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A Study on Restoration of Ayaş Şeyh Muhittin Mosque which is an Example of Ankara Traditional Mosque Architecture

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ABSTRACT

In this study, Şeyh Muhittin Mosque in Ayas district of Ankara is examined in terms of traditional architectural features and the restoration carried out by Ankara Regional Directorate of Foundations in 2018-2019 are discussed. The mosque, which is owned by the General Directorate of Foundations and has no construction inscription, dates back to the 16th century. The mosque has no last congregation space and has a transverse rectangular plan. The walls of the mosque are rubble stone up to the basin level and the walls of the body are built with masonry technique with wooden beams and mud-brick. Traditional materials such as rubble, mudbrick and wood are used extensively in the structure. In the interior of the mosque, wood is used in building elements such as wooden posts and beams of women section, minbar, floor and ceiling coverings. The plaster mihrab has the characteristics of 18th century traditional Ankara mosques. Seyh Muhittin Mosque was examined in terms of traditional architecture and art history, and the data obtained during the last restoration and applied restoration techniques are discussed in this article. Seyh Muhittin Mosque is one of the examples of traditional and monumental religious architecture, by examining this building, it is aimed to contribute to the experts working in this field. Because the transfer of these buildings to future generations is one of the most important problems in the field of conservation. For this purpose, the literature and archives were searched for the mosque and field studies were carried out during restoration phase. This study is important in terms of its use in the works to be done in traditional religious architecture.

Keywords: Ayaş, Şeyh Muhittin Mosque, traditional architecture, conservation, restoration

1. INTRODUCTION

Ayas District is located on Ankara-Adapazari road, 57 km from the city center, within the borders of Ankara Province (Figure 1). Despite the wide plains to the north of the Ankara stream, the Ayas district is generally rugged [1]. The livelihood of the people in Ayas and connected villages is ovine-bovine breeding and agriculture. Ayas mulberry and tomatoes are important agricultural products in this region. Ayas is located on the historical "pilgrimage route" of the Romans starting from Istanbul to Tarsus and then to Jerusalem [2].

After the opening of the gates of Anatolia to the Turks with the victory of Malazgirt, Ankara and the surrounding area began to enter the sovereignty of the Seljuk State in 1073 with the raids conducted by Süleyman Bey. After the long struggles of Anatolian Seljuk Sultans, after the heavy defeat of the Crusader army in 1101, Oguz tribes settled in Ankara and its vicinity [3]. Ayas is a Turkish word which means "bright, bright night" [4]. During the Anatolian Seljuk State, Turkmens settled in Ayas district center, surrounding ruins and highlands and established settlements in this region. Ayas became a center where famous poets, sufis, scholars and rulers were raised during the Ottoman Empire. The district, which is rich in architectural heritage, has many monuments from the Anatolian Seljuk and Ottoman periods [2].

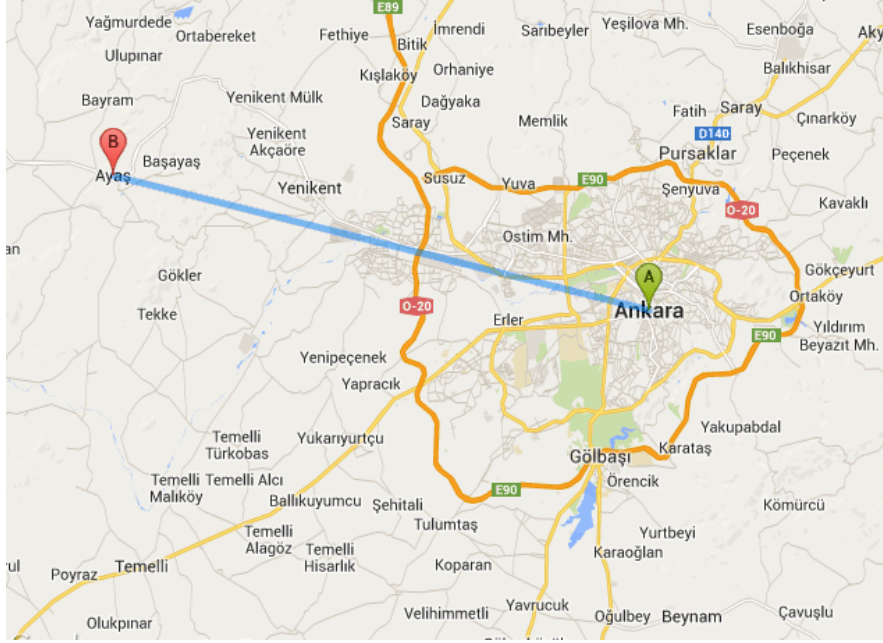


Figure 1. The map of Ayas [5]

