

TOKAT – RESTORATION OF THE CARAVANSARAY OF PAZAR MAHPERI HATUN

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Abstract: One can easily find in the city centre of Tokat and nearby towns the fine examples of Anatolian Turkish architecture belonging to the period of Seljuk such as mosques, shrines, baths, fountains, khans and caravansarays which served distinctive functions. Many pieces of art have been regenerated through proper methods of restoration with the contributions of well-informed local authorities and with the awareness of preservation of historic and cultural heritage and desire to transfer them to the future. After the Battle of Manzikert (1071) the Seljukians of Turkey ruled over some parts of Anatolia who attached importance to trade infrastructures building caravansarays, bridges and sebils (wells and fountains) on trade roads and turned Anatolia into Turkish-Islamic nation.

The construction of Seljukian caravansarays, which were the foundation of Anatolian Economy, started during the ruling of Sultan Kılıç Arslan II (1155-1192) and developed in a very short time spreading caravansarays all across the trade roads of Anatolia. Caravansarays played important role on development and continuity of transit trade in the Anatolian geography as described in the resources of Seljukian period such as inscriptions, literary works and travel books. Caravansarays, magnificent structures with their specific architecture and decoration, were considerably modern stopover destinations according to the conditions of the period. Considering the historical caravansarays as cultural entities to be preserved, it is vital to document and preserve them as well as transfer them to next generations preserving their material, technical and architectural features by means of proper methods of restoration. In this study, a detailed structural survey of the Caravansaray of Mahperi Hatun has been made and projects of restoration and restitution have been prepared. Following this, scientific evaluation and reporting studies were carried out as well as reconstruction and reinforcement processes were selected in the context of intervention types applicable to cultural premises which need to be preserved. In the light of prepared projects and scientific data obtained thereafter, the unusable materials have been selected to be removed from the structure and inventory of the materials has been recorded. However, the usable materials have been enumerated and stockpiled in order to be reused. The study remains faithful to the building survey. In accordance with the inventory of unusable materials, most characteristically similar natural stones to be used in the materials have been brought from Tokat quarry so as to be applied.

Keywords: Building Survey, Restoration, Caravanseray, Seljuk, the Caravanserai of Mahperi Hatun

Introduction

In the 11th and 12th century the Seljuks, who conquered Anatolia, founded here the Anatolian Seljuk Empire and to strengthen their sovereignty and economy on their newly won land they started to develop commercial activities (Önge, 2007). In this context, they didn't just build orderly roads, walkways and bridges to safely connect the towns, markets and trade routes of their big country, but they also founded certain mansions (ranges), public houses and caravanserais to ensure the absolute safety of their trade journeys (Akok, 1974). The Seljuks, who built various caravanserais and madrasahs in many parts of the country also put great importance on the expansion of the trade routes in Anatolia. This way Anatolia became the haunt of crowded trade caravans and one of the most important centers of world trade.

This prepared study is based on the Tokat-Pazar Mahperi Hatun Caravanserai, which is one of the Seljukian caravanserais that reached our time. The first part contains definitions about the caravanserais that were established because of the interest in trade of the Anatolian Seljuks. In short, concepts such as operating systems and basic planning elements have been analyzed. The second part tries to explain the used methods for the restoration of the

Tokat - Pazar Mahperi Hatun Caravanserai. The third part describes the work steps that have been carried out while working on the Tokat - Pazar Mahperi Hatun Caravanserai. The last part however shows today's status of the Tokat - Pazar Mahperi Hatun Caravanserai by using the information of part two and three.

Caravanserai

The word caravanserai derives from the Farsi word *kârban* (caravan) and *saray* (palace). Caravanserais are non-profit institutions that have been built on the main roads between cities for accommodation of caravans and passengers. Although it is not quite possible to say where the first caravanserais have been established, some sources say that caravanserais are based on ribats (Akıl,2006). Two caravanserais in Asia that have been built by the Turks and are called ribat belong to the Ghaznavid and Kara-Khanid Khanate dynasty. Their architecture and plans became later examples for the caravanserais built by the Seljuks (Günel,2010).

