The Restoration Proposal for Mehmet Duruk Rural Dwelling in Akseki, Bucakalan Village

Muhammet ŞENOCAK¹, Özlem SAĞIROĞLU²

¹Gazi University, Faculty of Architecture, Ankara, TÜRKİYE, senocakmuhammet@hotmail.com
²Gazi University, Faculty of Architecture, Ankara, TÜRKİYE, osagiroglu@gazi.edu.tr

Received: 25/01/2016   Accepted: 22/02/2016

ABSTRACT

Mehmet Duruk dwelling, located in the Bucakalan village, is a unique rural dwelling by its construction system, which is well preserved with its plan typology and ornamented architectural elements. The documentation of this building which was studied for the master’s thesis by the writers in 2016, carries utmost importance due to its intensive deterioration. This article is derived from this thesis, visual and vectoral documentation studies, analysis of deteriorations corruptions and researches regarding the restitution are summarized, interventional proposals for restoration and new function proposal are submitted.

Keywords: Rural architecture, Mehmet Duruk rural dwelling, Akseki, Bucakalan village, restoration

1. INTRODUCTION

In the recent years, interest towards rural architecture increased in Turkey as well as the whole world, and studies concerning the conservation of rural architecture and monuments have only just been started. As Anatolia has been subjected to settlement since the beginning of civilization, it harbors archeological and urban historical textures as well as rural architecture and monuments. Akseki district of Antalya hosts unique and qualified monuments regarding rural architecture due to its situation - as far as its caravan routes and harbors are concerned, natural resources, fertile lands, climate conditions and its safeguarded location as far as its geographical features are concerned.

Mehmet Duruk dwelling is situated in Bucakalan village, which is one of the historical settlements of Akseki. The village is special with its protected texture and its 'düğmeli' construction technique (timber-
reinforced rubble stone masonry with projecting tie-beams) and material which are particular to Akseki - İbradı basin, and it is one of the small but authentic villages which has qualified wood craftsmanship. The village which harbors unharmed historical buildings is faced with the risk of losing its historical texture due to concrete residences and apartments that have been built in the recent years just outside its borders and its historical residences due to migration of the villagers and negligence. Due to the hardship to reach out to craftsmen who are masters of traditional construction ‘düğmeli’ technique and financial impossibilities, intervention to residences have been done via techniques and materials that are inconsistent to the plan setups and the language of local architecture, which leads to the eradication of the authenticity of the residences.

Also, although Akseki – İbradı basin is announced as alternative tourism area with regard to eco-tourism and attempts in pursue of this such as Kardelen Eko-Tur project are a potential as far as conservation is concerned, they have become the triggering elements of corruption. Interventions such as painting the wood work in various colors as in Ömer Duruk residences which was reorganized as restaurant and boutique hotel before it was announced as a protected site is the evidence of the risks this situation creates. The announcement of the village being chosen for urban protected site on June 8th, 2015 and the registry of 11 residences including Mehmet Duruk residence are pleasing improvements in the name of eliminating such problems.

Mehmet Duruk residence in Bucakalan village is chosen for the study due to the reasons such as its original architectural elements, its unique construction technique which is different in details from other residences in the village, having a qualified wood work reflecting the characteristics of the area as well as its features regarding the plan and the façade. However, the building has some major problems which are summarized below:

- The building has been derelict for the last ten years. The building which is in the process of wearing off lost its architectural elements as it was not intervened in time, and this exposed the building to the atmospheric conditions. Due to losing its cover, there is a moisture problem in the building which has serious structural cracks. This situation causes the deterioration of wooden elements.
- Qualified wooden elements of the building which has no inheritors are being removed in order to be used or sold.

Within the scope of the study, the current situation of the building is documented, resources with regard to restitution are researched and a comparative study was conducted, interventional decisions with regard to the problems were taken and a restoration project was prepared and submitted in this respect.