Within the scope of this study, the architectural features of the Seyh Muhittin Mosque (Figure 2), located opposite the Ayas Ulu Mosque in the square of Ayas District, were investigated in terms of traditional and monumental architecture by archive research and literature studies. Also, land surveys were conducted on the building and the restoration practices in 2018-2019 were discussed. The survey, restoration and restitution projects of the building were obtained from the Ankara Directorate of Foundations and the restoration applications were examined on site. During these studies, care was taken not to damage the originality of the structure and to make application by evaluating the data obtained.



Figure 2. Square of Ayas District, Ulu Mosque and Seyh Muhittin Mosque [6]

2. ANKARA, AYAS, SEYH MUHİTTİN MOSQUE

Seyh Muhittin Mosque, which is registered as a cultural asset to be protected, is located on Ayas District of Ankara Province and it belongs to General Directorate of Foundations. The mosque was registered as an antiquity by the decision of the Supreme Council of

Immovable Cultural and Natural Assets dated 13/02/1981 and numbered A.2720. With the Conservation Board decision dated 02/07/1987, it was decided to continue the registration of antiquities. The survey, restitution and restoration projects of the building prepared by Ankara Regional Directorate of Foundations were approved by the Ankara Regional Board of Conservation of Cultural and Natural Assets with the decision dated 03/12/2008 and numbered 3729. The projects were revised in line with the data obtained during the restoration works and approved by the decision of Ankara Regional Board of Conservation of Cultural Heritage dated 06/12/2018 and numbered 6218. The restoration was completed in September 2019 according to the approved projects [7].

The mosque measures approximately 13.20x10x20 m and it has a 2.84 m wide women's section floor and under this floor there is Seyh Muhiddin's sarcophagus. The old minaret in the northeast corner of the mosque has been destroyed and only its base has survived. After the collapse of this minaret, a wooden minaret was built on the stone base. In 1968, a stone imitation reinforced concrete minaret was built on the northwest corner of the mosque. After these two minarets were used together for a while (Figure 3), in accordance with the report prepared by the General Directorate of Foundations, it was decided to demolish the wooden minaret by the decision of the Supreme Council of Immovable Cultural and Natural Assets dated 28.3.1985 and numbered 847 [7]. The original minaret on this stone base is thought to be brick like the other examples in the district (Ulu Mosque and Bünyamin Mosque). Since the information and documents related to this original minaret could not be provided, no changes were made in this direction during the restoration works.

The mosque has a wooden ceiling and a low relief, geometric inserts, plaster mihrab (Figure 4) and a wooden minbar between the two windows [8]. On the slatted wooden ceiling, there is a ceiling hub which is found to be painted with ochre (Figure 4).



Figure 3. Ayas Seyh Muhittin Mosque wooden and reinforced concrete minaret [9]



Figure 4. Plaster mihrab and wooden ceiling hub [7]

2.1. Ayas Seyh Muhittin Mosque Architectural Elements

The mosque, which is called Şih Mosque among the people, is located on the Republic Square in the center of Ayas District, on the edge of the Ayas water, a small tributary of the Sakarya River. The mosque is located on a slightly sloping terrain in east and west directions [10]. In this study, architectural elements, traditional materials and traditional construction techniques and ornamental elements in Seyh Muhittin Mosque are discussed. Seyh Muhittin Mosque has no construction inscription, so the construction date is not known. However, it is known that Muhyiddin, the son of Haji Ali from Nazilli, dedicated a madrasah in Ayas and stipulated the incomes of the foundation according to the records of Ankara dated 1571 [11]. This document suggests that the mosque was built at the same time as the madrasa. The madrasah does not exist today and the mihrab of the mosque has the same characteristics as the 18th century Ankara plaster mihrabs [12].

When the Ankara mosques and masjids are examined in terms of plan, we see that they are small and simple structures that meet the daily needs of the local people. Most of these structures have a rectangular plan, some of which are transverse-rectangle, some are longitudinal-rectangle and some are rectangle close to square [13]. Ayas Seyh Muhittin Mosque also has these traditional features. The mosque, which consists of a single space and has a transverse-rectangular plan, is entered through two doors on the north and west sides. The access to the women's section which is at the north of the main prayer area is provided by the stairs on the left side of the entrance. The women's section floor protrudes approximately 50 cm in the middle section towards the mihrab direction. This floor is transported by six wooden posts, one of which is adjacent to the wall. On the upper part, there are five wooden posts, two of which are adjacent to the wall. The wooden posts under the women's section form triangular headers where they join the beam. The door, which is located on the northern wall of the women's section and which has nine wooden steps, opens to the old minaret.