Operating System and Plan Samples of the Caravanserais in Anatolia:

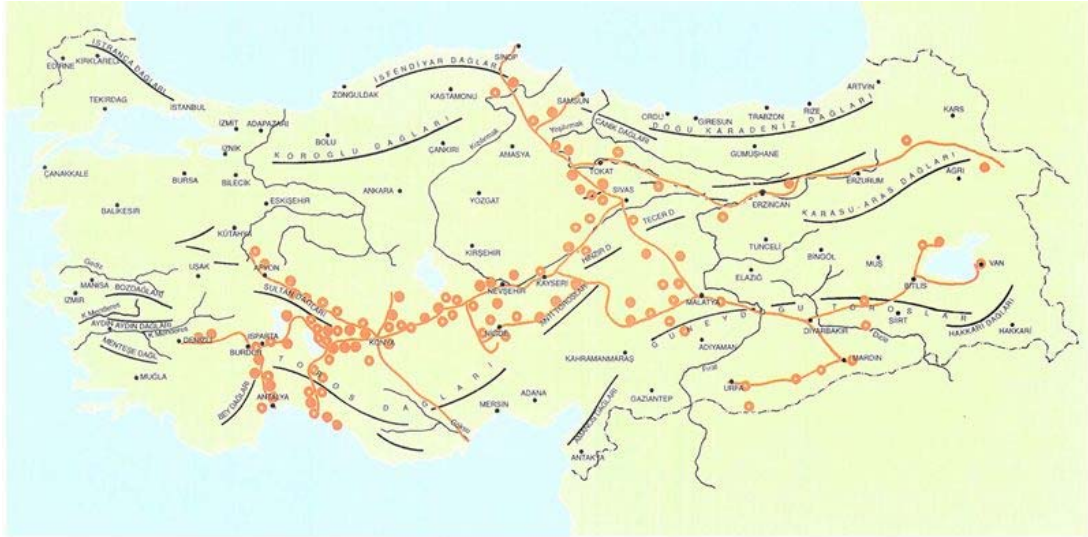
The caravanserais that received their essence from solidarity and humanity survived until today thanks to the foundation system and are commercial buildings for the public benefit established on roads. Caravanserais were generally built 8-10 hours (35-40 kilometers) by foot away. The stay up to three days in caravanserais was completely free. Expenses were paid by the Sultans, Lords and their foundations.

Kilij Arslan II started a program that transformed the Anatolian Seljukian caravanserais into cornerstones of the economic policy in order to establish trade in Anatolia, create a connection to the Asian trade routes and to lead them to the Mediterranean and Black Sea ports. The building of caravanserais also continued in the Ottoman Empire after the Seljuks. Caravanserais built during the Ottoman period show to main plan types:

1) Closed caravanserais without courts: A square or rectangle building with only one door forms the basis of the plan. The windows are small and high. The raised benches on either side of the entrance axis serve for accommodation of the guests. The middle part is for animals or cargo.

2) Open caravanserais with courts: This type divides the stables and service departments around the yard and the inside accommodations for the passengers at night. Usually there is a water fountain in the middle of the court (Akıl,2006).

Caravanserais are ostentatious structures with thick and tall walls. Along the boundary walls and at the corners there are strut towers. The main door is called crown door and it is possible to find examples of the beautiful Seljukian stone dressing on these doors (Korkmaz,2009). The stone dressing can usually be found on the frame. The crown door, niches, windows, arches and wall edges are architectural pieces that are used for stone adornments. The crown doors, which catches one's eye between the plain walls, give the feeling as if they are inviting the visitors inside. Limestone is used for most of the structures, sometimes at various colors and tones, sometimes only one color and sometimes a few of them together. Marble was rarely used. Inscriptions and plates with the names of the architects are also placed on the crown doors and the structures walls. The virtuosos also left unique signs and marks on the walls of the structure. Picture-1 A map of the caravan routes that was made via the so far detected Seljukian caravanserais.



H6 haritası bugüne dek saptanabilen Selçuklu kervansaraylarını, kervan yollarını göstermektedir. | Map H6 shows the Seljuk caravanserais and caravan roads that are known to us today.

Figure -1: Seljukian caravanserais, caravan routes (Source; Niğde Culture Inventory)

TOKAT-PAZAR MAHPERİ HATUN CARAVANSERAI

Established on the Amasya-Tokat road, 1 km east from the district Pazar, near the Yeşilirmak River; according to two inscriptions the "public house" has been built by Sultan Melike Mahperi Hatun and was finished in the year 636/ 1238-39. (Picture-1). Hall 19.50x28 m (10 stone pedestals), the court is 33x34 m big (Özerkin,1965). Figure 2 shows the site plan of the caravanserai.



