2013 On Site Review Report

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Rehabilitation of Tabriz bazar

Tabriz, Iran

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Client
Tabriz Bazaari Community

Design
1994 - ongoing

Completed
2005 - ongoing

Rehabilitation of Tabriz Bazaar
Tabriz, Iran

I. Introduction

The bazaar is one of the ancient commercial structures that are still a vibrant heritage in many Eastern countries. Fully or partially covered, the bazaar plays a vital economic role and it is a vehicle of continuous social, cultural and political events. In particular the bazaar of Tabriz is the most preserved and is by far the largest in the region in terms of size and number of trades. It represents, therefore, the richness of Iranian urban and architectural innovation as well as the sustainability of a living traditional market. The rehabilitation project of Tabriz bazaar is an urban conservation and development project that was initiated as a grassroots community initiative. The consequences of such an initiative – to preserve a threatened bazaar, which was once scheduled for demolition by a governor – are significant in terms of how the public can influence decision-making regarding architectural and urban heritage conservation.

II. Contextual Information

A. Brief historical background

Tabriz is the largest and most important city in the north-east of Iran. There is not much information known about the town in the pre-Islamic era and the first centuries after Islam. Archaeological excavations were begun at the bazaar site during recent years and have succeeded in finding an ancient graveyard of 2000 BC that will certainly help to shed more light on its history in the future.

It is recorded that the Assyrian King Sargon II in 700 BC after the conquest of Osaka (today Ousku) reached the city of Tarouyie-Tarmakis with a series of interwoven fortresses from which the name of Tabriz probably derives. The ancient site near Kaboud Mosque at the heart of the city of Tabriz shows that people have lived there since 2000 BC. This area was on the crossroads connecting the ancient city of Rayy (near today's Tehran) to Constantinople, Athens and Rome; and, from the other side, the Caucasian cities to Baghdad. Nasir Khusraw has described Tabriz as a prosperous city with a fortress of a length of 1,830 metres.

At the time of the Ilkhanids, with the regained prosperity of the Silk Road,, which connected the most eastern point in Asia to Europe, Tabriz reached its peak. The Mongolian ruler Ghazan Khan chose Tabriz as his capital and developed the city. Hamdullah Mostofi has written in his great historical book *Nezhat al Ghouloub* that the ramparts accounted for nearly 16,500 metres. Tabriz was, therefore, a strategic commercial hub, and it is no wonder that its bazaar influenced its urban fabric as well as its political life. Despite falling prey to natural disasters such as earthquakes, floods or the destruction of war, the bazaar has always been reconstructed and regained its vitality. After the 18th-century earthquake, it was almost fully destroyed, but was reconstructed within 20 years to the same dimensions as those of today.

Throughout history, the monumental bazaar signified the greatness of the city of Tabriz as a crossroad of ancient civilisations right up to our contemporary days, connecting east to west and north to south, from China to Europe and from Egypt to Russia. It was one of the great destinations along the ancient Silk Road. Many travellers, such as Ibn Battuta, Marco Polo and a host of others wrote about the glories of the Tabriz bazaar as an architectural and urban wonder.

B. Local architectural character, including prevalent forms and materials

Before defining the architectural character of the bazaar, it is important to decipher the origin of the term *bazaar* in order to denote its physical aspects. The first recorded use of this term goes back to the Parthian dynasty, also known as the Arsacid Dynasty (238 BC–AD 226) as "*vazhar*". Later, in Middle Persian, the term "*vvazar*" is found in various compound words such as "*vazarg*" (business person) and "*vazargan*" (merchant). This unique Iranian term spread to other languages like Arabic and Turkish and afterwards to Latin languages. In Middle Persian, the term "*vazar*" was primarily used for the name of a location for trading goods. *Bazaar* in Persian literature has a broad meaning and has been used for a crowded covered or semi-covered space known as a place in which renowned merchants conduct commercial activities[1]. The bazaar is, therefore, the place for conducting business and has evolved an urban and architectural character of its own. The Tabriz bazaar is the embodiment of this covered market typology, one which would influence markets worldwide over history l.

The Tabriz bazaar is considered one of the largest brick building complexes in the world. It covers 27 hectares, with 5.5 kilometres of bazaar lanes (*rasteh*). Either domed or vaulted, the bazaar provides complex structures demonstrating advanced techniques of laying bricks. Examples such as the dome of "Timcheh Haj Kazem" or the intricate brickwork (*karbandy*) of "Timcheh Bozorg Amir" can be considered a veritable training ground for exploring brick architecture.

While the whole architecture of the bazaar is simple in terms of decoration, its structural elements offer outstanding ornamentation. The domes are of advanced geometry and lighting adds much value to their shapes. The *timcheh*, a domed crossroad node, is an example of how artisans combined spatial importance and the geometry of the covered space. The *karbandy* (brickwork) is explored for meeting both structural needs and ornamentation and accordingly there is an architectural coherence between the structure and the wall surfacing. Some facades of the *rasteh* (commercial lanes) in fact portray similar features to an advanced European urban street, proving that Iranian architecture was avant-garde in its time vis-à-vis other world architectures.

The materials used in the construction of the bazaar mainly reflect the local resources of the region. The construction includes brick for walls, columns, arches and domes, with adobe used as brick mortar, and plaster and tile for the exterior of the walls. As the bazaar construction evolved and resources became much more accessible due to modern transportation, iron began to play an important role in the structure of the bazaar. While the general floors of the bazaar are paved with natural earthen materials, the areas used for selling expensive goods are more richly paved with bricks or tiles.

The use of wood is not advanced in the bazaar; it is mainly used as a structural support. In comparison with the brick structures, the carpentry techniques are minimal except for some important wooden doors in the main gates. Stone is used only for foundations and partially supporting some massive buildings. The water solutions are very advanced in terms of drainage throughout the bazaar as well as providing potable water in several important nodal points.

However, the most attractive architectural innovation of the bazaar is its layout and circulation patterns evolved to meet the needs of shopkeepers and customers through specialised linear streets. Despite numerous earthquakes, the bazaar has maintained its architectural and urban typology as anintegrated complex.

C. Climatic conditions

Tabriz is located in northern Iran which has a semi-arid climate. The seasons are regular with an annual precipitation of around 380 millimetres. The city is located at a high altitude in mountainous territory and has short, temperate summers along with long, cold winters. The cold season roughly spans the months of November to March with January being the coldest of the winter months. The minimum relative humidity is 44.8% in August and the maximum relative humidity is 79.3% in December. The winter is cold with snowfalls and overage minimum temperatures of -20°C, but the summer is hot with high temperatures of 42°C.

This means that the architecture in Tabriz must have reasonable insulation during winter to maintain a warm thermal environment, and to protect interiors from the heat outside in summer. For the architecture of the bazaar, the brick masonry walls offer an excellent thermal protection both in winter and summer. A number of other techniques were applied to regulate temperature, such as the height of the bazaar that does not exceed a maximum of 15 metres to preserve warmth in the harsh winters; it is also possible to keep large gates closed and open only the small doors to limit heat loss. Numerous small openings in the vaults and domes of the twisty alleys of the bazaar create a dynamic air movement that brings air into all the interior spaces. In some cases, the high-level domes play the role of wind-catchers, especially in the areas of the *timcheh*.

D. Site and surroundings

The historic city of Tabriz is made up of different urban districts of varying urban-social functions that are organised by an intrinsic urban system of road networks following a certain hierarchy of space. These districts of Tabriz include Amir Khiz, Mahad Mahin, Gajil, Vijuyeh, Sanjaran, Nobar, Chahar Menar, Davachi, Sorkhāb, Baghmisheh, Chustdiuzan, Hokmabad, Akhuni, Ghara Aghaj and Khatib. Although these districts may not show any distinct boundaries as per current zoning systems, their identity is determined by their distinct physical layout according to their strategic role in the whole urban fabric.

The bazaar district in the city of Tabriz reflects through its size the impact on the surrounding urban landscape by imposing an order that is distinct from the very irregular urban fabric. It is also located, after historically evolving, along the main road of the city of Tabriz, acting as the main hub

connecting the city's various parts. This is why important social structures, such as the *Jumaā Masjid* (congregational mosque), main seminaries and coin-mints, are located nearby.

The bazaar of Tabriz is unique in terms of the integration of its sections into the city fabric through public squares and gateways of minor *rāstā* to residential neighbourhoods, which permit easy access to the bazaar from all parts of the city and lead, in turn, to several trading areas and routes outside the city. In certain locations of high commercial importance, *caravanserais* would be constructed in the vicinity of *rāstā* in order to increase the capacity of commercial activities. In certain areas of the bazaar where a linear development was not possible, main *rāstā* acting as nodal points with parallel roads would include various merchandise. In other words, the bazaar urban typology and landscape developed throughout history to be highly functional without losing sight of its architectural bazaar-type character. Looking at an aerial photo of the bazaar, it is easy to spot the hierarchy of spaces from the size of streets, as well as the architectural structures covering different areas.

The bazaar covers 27 hectares with 5.5 kilometres of inroads and also includes various functional spaces, such as caravanserais, *timcheh*, mosques, schools, bathhouses and public areas, having different degrees of historical architectural value. Being located next to the Mehran River, the bazaar also generated several inside and outside green spaces. Moreover, renowned bazaar merchants liked to build their opulent houses near the bazaar, further contributing to enriching its immediate neighbourhood.

The bazaar of Tabriz is accordingly a holistic architectural and urban complex with a unique landscape and cityscape. The materials, architectural details, urban typology and strategic location all made this bazaar one of the most advanced historic covered markets in the world.

E. Topography

The city of Tabriz is located at 38°8'N latitude and 46°15'E longitude and lies in the north-eastern corner of a vast plain covering an area of roughly 300 square kilometres whose average altitude is approximately 1,350 metres above sea level. The plain is surrounded in three directions by mountains or rolling hills, while it is bordered by Lake Urmia along its western edge. The highest mountain in the proximity of Tabriz is Mt Sahand, which lies 50 kilometres to the south. In between the two are scattered hills with an average additional height of 500–600 metres, relative to the plain, called *Yanix Dāgh* (Burnt Mountains). [2]

The bazaar topography is thus situated in this complex and rich geography of the city of Tabriz. However, the bazaar site *per se* lies on a mild slope from the south towards to the north where a flood bed is set, and is located in the lowest line of the city's topography. This topography of the site of the bazaar enhanced the south-north direction that followed the trade route of Baghdad to the Caucasus. On the other hand, the Silk Road followed the other perpendicular direction but was of secondary importance.

It is noteworthy to add that the topography of Tabriz and its bazaar is situated in a seismically active area of Iran. Suffering a number of earthquakes, the bazaar can be deemed a place of natural resistance to judge by the number of times its site was reconstructed. This resistance in maintaining

the same site and rebuilding its erased structures throughout history proves its communal, social, cultural and political importance.

