspect ratio of this window is ½. The thickness of the wood forming the sash in this window type is 4 cm. In front of this window, there is a balustrade formed by nailing to the window sill intermittently with a thickness of 3-4 cm, which reaches half of the window.

The most common form of glazed windows is the double sash type. The ratios of double sash windows include 1/1, 1/1.2, 1/1.5 and 1/2 (Figure 15b,c,d,e,f,g). Although they are mainly 4 compartments (Figure 15b,e), there are also 6-compartment types (Figure 15b,g). Window decking thicknesses vary from 4 to 6 cm. The windows sill ratio is 50%-50%. In addition, iron fences were also frequently used in double sash windows (Figure 15b,c,d). The distance between iron bars varies between 10 and 15 cm, and they are vertically oriented. There are also examples with a double-sash window and a fixed skylight on it (Figure 15d,f). In this case, the skylight dimensions were kept low and decorations were added.


***Figure 15.*** *Single and double casement glazed-windows of traditional houses in Alanya's rural region*

The largest of the sash windows are those with 3 sashes (Figure 16). Although this type of window has limited varieties, they were widely used. Windows of this type were made or added in later periods. These windows are designed as 6 (Figure 16b) or 9-compartment windows (Figure 16a,c). In those with 9 compartments, the glass shapes are square, while in those with 6 compartments, the glasses are rectangular. The window size with its width greater than its length is also seen in this type. The distance between the iron bars in front of them varies from 13 to 14 cm (Figure 16a,b).


***Figure 16.*** *Three casement windows of traditional houses in Alanya's rural region*

**Wooden Railing - Knotted - Fence**

In Alanya rural architecture, wooden railings, wooden knotted, and wooden fences in front of the windows are common. Especially in wooden railings, different motifs were created by the use of chipping and carving techniques. A visual difference was also formed by the use of the same motif in the windows bottom-up and the use of it up to half. Since wooden railings are singular elements, their thickness varies between 4 and 6 cm and their width varies between 4-7 cm. In general, the most common motif is the railings made by chipping in the shape of an inverted triangle in the lower, middle, and upper parts. In such railings, the number of parts varies from 3 to 6. A similar railing has been found to be used in nearby areas and is called a cage fence [13].

Motifs created by using the singular fence in short dimensions both vertically and horizontally are also especially seen in large dwellings. This form of use and decoration was found only in the village of Türktaş. This type of window railing was also found in the study conducted in the Ormana region [14].

Another window element is a wooden knotted. Similar to the knotted iron grille seen in traditional structures of Anatolia, knotted wooden grille were found in qualified residences in the Alanya countryside. This type of fence, seen only in 2 of the existing structures, was obtained by combining 2 cm diameter woods through 3x3 size dies. The fences were arranged in 3 vertical and 8 horizontal bars and were applied in 1/2-ratio windows. Although the number of bars is different, the window fences of this form are also documented in the village of Ürünlü [15].

Apart from these, the wooden fences that have a round cross-section and are not seen in the nearby areas in the surveys are also noteworthy. The fence thickness varies between 4-8 cm, but there are only 3

different types. One has 3 rows of bars, while the other has 4 rows of bars, and all the windows are single-winged and built without spaces (Figure 17).

***Figure 17.*** *Types of wood railing of traditional houses in Alanya's rural region*

Looking at the window types of the houses in the Alanya countryside, it is clear that the oldest ones have a wooden railing, without glass. Such windows are smaller in size and consist of a single sash. However, the number of guillotine windows and double-sash wooden windows is also quite large. In the late period, the use of iron fences with three-sash wooden windows is seen.

It is possible to address the windows as ground floor and upper floor windows. The ground floor windows are both joinery and non-joinery windows. In both cases, the windows were square or rectangular and they were used in small sizes. The most commonly used ground floor window shape is square and non-joinery. There is no use of glass in any of the ground floor windows. In very few examples, however, the use of shutters is seen.

It is possible to classify the upper floor windows as guillotine and casement windows. The glass was used in all of the guillotine windows. In front of such windows, you can see the use of a wooden railing, iron fences, and shutters. However, iron fences were implemented in the late period. Sash windows can be single-, double- or three-sash windows according to the number of sashes. Except for the three-sashed windows, wooden railing, wooden and iron fence, and shutter use is seen in the windows that can have both glazed and non-glazed sashes. The iron fences used in all windows were applied as a late period addition. The most common window elements are wooden railings. (Table 2).