Picture -1. Tokat / Pazar Mahperi Hatun Caravanserai

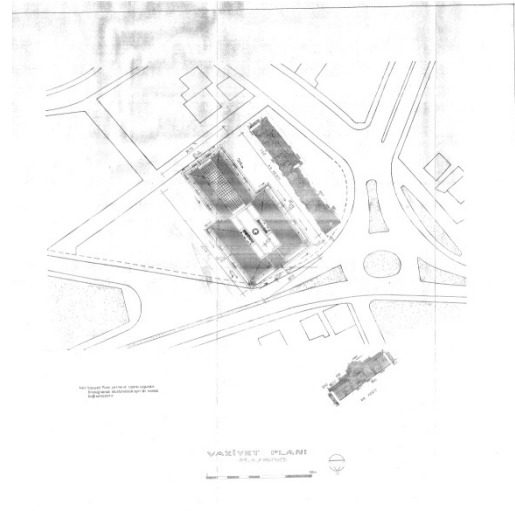


Figure 2: Pazar / Tokat Mahperi Hatun Caravanserai Site Plan

The caravanserai consists of two different sections, one summer and one winter section. The summer section consists of a cloister that is surrounding the court and the parts behind it. The winter section however is divided into three parts by two rows of pillars, the pendentive is covered and completely closed to the outside. The caravanserai consists of cut stones and is rectangular planned. The entrance door is very pompous, has a rectangular shape and stands inside a pointed arched niche. There is a construction inscription above the entrance door. The door inside the niche stands inside a round arch and consists of alternatively different colored stones. It resembles the portals of Anatolian Seljukian madrasahs and caravanserais. The roof of the caravanserai is completely destroyed but the portal and outer walls survived in a good condition until today (www.e-tatih.org,2015).



Picture-2; Tokat - Pazar Mahperi Hatun Caravanserai Main Entrance Facade (Foundations General Directorate-Tokat District Directorate)



Picture-3; Tokat - Pazar Mahperi Hatun Caravanserai Main Entrance (Foundations General Directorate-Tokat District Directorate)



Picture-4; Tokat - Pazar Mahperi Hatun Caravanserai Open Inner Court (Foundations General Directorate-Tokat District Directorate)



Picture-5; Tokat - Pazar Mahperi Hatun Caravanserai Main Entrance of the Inner Court (Foundations General Directorate-Tokat District Directorate)

Restoration Decisions and Application

A scientific restoration begins with an analytical study. This study is carried out from three angles:

- a. The historical angle,
- b. The aesthetical angle,
- c. The technical angle (in terms of structure and construction.)

All three studies are handled at three levels:

- a. Interaction of the building with the environment;
- b. Totality of the structure;
- c. Details of the structure (Kuban,2003).

These repairs on ancient structures are named restoration and are carried out according to type and degree of intervention in order to protect them and extend their life. While restoration means to bring back the original state of the structure to a certain extent and make it stronger in order to ensure that it will last longer, the process also

contains the repair, the maintaining of the old or the giving of a new function. Giving the structure its old function back or creating a new one for it ensures the use of the structure which is an important part of the conservation culture. It is very rare that the structure is transformed completely back to its original state (reconstruction), this is why mostly the protection of the present is intended. Because of these reasons the scope of the repair/completion works is closely linked to the damage ratio of the structure and to the desired restoration level (Yılmaz,2012). This caravanserai on the Tokat-Turhal-Amasya caravan route in the district Pazar of the province Tokat was built by the wife of Sultan Kayqubad I, Mahperi Hatun in the years 1238-1239. The structure was built completely out of fine cut stones. Figure 3 given below shows the building survey of the structure.