III. Programme

A History of the inception of the project

The bazaar of Tabriz is 230/240 years old and has been subjected to repetitive historic restorations in order to keep its commercial role as an urban and architectural locus of the city of Tabriz. However, during the past 50 years it has been completely neglected. Since the new policies of Reza Shah Pahlavi, who shifted management of the bazaar from its community of guilds to central governmental authorities with the creation of the new Ministry of Public Works, the bazaar deteriorated, became unsafe, and several businesses fled its spaces. After the 1979 revolution, the same central government management continued but only exacerbated the bazaar's deterioration.

However, in 1993 a turning point in the conservation and development fortunes of the bazaar occurred when the Iranian architect, Mr Akbar Taghizadeh, joined the Cultural Heritage Organisation of Western Azerbaijan (CHO). Under the auspices of CHO, Taghizadeh radically reversed the decline, enabling conservation ideas to be more community-based with the direct involvement of the bazaaris in decision-making regarding the development of their working environment.

In 1992 Taghizadeh, a native of Tabriz, intervened as a mediator, as he was a member of the organisation of engineers (Nitham Muhandissin) before joining CHO, in order to change the decision of the local governor to erase this most valuable heritage site in the city. Continuous dialogue with the heads of the bazaaris resulted in the restoration of the first *timcheh* in the bazaar in 1994, when Taghizadeh became head of CHO in Azerbaijan. This pilot restoration project was decisive in persuading the bazaaris to contribute to funding the project, with the support of the government, since it had a positive economic return on their businesses.

This wide community participation in the government's restoration expenses accounted for 2%, while the rest was covered by the owner with the condition that CHO would assure planning and technical assistance, as well as meet restoration standards. This negotiation was attained with the support of two local influential trustees in the bazaar, Haj Madineie and Haj Ahmad Khadem Hossieni. Their role was strategic in reinstating the traditional self-management of the bazaar, which boosted the credibility of the whole process among shop owners.

Taghizadeh and his team listed the following negative ideas that hindered the contribution of the bazaaris:

- restoration and maintenance works are mainly the responsibility of the government;
- traditional experts of restoration had disappeared and therefore the bazaar was doomed to disappear;

- traditional materials were inexistent, especially the square bricks;
- restoration is a very expensive undertaking;
- during the work their businesses would be closed for a long time.

Considering these points, Taghizadeh and his CHO team established a unit of community participation and set up discussions on conservation issues that would widely involve the bazaaris' trustees. This resulted in a financial outcome that saw the government cover 85% of conservation costs and the bazzaris 15%. This deal was reached on the condition that the CHO team would supervise the technical part and provide the necessary expertise and technical documents needed for the implementation of works.

The institutional set-up was grassroots as the planning was bottom-up and not top-down. After interweaving strong relations with the trustees and establishing the conservation master plan for the bazaar, the local CHO branch applied to different concerned ministries at the level of central government in order to launch an inter-institutional structure that would support and coordinate the different interventions, such as the ministries of housing, commerce and taxation.

B. How were the architects and specialists chosen?

The CHO technical branch in Tabriz selected architects, masons and technical experts. The association engineers in Azerbaijan played a major role in providing qualified engineers to be involved in the conservation works. However, the lack of expertise in specialised restoration was a challenge.

The rehabilitation project of the bazaar was, indeed, a school where most current experts were trained through following up on needs arising in the field and learning constantly from local craftsmen, whose contribution was most valuable.

After the first pilot conservation work, the team became multi-disciplinary, involving a variety of spheres such as sociology, anthropology, civil engineering and urban planning. For example, Dr Fahimi was the leading sociologist who studied the bazaaris' society in depth and devised ways to communicate with their trustees based on local cultural codes and customs. Hence, the rehabilitation project of the bazaar was pursued from a highly participative approach in a delicate political environment where dictated policies are the rule.

C. General programme objectives

- conserve the historical buildings of the bazaar in order to upgrade its physical infrastructure and maintain its original community of bazaaris;
- follow a community-based rehabilitation policy and limit the top-down authoritarian approach;
- boost the commercial activity in the bazaar through re-establishing its historic image;
- enhance the city's economy through rejuvenation of bazaar;
- increase the security and safety of the bazaar in order to attract different clienteles;

- improve access to the bazaar and demarcate its gates vis-à-vis the surrounding urban fabric;
- sustain the cultural environment of the bazaar by preserving its key networks of historical landmarks and create a series of community museums such as Kitabat, Muharram, Asarab, Ashayr Museum and Bonab;
- protect and enhance the authentic urban and natural landscapes of the bazaar.

D. Functional requirements

The functional requirements of the project pursued mainly cultural, commercial, educational and environmental developments. Cultural development lay in rejuvenating the heritage of the bazaar and sustaining its living memory. Commercial development was assured by boosting the different businesses organised via specialised sections or *timcheh*. Educational functions are fulfilled by the different museums created in the vicinity of the bazaar in order to inform the public about its historic importance within its cultural context. Environment development reflects the sustainability of its urban setting without which the bazaar has no value.

The key issue of the functional requirement of this project was how to conduct the works of conservation while keeping businesses running. The role of the trustees in organising these works with the bazaaris was crucial.

IV. Description

A. Building data

The bazaar covers an area of 27 hectares with 5.5 kilometres of commercial streets. It contains 5500 *hojreh*, stores and shops; 40 different professional guilds; 35 *saras*; 20 *rasteh* and *rasteh* bazaar; 25 *timcheh*; 11 *dalan* (corridors) and 20 mosques with nine traditional schools.

B. Evolution of design concepts

1. Response to physical constraints

The rehabilitation project of the bazaar faced several physical constraints. The first challenging constraint was to avoid the physical mutation of the bazaar that alters its traditional typology and spaces due to the abrupt modernisation of its shops or to an excessive renovation and the insertion of concrete structures or utilities such as air conditioning. On the other hand, the deterioration and collapse of some shops or sections opened the bazaar up to many dangers of invasion by newly designed buildings that may not be well-integrated with its historic context.

2. Response to user requirements

The design team was firm in terms of preserving the integrity of the bazaar and its heritage site. The increasing demand for adding new activities to the bazaar that are alien to its historic nature was resolved by transferring these activities to other areas in the city and thus reducing pressure on the

bazaar. For example, the municipality planned to add a large urban complex, but CHO stopped that project in order to improve parking and loading areas for the bazaar.

3. Purely formal aspects

Since the bazaar had been neglected for decades, random acts to change its authentic elements became commonplace. Decorative elements were removed or altered both inside and outside the shops. The traditional ceiling changed or was hidden by the addition of mezzanines. The restoration team recorded all lost or altered elements based on other existing prototypes and conducted restoration works accordingly.

Another example that reflects the change of spaces in the bazaar was the system of loading and unloading merchandise. Previously, goods were packaged in line with the size of a camel's load, which was also, of course, in proportion to the interior loading spaces within the bazaar, such as the courtyards of the *timcheh*. But today, with vehicular transportation, containers are enormously larger and need different loading areas outside the bazaar so as not to obstruct circulation in the tiny streets in and around the bazaar. Consequently, new areas were created to respond to this new norm, leaving the inner open space for public use as gardens. Most of these spaces have now been landscaped with local trees such as *acacia* and *poplar*.

The *caravanserai* pools were also renovated, or rebuilt if they had been destroyed. If the flooring had been destroyed or changed, the project included its restoration with brick and native regional traditional stone. The stone was manually cut with the traditional *tokhmagh* (maul) to preserve the same texture as in the past. In general, the details throughout the bazaar have been well preserved, except for some technical difficulties or random continuous misuse that hinders the harmony of a few sections.

4. Landscaping

The bazaar landscape evolved throughout history to be highly functional. Consequently, it includes various landmark spaces with different degrees of historical architectural and urban value. Being located next to the Mehran River, the bazaar generated several inside and outside green spaces. The prosperous environs of the bazaar also offered opportunities for wealthy merchants to build opulent houses that are currently adding much value to the urban setting of the bazaar. Rehabilitation of the bazaar improved the general surroundings through converting the maximum area into pedestrianised spaces furnished with benches and planted with trees and gardens. The gates are well-identified to facilitate access to the bazaar from all directions.

C. Structure, materials, technology

1. Structural systems

The techniques of intervention vary from one part to another in the bazaar. For example, the work done on the foundations was pioneering in terms of consolidating their structure without altering load-bearing wall locations or threatening complex structures, such as delicate domes with intricate

geometrical designs. The work was organised and phased according to the risk level of each part: the foundations were consolidated first followed by the bearing walls and roofing. Because of the intensive earthquakes in Iran, the engineers devised *in situ* techniques to protect structures without resorting to outside technology.

To guarantee a certain level of research and professionalism, Tabriz and Sahand technical universities were invited to conduct several research activities on site for different areas of expertise, such as preventive measures for seismic shocks in the bazaar. This initiative added much credibility and reliability to the executed works throughout the bazaar.

During the collection of data and analysis phase, the CHO restoration team produced a significant numberof plans, technical drawings and restoration detailing. All designs were approved *a priori* before implementation. Consequently, the project succeeded in combining ancestral know-how and modern knowledge to protect the delicate structures of the whole bazaar.

2. Materials

Ancestral craftsmanship in Iran in general and in Tabriz in particular maintains its mastery in using materials that are locally abundant. Stone, brick, wood, clay and plaster were the main materials used throughout the bazaar and in a professional way that shows a certain high level of control of small details. This proves that the bazaar project relied mainly on local technology without any foreign restoration expertise. The philosophy of the restoration and the use of materials obviously stem from the “genius of place” and may be a reference for other parts of Iran and the region.

3. Construction technology

The construction technology applied throughout the bazaar is rather advanced in terms of domes, vaults and other structural systems. The advanced local technology of brick masonry was widely explored in this project and has been successfully proven through the number of restorations of complex structural domes of different *timcheh*.

4. Building services, site utilities

The rehabilitation project of the bazaar significantly enhanced its building services and site utilities. The sanitary infrastructure, for example, is remarkable in terms of number and because it reaches out to all sections in this grand bazaar. The telephone, electricity and other networks were properly laid and the whole bazaar is connected. Public lighting was well done and this essential service added much security to the darker and quieter sections of the bazaar.

D. Origin of

1. Technology

As mentioned before, the technology was exclusively local, relying on advanced living craftsmanship. However, for seismic preventive measures, some was inspired or learned from other regions of the world although applied by local experts.

2. Materials

CHO used only local materials and even created an innovative production system of materials for the bazaar. It produced its own bricks following historic norms. This has revived the use of traditional brick sizes that are altered by unregulated use in the modern market. The plaster was also produced locally by CHO in order to guarantee the highest quality of this for both mortar and rendering materials.

3. Labour force

The labour force was mainly local.

4. Professionals

The CHO technical branch in Tabriz selected architects, masons and technical experts. The association engineers in Azerbaijan played a major role in providing qualified engineers to be involved in the conservation works. However, the lack of expertise in specialised restoration was a challenge.

