United Nations Educational, Scientific and Cultural Organization

Historic Centre of Sheki with the Khan's Palace inscribed on the World Heritage List in 2019

UNESCO World Heritage Site

CONSERVATION MASTER PLAN
OF THE HISTORIC Center OF SHEKI

The State Tourism Agency of the Republic of Azerbaijan
2020

State Tourism Agency of
the Republic of Azerbaijan

RESERVES
MANAGEMENT
CENTER

United Nations
ducational, Scientific and
Cultural Organization

Historic Centre of Sheki
with the Khan's Palace
inscribed on the World
Heritage List in 2019

Contents

Introduction

Aim and responsible body for implementation

The aim of this conservation master plan is to ensure the conservation, restoration, and purposeful use of the outstanding universal values of the cultural heritage of the Historical Center of Sheki (later referred as **the Site**). The boundary of the Buffer Zone of the Site is the same as the boundary of "Yukhari-Bash" National State Historical-Architectural Reserve. The plan is prepared by the Reserves Management Center under the State Tourism Agency of the Republic of Azerbaijan and the relevant action plan will be implemented by this body.

Preparation of the Plan and Methodology

After the Site was listed in the World Heritage List in 2019, the issue of preparing a conservation plan for the Site in accordance with the requirements of the International Council on Monuments and Sites (ICOMOS) emerged. Previously, conservation work was limited to the conservation of single buildings or areas, as well as the restoration of major architectural monuments such as the House of Sheki Khans and historic buildings along Akhundov Street. The conservation plan, however, envisages the development of a general strategy for the long-term conservation of the heritage area and the proper use of the monuments in the Site.

Data has been collected through site visit, surveys and desktop research about the cultural heritage of Sheki as well as the documents and achieve materials about individual monuments have been studied. Some extracts from the Restoration Manual is used in the plan (e.g., part of urban form chapter) by revising and updating.

Relation of Conservation Master Plan with Other Plans

After the transfer of "Yukhari Bash" National Historical-Architectural Reserve to the State Tourism Agency of the Republic of Azerbaijan, **Management Plan** of the Site prepared by the former Ministry of Culture and Tourism in 2016 is revised and adapted to the new management change. Conservation Master Plan (**CMP**) has identified conservation management issues that are discussed in the Management Plan.

Restoration Manual prepared by the former Ministry of Culture and Tourism and IPOGEA Traditional Knowledge Hub (2018) is revised and adapted by State Tourism Agency in 2020, covers the architectural elements and construction typologies of the Site, their main issues and relevant prescriptions. The architectural typology of traditional residential houses as well as distinctive form of traditional buildings, material use, scale and garden-house structure are broadly discussed in the Restoration Manual, therefore this part is not discussed in the CMP.

Infill Design Manual for new construction is developed to address issues regarding new construction in the Site which will protect traditional building typology as well as urban fabric. Infill Design Manual and Restoration Manual are considered a part of the CMP as a whole. The Manual elobrates framework of the infill parametrs though it needs updating according to the urban zoning introduced in Urban Regeneration Plan.

The Urban Regeneration Plan has been developed to respond to urban decay of the Site with the action plans in the short- and long-term perspectives. It should be mentioned that together with the Restoration Manual, the CMP, and Management Plan are fundament to the Urban Regeneration Plan in which urban development vision and main development directions are elaborated. Any changes and development projects in the Site should be based on the requirements and visions of these documents.

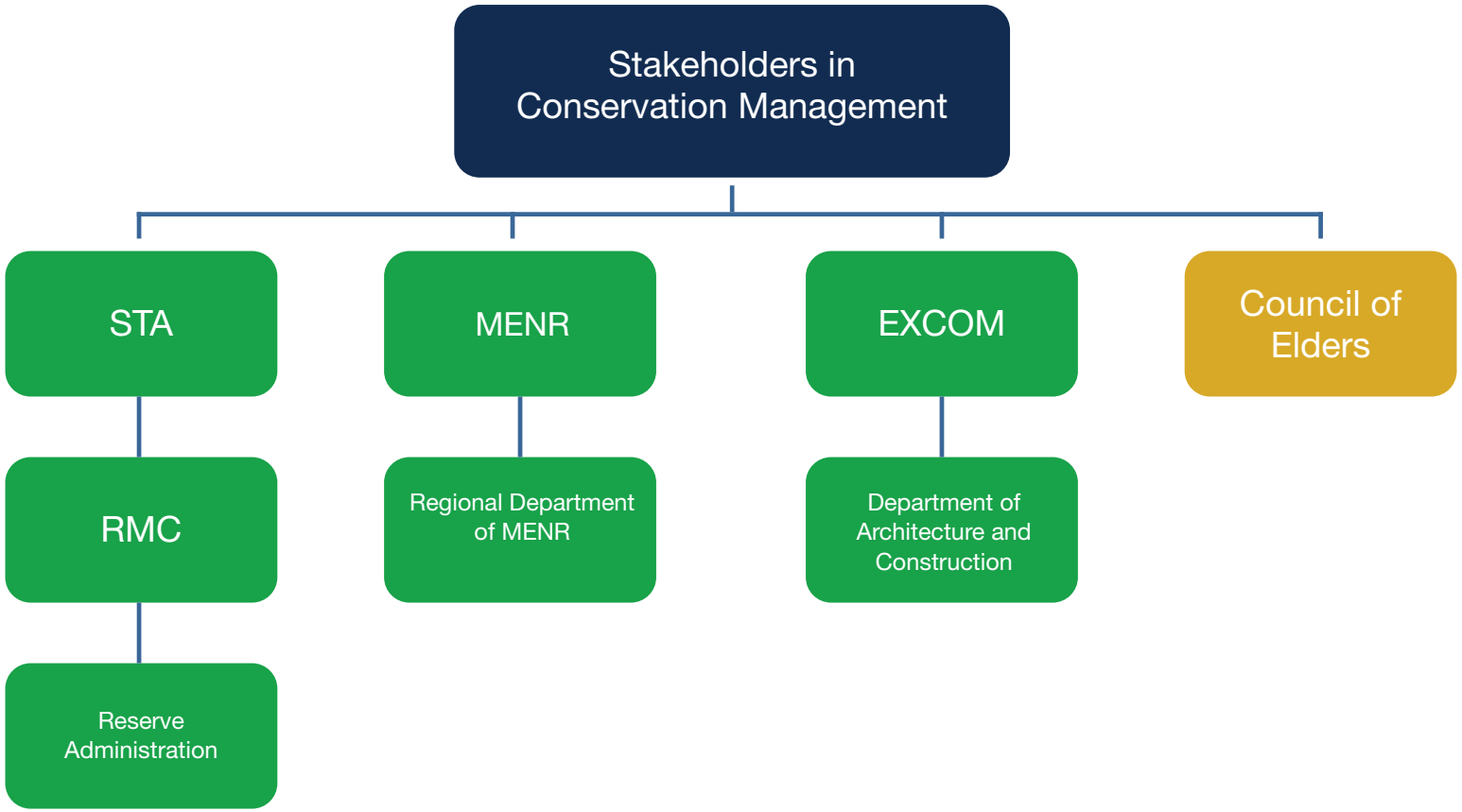
The CMP consists of 9 chapters. Chapter 1 give overview about location and boundary of the Site. Five of the nine (Chapter 2 to 6) consists of three main parts discussing a) description and understanding of the OUVs and supporting values of the heritage site as well as their importance; b) conservation analysis; and c) discussion and recommendations.

Chapter 7 assesses potential risks that could pose danger to the Site.

Chapter 8 wraps up all general discussions, integrated policies and recommendations about the issues of urban planning and other related issues, such as inappropriate development, transportation and parking regulations in the Site and so on.

Chapter 9 lists conservation and rehabilitation action plan by 2025.

The stakeholders and responsible organization in the conservation management of the Site is given in the following graphic.


Stakeholders in Conservation Management
STA
MENR
EXCOM
Council of Elders
RMC
Regional Department of MENR
Department of Architecture and Construction
Reserve Administration

1

Position and Boundary of the World Heritage Site

Sheki city is located in the north-west of the republic, in the 41^0 11/ 31// north parallel and 47^0 10/ 14// east meridian coordinates, on the left bank of the Kish River, 632 meters above sea level, 370 km from the capital city of Baku, on the southern slope of the mountains of the Greater Caucasus range. It has a normal humidity balance, fertile soils, rich forest cover. Gurjana River, flowing from the east to west, divides the city into two parts, the higher - southern one and the northern one in the valley.

Sheki has become an important tourism region of Azerbaijan as a result of its charming nature, unique historical and architectural monuments, advanced craftsmanship and rich historical and cultural heritage.

The historical center of Sheki, which Is included to the World Heritage Site, is located from the South to the building of the Juma Mosque, from the North to the foothills of the Khan plateau, from the west to the area on F.Khan Khoysky street, and in the east the area on the right bank of the Gurjana River (see: Map 1).

In 1967, in order to preserve the cultural and historical heritage of Sheki, the “Yukhari Bash” State Historical-Architectural Reserve was created. The area of the Reserve is 283 hectares along with the buffer zone, but in 2019 the part included in the World Heritage List is 120.5 hectares (the central part), and the Reserve has been given “national” status after this event.