2. DESCRIPTION OF MEHMET DURUK DWELLING

2.1. History and Location of Bucakalan Village and Mehmet Duruk Dwelling

Bucakalan village, İlvat area in which the village is found and Akseki were connected to Alaýie district. During the Kanuni era, under the name of Nevahî-i Alaýie, it was one of the 10 sub-districts of Alaýie. Alaýie district was connected to Cyprus Governorship after Cyprus was conquered, then connected to Adana city in 1717, and it was connected to Karaman city after 1855. In 1856, Alaýie was declared as a ‘îlva’ which has 5 towns - Akseki, İbradı, Senir ma’a, Düşenbe and Manavgat - until the proclamation of the republic. In 1868, Akseki was declared as a separate town, and it preserved its administrative position although the number of its villages varied until the proclamation of the republic; after the proclamation of republic, it was declared as a district of Antalya.

Regarding the demographics and other information about Bucakalan village, we did not come across any studies belonging to Ottoman period. About the village, the oldest document we discovered is in a book named ‘mahasebe-i vilayet-i Anadolu’ with no 166. In this book, the presence of a kind of a village which is called ‘bucak’ is shown in the same area although it is not definite that it is the same village. In this book, the presence of a kind of a village which is called ‘bucak’ is shown in the same area although it is not definite that it is the same village. In this book, the presence of a kind of a village which is called ‘bucak’ is shown in the same area although it is not definite that it is the same village. Also, according to the information given by Özkaynak without showing any reference, it is recorded as ‘Armağın bucak’, a neighborhood connected to Yerle town, in the old registries. We came across with information stating that it was a neighborhood of Büyükilvat (Büyükalan) village for a period, and then it was separated. In the official website of the Governorship, although it is written that the ruins around Belenalan and Bucakalan villages belong to Roman and Seljuk eras, as there are no studies regarding this, it should be attributed to the past of these villages with precautionary record. Also, due to the fact that the qualified residences are claimed to be at least 200 years old, there was a settlement in the late Ottoman era. The village is called Aşağıbucak by the locals. The appendix ‘alan’ in the names of Bucakalan, Belenalan and Büyükalan villages, which is situated to the West of it, is changed to ‘îlva’ after the proclamation of the republic. For this reason, these three villages are known as ‘îlva villages’ by the local folk, and Bucakalan village is named Bucakilvat by the local folk.

There are no documents regarding the history of Mehmet Duruk dwelling. The sole knowledge that could be found was an oral information claiming that it was built by Greek masters at least 250 years ago.

Mehmet Duruk dwelling is situated on the southern border of the village. There are forest lands and agricultural lands on its west and south, Ömer Duruk dwelling and street on its north and a residence with no. 9 is found on its east. (Fig.1).
2.2. Plan Layout

Found on the south-west of Bucakalan village, Mehmet Duruk dwelling is situated in a garden/courtyard of 672.44 m² at north-south direction. The northern façade of the building constitutes the street line. The entrance to the garden of the building is through a double wooden door ('borta') which shows itself with a curb or pent roof with 1m wide eaves on both sides. On the door which stands out with its qualified wood work, it is possible to see the traka/tıfraz system which is a lock system indigenous to the area. The garden is separated from the outside by garden walls that were built via wooden screens placed over a beamed dry wall which is called in the area 'semerkandi' or 'kuşkonmaz'. These walls are also indigenous and they are seen in Akseki-Ibradı basin. There are no hard ground in the garden. Trees in the garden which is left as soil are gathered mostly in the eastern part.

Figure 2. The plan schemas of Mehmet Duruk dwelling according to the spaces

The entrance to the residence is through the west façade located near the garden entrance. The main entrance door is also called ‘borta’, and the double wooden door is reinforced with metal nails. Borta is opened to ‘ahraltı’ or ‘evöğün’ – a local term for the front entrance to barn, hayloft and woodshed, which is found as a projection of the ‘sofa’ on the upper floor (Fig.2H). Storages and barn on the northern side (Fig.2J,K), and on the south the stairs found next to borta (Fig.2B) are opened to evöğün. The first two steps of this stairs are in evöğün, and the landing (Peyke) formed at this level is separated from evöğün via a door. There are feeders in evöğün and barn, and these are called ‘bahna’ locally.