The rehabilitation project of the bazaar was, indeed, a school where most current experts were trained through following up on needs arising in the field and learning constantly from local craftsmen, whose contribution was most valuable.

After the first pilot conservation work, the team became multidisciplinary, involving a variety of spheres such as sociology, anthropology, civil engineering and urban planning. For example, Dr Fahimi was the leading sociologist who studied the bazaaris' society in depth and devised ways to communicate with their trustees based on local cultural codes and customs.

V. Construction Schedule and Costs

A. History of project design and implementation

The project started in 1994 as an initiative of CHO with the goal of widely involving the community of the bazaaris to take responsibility and action for the rehabilitation of their *timcheh*s and *rasta*. Despite the challenges that the project faced during its inception, the CHO team was able to weave a sound institutional structure around the project which was translated into the design and

implementation of the pilot restoration project of a few *timcheh*s. This pilot project enabled the community of bazaaris to be convinced about what CHO and local expertise could do in terms of technical standards of restoration as well as boosting business around the restored sections.

The government was also involved to assure 85% financial coverage and the bazaaris contribution was limited to 15% of the cost of restoration of the pilot project. Afterwards, when the bazaaris and their trustees were persuaded that the whole rehabilitation project was for their own benefit through the national gain of conserving the valuable heritage of the bazar, their contribution shifted to 98% versus 2% from the community. However, the project did not immediately gain momentum due to the experimental nature of the restoration; gradually technical expertise was honed "on the job", including finding the right materials, professionals, master builders and so forth.

This was accompanied by a measure to guarantee that the bazaaris were comfortable with their representatives as well as the CHO ones. This communication succeeded in bringing other institutions in the city of Tabriz to contribute, such as the services of electricity, telephone, energy and so forth. This growing synergy built trust among everyone involved on the project, which resulted in an increase in the real-estate value of the shops as well as the buildings surrounding it.

The pioneering innovation in this project was the shift of the financial coverage of the project from the governmental bodies to the community. Nonetheless, this was done by retaining the vital technical role of CHO and guaranteeing the technical standards of restoration and rehabilitation throughout the whole project as one ensemble.

B. Total costs and main sources of financing

Although it is hard to provide an estimate of the whole project because of the fragmented contribution of the shopkeepers, the technical reviewer was able to estimate a global cost of the rehabilitation of the whole bazaar for the year 2004: 2.5 million USD.

C. Maintenance costs

Due to the size of the grand bazaar in the city of Tabriz, the maintenance cost is hard to estimate due to the number of actors intervening in the whole maintenance process. But, as far as shops are concerned, owners guaranteed their own maintenance with the assistance of CHO in cases where work pertains to structural or restoration aspects.

The bazaar community financed the costs for maintenance of the main public spaces. The planning for the central maintenance systems had not been actualised at the preliminary stage therefore it is impossible to make cost estimates. Individual shops pay for the kerosene for their heating systems in the wintertime.

The traditional management of the bazaar community assures the cleaning and maintenance of the *saras*, *timcheh* and *rasteh*. However, Tabriz municipality is responsible for the maintenance of the main *rasteh* (commercial lane) as it is the largest and the longest.

VI. Technical Assessment

A. Functional assessment

As the bazaar is a historic market that has been functioning for centuries, the functions did not alter much, except for changes in shops to house contemporary merchandise. The overall bazaar functions have been retained through keeping original architectural typologies while enhancing the overall environmental level.

In order to preserve the original spatial and functional characteristics of the bazaar, all the openings were designed in a way to let enough light in and to control the airflow in the summer and winter. Air movement was enhanced as in the past to maintain an environmental and thermal balance in all seasons of the year.

Access to the bazaar was clarified since its surroundings had been invaded by random construction. CHO designed special gates demarcating key entrances to the bazaar. The urban context of the bazaar was addressed in terms of landscaping, street pattern, squares, facilities and so forth.

The improvement in the function of the bazaar has been noticeable by users and shopkeepers. Before, they felt that the bazaar had become a place of disorder and insecurity and businesses were fleeing to the new centre of the city of Tabriz.

B. Response to treatment of water and rainfall

There are four types of water in the bazaar: potable, sewer, rain and river waters. The potable water is distributed through a contemporary system of canalisation well integrated into the site, though there is some misuse at some points. Potable water is more available in public spaces like the *timcheh*, caravanserai and public baths, but recently all shops have been able to connect to the system.

The sewer system, including water drainage, is modern while the traditional one is obsolete. The municipality supervises the river, potable and sewer waters. The river is well organised and a new structure was put in place on the riverbed to protect the bazaar from flooding in the winter. The rainwater is treated separately and a system of collection was established. This water had been one of the main elements destroying the bazaar structures due to deterioration in roof levels, as well as their drainage canals. Rehabilitating the water system stopped the main cause of decay in the whole bazaar.

C. Environmental response

Not applicable.

D. Choice of materials, level of technology

Tabriz bazaar is principally made out of brick. Some adobe is also used for the construction while the foundations are mostly stone. Wood, metal and glass are widely used but for secondary elements and not for structural purposes. All materials are locally made and CHO established its own factories of production. This guaranteed the quality of the restoration and respected the historic norms regardingmaterials.

E. Response to emergency situations

While enhancing access to the bazaar, several emergency routes were created to ease evacuation. The new gates made in the boundary of the bazaar connected its fabric to the vehicular network and permitted the creation of security points as well as firemen service and evacuation points.

The CHO team put in preventive measures for earthquakes by consolidating foundations as well as reinforcing the bearing systems of walls. The domes were reinforced with extra supporting bricks or thrust systems to absorb the shocks and shakes of earthquakes. In addition, to protect the bazaar from flooding from the neighbouring river, a new structure and water-levelling systems were put in the riverbed and water course to control the flow of water.

F. Ageing and maintenance problems

The nature of the bazaar as a historic complex means that it needs constant maintenance work, with the support of its community. Its status as a UNESCO world heritage site implies that government, the municipality and CHO must supervise the overall ageing process. The intensive use of the bazaar as a public space exacerbates the deterioration of its spaces and hence its community has to be vigilant in terms of conducting routine maintenance to stop the domino effect of decay.

The rehabilitation project of the bazaar educated its community of bazaaris about conservation and restoration. This sensitisation of the community had a great impact on the way the bazaar is currently cleaned and maintained. Therefore the user becomes part of the process of restoration and does not wait for top-down intervention to look after its historic space.

The trained workers that the rehabilitation process left behind now carry out most of the maintenance work and this qualified skill is recognised among the bazaaris. This is supported by regulatory measures whenever a user wants to do some maintenance work which foster a spirit of restoration standard that is now common among bazaaris, who even monitor each other regarding the quality of the maintenance done.

G. Design features

Not applicable (see above related points).

H. Impact of the project on the site

The rehabilitation of the bazaar has encouraged the bazaaris to develop their businesses and increase their investment because of the restructuring of its urban surroundings. Before 1994, the bazaar was under threat to lose its strategic location through being invaded by foreign business in its vicinity. Therefore, the repositioning of its fabric in the contemporary urban body of Tabriz gave more importance to its shops. This resulted in improving its vehicular and pedestrian networks, which are currently well organised with clear access points. Underground passages and bridges were also added to separate vehicular traffic from pedestrian routes.

The project provided significant landscape treatments that enhanced the environmental sustainability of the whole site. In the evenings, the whole bazaar and its surrounding sites have become attractive spaces for walking and community gatherings. However, in order to keep these landscape spaces, the local government should work on the master plan of the entire city in order to sustain these quality spaces in the future, as there is tremendous pressure on the site of the bazaar from all directions of the city.

I. Durability and long-time viability of the project

Since building materials and expertise are exclusively local, the durability of the rehabilitation is guaranteed without resorting to external human and material resources. CHO created new factories for producing the materials and this will have an important impact on the sustainability of restoration and maintenance works.

The ongoing education of master builders and workers also guarantees the sustainability of the project. Accordingly, several crafts have been revived and a job market created for their continuity.

In terms of viability, the bazaar has a great historic momentum and has been a living historic site for centuries. Thus, the bazaar has proven its liveability and with regular maintenance will remain sustainable as long as its businesses are operating.

J. Interior design and furnishing

Since Iranians traditionally care about their interior spaces, most of the shops I visited were very innovative in terms of design and materials used. However, in some cases these interiors were rather exaggerated, though the majority of shops have retained their simple original state. The insertion of new functions, such as banks, sometimes dictates special interiors to meet their needs. For example, the bank of Saderat within the Saif bazaar area has pursued a new design that respects the traditional nature of its space with the historic environment of its neighbouring “Timcheh Mozafari”. The overall furnishings have been properly executed, respecting original materials, motifs and proportions.

VII. Users

A. Description of those who use or benefit from the project

The rehabilitation project of the bazaar has a multi-functional programme of cultural, commercial and tourist aspects. Consequently, the users are very diverse and cannot be limited to one group or another. However, the owners of shops are undoubtedly the main users as they spend most of their time in the bazaar. These shop owners have witnessed a rise in the value of their businesses while visiting customers/tourists discover a new cultural destination in the city of Tabriz.

B. Response to project by clients, users, community, etc.

The most significant response is that the bazaaris returned to their shops in the bazaar, which was threatening to lose its businesses due to continuous neglect by the local government. The first pilot project in 1994 brought hope that the bazaar could be revived again to its historic reputation as a centre of commerce par excellence. The general turnover of businesses and cash flow in the bazaar today proves this. It can also be proven by the comparison of prices of the same goods in the restored and non-restored parts in the bazaar. The value of space increases the value of goods.

This positive impact has extended commercial activities in the bazaar to explore neglected areas in the past, such as underground storage areas and stables that are converted to shops. Nevertheless, the bazaar has a carrying capacity that needs to be respected in the future if pressure to acquire shops continues.

The bazaar is now playing a more important role in the commercial activities of the city and the Azerbaijan region. Being recognised as a UNESCO world heritage site is a plus in terms of its international value for attracting foreign tourists to discover its unique qualities.

What do architectural professionals and the cultural "intelligentsia" think about the project?

The overall impression of professionals about the rehabilitation project is positive since they were involved in one way or another in the process. As stated before, the association of engineers from where Akbar Taghizadeh came to lead the project was heavily involved in providing the right professionals. Politicians are happy with the outcome of the project that boosts the business environment in the city of Tabriz although they are not so comfortable with the autonomy gained by the community of bazaaris who are in charge of their own shops with the hegemony of the local authorities.

Local archaeologists are satisfied with the restoration works and are excited that the rehabilitation works have revealed several archaeological spots throughout the bazaar. Ongoing excavations are being carried out to reveal the history of the bazaar that was destroyed several times by earthquakes.