State Tourism Agency of
the Republic of Azerbaijan

HISTORIC CENTER OF SHEKI
WITH THE KHAN'S PALACE

BOUNDARIES OF NOMINATED AREA

Legenda

World Heritage Area

Buffer Zone

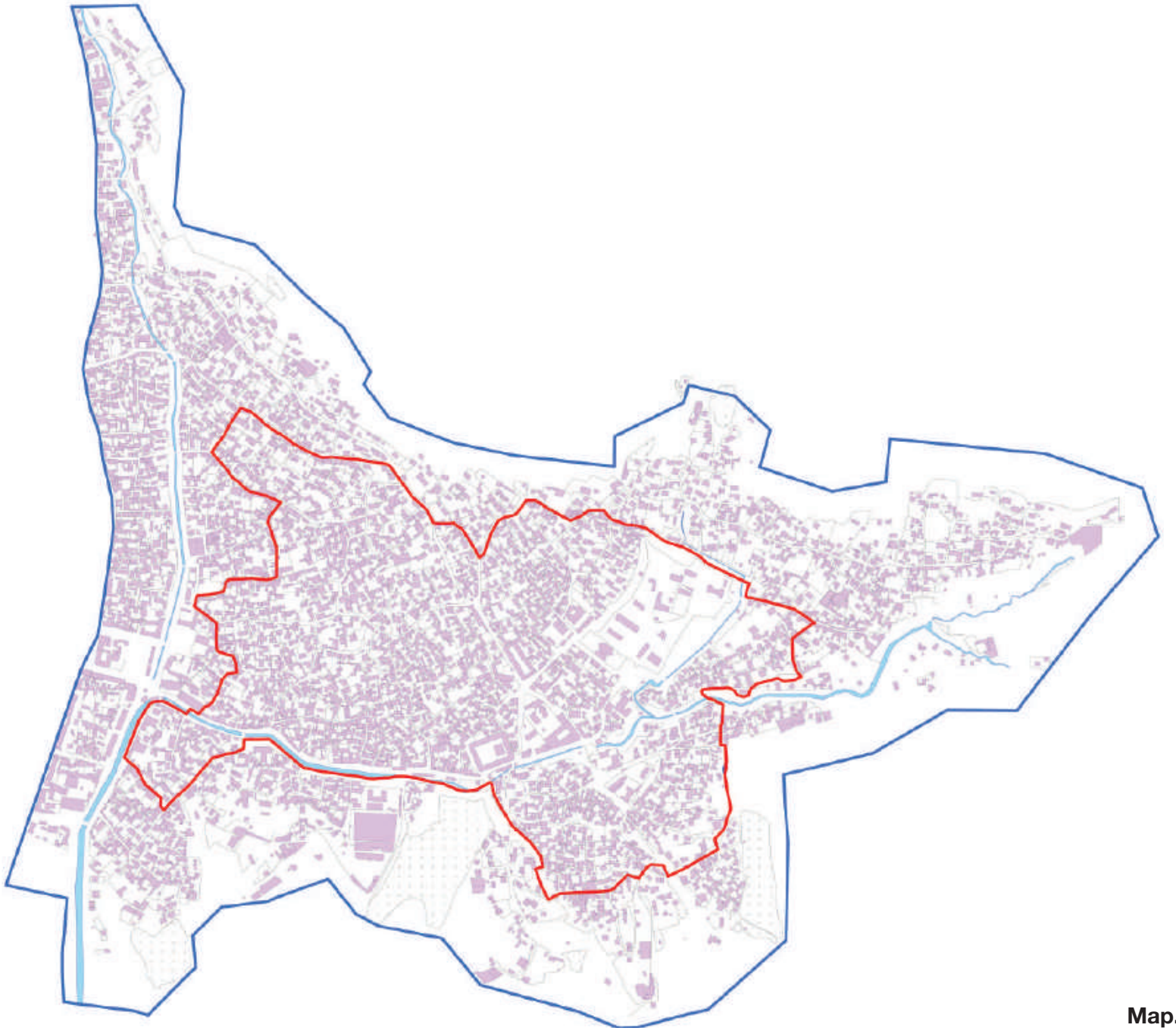
The boundary of "Yukhari Bash" Reserve is the same as the boundary of the Buffer Zone