There is not a symmetrical arrangement in the windows of the mosque, there are different numbers and sizes of windows on each of the facades. There are two rectangular small windows on the top, two large rectangular windows in the middle, and one large and one small niche on the bottom of the east facade. There are three rectangular windows on the top of western facade, large in the middle and small on the two sides. At the middle level



there is a window slid north and a window slid south on the lower part of the west facade. On this facade, there is a rectangular double winged wooden door. Each wing of the door consists of three larger units in the middle. On the north facade there are two rectangular windows facing the women's section. The six windows on the top of the south facade are rectangular and the second, fourth and sixth windows from the east are single-winged and smaller in size. There are two rectangular windows on both sides of the mihrab at the middle level of this facade. At the bottom there is a rectangular window just to the east of the mihrab. When the plaster mihrab and the windows on this facade are examined, it is understood that the structure had been interfered in earlier periods.

In the material analysis carried out by the Restoration-Conservation Department of Ankara University during the project phase, the plasters were found to be non-specific and cement-containing and these plasters were scrapped during the restoration [14]. After the plaster blasting, it was seen that the structure was built with masonry technique with wooden beams.

The main prayer area of the mosque has wooden ceiling and slats parallel to the mihrab. The core in the center of the ceiling is thirteen-sided and is formed by twenty-six triangular forms arranged consecutively flat and reversed around the core of an eight-stage toothed pendulum and surrounded by a double-groove wiping. There are small bulbs on the corners of the flat border outside this wiping [7]. The wood material was also used as a carrier on the women's section to the north of the main prayer area. The upper and lower ceilings of the women's section are activated by parallel bars extending in the east-west direction.

In the Seyh Muhittin Mosque, the other building element where the wooden material is seen is the minbar. 17th and 18th century wooden minbars in Ankara and its districts are important in terms of maintaining the woodwork and the use of wood materials, although they are unqualified examples when compared with the early examples [13]. In the mosque, the wooden pulpit was cleaned of oil paints and earth paint was found under the oil paint. The facades of the mosque are divided by two wooden beams parallel to the floor. The wooden crates of the windows and the wooden beams form an integrity. The wooden eaves are not very protruding.

The decorative element in the structure is collected especially in the plaster mihrab. This plaster mihrab is dated to the 18th century by Eskici (2001). The mihrabs dated to this century are different from the 14th and 15th century mihrabs in Ankara in terms of the elements (motif and composition) used in decoration, although they are the same as the old ones in terms of shape and construction techniques [13]. The mihrab, which is 576 cm high and 336 cm wide, was made with plaster molding technique. The mihrab niche, which is a five-sided, is gradually shrinking with stalactites [8].

3. SEYH MUHİTTİN MOSQUE RESTORATION APPLICATIONS

Today, considering the national and international regulations, it is seen that the main approach to the protection of monuments is to provide continuous maintenance of these monuments. Because of the natural disasters such as fire and earthquake and the lack of regular maintenance and misuse of the buildings, large-scale interventions may be required. It should be remembered that the basic principle of restoration applications is the ability to return to the previous state, that is to say that the intervention can be removed and replaced with a new one without any damage to the structure, even when such large-scale interventions are required.

Ahunbay (2004) states that the main techniques applied in the restoration of monuments are consolidation, integration, renovation, reconstruction, cleaning and transportation, and a few of them are generally used together [15]. Restoration of Seyh Muhittin Mosque was carried out in accordance with approved projects and the restoration techniques applied

are consolidation, cleaning, integration, reconstruction and these techniques will not be examined under separate headings as these interventions are intertwined.

On the roof of the Seyh Muhittin Mosque, the marseille-type roof tiles and decaying wooden cladding boards were removed. The decaying of the carrier pillars and beams in the roof were changed and some of them were reinforced with wooden material. Following the consolidation process, a re-coating board was built and waterproofing was laid and a classical type tile was laid on it (Figure 5).