Despite all the praise, some criticism from the public and some professionals can be mentioned as follows:

- the colouring of bricks is not authentic;
- external circulation is still an issue with the increase in the number of cars;
- concern regarding the expansion of the bazaar at the expense of residential areas;
- demand for more parking areas.

Journalists are always writing about the success of the project, and their voices will spread this experience nationally to other famous bazaars in Iran.

VIII. Persons Involved

Acknowledgment

CHO managers during the restoration project were the following (client team):

- Mr Abdoulrahman Vahabzadeh, Director of Azerbaijan CHO 1980–94;
- Dr Fakhar Tehrani, Director of Azerbaijan CHO during the decade of the 1980s;
- Engineer Akbar Taghizadeh, Director of Azerbaijan CHO 1994–2004;
- Dr Behrouz Omrani and Mr Saed Hedayati, the deputies of Mr Taghizadeh on this project;
- Engineer Ali Salehi, whose father was one of the original bazaar community leaders and who had a shop on the margins of the bazaar; he did much for the diagnostic stage of the work and was a consultant on how to deal with the bazaari community;
- Engineer Hassan Ghorayshi, architect, was instrumental in drawing the plans and the design. He joined CHO in 1994 and thereafter became a partner of the client team;
- Engineer Majid Chatrdouz, a graduate of restoration, working as a go-between CHO and the bazaar community. He became a colleague of the CHO in 1996;
- Mr Elmieh, in the position of Mr Chatrdouz prior to him and a member of the client's team.

Sakht-Ab Consulting Engineers worked on the infrastructure from 2001.

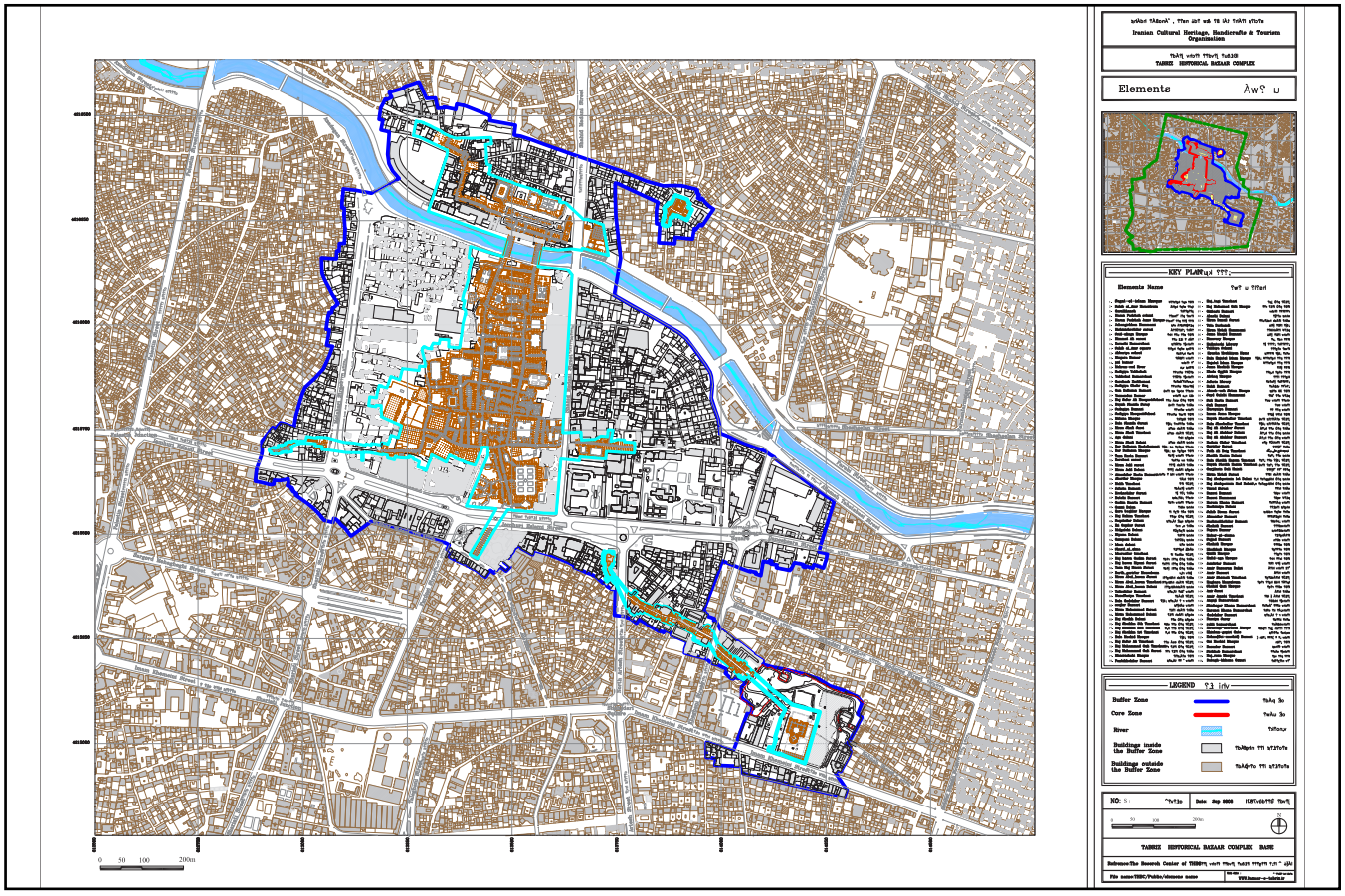
Master masons:

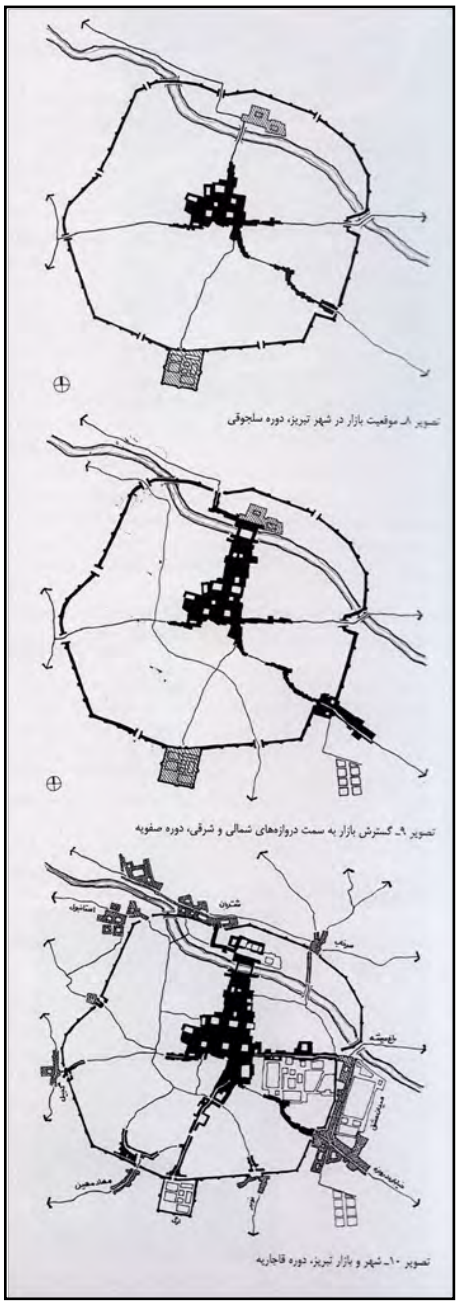
- Ostad Hassan Namaki Nasab, Memar; Ostad Saadallah Doustar, mason; Ostad Jalil, mason; Ostad Jalil Topal, mason. These master masons worked on short-term contracts and were also instrumental in training new recruits;
- The late Ostad Reza Memaran who had worked a lot at the bazaar previous to the restoration project. Some examples of his work are the Sharif University mosque and the dome of the Kaboud Mosque. He was site manager from 1993 to 1996;
- Mr Ali Falsafi was very helpful in the ethnographical studies of the project. The late Haji Madineie was a social consultant of the CHO during 1994–95. Haji Ahmad Khadem Hosseini was also a part of the social consultant team during those years;
- The trusted dignitaries of the *saras*, *timcheh*, are teams of three for each unit and participated in the renovation of their own quarters.

[1] Soltanzadeh, Hossein, *Iranian Bazaars*, Tehran: Cultural Researches Office, 2001, pp. 11–12.
[2] Raeisina, “Azerbaijan”, in History of Iran, vol. II, 1991, p. 973.

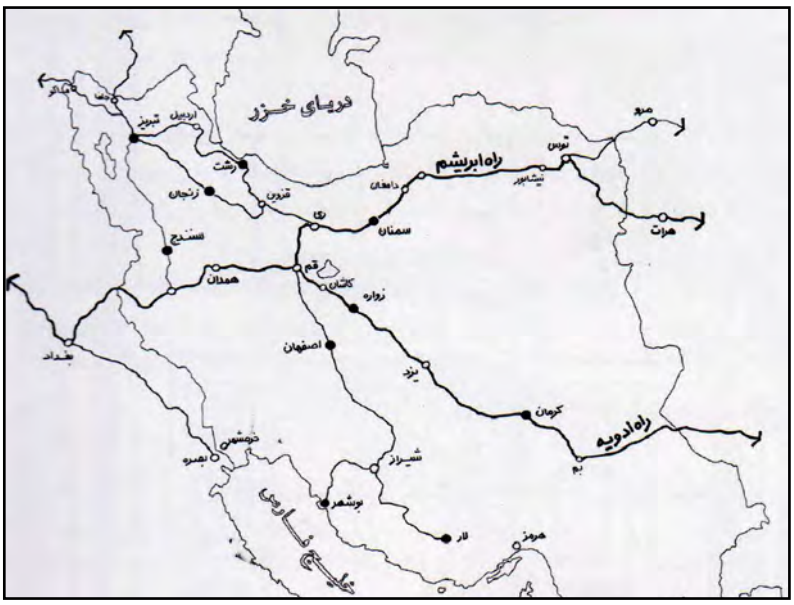
Hassan Radoine
May 2013


ARMENIA
AZERBAIDJAN
TURKMENISTAN
TURKEY
Tabriz
Teheran
IRAN
AFGHANISTAN
IRAQ
KUWAIT
PAKISTAN
BAHRAIN
QATAR


Iranian Cultural Heritage, Handicrafts & Tourism Organization
TABRIZ HISTORICAL BAZAAR COMPLEX
Elements
KEY PLAN
LEGEND
Buffer Zone
Core Zone
River
Buildings inside the Buffer Zone
Buildings outside the Buffer Zone
TABRIZ HISTORICAL BAZAAR COMPLEX BASE