Scale 1:2500

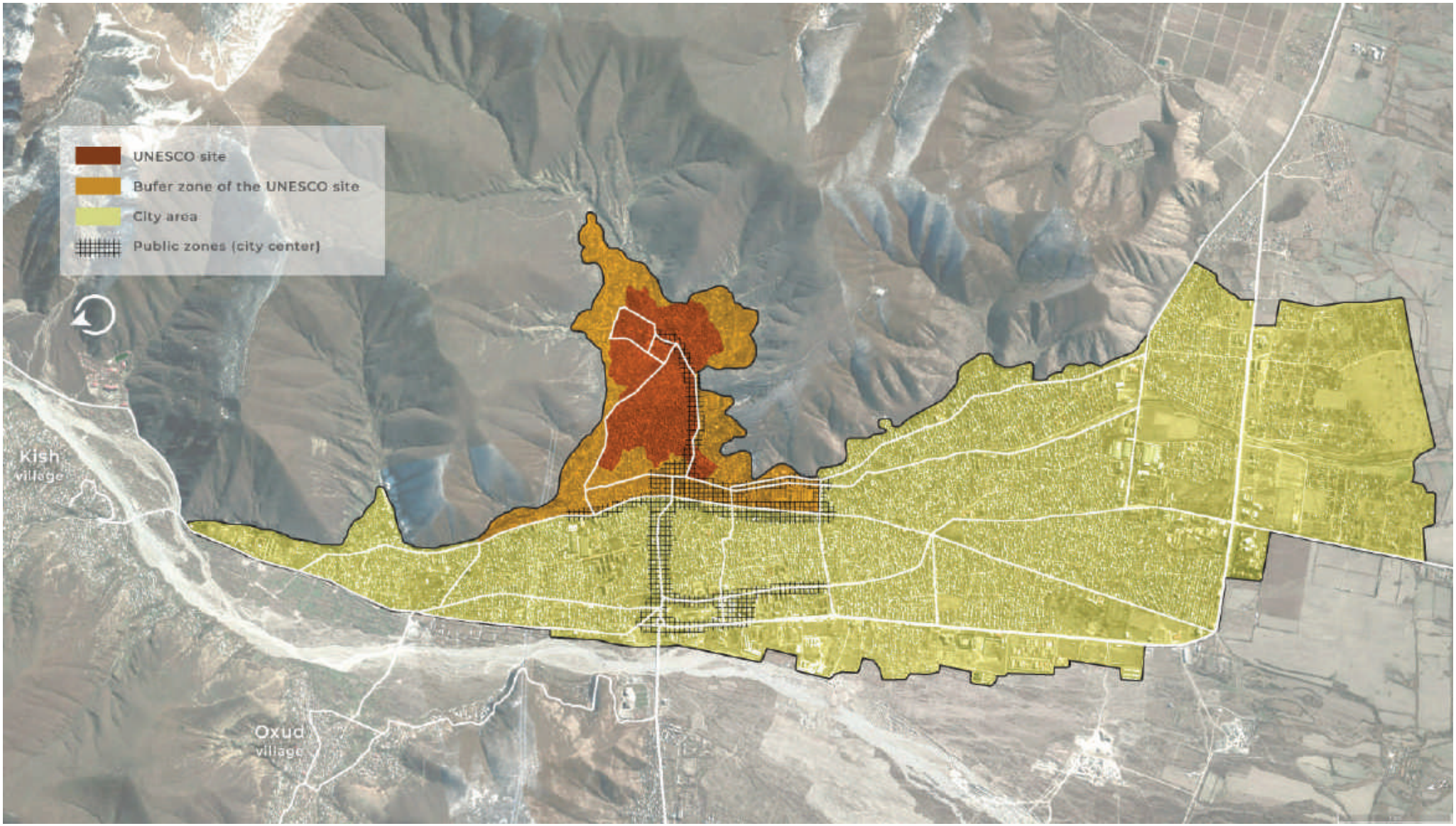
1 cm = 25 meters

0 55 110 220 330 440 Meters

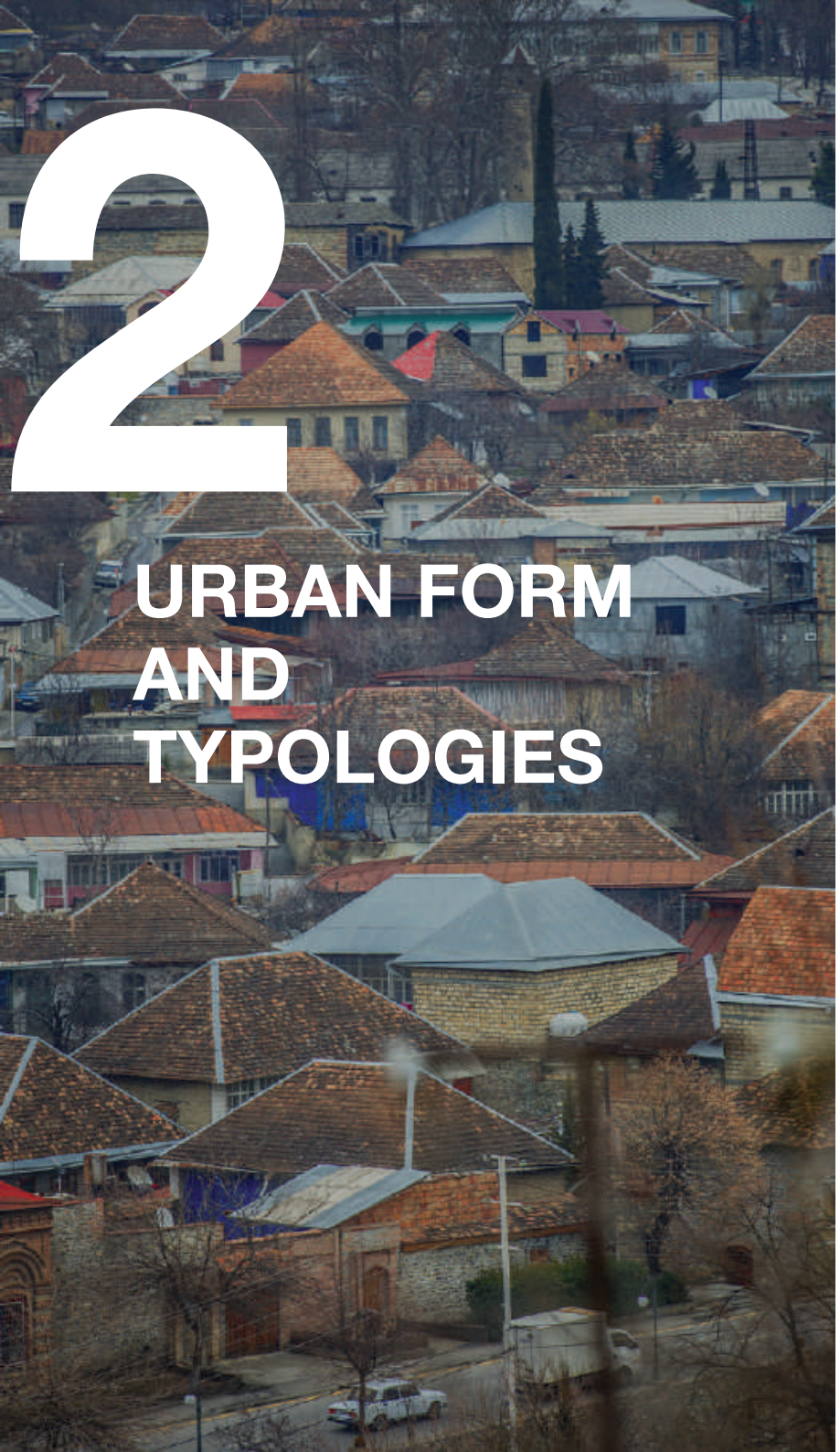
Date: 2020



Map. 1


UNESCO site
Bufer zone of the UNESCO site
City area
Public zones (city center)
Kish
village
Oxud
village

Map. 2



2 URBAN FORM AND TYPOLOGIES

Urban planning of historical Sheki city was influenced by the natural **environment and climate** as well as **cultural activities of local people** responding to these natural features. **Productive garden city** and **historical trade relations** were key to shaping Sheki's urban form. The morphology of the urban fabric and its growth patterns were a direct result of the topography of the site, political and religious reasons, economic development, and related activities. Surrounding landscape and climate with abundant rainfall are also important factors for the general perception of Sheki.

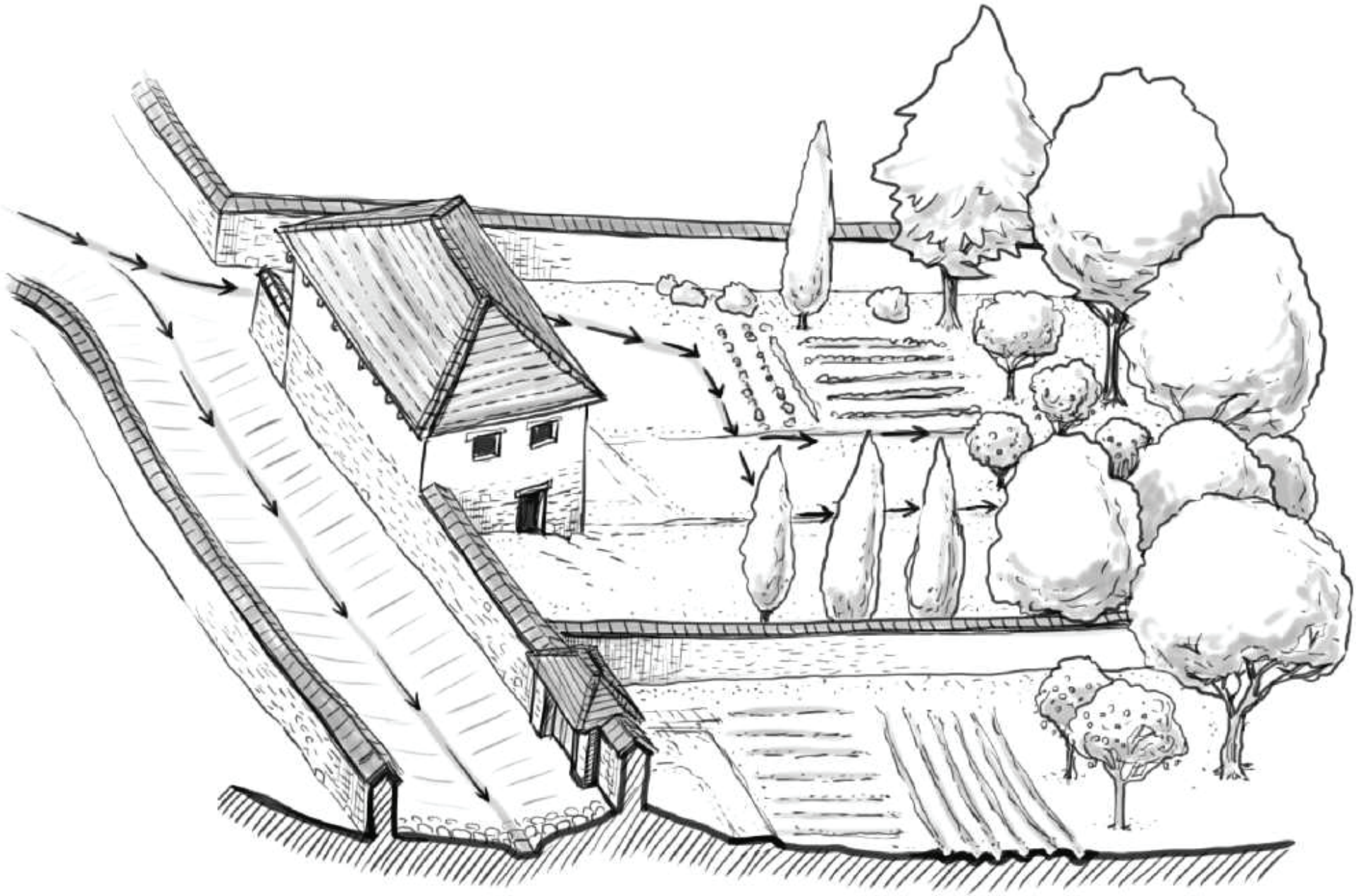


Figure 1. Traditional house with garden

2.1 Understanding of the Urban Form

2.1.1.Morphology

Sheki city is located in a natural environment of great visual impact formed by a crown of mountains that descend into a wide valley characterized from a network of rivers and canals of which Deyirmanarkh is made from different water intakes near Kish river (historically from Kish river), whose waters flow into the Gurjana River. The historical urban fabric extends around the fortress where the north-south water network was formed by the deviation of the waters of the Deyirmanarkh canal and the East-West river derived from the waters of the Gurjana. There is urban structure still following the old hydro-agricultural irrigation channels pre-existing to urbanization, but they are basically used now for directing surface waters in the city.

This was based on a technique of building, a network of tunnels that from water inlets over the rivers, which spread out like a fan on the banks following the incline lines and allowing the creation of irrigated fields. The road network follows this design by collecting and disposing of meteoric waters through roads-torrents that serve as routes in the seasons arid and from water conveyors to the fields in moments of rain.

An area is formed from the shape of a right-angled triangle having the catheters formed by the two watercourses. Within this area, Sheki's crops are used to be irrigated by gravity through water inlets and canals. The hydraulic plot and the cultivations constitute the structure on which the urban morphology was organized.

The type of hydraulic organization with water inlets on the rivers, irrigation and power channels for the mills, together with the gravitational system that defines the roads and the particles in the productive garden is typical of archaic urban systems, diffused by Mesopotamia Iran and the central Eurasian area. Sheki shows in its urban morphology the flora of an extraordinary productive garden city, typical of oasis and urban models, based on the superficial irrigation cultivation and gravitational water system.

Due to the one-time construction, a certain integrity of the architectural image was created in Sheki. Residential buildings are evenly distributed throughout the city. The divisions of the city into the mahalla system is typical for a feudal city where tribal and production-guild characteristics were reflected in the planning of the town. The complex and dense network of narrow streets, alleys and dead ends branch off from the main streets. The same integrity was largely determined by the historically formed type of Sheki residential house, which has a somewhat elongated volume of the building with a deep veranda, high pitched balcony – eyvan and a traditional bright tiled roof, and its productive garden.

Fortress is a key urban element of the historical center of Sheki located on the upper hill of the town. Akhundov avenue connects the lower part of the city with the fortress and Khoyski street, which also connects the new silk factory with the Ganjali mahalla.

The capillary arrangement of the garden plots is a consequence of the distribution of irrigation canals. Water coming from the mountain slopes began to be distributed at the highest point of each mahalla. In this way, an extensive network of water supply lines arose, which also had a direct impact on the configuration and distribution of garden plots with houses.

In addition to the ring of productive gardens with forests surrounding the city, the entire historical center of Sheki is crossed by the Gurjana River, the valley of which is considered the green eco-corridor of the city.

2.1.2 Influence of Topography to Urban Form

Urban planning feature of the city was influenced by the natural sharp terrain of the area. The direction of the streets was determined by the slopes of the Greater Caucasus Range, at the foot of which Sheki is located. Along with the relief, the formation of the central neighbourhoods and the main street of the city was influenced by the direction of the Gurjana river and the Deyirmanarkh canal. The high street runs parallel to Gurjana river and connects the most significant architectural complexes of the city's urban planning system.

In the lower parts of the mountains there are large conical areas rich in alluvial sediments and fertile soils. Slopes in the direction of the south are favourable for the organization and use of a water network due to natural flow of the relief that were especially selected. The mountain slopes have to be very steep to ensure a slow and steady flow of water. Also, on such terrain, slight sloping relief has created a form of house construction located partially under soil. For this reason, the slope is one of the factors that affects more on the building typology as well. Sheki's houses have the long side that follows level curves, in this way, the slope is mitigated, and the ground is flatter.