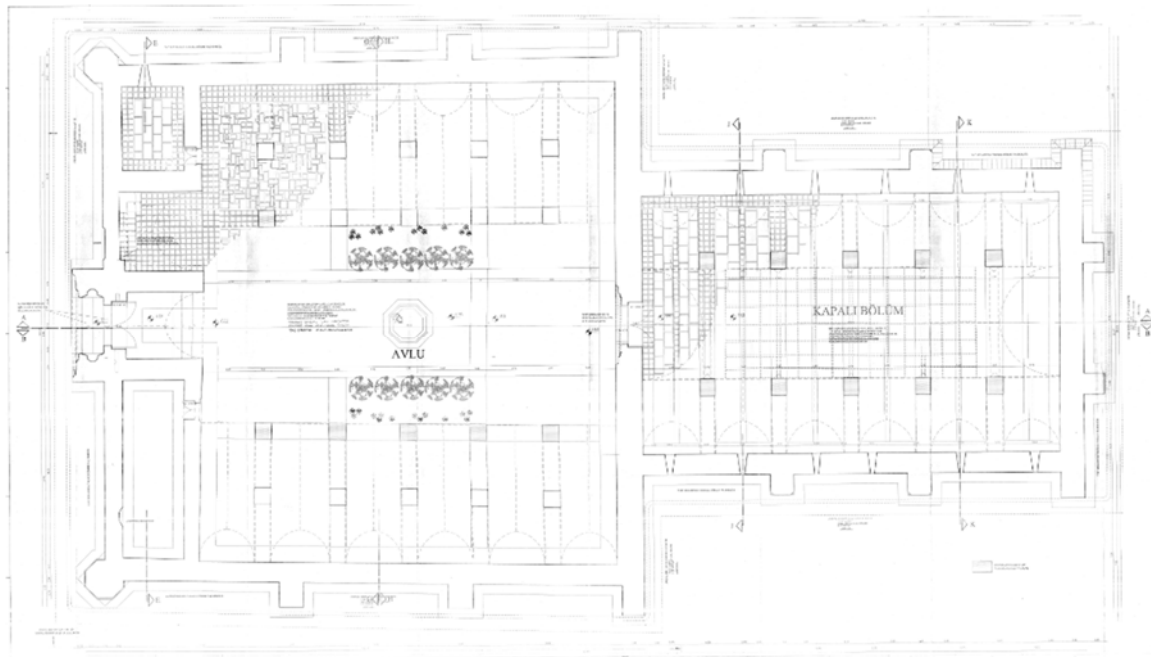


Figure- 3; Tokat - Pazar Mahperi Hatun Caravanserai Building Survey

Like seen in the building survey of the Mahperi Hatun Caravanserai, the bearing stands of the pendentive arches on the right and left of the court have become extremely damaged over the years (Picture 6).



Picture-6; Tokat - Pazar Mahperi Hatun Caravanserai Open Inner Court (Foundations General Directorate-Tokat District Directorate)

Walls and Struts

Bearing walls in historic building are generally made out of cut stone, rough stone, rubble stone, bricks or alternating materials (stone+bricks) and loads from the structure are conducting a continuous basis. The cross-sectional dimensions of the walls together with the oblique loads on it are determined by considering the earthquake loads. The thickness of the walls in historic masonry structures are chosen very big when compared to

the self-weight of plane walls. In order to compare the vertical and horizontal loads of the wall they need to act as a whole.

The bearing walls of the Mahperi Hatun Caravanserai was built with cut stones. The bearing walls, which make up a big part of the outer periphery of the structure was preserved in its original form and was only cleaned up. Walls with missing or insufficient parts were restored according to the building survey. Appropriate stones that fit the texture of the structure were supplied by the quarry in the center of Tokat and by manufacturing them properly the loads provided by the structure were transmitted to the basis (Picture-7). To ensure integrity of the wall, stones were connected with mortar, seam and wood/wrought iron beams on different levels. Some parts of the wall were strengthened with struts so they would withstand the loads from the oblique roof.



Picture-7; Tokat - Pazar Mahperi Hatun Caravanserai Open Outer Walls (Foundations General Directorate-Tokat District Directorate)

Pendentives

Pendentives are architectural elements that connect a series of arches in a row, which then forms a corridor. This way it is possible to create a sturdy but light foundation to carry the upper structure. In historic structures they were used to create a closed volume in rectangular areas.

In the Mahperi Hatun Caravanserai part of the pendentives in the open court and all of the pendentives in the closed area were damaged or collapsed. The pendentives were manufactured by creating supporting molds and they were strengthened with adhesive mortar and wrought iron beams (Picture-8, Picture-9).