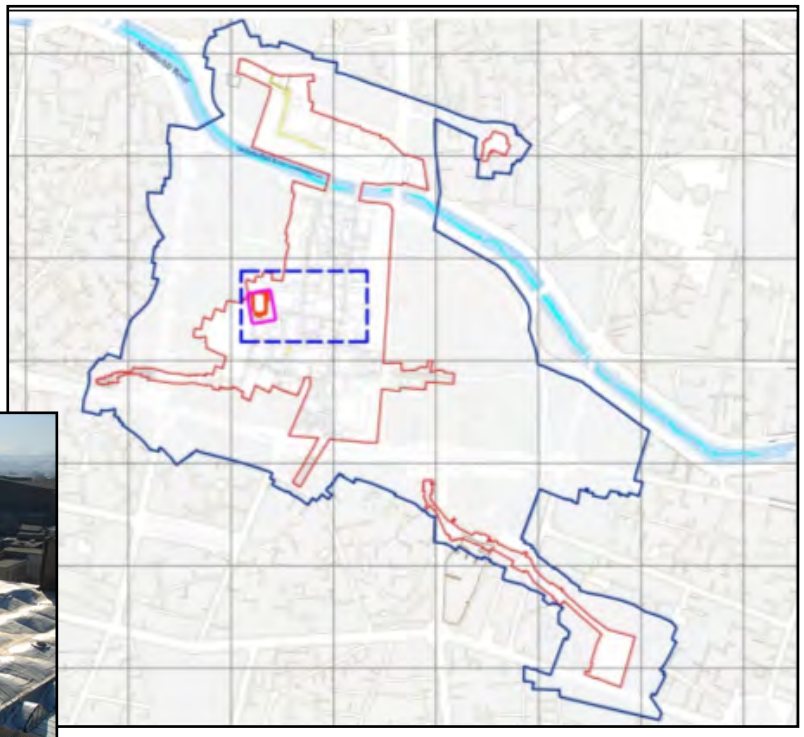
Evolution of Tabriz bazaar over three dynasties, Seljuq, Safavid, and Qajar that shows the centrality and the strategic location of the bazaar within the urban structure of the city as well as the different accesses towards different commercial routes.



Strategic historic trade routes from and to Tabriz.

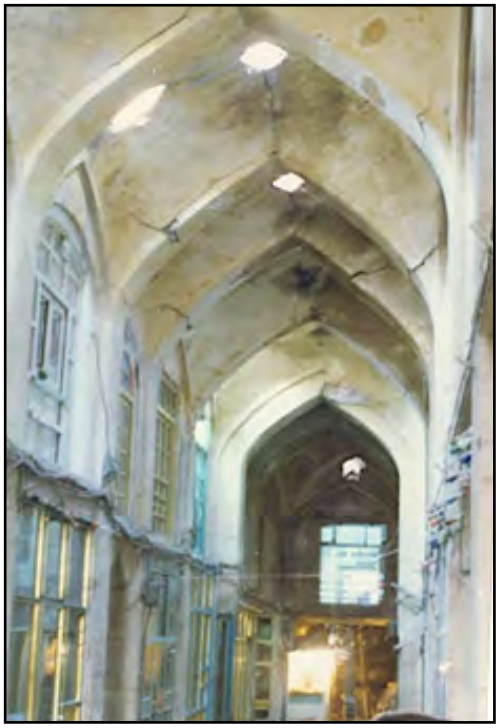
The urban structure of the bazaar dictates an urban order on the whole fabric of Tabriz organized through regular shaped courtyards of caravanserais connected through linear commercial streets.

The red line shows the immediate boundary of the bazaar as the first zone of intervention and the bleu one shows the urban and landscape buffer zone with the rest of the city fabric.



The bazaar of Tabriz is the most preserved and is by far the largest in the region in terms of size and number of trades.

The bazaar of Tabriz is unique in terms of the integration of its sections into the city fabric through public squares and gateways of minor *rāstā* to residential neighbourhoods, which permit easy access to the bazaar from all parts of the city and lead, in turn, to several trading areas and routes outside the city.



The physical state of the bazaar before rehabilitation.

During rehabilitation and restoration works: dexterous works of restoration and advanced craftsmanship.

The urban context of the bazaar was addressed in terms of landscaping, street pattern, squares, facilities and so forth.

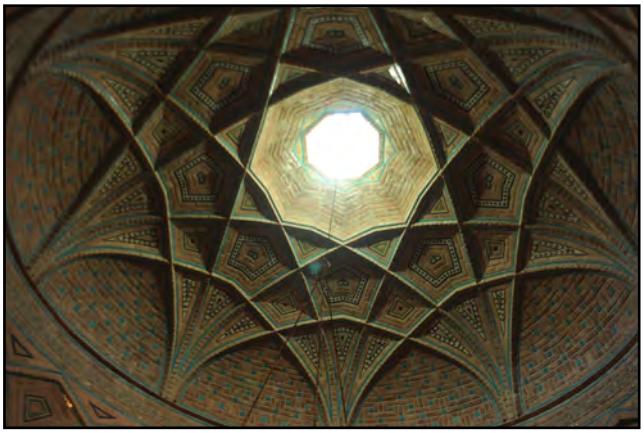
The most significant response of the project is that the bazaaris returned to their shops in the bazaar, which was threatening to lose its businesses due to continuous neglect by the local government.

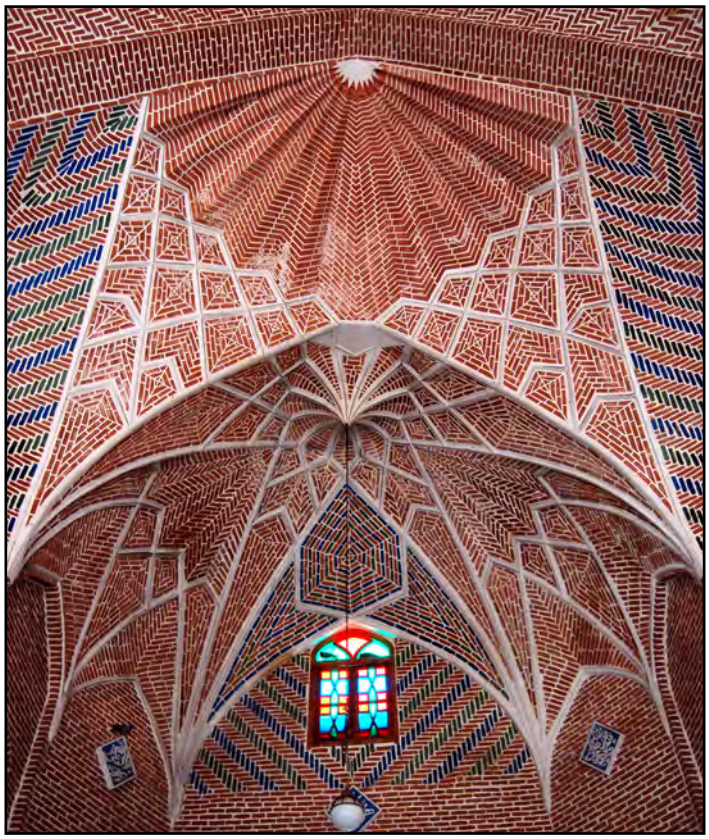
Stone, brick, wood, clay and plaster were the main materials used throughout the bazaar and in a professional way that shows a certain high level of control of small details.

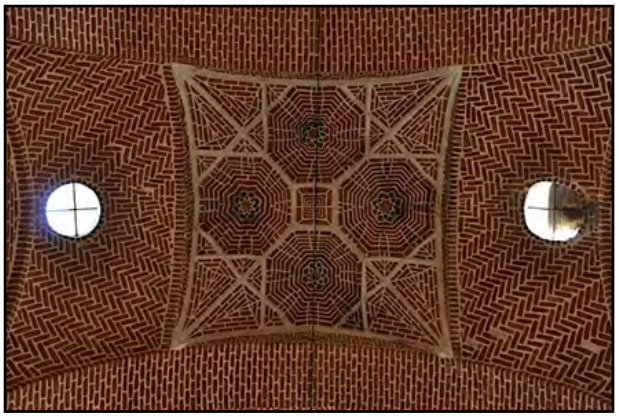
The *timcheh*, a domed crossroad node, is an example of how artisans combined spatial importance and the geometry of the covered space.

The overall bazaar functions have been retained through keeping original architectural typologies while enhancing the overall environmental level.

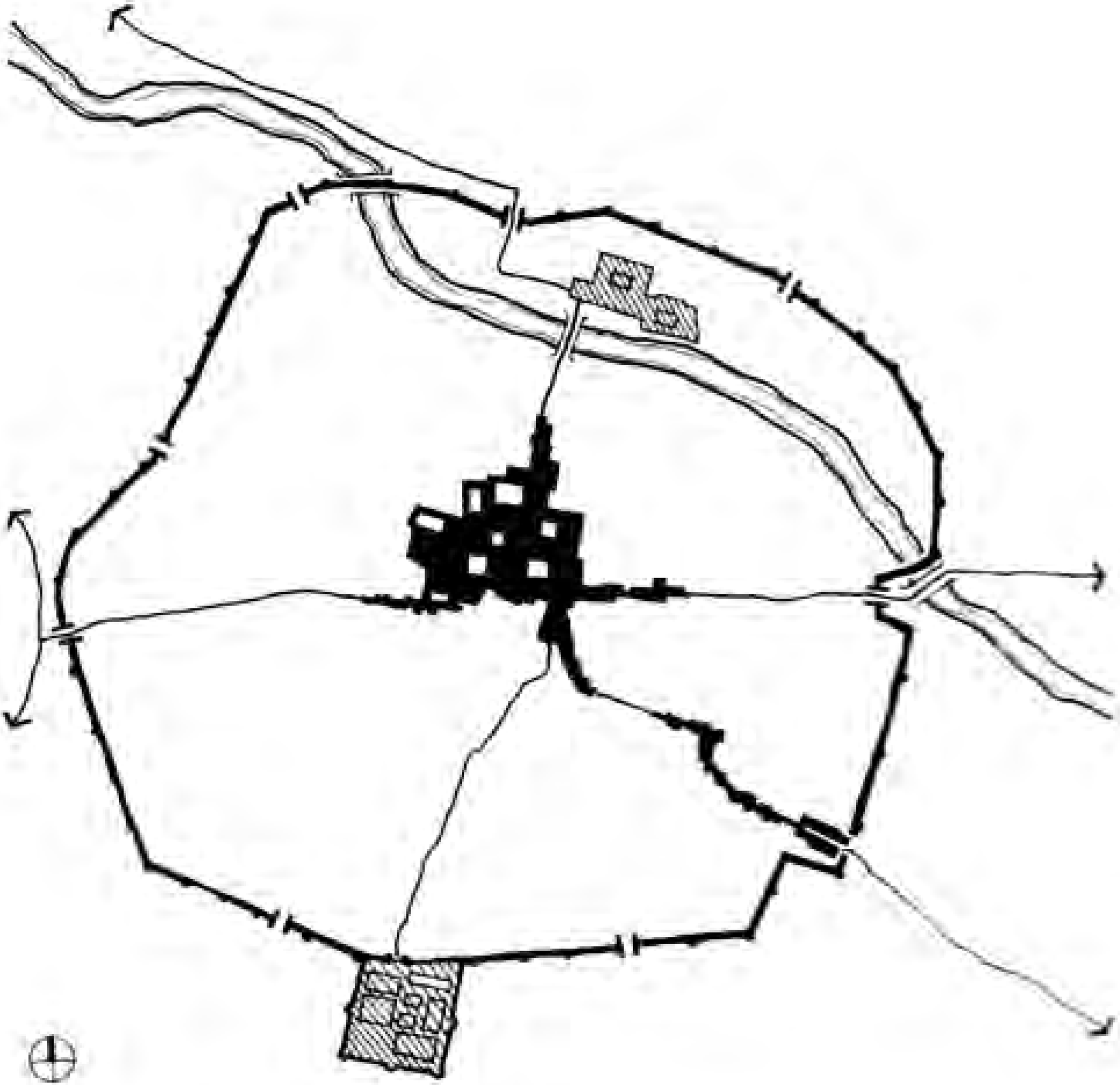
Numerous small openings in the vaults and domes of the twisty alleys of the bazaar create a ventilation that brings air into all the interior spaces. In some cases, the high level domes play the role of wind-catchers, especially in the areas of the *timcheh*.