2.1.3 Road and Street Network

Referring to the cartographic analysis of the road network and topographic juxtaposition it becomes clear that roads, streets, and dead ends which form the urban framework of the historic town are entirely and completely determined by the terrain. The primary determining factor of the urban fabric is mainly the system of spatial communication – the network of roads and streets, on the basis of which material filling is collected – buildings, vegetation, etc.

Wide streets, narrow streets, and dead-ends provide a characteristic view to the town plan. There is a dense network of narrow streets, side streets and dead-end streets from the main thoroughfare and the tops of the trees intertwine over them.Streets can be divided into three categories according to their location on the relief:

Streets running along relief lines: These include Khoyski avenue, Haqverdiyev street, Gilehli street, etc. Mostly productive gardens with residential buildings that represent Sheki's urban module are located on these streets.

Streets with a noticeable slope that connect streets located along the relief. These streets include Akhundov avenue, Pishnamazzade street, Nureddin-Sarytorpag Street. These streets are mainly located in former ravines and serve as a drain for rainwater and mudflows. Often these streets carry the trunk function, therefore, the trade street also belongs to them.

Dead ends branching from these streets have relatively steep angles of inclination. These deadlocks provide access to houses located in relative remoteness from the main streets.

Concerning alignment of road, water and drainage networks, it can be assumed that in the water supply system of the old Sheki, the connecting streets played the role of the main flow of water, and the streets along the relief lines were the distribution function. The distribution scheme of wastewater and rainwater coincides with the water supply system in some places, but it also has a separate network of canals that do not coincide with the streets.

Apart from the main streets (Akhundov Avenue, Khoyski, Pishnamazzade streets etc.), all other streets had a width for the free movement of one cart. Only single-lane vehicle traffic can move in most of the streets. However, there are still many streets and lanes in the inner mahalla without transport access.

To facilitate the movement of vehicles, almost all city turns are rounded. Also, two more factors influenced the noticeable roundness of city turns. The first is the logic of the direction of the water, which is easier to direct along the ditch lines. Secondly, the idea was made due to conservative traditions and social relations of a Muslim town. Thus, a street with round turning is used to make the movement of women and men in a way that they wouldn't encounter accidentally face-to-face in the streets.

In the past, the central streets of the town were paved with large river stones. Currently the high street (Akhundzade Avenue), a street along the Deyirmanarkh canal (Rasulzade) and Khoyski street are covered with asphalt since they are the major transport arteries. The streets in the outskirts of the historic town are covered with rammed earth which makes it difficult to use in rainy season of the year.

There used to be drainage ditches on the central streets for discharging rainwater into the rivers. This system is partly preserved up to our days. They are in Akhundzade Avenue and Rasulzade Street along the Gurjana River and Deyirmanarkh channel. Other streets are narrower and have no pavements.

The streets can be divided into three large groups:

- narrow streets with central ditches;
- main streets with two ditches on the sides;
- main streets running along the rivers or channels.

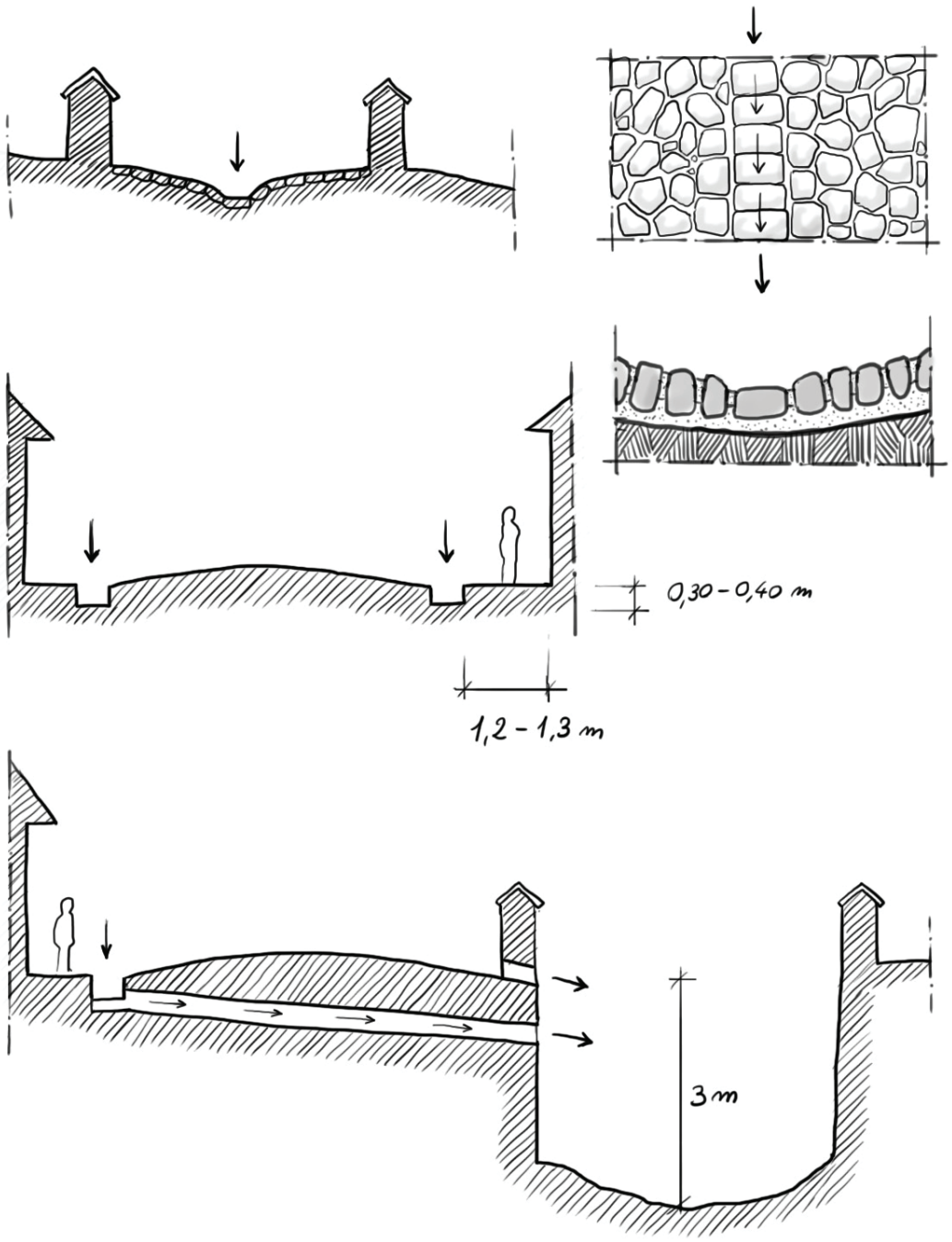


Figure 2. The 3 types of streets with *ark*

The oldest road surface was obviously the rammed earth. After that the main roads were paved using river stones, which were easy to find in the area. These stones have multiple functions: they make the surface smoother, suitable for the flow of surface water discharged into the central ditch; also, in case of rain and snow the interstices between the stones make the roads easily passable on foot or by various means.

The central part of the road, which presents this extraordinary channel function draining, is paved with river stones of bigger size and their layout is perpendicular to the progress of the road. This central stone is called farsh (fərş). In case of rain or flood the stone-paved streets have just this function useful and unique to channel the waters, slow them down and drain them down causing the less damage possible. Asphalt roads are not as effective and in case of snow cars need the presence of chains to the wheels.

The ditches along the main roads have a variable depth that varies between 30-40 cm. Usually they are made at the margins to convey the water also for street of the road with humpback slope is also left space for the pedestrian crossing on both sides of 120-130 cm.

The abundance of green spaces and ancient streets covered with river stones, activate the connection between the town and nature. Clearly legible main street, scale of secondary streets, the prevailing type of urban residential house with the characteristic local features, the manor type of buildings, taking into consideration the relief of the terrain determine the integrity of perception of the urban organism. The roads are paved in river stones to replace the dirt road surfaces that do not guarantee sufficient drainage of rainwater and waste water; in the construction of these road surfaces, which have the advantage of rapid construction and do not oppose sharp edges to the stresses of traffic, the rounded stones coming from the rivers and river beds or from the recently formed alluvial deposits to the margins of the watercourses are used as the Kish river Deyirmanarkh canal, and Gurjana river. After extraction, the elements do not need any processing except the washing to eliminate the earth parts; only the healthiest are chosen, without fractures and with surfaces without alteration patinas, taking care that the dimensions are quite homogeneous with the measure of the major axis between 15 and 20 cm and that of the minor axis between 10 and 15 cm.

In the traditional preparation of the bottom, the soil is soaked in abundance and then levelled. A level of coarse-grained sand is laid out on the ground, and the installer takes a pebble from the pile, sinks it into the sand by hand or into a small hole made with the hammer's pen and then sticks it into position with two or three strokes data with the widest part of the same tool so that the heads protrude evenly. Once the laying is finished, the mantle is sprinkled with sand and sprinkled with water so as to lubricate the sand and make it penetrate completely between the individual components that, under the action of blows, lower and fit together with a strong contrast lateral. The disposal of the water is entrusted above all to the draining properties of the pavement and to facilitate the drainage of the water the pebbles are placed with the major side in the same direction of the slope of the road. The entire mantle is shaped to direct the flow towards the "impluvium" known as ditch by means of a concave profile converging from the two parts towards the longitudinal axis.

Figure 3. Old ditch in the village of Kish

2.1.4 Public Spaces, Meydans & Kimgas

There are five public squares (meydans) in the historic center of Sheki. These are squares in front of Juma mosque, Upper caravanserai, the fortress gate, Khan's mosque and in the center of Otaqeshiyi mahalla. The first three squares are on Akhundov Avenue. It should be noted that all squares are connected directly to the important public buildings. Even the square in the Otaqeshiyi mahalla is located next to the Shekihanov House. Average size of squares varies within 1000-2000 m2.