*Corresponding author, e-mail: osagiroglu@gazi.edu.tr
The hallway that the stairs reach on the upper floor is called 'aralık' in the area (Fig.2C), and it is set-up between the balcony called 'ayazlık' (Fig.2E), the hall and the toilet (Fig.2D). The main wall between aralık and the hall is emptied and wooden grids are designed in this space. This section which harbors the door of the 'sofa' is called 'kapıarası', and it is used to cool the inside of the dwelling in summer.

'Sofa' which constitutes the living areas of Mehmet Duruk dwelling is rectangular shaped in north – south direction, and it was designed to be 3.84–9.78 m in size (Fig.2A). On the north-east side of the space a furnace called 'başmak' in the area and two windows are present. Across başmak, a 'seki' is located which is 20 cm high from the floor and called 'kafesönü' in the area and a projection which provides a view for southeast and southwest directions are found. Kafesönü is formed via windows with wooden grids built next to each other. Separate entrances for two rooms are designed on the north-west wall of the 'sofa' for two families, and the rooms that are entered from these entrances include another room (Fig2.F,G).

Every unit formed by two rooms function as a sub-residence in which a nuclear family may reside in. These units consist of a living space (Fig.2F) and a cellar (Fig.2G). In the living space of these two rooms, besides the doors that open to the 'sofa', wooden closets which contains a closet 'yüklük', a side board 'musandıra', lamp niches 'lambalık' and an ablution niche 'gusülhane' (Fig.3m). Across the closet there is a furnace 'başmak' and two windows located on each side of it (Fig.3n,j). There are cupboards on the walls with regard to needs. Top of the cupboards and windows are finished with shelf 'terek' that travel across the room. The ceiling is a lathed wood ceiling, and a wooden centerpiece is used in the middle of it. The floor is covered with timber lining. Passage to the cellar is via a door that is next to ablution niche. Cellars are designed plain with two windows and a small cupboard (Fig.3k). All the architectural elements in the living floor of the residence are the results of a meticulous wood craftsmanship.
2.4. The Construction Technique

The construction technique, ‘timber-reinforced rubble stone masonry with projecting tie-beams’, which is unique for Akseki - İbradı basin, and called 'düğmel' locally is used in the historical buildings of village. In this technique, walls are composed of rubble stone without mortar. These stones are called ‘helik’ in this region, and they are collected from the vicinity. During the erection of the wall, the rubble stones are bolstered by timber bond beams 'hatıl' and projecting tie beams 'düğme-piştuva' placed every 40–60 centimeters. This distance is called ‘destur’ in the region and is determined by the master builder, using his forearm as a measurement. Deflection of the beams outside the wall from the incoming load is prevented with the help of projecting tie beams called ‘düğme-piştuva’. These projecting tie beams can be positioned on the bottom and/or top of the bond beams. All these timber elements are joined by dovetails. The wall is formed by repeating this system constantly until it reaches the required height. However, in Mehmet Duruk dwelling piştuvans are cut inside the walls; they do not stick out. In this respect, although the construction technique is the same with the other residences in the area, Mehmet Duruk dwelling differentiates from the other residences in the village and the area. As a result of the research about this differentiation, it is learnt that it was one of the oldest residences in the villages, and that it was constructed by Greek masters, not by local masters, and that Greek masters had a finer work and thus the piştuvans do not stick out when the construction was completed [10].