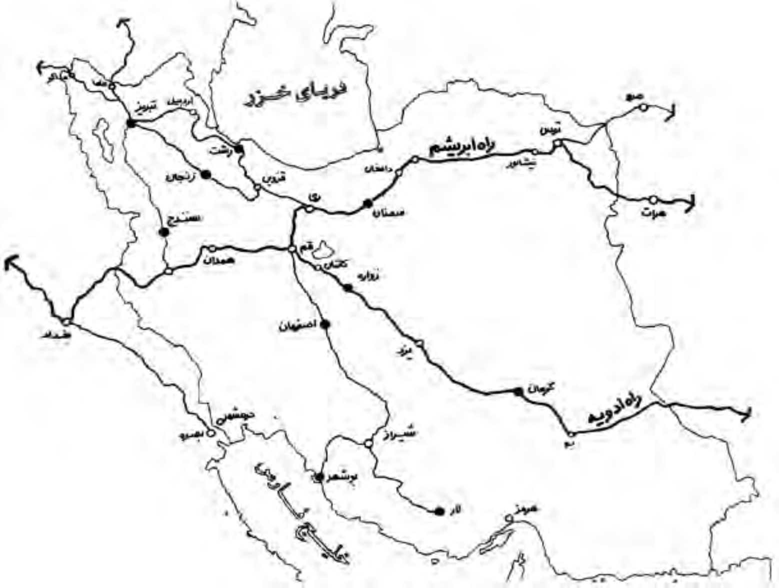






The *karbandy* (brickwork) is explored for meeting both structural needs and ornamentation and accordingly there is an architectural coherence between the structure and the wall surfacing.




دریای خزر
راه ابریشم
راه ادویه
تبریز
اردبیل
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سمنان
دامغان
نیشابور
توس
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هرات
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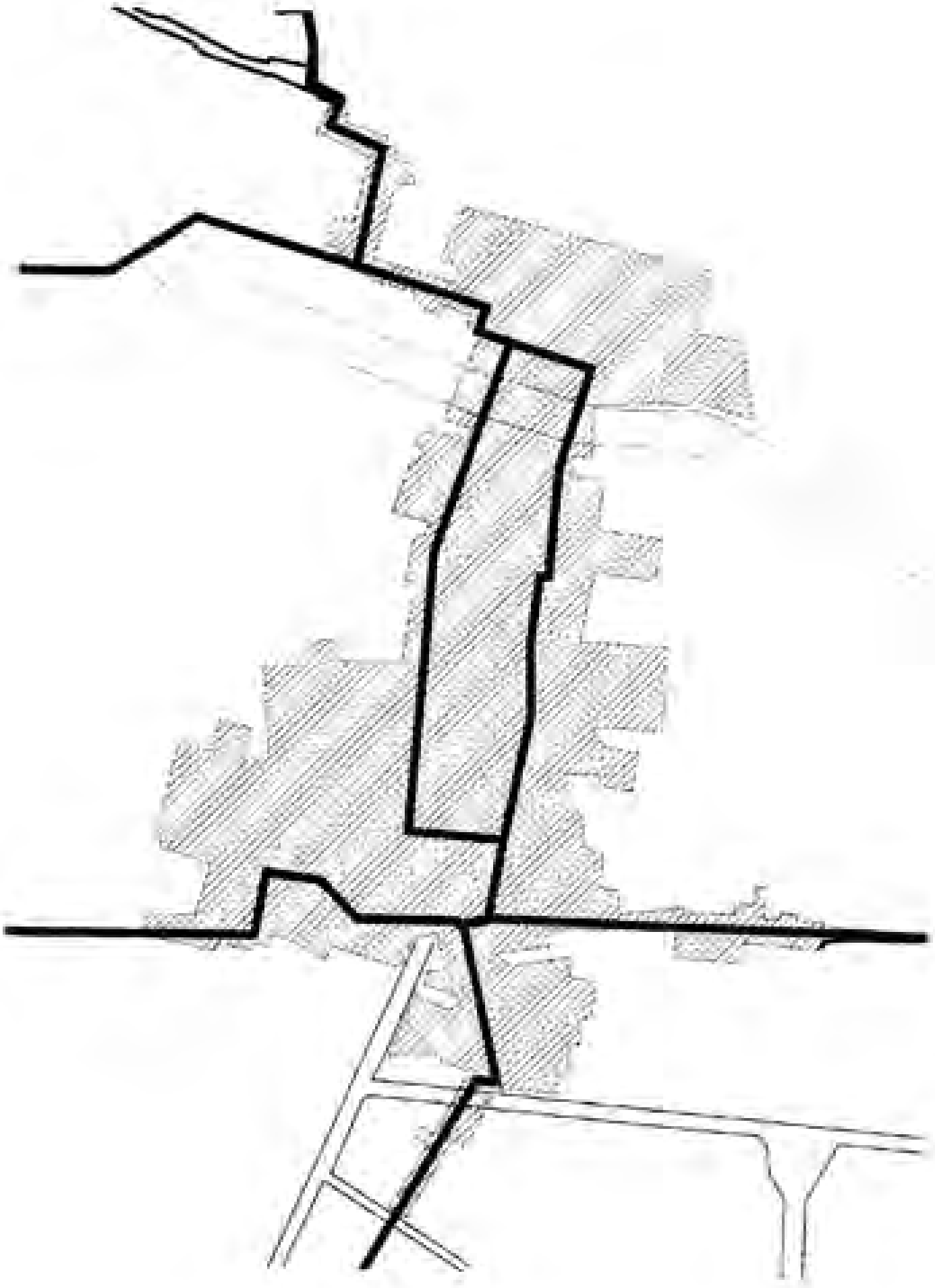
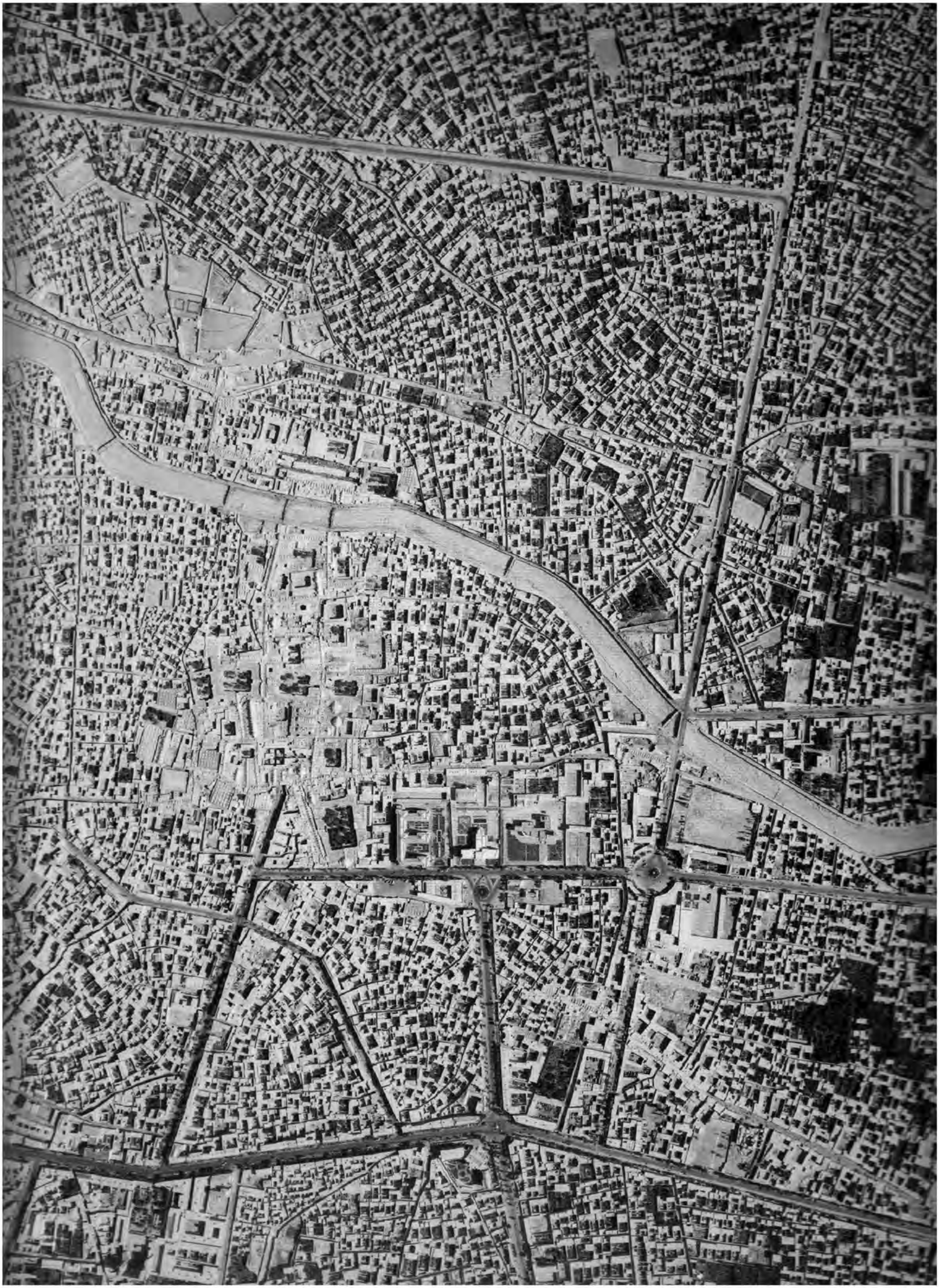
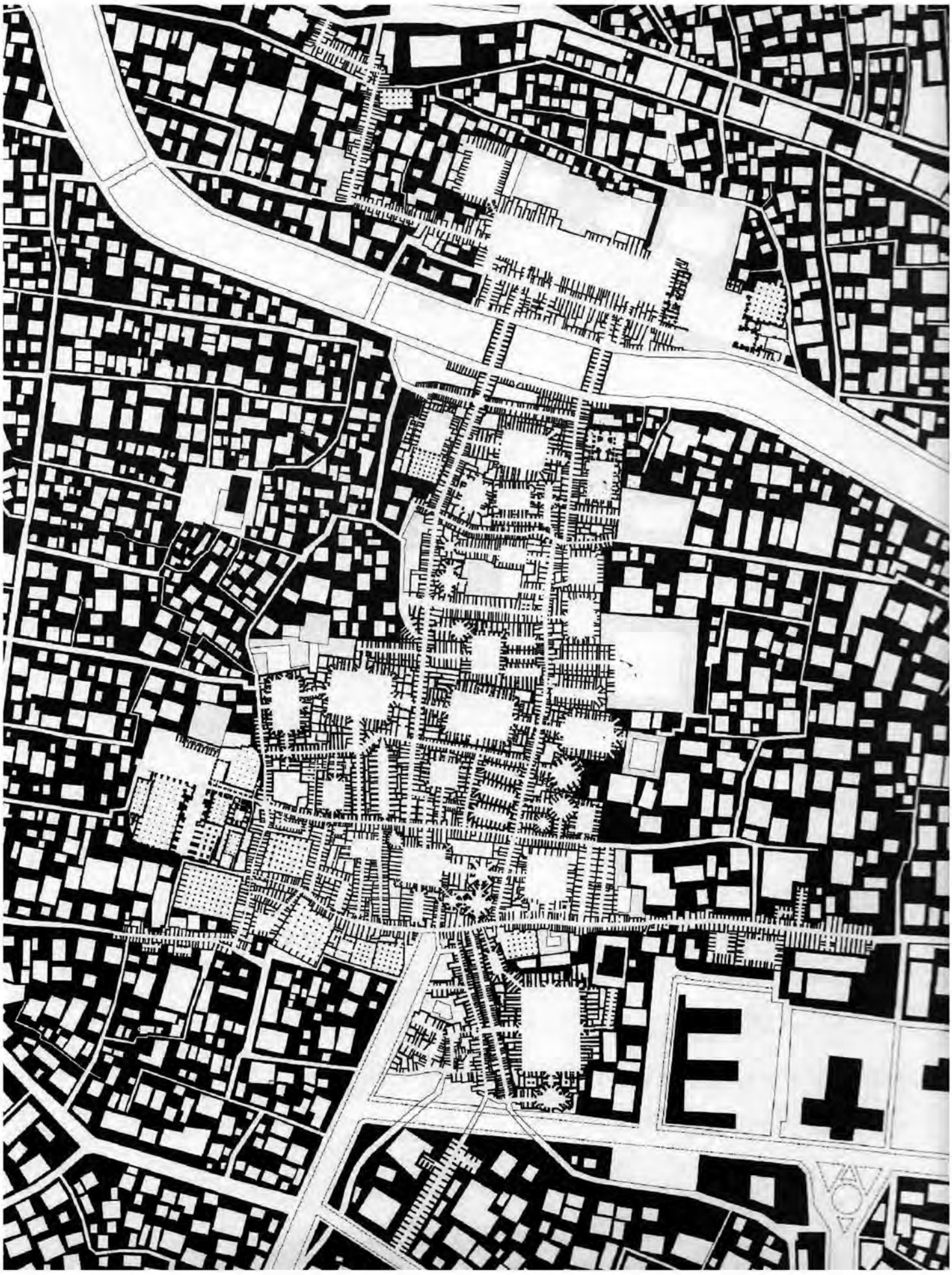
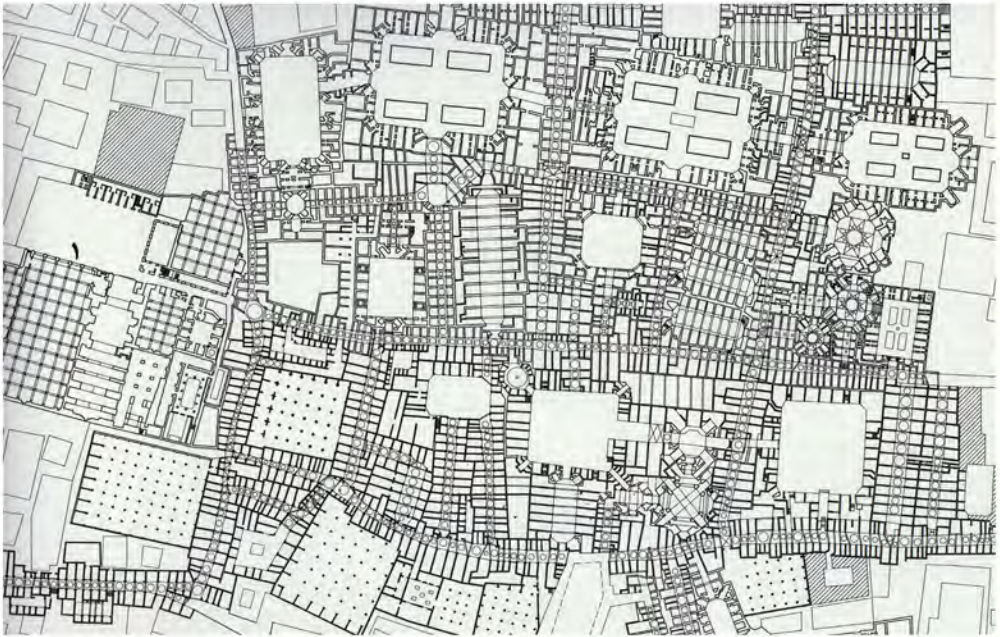