Traditional public spaces in Sheki and Azerbaijan are called Kimga (dzgimdza in local dialect). Kimga is a small public space at the intersection of several roads, often at the border of the mahalla, where mahalla residents congregate. Some Kimgas are located right in front of mahalla mosques, bathhouses, or springs. Kimgas have preserved its importance till today. In the evenings, mahalla residents gather in Kimgas. There are approximately 36 active Kimgas in the historical neighbourhoods of Sheki, where residents of the neighbourhood (men and women separately) gather in these places to drink tea, share news and innovations, play backgammon, etc. Mosques are usually built near squares and other places to make it easier for people to gather.

Although the importance of the squares has decreased, four squares and one alley where folk festivals are held have retained their functionality.

Regeneration of neighbourhood areas and "Kimga" places and communities will contribute to strengthening the "tradition of communication." Newly planned works in historic areas should be strictly in accordance with the urban texture, the typology of streets and alleys. It is not allowed to change the size and purpose of use of "Kimga" places. Landscaping and lighting in the neighbourhoods should serve to revive the tradition of gathering and communication of the residents of the neighbourhood, in accordance with the form and context of the historical area. All other infrastructure (wires and pipes) must be underground or hidden in the facade. Satellite and cable antennas, air conditioners and power lines should be concealed and kept to a minimum.

Figure 4. Old ditch in the village of Kish

State Tourism Agency of
the Republic of Azerbaijan

HISTORIC CENTER OF SHEKI
WITH THE KHAN'S PALACE

The map has been updated on
the database of the map
prepared by "Azerberpa" SRPI in 2015

ANALYSIS OF THE CURRENT SITUATION

TYPES OF STREETS AND PUBLIC OPEAN AREAS

Legend

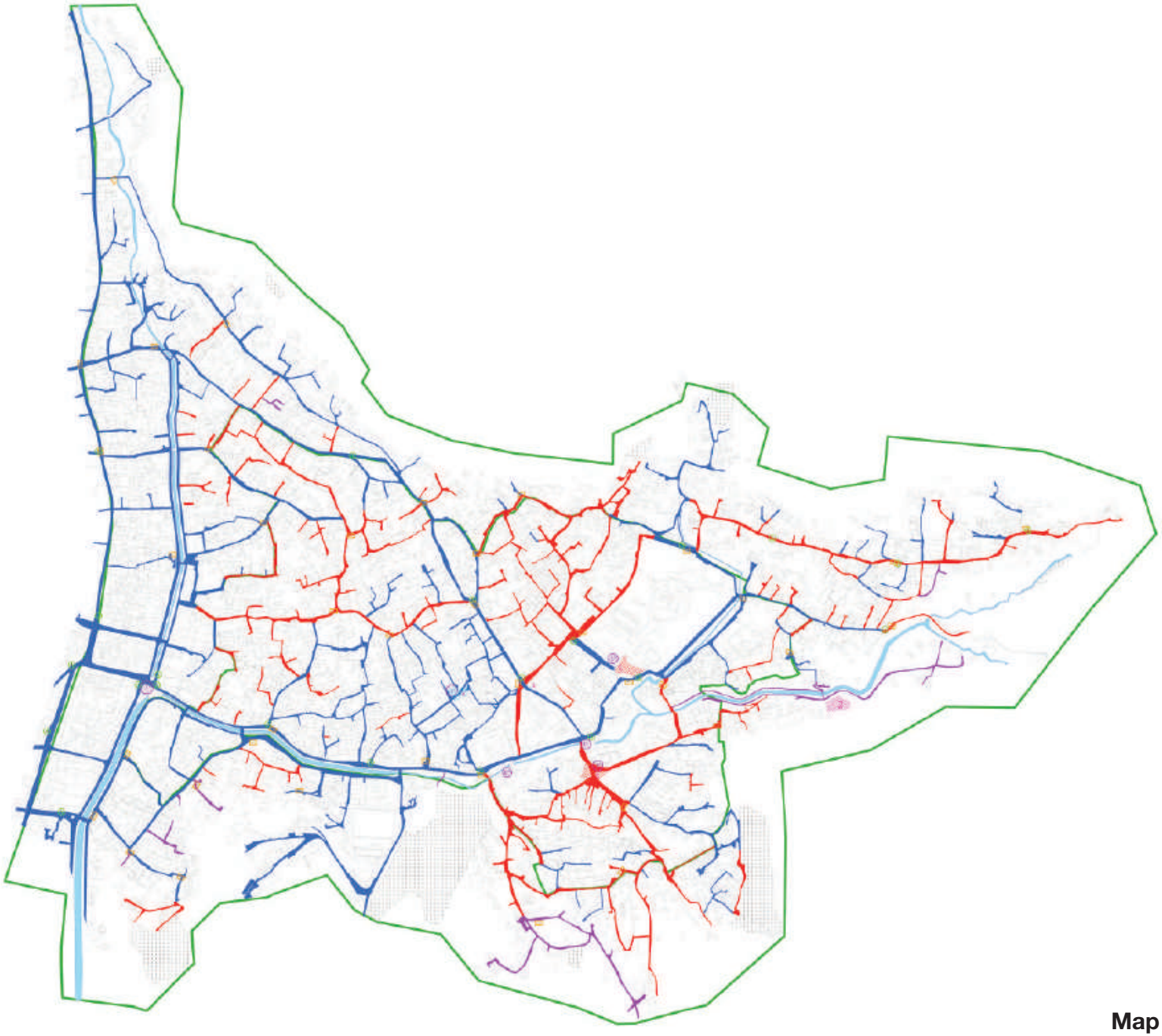
- Vehicular streets and public area in cobblestones
- Vehicular streets or squares in asphalt
- Unpaved streets or squares
- Bus stops
- Squere
  1. Town square
  2. Vezirkhan hill square
  3. Hurriyyet (Freedom) square
  4. "Ocag eshlyi" square
  5. Dabbagkhana square
- Jimjen (Venue of the population)
- Parking

Scale 1: 2500

1 cm = 25 meters

0 75 150 300 450 600 Meters

Date: 2020



Map 3.

2.1.5 “Mahalla”s (Traditional Neighbourhoods)

Mahalla is the largest urban element of a traditional eastern medieval town. The mahalla, in turn, is divided into many land plots with residential buildings, which are the smallest elements of traditional urban pattern.

The centers of the mahalla are “Kimgas”, which is mainly located next to mosque and hammam. Some mahallas have still kept their mosques and hammams.

There are 28 traditional mahallas in the historic part of Sheki. For this moment administratively, the historic part of Sheki is also divided into 9 mahallas. But the boundaries and the number of official administrative mahalla are somewhat different from the historically established boundaries of the mahalla. The mahallas are mainly divided by large or medium streets. The size of the historical mahallas varies from 2 to 13 ha.

Unlike the well-established rules of feudal Middle Eastern towns, the public buildings, mosques, hammams, shops were located on the main highway, not around the areas available in each quarter. The bazaars were both in the courtyards of caravan sheds and spontaneously emerging in the areas.

Sheki had traditional structure of feudal towns since Sheki Khanate (fortress, the Palace of the Khan (Governor), and the division into several blocks), divided into neighborhoods for different reasons, such as the types of employment of the locals (craftsmanship). This traditional urban structure and its administrative management system has retained its integrity after the fall of Sheki Kahante in 1819 and has survived till today within three different political settings (the Russian Empire, the Soviet Union and the independence of the country). The population of the historical part of the town lives with the consciousness of belonging to one of 28 mahallas which formerly were the components of the entire settlement system of the town. Sheki City Executive Commitee (EXCOM) traditionally manages the modern town of Sheki using 30 quarterly mahalla committees of which their representatives elect chairperson-representative among them. These committees deal with specific problems in mahalla and represent the residents in the town administration. Out of 30, 9 mahalla committees exist in the historical part and two committees - in the buffer area. Thus, traditional types of management corresponding to the nature and foundations of the historic town have been preserved in the modern democratic system of governance.

In the past, each district had its own square, mosque, hammam, and a mill to supply the grain to each neighbourhood. However, the majority of hamams and mills have lost their functionality in recent years due to modernization. Nevertheless, three hamams and one mill will be restored and regenerated for functioning as in the past.

Along with residential construction, you can find shops, farms, cooperatives and schools within the city.

Today 28 mahalla, each with its own toponym that remembers its past function. For example, new mahalla “Ganjali”, “Gileyli” established by the name of the persons coming from Ganja and other regions. With growth of economy the workforce from nearby regions was flocking to Sheki. Population growth created new production areas necessary for the residents of the town. The mills are built for growing needs of the population. The quarters are divided by the character of the craft “deyirmanlar” (mills), “Ipak mahalla” (silk quarter), “duluzlar” (pot maker), “nalbendler” (horseshoe makers), and also by the place of the town “kocholylu” (displaced persons), “arkhustu” (over the channel), “Chaggal deresi” (the valley of common jackal).

The residents of Sheki are still determining their belonging to the former historically formed mahallas. Even newly developed areas near Khochin cemetery are called “Teze” (new).