***Table 2.*** *Windows typology of traditional houses in Alanya's rural region*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ground Floor Windows | With Woodwork | x | | Square | x | Glazed | - |
| | | | | | | Glassless | x |
| | | | | Rectangle | x | Glazed | - |
| | | | | | | Glassless | x |
| | Without Woodwork | x | | Square | x | Glazed | - |
| | | | | | | Glassless | x |
| | | | | Rectangle | x | Glazed | - |
| | | | | | | Glassless | x |
| Top Floor Windows | Guillotine | x | | Glazed | x | Wood Railing | x |
| | | | | | | Batten Fence | |
| | | | | | | Demir Parmaklık | x |
| | | | | | | Shutter | x |
| | | | | Glassless | | - | |
| | Casement Window | Single Casement | x | Glazed | x | Wood Railing | x |
| | | | | | | Batten Fence | - |
| | | | | | | Grab Rail | x |
| | | | | | | Shutter | - |
| | | | | Glassless | x | Wood Railing | x |
| | | | | | | Batten Fence | x |
| | | | | | | Grab Rail | x |
| | | | | | | Shutter | |
| | | Double Casement | x | Glazed | x | Wood Railing | - |
| | | | | | | Batten Fence | - |
| | | | | | | Grab Rail | x |
| | | | | | | Shutter | x |
| | | | | Glassless | x | Wood Railing | x |
| | | | | | | Batten Fence | x |
| | | | | | | Grab Rail | - |
| | | | | | | Shutter | x |
| | | Three Casement | x | Glazed | x | Wood Railing | - |
| | | | | | | Batten Fence | - |
| | | | | | | Grab Rail | x |
| | | | | | | Shutter | |
| | | | | Glassless | | - | |

## 3. CONCLUSION

Rural buildings that possess important architectural features are descriptive of the basic identity of a particular region. Qualified structures in the countryside are in the process of rapid deterioration. In this deterioration, the biggest losses occur first in the wooden elements. Doors and windows, which have different decorative features in traditional residences, are also among these elements. It is important to document these elements in order to determine the door and window characteristics of the region in question.

Within the scope of the research, the traditional dwellings of 68 villages in the Alanya district were studied, the construction systems were identified, and the door and window elements were documented. Documentation made in rural areas is of importance in order to understand the construction systems and architectural elements of a region in its most natural form. The biggest reason for this is that the houses in rural areas were built by the resident people and local foremen, which revealed the housing culture of the

region in its purest form. Due to the fact that the wooden elements deteriorate faster, documentation is also important in terms of maintaining the construction culture of the region.

Considering the doors of Alanya rural houses, it was understood that they were originally all made using wooden material. The doors that were replaced in the late period were replaced with iron doors to avoid deterioration. Only wooden doors were examined in the study. In this regard, the doors were classified as barn doors and residential doors. Barn doors are only used as entrance doors from the outside. This is because doors are not used in the interior passageways on the ground floors. The doors were used as both single and double-wing doors. In both types, batten doors were used and no ornamental motifs were used. These doors were kept wide for the passage of animals. The "traka-tifraz" lock system, which is also used in the nearby area, was used in the doors. Although this lock system can also be seen on the entrance and interior doors of the residences, the vast majority of them have been replaced by new locks in the late period.

Residential doors, however, are classified as doors that provide entrance to the residence (residential entrance doors) and doors that provide a passage in indoor spaces (residential interior doors). Residential entrance doors can be both single- and double-winged. They are applied as batten and paneled doors. It is possible to find decorations with geometric motifs on the doors, which are constructed in a single and multi-compartment design. The residential interior doors show similar features to the exterior doors and are made more ornamented. Geometric and plant motifs are seen in these decorations, in addition to the use of panels in these doors. The use of veil panels is also seen in the doors with panels.

Looking at the windows of qualified dwellings, it is seen that wood material is used. The windows were also examined as ground floor and upper floor windows. The ground floor windows were kept smaller for their intended use. Ground floor windows have joinery and non-joinery applications. Although wooden shutters are rarely used in the ground floor windows, none of them have glass material.

In the upper floor windows, both guillotine and sashed windows are used. Guillotine windows are also made in both square and rectangular forms. Wooden railings, iron fences, and shutters are used in this type of window. The iron fences used in the windows are not original but late period additions. Sashed windows are differentiated into single-, double- and triple-sash windows. Single and double-sash windows are found in the original structures, while triple-sash windows are seen in late-period structures. Wooden networks, iron fences, and shutters are also seen in sashed windows. Iron fences in these windows are late period additions.

When studies conducted in the nearby region are examined, it is seen that there are courtyards and garden gates in Antalya-Ürünlü Village, Ormana region, and Akseki-Ilvat region. In the countryside of Alanya, however, there is no garden gate formation, as the gardens are not restricted by the wall. Yet, it is seen that the doors documented in the above-mentioned studies have more ornamental properties. Although motifs were used on the doors in the Alanya countryside, they were few compared to other regions. It is believed that the nomadic lifestyle played an influential role in this fact. It is understood that the door lock system is frequently used in this region and shows similar characteristics.

Looking at the window shapes and elements, it is seen that the houses in the nearby area and the houses in the Alanya countryside are of a similar characteristic. It is seen that wooden railings, wooden fences, and shutters are also used in Antalya-Ürünlü Village, Ormana region and Akseki-Ilvat region. It was determined that the motifs or shapes in the wooden railings are also of similar form.

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