تصویر ۵۶ـ پلان راهنمای عناصر ساختاری بازار تبریز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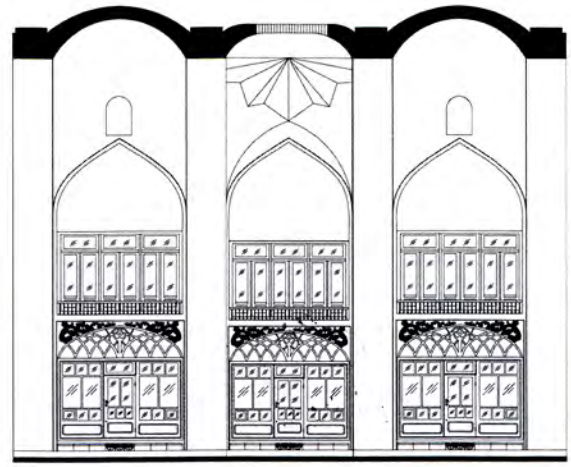
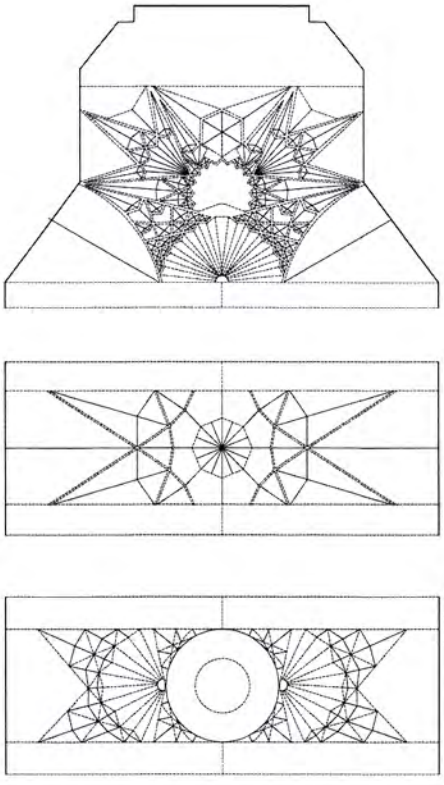
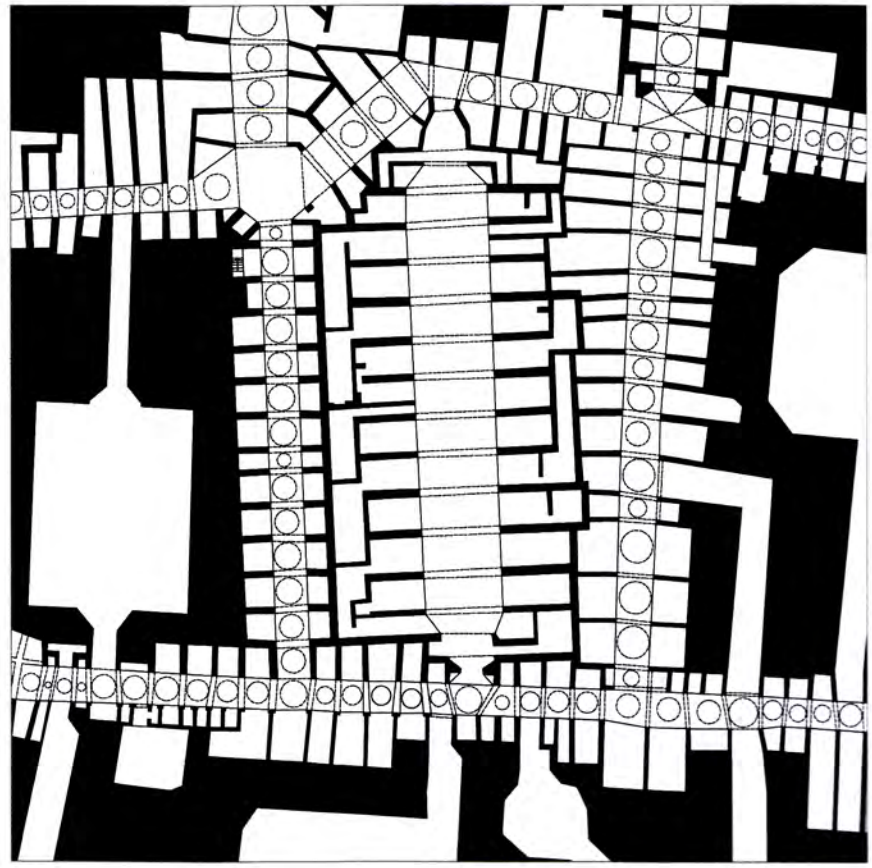