The ground floor of the dwelling was allocated to animals and storage. Therefore, it was made as a combination of soil interspersed with stones 'helik'. The First floor is made via extending rough-hewn timber girders into the wall with 20–40 cm space between them. Timber linings are nailed directly onto these timber girders. The roofs of the dwellings are gable roofs sloped in two directions. Although it is known that roof covering was used to be chipboard 'ahşap yonga levha', but there is no example left today. Now the roof is covered with Turkish style tile.
2.5. Architectural elements

Doors: The doors of the ground floor are designed to be simple and plain. They are formed by fine-hewn timber linings 3-4 cm thick and 15-20 cm wide. These were constituted by locating vertically next to each other. These parts are fixed together by bents and pegs/nails. However, on the upper floor, doors are made by joining rectangular geometric of floral ornamented wood plates with mortise and tenon method. The Courtyard door was changed over time; it belongs to another dwelling in Büyükalan village, which is ruined in time. But it is also traditional and has a unique ornamentation among İlvat region.

Windows: The windows of the dwelling consist of two types. The first type is the ‘kafesönü’ windows found in the semi-enclosed projection at the end of the ‘sofa’. These windows are large, set within a single border that encircles the whole projection surface formed by siding on the timber walls. Timber poles were used to form the grids ‘ahşap şebeke’, while wooden ties ‘ahşap lokma’ were used on the intersections. These grids are fixed and cannot be opened. A double-sashed shutter ‘kara kapak’ attached outside each window module could be closed to keep bad weather out. The second type of the windows used in the dwelling were designed with double panes, as if they were cupboards. The sections that constitute the surface of the panes is a wooden grid as well. An entablature was designed over each window to protect it from weather. The inward-facing sides of the windows have decorated wooden doors that open and close outward, toward the grid.

Closets: The closet ‘yüklük’, is a wide, double-winged architectural element elevated approximately 40–50 cm above the floor. The bedding and quilts belonging to the family are stored in the upper part of this section. There is a special cover providing access to the lower part of the cupboard, which constitutes the base of the cupboard. This lower section can be accessed only by opening the cover, and it is here that the family keeps their valuable objects.

Ablution niche: The ablution niche ‘gusülhane’ is located at one end of the closet, and expanded towards the wall as well as being designed in a quadratic shape. Entry is provided by a single-paneled door. There is no lighting or running water in it. Dirty water runs to the dirt floor of the barn via a drain at the bottom of the cupboard toward the barn.

Cupboards: The single small cupboards in the dwelling are designed with covers, without covers, or a combination (one part with a door or lid, and one part without). The depth of these cupboards varies depending on the wall thickness, and the dimensions vary depending on personal preferences.

Lamp stands: The lamp stands ‘lambalık’ were designed to hold the oil lamps used as lighting elements and other small objects, and are always present on both sides of the closet. A ‘lambalık’ section is composed of 3 consecutive niches without any door or lid. There is an ornamented ‘yaşmak’ board in front of the shelves.

Fireplace: The fireplaces ‘başmak’ in sofa or rooms are situated on an outside wall between the two windows. The section at the lower part of the ‘başmak’ where the fire is lit is called an ash-pan ‘küllük’. The inner surface of the ‘küllük’ is thickly plastered with ‘aktoprak sıva’.

Shelves (Sergen): They are made of wood and present in almost every room on first floor.

Ornaments: All of the wooden architectural elements on first floor has geometric or floral ornamentation on them. The plaster relief in sofa is the other adornment in dwelling.

3. STRUCTURAL CONDITION / DETERIORATIONS AND CORRUPTIONS

Deteriorations and corruptions in the dwelling are examined under two titles as deteriorations caused by nature and deteriorations made by human (Fig. 6).

3.1. Deteriorations Caused by Nature

Among deteriorations caused by nature are structural and fine cracks on the load bearing walls and plaster, deflection and displacements, moistening, soot and change of color, decay and material loss in timber, plaster loss and tile deformations (Fig. 6).

3.2. Deteriorations Caused by Human

Among deteriorations caused by human are cement based applications, subsequently added or removed elements and debris.

*Corresponding author, e-mail: osagiroglu@gazi.edu.tr
4. RESTITUTION APPROACH

4.1. Using Sources in Restitution

The sources used for restitution have been evaluated in four different degrees (Fig. 7).

1. First degree reliable source: Information obtained from the building itself, the spaces, surfaces and elements which are original and exist, are considered to be in this category. Preservation by strengthening is proposed.