Figure 5. Roof reinforcement and insulation applications [16]

The survey and restoration project of the mosque was drawn by the Ankara Regional Directorate of Foundations in 2008. In this context, laboratory analysis of materials such as stone, mortar and plaster taken from the building was carried out by the Department of Restoration and Conservation of Ankara University and suggestions were made for the materials to be used in the restoration of the building. In the analyzes, cement based plasters detected on the inner and outer walls of the mosque were scrapped. When the plaster blasting was completed, the thickness of the mudbrick walls was 95-100 cm on the western side and 85-90 cm on the other sides. The structure was built with mudbrick technique of 32x32x8 or 32x16x8 between 10x10 cm or 15x15 cm wooden beams on the rubble stone wall, ranging from 60-80 to the basement level. Among the horizontal beams, there were discontinuous and variable sizes of wooden pillars and irregular nailed 4-5x8-10 cm cross beams corresponding to the wooden beams and beams. But; it was found that the cross frames were not properly connected with the struts and beams, the joining geometries were faulty and their workmanship was very poor (Figure 6). While these cross beams were used on the entire façade of the building, it was not used on the northern interior walls (Figure 7). In order to clarify the determinations, a few of the cross frames were removed and it was determined that the mudbrick surfaces coming under them were carved by intervention to make places for cross woods (Figure 8).



Figure 6. Wood frame irregularities and damage in mud-brick [16]



Figure 7. Uncrossed sections [16]



The shape of the
mudbrick shows that it
was carved

Figure 8. After removal of wooden cross [16]

With this evaluation it was concluded that the wall detail was later changed and there were no crosses in the original. In order to eliminate the damages in the structural system of the building, it was decided to remove the rotting pillars and horizontal beams and all the diagonals, and replace the rotting horizontals and replace the verticals. It was decided that the crosses should be canceled and the damaged parts of the mud-brick should be filled with mud mortar or if the destruction was large, it would be completed with mud-brick.

In accordance with this decision, complements were made by using mudbrick material, rotting horizontal and vertical woods were renewed and the protected ones were strengthened by impregnation. Mudbrick is a building material obtained by mixing straw or other additives into clay and suitable soil, kneading with water, pouring into molds and shaping and drying in the open air [17]. Following the consolidation of the structural system, metal lath was applied to the mudbrick surfaces and the integration and consolidation of the plaster to the surface was realized (Figure 9).



Figure 9. Metal lath and plaster application on walls [16]

In the research conducted under the existing wooden flooring in Seyh Muhittin Mosque, concrete screed was laid under the flooring. For this reason, the wooden floor was dismantled, the concrete screed underneath was broken and the soil filling was removed to allow the floor to breathe. A rubble stone wall of 40 cm height and 250 cm axle spacing was built to fit the wooden beams. Wooden floor beams measuring 15x15 cm were installed on these walls and the floor ground was reinforced (Figure 10).



Figure 10. Rubble stone wall and wooden floor beams [16]

The rotten wooden ceiling coverings of the mosque were removed and the wooden beams and the wooden ceiling core where the ceiling was mounted were preserved. The sections where the wooden ceiling beams were damaged were consolidated (Figure 11) and the bearing system was reinforced. Later, wooden ceiling coverings and laths were rebuilt in accordance with the original. After dismantling the floor covering and ceiling covering of the women's section, the beams bearing the floor layer, the floor covering and the ceiling covering of the women's section were renewed.



Figure 11. Wooden ceiling beams of main prayer area and women's section [16]

In the approved restoration project, it is envisaged to clean the oil paint in the protected wood productions in the main prayer area (protected ceiling hub, pillars bearing the ceiling beam and minbar). In this direction, oil paints were cleaned on wooden posts and human interventions such as nailing, hanging, and also cracking and worming were observed depending on time (Figure 12). According to the decision of the Conservation Board, these posts were renewed.



Figure 12. Distortion and splitting of existing wood posts and new posts and ceiling [16]

Following the start of the restoration work, a research was conducted in the archives of the Conservation Regional Council and old photographs of the building were obtained (Figure 13). In line with the data obtained, the restoration project was revised and the revised restoration project was approved by the Ankara Regional Board of Conservation of Cultural Heritage with the decision dated 06/12/2018 and numbered 6218. According to this project, the wooden door on the left side of the entrance door on the north side of the mosque which was used for the entrance of the women's section was canceled and turned into a window. In line with the data and old photographs, the revision of the east and west facade window system was also carried out. However, an arrangement was not made in the southern facade window system where sufficient data could not be obtained.