تصویر ۳۰ـ بزرگنمائی از دهانه‌های تیمچه مظفریه بازار تبریز

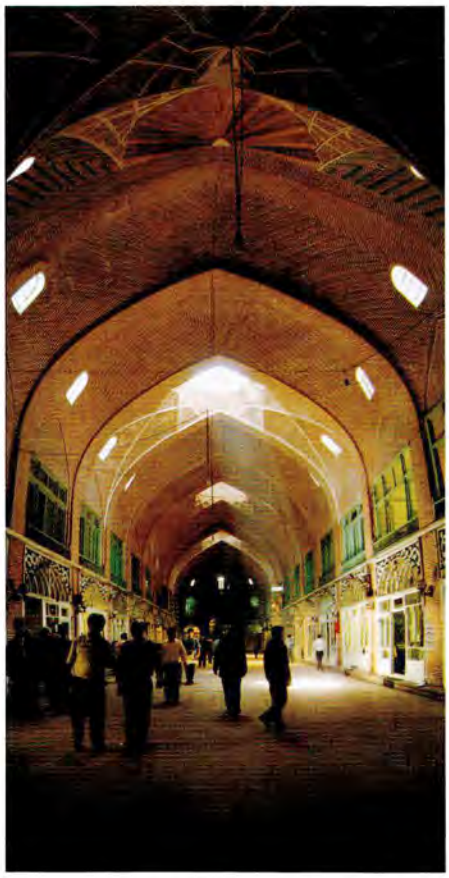
تصویر ۳۱ـ برش طولی تیمچه مظفریه بازار تبریز



تصویر ۳۲ـ هندسه و تزئینات پوشش تیمچه مظفریه بازار تبریز

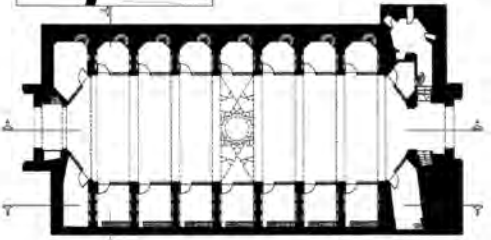


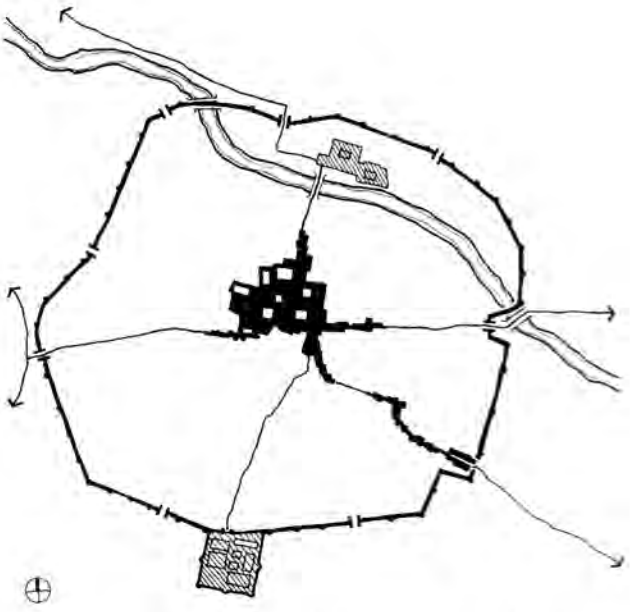
تصویر ۳۳ـ پلان تیمچه مظفریه بازار تبریز



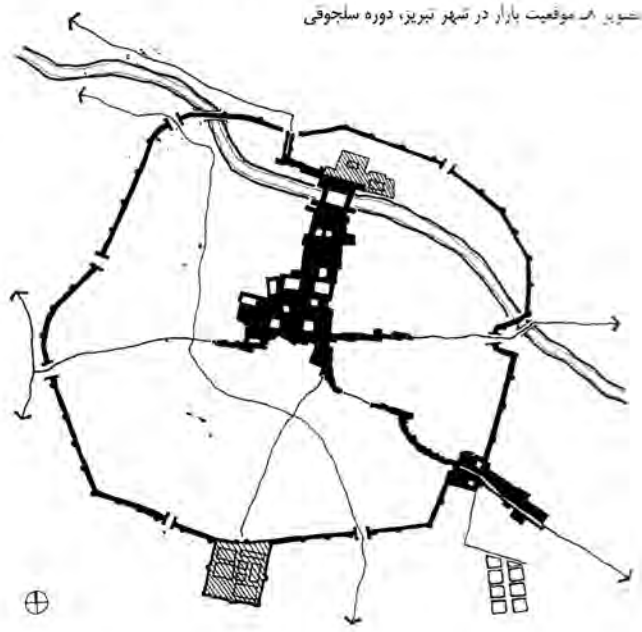
تصویر ۳۴ـ فضای داخلی تیمچه مظفریه بازار تبریز

های بازار تبریز

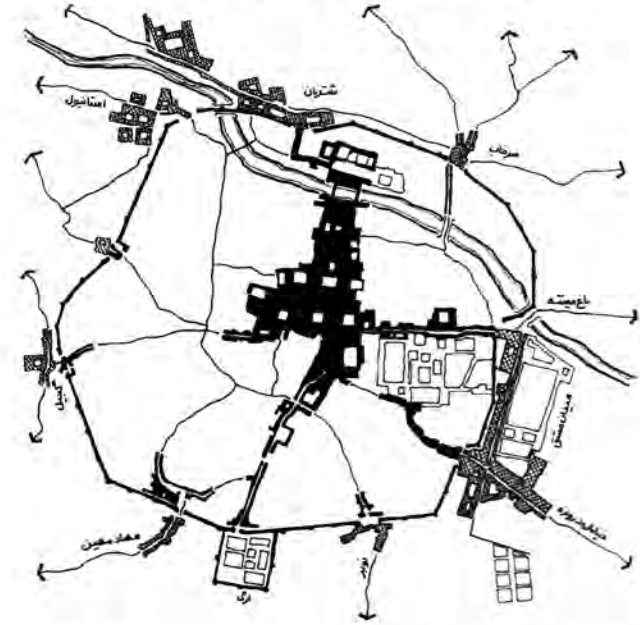




تصویر ۸ـ موقعیت بازار در شهر تبریز، دوره سلجوقی



تصویر ۹ـ گسترش بازار به سمت دروازه‌های شمالی و شرقی، دوره صفویه



تصویر ۱۰ـ شهر و بازار تبریز، دوره قاجاریه

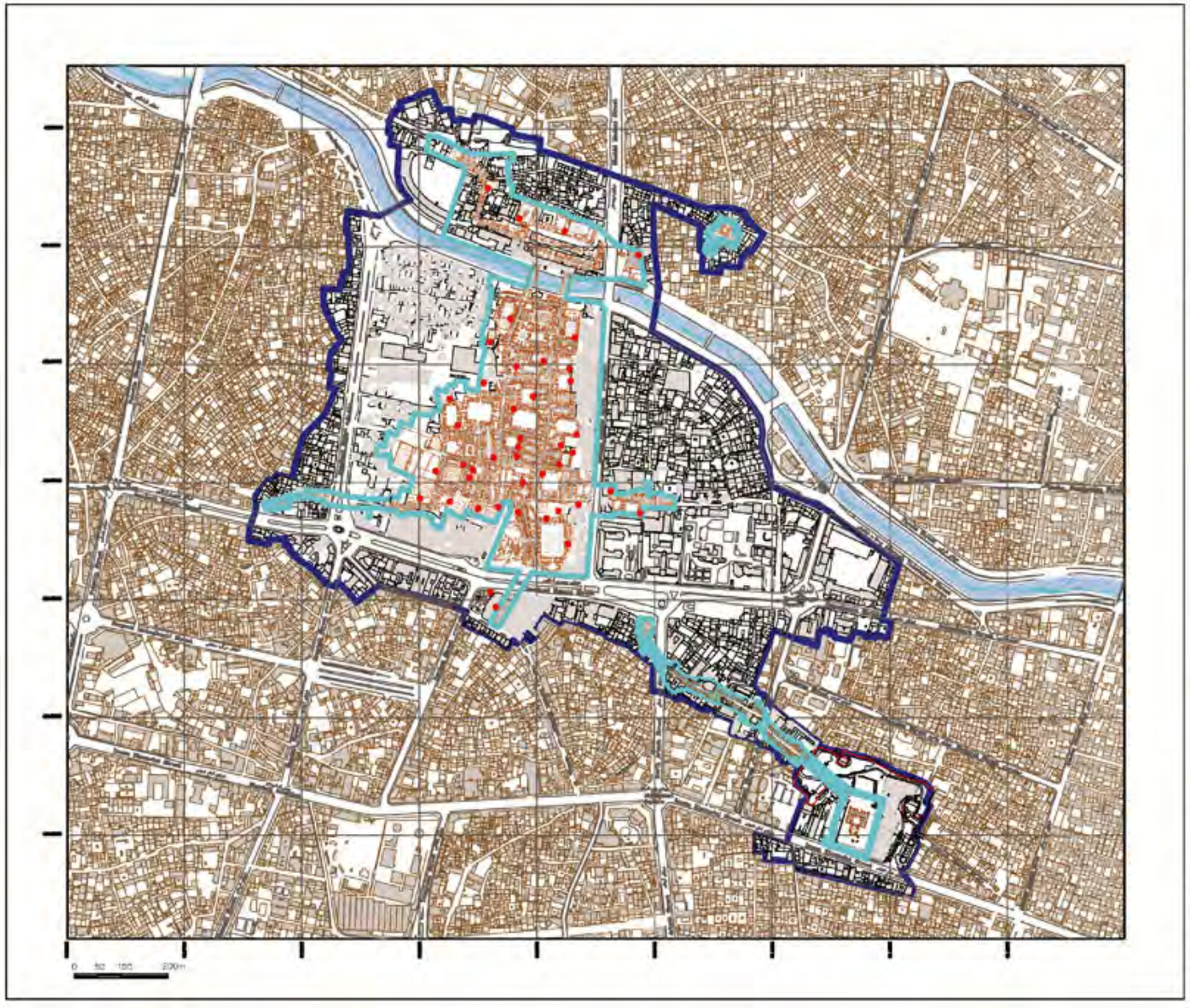
تصویر ۴ـ نمابرش برج، بارو و خندق‌های اطراف شهر تبریز در دوره قاجار

Rehabilitation of Tabriz Bazaar

Tabriz, Iran

Architect	ICHTO East Azerbaijan Office
Client	
Commission	
Design	n.a.
Construction	n.a.
Occupancy	2000 ongoing
Site	n.a.
Ground Floor	n.a.
Total Floor	n.a.
Costs	n.a.
Programme	The Tabriz Historic Bazaar Complex was officially protected in 1975 and has been covered by special stewardship measures until, and in 2010, it was added to the World Heritage List. Three different protection areas have been established (a nominated area, a buffer zone and a landscape zone), subject to special regulations incorporated into the planning instruments. The management framework is based on the participation of the 'bazaaris', together with municipal authorities and ICHHTO's Tabriz Bazaar Base. Since 2000, numerous complexes been rehabilitated with the participation of the owners and tenants. Infrastructure has been improved and public facilities have been built.

Building Type	Area Conservation
2013 Award Cycle	3654.IRA




Elements
عناصر