2. Second degree reliable source: Having traces or not, elements that are not present but are determined via comparison to be a part of the dwelling are handled under this title. Integration by original materials, forms and details is proposed for them. In this context, elements that are to be completed are floor coverings.
first floor's windows, window shutters, and furnace 'başmak'.

3. Third degree reliable sources: Information regarding elements that have traces but not any examples in the building are gathered via comparative study. Integration by original place, material and form but with different detail is proposed for these elements. Among such elements, ground floor's windows, 'musandıra' and the balustrade of 'ayazlık' can be included.

4. Fourth degree reliable sources: Information obtained via oral resources are evaluated under this section. Authentic courtyard door which does not belong to the Mehmet Duruk dwelling but to another traditional dwelling which is collapsed during time in Büyükalan village is evaluated under this section, and conservation of it is suggested.

4.2. Comparative Study

With regard to the comparative study which was held to create resources for the restitution work, windows, toilets, toilet doors and grapevine arbors 'iskenet' in Bucakalan, Belenalan and Büyükalan villages were examined and presented in the following table below (Fig.8).

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<tr>
<th>WINDOWS</th>
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<tr>
<th>TOILET 'HELA'</th>
<th>TOILET DOOR</th>
<th>'ISKENET'</th>
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<tr>
<td>BUCAKALAN-D.N.8</td>
<td>BUCAKALAN-D.N.11</td>
<td>BUCAKALAN-D.N.11</td>
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<tr>
<td>BUCAKALAN-D.N.11</td>
<td>BÜYUKALAN-D.N.10</td>
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<td>BÜYUKALAN-D.N.10</td>
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Figure 8. Comparative Study chart

For the comparative study of window openings on the ground floor in Mehmet Duruk dwelling, window typology of Belenalan and Bucakalan villages are referred [11,12]. In this respect, due to the fact that the construction year of Ömer Duruk dwelling is similar, it is close to Mehmet Duruk dwelling and it has the same window sizes with Mehmet Duruk dwelling, ground floor window of Ömer Duruk dwelling is applied in the restitution project. As the materials, systems and set-up of the doors, toilets and iskenets which are sampled for the comparative study are the same, samples are studied, detailed and applied in the restitution project.

5. RESTORATION APPROACH AND PROPOSAL FOR A NEW FUNCTION

Within the context of new function for Mehmet Duruk dwelling, the priority was given to passing the authentic building to the new generations. In this respect, 5th article of Venice Charter is accepted as the main criterion. In this article, the code states that 'The conservation of monuments is always facilitated by making use of them for some socially useful purpose. Such use is therefore desirable but it must not change the lay-out or decoration of the building. It is within these limits only that modifications demanded by a change of function should be envisaged and may be permitted.' In the research made in this context in nearby villages and in Bucakalan village, it was determined that it is advantageous to give it a function that serves tourism which will provide both employment and use via continuous preservation of the building. The function of 'boutique hotel' was found appropriate for Mehmet Duruk dwelling as a result of taking the potential that is created by Ömer Duruk 1 and Ömer Duruk 2 dwellings which are used as boutique hotels into consideration. In this respect, the ground floor of the dwelling is given the function of kitchen, management and restaurant, and the upper floors are given the function of accommodation.

Suggestions as solutions for structural deterioration on the basis of restoration are summarized below:

- After a land survey is made on the ground where the building is situated and necessary precautions are taken, the foundation of the
building and its construction system will be supported for earthquake risk,

- Drainage system will be made in order to fend off under-ground waters and rain water from the ground floor, necessary isolation will be applied where necessary,

- After examining the wooden sections and elements in the structure, the ones that lost their supportive properties will be changed with the same kind of wood,

- The wooden elements which were geometrically deformed due to separation from each other will be dismantled, rearranged and mounted in accordance with its original shape,

- Existing wooden elements and sections in the structure will be impregnated via corrugation method on the surface against insects and fungus; new parts that will be added or wood that will be dismounted and then mounted again will be impregnated via dipping method,