Picture- 8; Tokat - Pazar Mahperi Hatun Caravanserai Closed Court Pendentive Manufacture



Picture-9; Tokat - General View of the Pazar Mahperi Hatun Caravanserai Open Inner Court Pendentives

Arches

Arches are architectural elements that are connected to a semicircle or arc-shaped center lock stone, rise up on two feet on which they bear the weight of the upper wall and create an opening with the desired space. The arches here are used as junction points between the pendentive feet and the outer walls of the structure and are located above the main entrance of the structure, the entrance of the open court and the door between the open and closed court (Picture-10/Picture-11). Because they were generally in a better shape than the pendentives, simple refuting and

stones in bad shape were switched out and the transfer of the dome load to the main wall, which is their main task, was made safer.



Picture-10; Tokat - General View of the Pazar Mahperi Hatun Caravanserai Main Entrance Door



Picture-11; Tokat - General View of the Pazar Mahperi Hatun Caravanserai Pendentive Arches

Mahperi Hatun Caravanserai Application Report

A restitution project was prepared according to the presented sources of the said structure, old photographs, information given by the Foundations Tokat District Directorate, new photographs and studies performed on site. Regarding the closed court, pendentive ruins and the exterior wall facades surrounding the structure were used to determine the laying tracks of the pendentive feet (Figure-4).

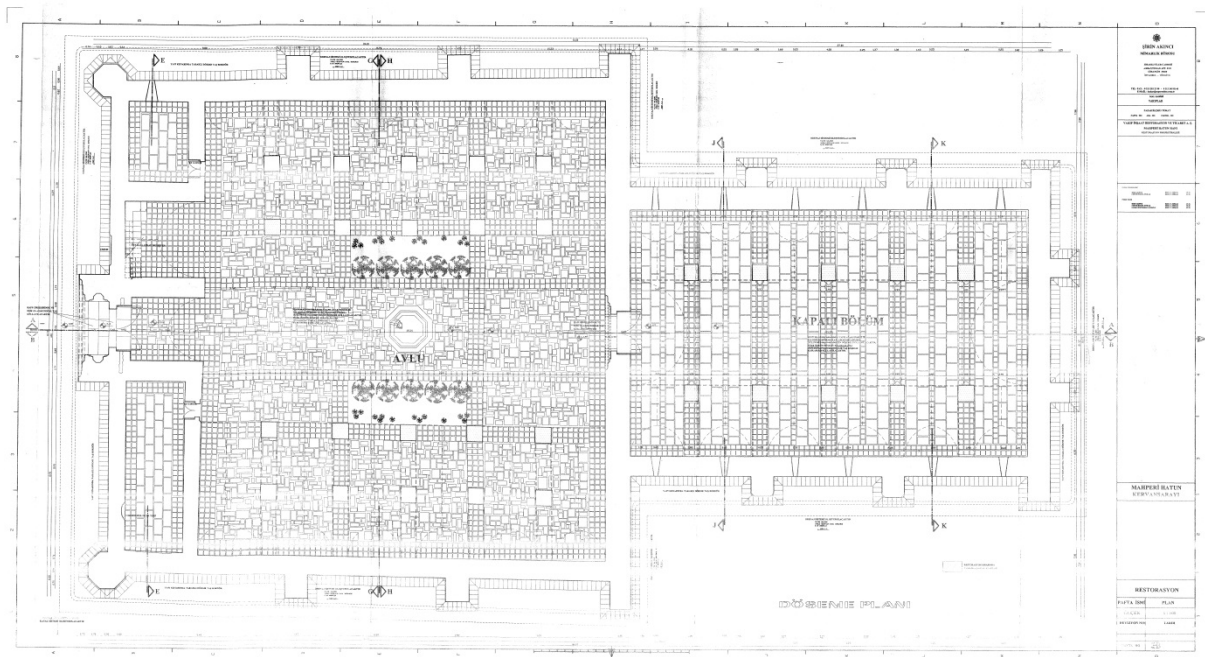


Figure- 4; Tokat - Pazar Mahperi Hatun Caravanserai Restitution Project

By using part of the surviving wall of the closed court, the location and height of the present windows could be calculated (Picture – 12). Because of the height difference of the closed and open court, a concrete floor and stairs were created (Picture – 13).