State Tourism Agency of
the Republic of Azerbaijan

HISTORIC CENTER OF SHEKI
WITH THE KHAN'S PALACE

IDENTIFATICIAN ON THE TERRITORY

TRADITIONAL NEIGNBOURHOODS (MAHALLAH)

Legend

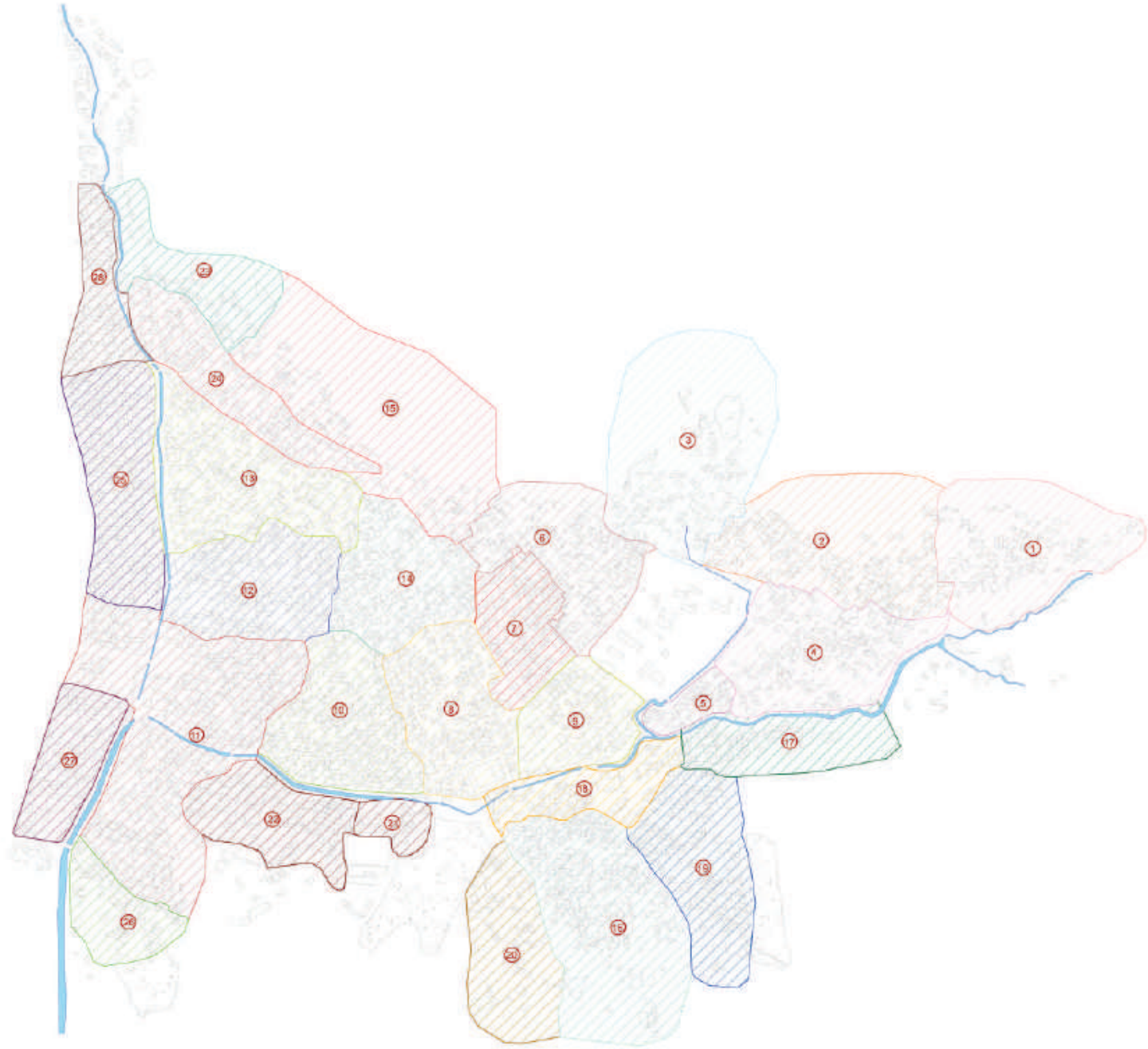
1. Koch yolu (Moved way)
2. Qobu (Holly)
3. Chaggal deresi (Jackal ravine)
4. Gilehli (Click settlement)
5. Doqquz para (Nine parts)
6. Qullar (Slaves)
7. Bazar bashi (The tope of the bazaar)
8. Otaq eshiyi (Out of the room)
9. Sasth (The name of the tribe)
10. Agvanlar (The tribes of the Caucasian Albaniya)
11. Dabbaqxana (Tanning workshop)
12. Gumburlar
13. Deyirmanlar (Mills)
14. Sari torpaq (Yellow ground)
15. Arxüstü (Over aryk)
16. Menjeli (The name of a territory in Iran)
17. Chay giragi (Side of the River)
18. Korpu gulagi (Side of the bridge)
19. Ganjali (Name of a city in Azerbaijan)
20. Teze mahalla (New neighborhood)
21. Encereh (The name of territory)
22. Zeyitliler (migrants from Zeyit village)
23. Dulusiar (Potters)
24. Ipek Mehelle (Silk neighborhood)
25. Chokek mahalla (Hollow neighborhood)
26. Nalbendiar (Horse shoes makers)
27. Dal qoqqez bazari (The Blind alay bazaar)
28. Serkerler (Horse close makers)

Scale 1:2500

1 cm = 25 meters

0 50 125 250 500 750 Meters

Date: 2020



Map 4.

2.1.6 Ensemble of Houses

STRUCTURAL PATTERN

Taking into account all the above-mentioned and the configuration of the pattern of buildings, we can say that the urban fabric of the Site is organic. All homes have a close relationship with agricultural production activities. In particular with the silkworm breeding and the processing cycle of the precious fabric. The house is an integral part of this productive organization. It has one of the sides arranged along the road and the other open with one veranda towards the fields. A plot of housing crops and canals is realized which confers on the whole the extraordinary aspect of a garden-city. There are two main types of the houses regarding its location in relation to the yard and the street.

The first type of houses look directly onto the street or are very close to the street. This arrangement of houses generally corresponds to the plots located on the lower street level to which they have access.

The second type of houses are located remotely from the street side. These houses are often located in areas that are above the level of the street to which they have access. Remote locations of houses from the street are also often found in mahallas that are on a sharp relief (Ganjali, Koch yolu, Chaggal deresi and etc.).

It should be noted that almost all buildings located on the right bank (northern bank) of the Gurjana River, Akhundov Avenue, which is an old trade and craft street, are attached to each other and face the street.

The topography of the site also affects the layout of houses, as well as the distribution of roads and streets. Thus, comparing the topographic map of the area with the map of houses, one can clearly see the relationship between the direction of the relief and the landing of the house.

COMPACTION

Traditionally, mahallas consist of a large number of private plots with houses. The average size of plots started from 600 m2 in the central sites and increased in size towards the foothill outskirts. The most obvious surviving example of a traditional site is the House of Shekikhanovs. Over time, transformation of industrial relations and increasing urbanization have led to the compaction of building development at the expense of gardens. As a result, it led to a sharp reduction in the size of garden plots, or to their complete loss. The reduction of garden plots is also influenced by the emergence of modern needs and their spatial requirements, such as the construction of garages, bathrooms, saunas, sheds, paving, etc. Now, in addition to the architectural compatibility of new buildings with historical context, the main task of the document is to stop the destruction of garden plots. İt is very important to take into account that due to the limited land resource for development, the city has nothing to do but develop into inward, which becomes denser.

2.1.7 Water management system

The historic center of Sheki, which is part of the reserve, get its water supply from the Deyirmanarkh canal, which is fed from the Kish River, and a network of channels created by earthenware water pipelines (such as the Tajlyg water network), which collect water from natural springs that feed the Gurjana River. The irrigation network starts from water sources and spreads to the area in the form of a fan via underground tunnels and ditches, covering private houses and gardens around the ancient city. The water flows in a sloping relief and joins the Gurjana River and the Deyirmanarkh canal. The old watermills on the Deyirmanarkh canal used to supply the neighbourhoods with flour.

The agricultural plots in the territory of Sheki are irrigated by water lines coming from the mountains and directed to the private gardens. These cultivated areas supplied with water create the morphology of Sheki city – a system of urban gardens.

Such a structure of water supply allows for efficient irrigation of gardens and land plots in the area and the operation of water mills. It is typical for an ancient city to have a water network that allows the cultivation of gardens and land plots and discharge rainwater, and determine the pattern of streets.

Traditional The hydraulic system is based on:

• Springs with the terracotta piping system

• Gurjana river and Deyirmanarch canal

• Management of rainwater

There are generally 3 sources of clear water, these are distributed with ancient terracotta pipes. One of the monuments of the town construction art is a number of engineering town improvement elements, that is the clay water-supply lines preserved in Sheki. Such waterline consisted of a system of clay tubes with 4 different diameters: *ana-lyulya* (mother-tube), *orta-lyulya* (middle-tube), *golgiran-lyulya* (hand flowing-tube) and *tapancha-lyulya* (pistol-tube), which were used for yard branches. Diameter smaller for straight pipelines, in order to increase water speed (Fig. 5); big to slow down where the pipes undergo a curve. The Reserve area used water from the sources of Tajlyg, Haji Hasan. In the most cases water flew along the open bed that led to its contamination by rains and mud.

The clay waterlines are interrupted with numerous distributing wells *takismgez* and completed with water-distribution outlets in the form of a pouring stream. The *taksimgez* is a small quadrangular pool used instead of a water measuring device, which monitors the water flow in water pressure reservoir of the present-day waterlines. Every 20 m on the distribution line there was an inspection well; at the distance of 50 m the tubes branched off supplying water to separate residential areas. Inside the distribution wells there is a comb divider, formerly made of rammed earth, today in metal, to divide the portions of water into the different properties (Fig. 6) The remains of earthenware water pipe are the monument of town planning of Sheki. The water was flowing from the mountain rivers through earthenware pipes which was interrupted by distribution wells and ended in a large number of the water-supply points. In order to show the high quality of these pipes, we note that even with a well- developed modern town water supply, the parts of the earthenware water pipes are used along with modern lines.

The distribution of water provides an interesting double system: the limpid waters and the non-potable waters. The limpid, very clean water is drinkable and reaches the houses of the historic center, it comes from an underground mountain source i.e. Tajlyg (in the root of its toponym there is the word “king”, because it was the sovereign of the 18th century to distribute this water in the country through terracotta pipes), that does not have abundant flow.