- Chemicals that prevent wood to bled resin and that will not derange the water balance in the wood with regard to the change of color due to the UV effect of the sun light will be applied to the existing and newly added wooden structural and architectural elements,

- Supporting main walls will be completed with suitable sized stones where necessary,

- After necessary examination in the plasters, the plasters which lost their chemical properties will be rasped, and after examining and determining the contents of the plaster used in and outside of the building, they will be applied to where necessary,

- Thin cracks in the main wall will be repaired via injection system,

- For the structural cracks on the main wall, after the necessary project development is made, projects for repairs or reinforcements will be prepared, and suspension will be used during repairs in accordance with the situation,

- Roof tiles which are broken or which lost their physical or chemical specialties and roof boards will be repaired, and thus moisture that affects the spaces in the building will be eliminated,

- Wooden pillars that are in direct relation with the ground water and snow will be isolated and protected,

- Metal or wooden pillar or buttresses that are subsequently added to the structure will be removed after the structural integrity of the structure is maintained,

- Electricity wiring and sheet metals that were imprecisely and subsequently added to the dwelling for comfort purposes and stone and wooden remains that are found both in the dwelling and the garden will be removed,

- Concrete mortar applied subsequently on to the building will be removed and these parts will be remade via original materials,

- Dirt that occur on the main walls and wooden materials will be cleaned via non-ionic materials, and protective chemicals will be applied to the surfaces,

- Oil painting on the wooden elements will be firstly cleaned via chemicals, then via mechanical methods if necessary, and protective applications will be applied,

- Insecticide and protection for plants for all the structural and architectural elements will be applied.

Besides these, within the context of the new function as boutique hotel, necessary modern additions for the purposes of comfort are summarized below:

- With respect to fire; on the present and additional wood work, transparent chemicals that delays burning will be applied; maintaining fire warning and fire extinction systems via projects will be applied,

- Heating problem in the building will be solved via portable (mobile) air conditioners,

- Besides natural lighting, lighting design in accordance with the needs and characteristics of every space will be made; in this respect, instead of fixed wall lamps lighting will be provided via mobile elements,

- Ensuring the necessary insulation for electrical wiring which will be surface mounted without harming the building; for low-tension current wiring (TV, phone, etc.) necessary PVC anti-chrome cables will be preferred,

- Project for sanitary system will be solved without harming the building,

- Due to the function given to the building, necessary additions such as sink, shower enclosure and wc will be designed with modern and transparent materials if possible, and they will be installed isolated in spaces or portable.
6. CONCLUSION

Akseki is a different settlement area than the other districts of Antalya with regard to its geographical structure, settlement specialties and architectural features. Especially, the residence texture of the area shows a rare specialty due to its authentic construction technique. Walls built without mortar and wooden elements that stick out from the walls 'düğme' manifest itself as the differential characteristic of the construction technique special to Akseki. Besides this, Mehmet Duruk dwelling, with its different düğme detail is a unique work as far as the local architecture is concerned, and it is not used today. Although the authentic system, materials, details and elements of the building reached the present day intact, due to being a derelict building in the recent years, it has been deteriorated. Bucakalan village, which Mehmet Duruk dwelling is a part of, reached the present day intact with its authentic features as the building itself did. However, decrease in the population, lack of employment and water installations due to the dense migration from the village to the cities caused textural deterioration. If the employment is not fulfilled, the registry of both the village and the building will not be effective to stop deterioration.

One of the most important solutions to protect rural architectural heritage which continue to diminish due to these kinds of reasons is alternative tourism. In this respect, the present boutique hotel potential is put to good use, and it is suggested that Mehmet Duruk dwelling is preserved via giving it the same function. It should not be forgotten that rural architectural heritages are historical documents on the basis of habits, needs and traditions, which carry rural lifestyle via its structural and textural features. They are valuable and they must be preserved.

CONFLICT OF INTEREST

No conflict of interest was declared by the authors.

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