Figure 13. Old exterior photos [9]

In the cleaning of the wooden ceiling hub (Figure 14) and the wooden minbar, which is envisaged to be protected according to the approved project, two layers of brown oil paint and two layers of green oil paint have been identified as very thick oil paint layers. As a result of the removal of these layers with paint remover and scalpel, green, yellow and orange ochre was seen at the bottom. In addition, cypress and carnation patterns were found in the minbar (Figure 15). According to the decision of the Conservation Board, after the oil paint cleaning was completed on the wooden ceiling hub, it was completed with orche paint suitable for the original tone and shellac polish was applied on it. The chasings on the wooden minbar were completed in accordance with the original and shellac polish was applied on it.



Figure 14. Wood ceiling hub orche paint application [16]



Figure 15. Cleaning the oil paint in the minbar [16]

In the approved restoration project; It is envisaged that the paint layers applied in layers over time prevent the perception of the plaster mihrab motifs to a great extent, and therefore, paint cleaning is performed with suitable methods in order to reveal the original surface. In this direction, firstly mechanical cleaning has started in plaster mihrab. During the cleaning of the paint, different colors of ochre paint were found in the lower layers (Figure 16). For this reason, the cleaning activities were carried out more precisely, paint cleaning was continued with paint remover and scalpel and orche paint was determined in most of the mihrab. After the cleaning works were completed, the fractures and cavities in the mihrab were consolidated by injection (Figure 17). Afterwards, completion and revitalization was done with orche.



Figure 16. Mihrab cleaning works [16]

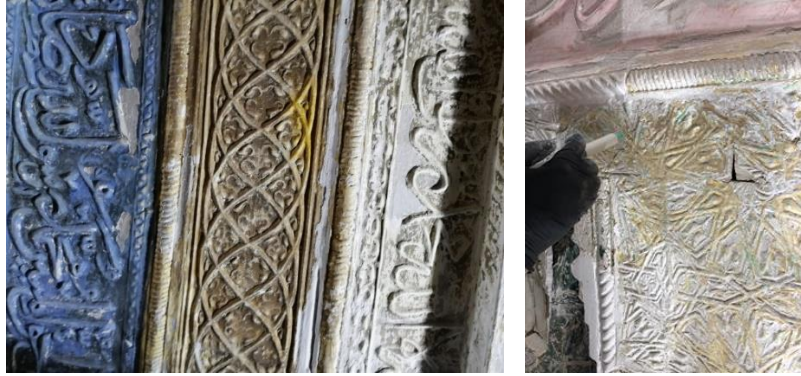


Figure 17. Cleaning and injection works [16]

Dirt layer and algae have formed over time on the surface of the non-original stone imitation reinforced concrete minaret. In addition, cement residues from previous repairs were identified on the surface of the minaret (Figure 18). In the scope of the restoration, the remains of ossified mortar on the surface of the minaret, which provided adherence with the structure, local fillings made with cement-based unreinforced mortar, and cement slurries flowing on the facade were cleaned with small hand tools without damaging the wall surface and the surface was washed with arabic soap and water (Figure 19).

The metal coating in the minaret cone was removed and the stability of the wooden coating under the cone was checked and the wood was impregnated and reinforced. Then the lead was coated on the cone. The copper finial in the cone was removed and cleaned and assembled in place by applying protection (Figure 20).



Figure 18. Algae and cement residues on the surface of the minaret [16]



Figure 19. Minaret cleaning and repair work [16]



Figure 20. Lead coating in minaret cone and cleaning of finial [16]

CONCLUSION

Within the scope of this study, Seyh Muhittin Mosque, which is one of the examples of traditional architecture in Ayaş District of Ankara, is studied. Traditional and monumental architectural features of the mosque and restoration practices in 2018-2019 were examined. During these restoration, interventions were tried to be performed in accordance with the original structure without losing the data obtained. The aim of this study is to guide the people working in the field of traditional architecture and restoration applications. Because the transfer of such historical structures, which are a part of the past and giving life to cities, to the next generations is one of the most important problems in the field of protection. The preservation of cultural and architectural heritage is very important in our country, which carries the traces of many civilizations.

During this restoration, it was not possible to obtain sufficient information about the window system on the south façade. Although the base of the old minaret was standing, sufficient information was not obtained about the minaret which was originally thought to be a brick. The local people requested the reconstruction of the wooden minaret, but it was not considered appropriate to rebuild the wooden minaret because it was known that it



was not original. It is considered appropriate to re-evaluate the subject if the necessary information is obtained in the following stages on these issues which remain unclear during the restoration works.

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