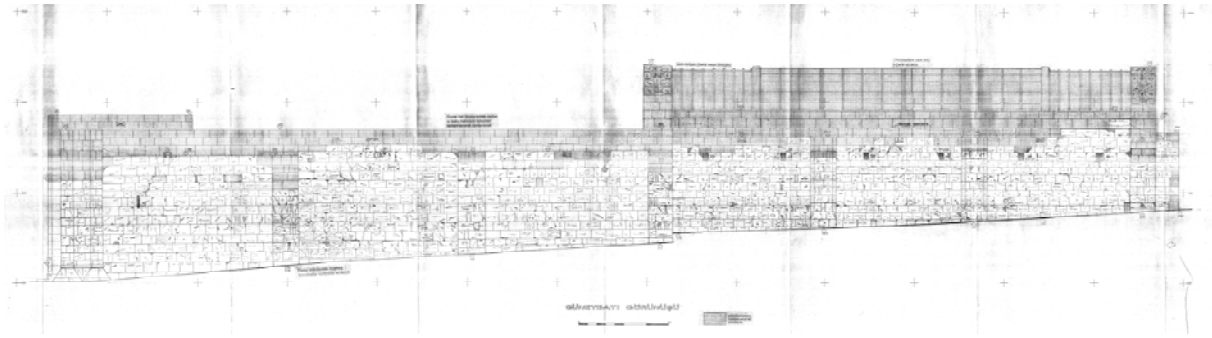


Figure-5; Tokat - Pazar Mahperi Hatun Caravanserai South-West Facade



Picture-12; Tokat - Pazar Mahperi Hatun Caravanserai Height Difference of the Open and Closed Court

The closed court was built in correspondence with the restitution project, which was prepared according to old traces, photographs and bibliographies, with stones from the quarry in the center of Tokat. During the building of the pendentives and the formation of the arches, mortar was used between the stones and iron blades were used as support and connections.

As the inner court of the structure was in better shape than the closed court, application decisions were taken more easily in line with the restitution project. Surviving pendentive ruins were saved and completed with appropriate stone material. Completely destroyed pendentives however were rebuilt in line with the restitution project. The structure system and ruins revealed, that the pavement is made out of stones. Thus the height differences of the structure were evened out with concrete and covered with stones (Picture-13).



Picture-13; Tokat - Pazar Mahperi Hatun Caravanserai Inner Pavement Application

Used Methods

By evaluating the ruins of the Mahperi Hatun Caravanserai and the obtained documents, a restoration project was prepared in line with the prepared restitution project. The stone basis of the building was present and by cleaning up the ruins it was strengthened with appropriate brickdust mortar and cut stones with the same properties of the original material. Present walls of the caravanserai however were numbered, removed and put aside about to be masoned again. Usable stones were separated and insufficient material was substituted with appropriate material by the quarry in the center of Tokat in order to mason the walls (Picture-14). Missing pieces were replaced by new material with the same properties. Since some gutters were in good shape they were used again. Because no wood material was left, new elements were manufactured according to the project.



Picture-14; Tokat - General View of the Pazar Mahperi Hatun Caravanserai

After placing stone blocks for regional repairs of regional/local cracks, the gaps were filled with an appropriate mortar injection. For the repair of fine cracks and cracks and gaps in thick walls the best method is to use a mortar injection with similar properties of the wall. Instead of the renewal of some elements, present elements were repaired and stainless steel was placed in the junction points.

Different from the original structure both parts (Inner court and closed court), the floor and the roof were isolated and protected against water. First the top of the pendentives were filled with light material and the whole structure was covered with stone pavement. The top of the closed court however was covered with polycarbonate material, so it doesn't lie heavy on the structure, and the arched iwan part was covered with lead material. Considering snow and rain falling on the structure, the stone pavement was created beveled and with gutters the water drain was ensured. The Roof Surface of the Mahperi Hatun Caravanserai (Picture-15).



Picture-15; Tokat - General View of the Pazar Mahperi Hatun Caravanserai Roof

Conclusions and Evaluation

The Seljukian caravanserais are formed with art, culture, aesthetics, need, material and construction techniques, are located on historical trade routes and are part of our cultural heritage that needs to be kept alive. Seljukian masterpieces that survived until our days are about to lose their battle against time because of destruction and degradation. Considering the condition of the structure, great importance has been placed on the protection of authenticity, traditional material and application of the technical and constructional system.

By determining that the bearing systems of the Mahperi Hatun Caravanserai consist of cut stone, which was found out via traces identified during the project phase and information of eyewitnesses, the structure was returned to its original state.

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