Figure 5. Ancient terracotta pipes

Figure 6. Distribution well with comb distributor

Tajlyg water supply network

Tajlyg water supply network brings water from the areas around Sheki to its neighbourhoods and adjacent areas. The water supply network is a water line built at least 250 years ago. The water line is built using earthenware (clay) pipelines. The diameter of pipes is about 20 cm. The construction of the water network was in the khanate period. Currently, this water supply line, which is about 5 km long, brings water to the Ganjali neighbourhood of the city. Sections of the pipeline was rehabilitated by local communities on their own so unsuitable materials such as asbestos and cast iron pipes were used in repair works.

Tajlyg network was designed by local artisans. The slope of the pipeline is not steep enough, thus the water pressure is weak. This is the only way to carry water with its own flow in an area with special relief, where local artisans had to undertake special planning. Its earthenware pipes with a diameter of 10, 15 and 20 cm were made by local potters from clay and earth obtained from the sources around Sheki.

Tajlyg is one of the best examples where people directly benefit from their surrounding ecosystems. It is important to note that the surrounding forests are the main reason for the existence of this unique water supply network. If these forests around Sheki are subjected to deforestation, then Tajlyg will cease to exist and its water will become the source of seasonal floods.

The water from the sources in the surrounding forests is delivered directly to the consumers without going through any treatment. The main reason is that these water sources are not exposed to any pollution.

Haji Hasan water

Haji Hasan water supply network is also made from specifically designed earthenware pipes as Tajlyg network. The network was constructed by a historical figure Haji Hasan using his own funds. The water source is the spring to the south-east of Ganjali neighbourhood. The water is carried into Ganjali neighbourhood via 1,200 metres long earthenware pipeline. Currently, there is a fountain and a distribution network at the receiving end of the Haji Hasan pipeline. The fountain is functioning albeit with a low flow rate. The water is mostly supplied to around 30 households in Ganjali neighbourhood.

Tajlyg and Haji Hasan water networks supply water to a section of households in Ganjali neighbourhood.

Today there is a water reservoir in the upper part of the Gurjana River in Agamaliogly Street. It is to be noted now Tajlyg and Haji Hasan networks is only about 50-60% of earthenware pipelines with a diameter of 60-100 mm. The rest of the pipelines is substituted with asbestos and cast iron pipes.

Figure 7. Tajlyg water collection points near the source


State Tourism Agency of
the Republic of Azerbaijan
HISTORIC CENTER OF SHEKI
WITH THE KHAN'S PALACE
MAP OF HYDROGRAPHY OBJECTS
Legend
Buffer Zone
World Heritage Area
Rivers
Haji Hasan water
The route of the Tajlyg water
Springs
Scale 1:2000
1 cm = 20 meters
0 45 90 180 270 360
Meters
Date: 2020
Sabuhi
Isitme
Gurjonchay
Nasib
Narli
Gaynama
Gozlu
Tajlyg
Haji Hasan
The route of Tajlyg water
Haji Hasan water

Map 5.

Springs

There are numerous springs in the historical area and most of them are built springs. And few natural springs exist in the site such as Isitme and Gaynama ones. The Isitme spring is located in the north-eastern part of the city, in the north of the Ganjali neighborhoud. This is the natural spring with low debit. Today it is used by local people and tourists as a source of water. The importance of the Isitme spring as a source of water has historically been greater. Local population confirms that the debit of the spring has historically been very high.

Also, there were numerous springs built in the historical part of the city. The source of these springs was River water and Tajlyg water. The springs such as Sabuhi spring, Narli spring, Walnut spring and Martyr (Shehid) spring can be mentioned here. Although places of these springs are available, water does not come from them.

Gurjana River and Deyirmanarkh canal

The riverbed of the Gurjana River, which flows from east to west, was chosen as the new place for rebuilding Sheki destroyed by the flood in the 18th century. The Gurjana River divides the historical center in half. The river originates from the Greater Caucasus Mountain Rage around Sheki and is fed by rain and snow. There is a risk of seasonal floods. However, the river can also go dry in some summer months. Historically, the water from the river was used for irrigation in downstream areas.

The Deyirmanarkh canal is considered the right tributary of the Gurjana River. Although the Deyirmanarkh canal is a man-made structure, it is believed that it was built on the site of a natural stream. Historically, many water mills operated on the channel. However, only one mill is currently in operation. The Deyirmanarkh canal has a special historical significance. In the past, the Deyirmanarkh canal used to supply water to around 47 water mills. These mills together with bathhouses and mosques formed the basis of the neighbourhood division. It is important to note that Deyirmanlar neighbourhood along the Deyirmanarkh canal is named after the many water mills located there.

Figure 8. Isitme spring

The only functioning water mill on the Deyirmanarkh canal today is a monument of historic significance. Although it is under state protection, it is not in an adequate condition. The water mill was built by a local resident Ismayil in 1898, and today it is run by his great-grandson Gurbanali Ismayilov. According to the owner of the mill, today it is used mostly for grinding rice, which is used in traditional Sheki confectionary for making Sheki halva. It is the only mill used for grinding rice not only in Sheki but also in whole country. The mill can be used for other grains such as wheat. The conservation plan for the watermill is covered in Chapter 3.

The historic source of the Deyirmanarkh canal was the Kish River. However, today the channel is fed by small water currents and reservoirs on the north-western section of the city. Although the channel is a man-made structure, it is believed that it was built on the site of a previous natural stream. Such analysis is derived from the fact that the area has high precipitation and the main directions of surface flows. At the same time, the channel seems to be used not only for the operation of water mills, but also for irrigation in the past. This, in turn, indicates that there was a community-regulated water management system in the area where the operation of water mills and the irrigation were based on a rotating system.

The Deyirmanarkh canal is one of the best examples where people directly benefit from their surrounding ecosystems. Using the power of river water flow is a regulated service. The historical significance of the Deyirmanarkh canal shows that it had a non-irrigation value as well.

Rainwater management

Rainwater is drained by the system of roads that are organized according to the slope lines to exploit gravity. The same roads thus form a drainage system and are specially organized for the purpose. This organized channel for directing surface waters still retains its historical importance.

Figure 9. Gurjanachay

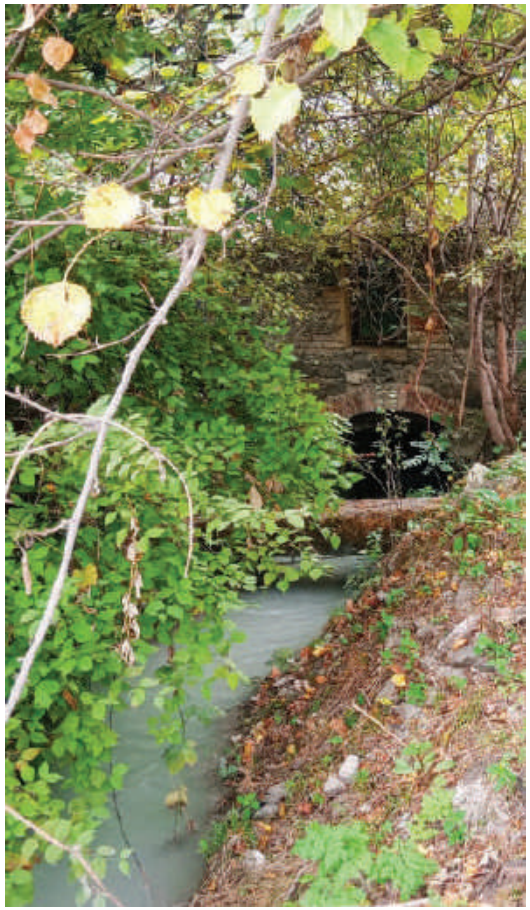


Figure 10. Deyirmanarkh canal and the water mill on it

2.1.8 The Planned Productive Garden City

The garden is the terminal point of Sheki's water system and urban organization. Together with the home, the cultivated field is the fulcrum of the economy of social, productive and family life. The inhabited and agricultural parcel is a productive and self-sufficient structure based on agricultural and manufacturing processes. Main activity is silk production. In the garden, the house is placed in a perimeter position with the long side where the veranda facing the cultivated area is located. In this gift gathered the important mulberry plants to provide nourishment to the bug. Historically, irrigation is used to carry out gravity according to the system of surface channelization and fields cultivated by orthogonal strips. From the main road there are one or two ditches to the margins, which serve more gardens, in which the sluices regulate the flow of water. These in turn lead the canal into the garden area, widening the graph according to the gravity lines. At the edge of the garden, in its perimeter, we find the largest trees (walnut, chestnut, mulberry, etc.), then later we find the horticultural crops (consisting of seasonal plants such as potato, tomato, cucumber, beam, strawberry, cabbage and sometimes corn, grain, etc.), subdivided according to the various species and interspersed with smaller fruit trees (hazelnut, apple, pear-tree, pomegranate, medlar, etc.). The main canal, through the garden, continues to supply the next owner.

Under the Soviet administration, and at present, the spatial organization of the city has not undergone major changes but created new rules for the building permits. The basic concession is a 10x10 m side lot constituting a plot of 100 square meters. The lots could be increased up to a maximum of 6 blocks, reaching a total area of 600 square meters inside the villages. While the country houses, outside the city, the parcelling can be up to 12 blocks. These lands could be built for 1/4 leaving the remaining portion to the garden.

The private gardens are the main and most common type of local green spaces across the historic section of the city. Private gardens in fact constitute a frame of the Sheki garden system. Historically, the main logic of dividing mahallas into garden plots in urban design of Sheki was dictated by the local relief along roads and water networks. Absolute symbiosis of local geographic and climatic conditions (forest, relief, etc.) with residential and garden infrastructure defined Sheki as an exceptional example of a planned productive garden city. Over time, the original role of gardens has changed and today they mostly fulfil an aesthetic role.

Apart from private gardens of individual houses in Sheki, the following three typologies of green spaces exist in Sheki:

• Public and semi-public gardens of public buildings such as a mosque, educational institutions etc. The largest landscape and garden complex is the Fortress with surrounding vegetation. Also, large parks include the garden behind the Upper Caravansary, Martyrs' Alley and the site of the former Children's hospital.

• Green belts around the city include public and private gardens, cemeteries and other plantings. Garden plots located on the outskirts of residential areas are a kind of strip of cultivated vegetation between the city and the forest. These gardens also help protect the city from landslides and mudflows. Mustafabey and Chestnut gardens are large old gardens in the foothills of Sheki. A children's camp was in Mustafabey Forest during the Soviet time, for this moment the site is currently used as a seasonal restaurant. There are more than 5 cemeteries belonging to the green belt, among which Gullar, Ganjali, Gariblar, and etc.

• Gurjana riverside is the main eco-corridor inside the Sheki historical area. There is variable vegetation along the river from its very source up to the runoff in the Gurjana, which creates conditions for local species of living creatures. The preservation and integration of this eco-corridor with nearby gardens and woodland is one of the main challenges for establishing a sustainable natural environment in Sheki.

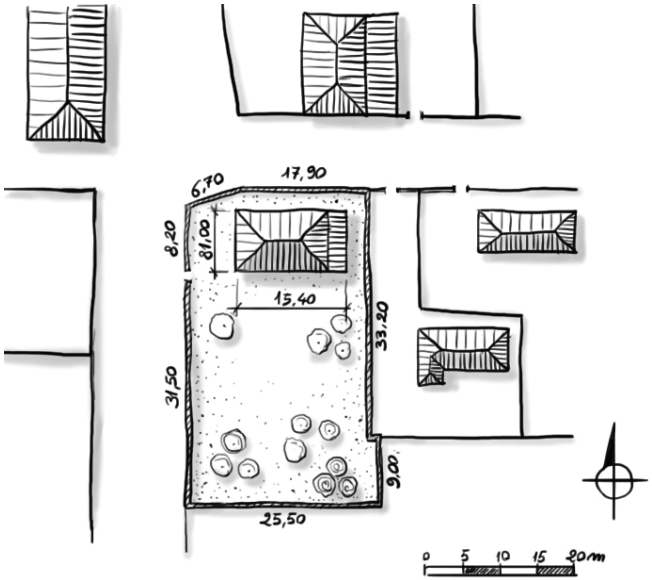


Figure 11. Planimetry of a one-story house with garden

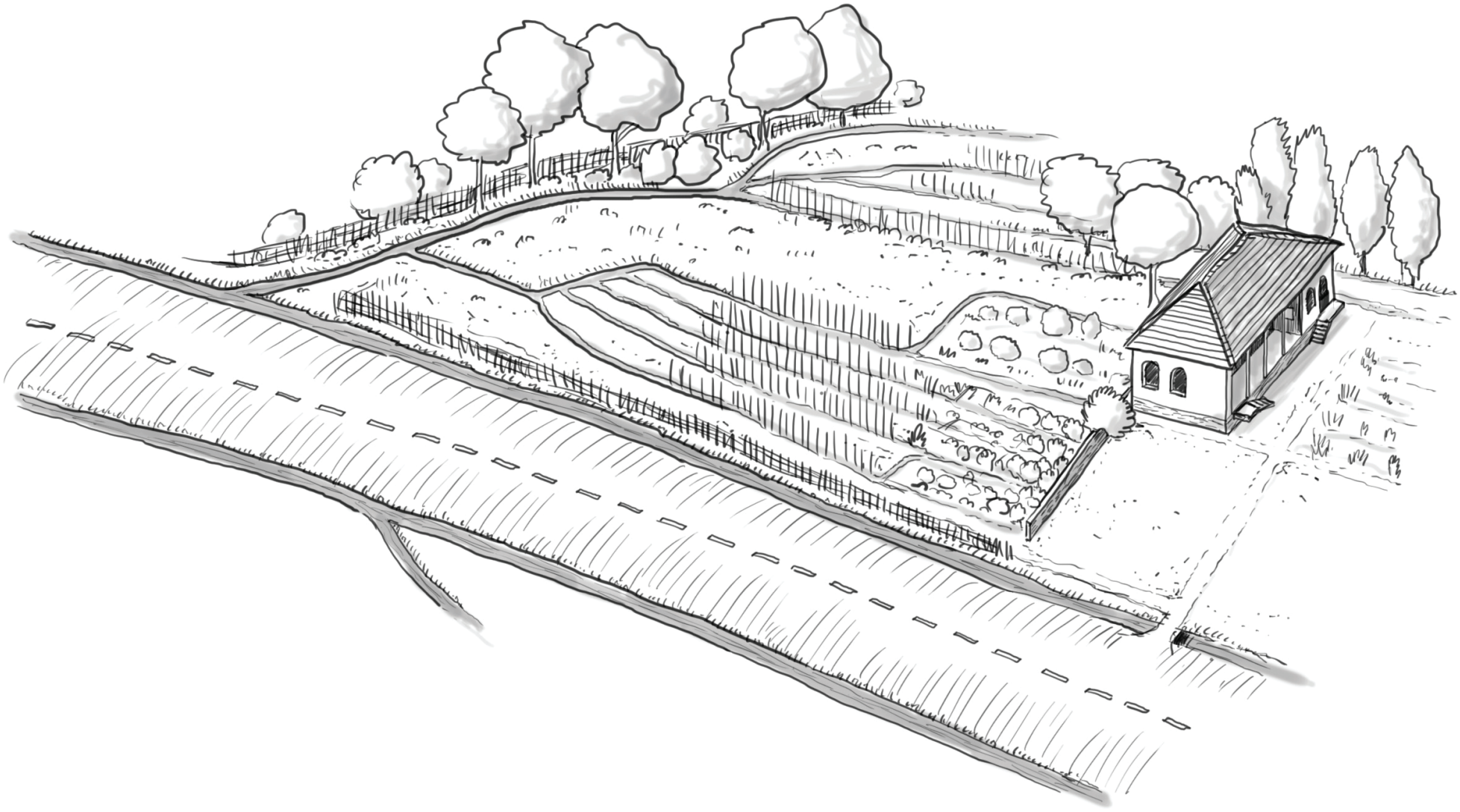


Figure 12. Old water distribution system to irrigate the gardens.

2.1.9 Influence of the Economy

Historical evolution of the city

The planning center of Sheki was a fortress of the local khan, which crowned on one of the city's hills. From the citadel to the south in the lower part of the city, there were buildings of the market complex. These general features of the character of the city's layout are clearly visible on the plan of 1852. However, in the first half of the 19th century, the Sheki commercial and social center was located not on the highway along the Gurjana river, but in the Juma-mosque area, occupying a vast territory with numerous quarters of trade and craft rows.

In July 1842, part of the city was destroyed by fire. 800 shops and workshops and up to 40 residential buildings as well as the shopping center of Sheki burned down. In 1843-1844, the plan of the marketplace of Sheki was developed by the architect of the Caspian region A. Novikov (Shamil Fatullayev-Figarov, 2013).

At the end of the 19th century, small residential complexes were organized in the eastern part of the city, and several compositional nodes were created in its different parts. By the end of the 19th century, the traditional methods of staging a residential building in isolation from the street broke down noticeably. There was a desire to build along the building limit line, which was an allowed space for construction in streets, although there was no strict regulation of street red lines at that time. Windows have appeared on the facades facing the street, there was a tendency towards plastic and spatial design. As a result, the architectural and planning structure of the city changed dramatically (Shamil Fatullayev-Figarov, 2013).

The growth and development of Sheki, one of the largest trades and handicraft centers of Azerbaijan, was facilitated by the silkworm production imported from China and widespread in Azerbaijan. The increased demands due to Russian weaving mills caused constructing of the first silk-manufactory in 1829 in Sheki owned by the State Treasury. Since the middle of the 18th century, Azerbaijan has fully met the demand of Russian silk weaving factories in raw silk. Sheki embroidery with colored silks on cloth. In the early 1860s, during the years of the highest rise of sericulture, Sheki acquired the importance of an international center for trade in silk seeds, cocoons and raw silk. During these years in Sheki there were more than 200 grener-agents of foreign silk-breeding firms, especially from Europe, who bought large quantities of grenada and sent it abroad to raise their silk-growing economy, which was in deep crisis due to cocoon disease (Elmira Muradaliyeva, 2011).

Thus, throughout the 19th and the 20th centuries, Sheki became a center of sericulture attracting foreign workers from various countries. The growth of the silk industry had a great impact on the city's growth pattern that resulted in the building of several shops, silk weaving mills, complex of administrative and residential buildings as well as caravanserais, mosques, various shops along Akhundov avenue where was main trade street.

The importance of the city of Sheki as a wealthy and developing community is confirmed by the growth of the urban population. At the beginning of the 20th century, Sheki ranks fourth among the cities of Azerbaijan; in 1835 it had 7000 inhabitants, in 1843 - 14561, in 1856 - 17445, in 1865 - 19522, in 1893 - 25894, in 1908 - 37,003.

Sheki's silk tradesmen became very rich in the late 19th and early 20th century and they built two and three-story luxury houses having unique architectural design and elements. These monumental architectures absorb the basic elements of traditional architecture and enhance its scale and decorative aspects. They are one of the outstanding universal values of Sheki.

Some silk factories were built next to residential houses in the neighbourhoods along the main streets as no special places were designated for these structures.

2.2 Conservation Analysis

The general plot of the city still respects the ancient division built on the system of gardens and dwellings-factory. The plot of ancient water distribution (irrigation of the gardens through ditches) does no longer exist. The traditional spring water supply remains only in one neighbourhood of the city (via Tajlyg and Haji Hasan water networks). Tajlyg and Haji Hasan water pipelines coming from mountains supply Ganjali neighbourhind with drinking water as well as it is used for irrigation purposes. In past, all the town population used to get drinking water from mountains and irrigation water from rivers through ditches. The latter does not exist anymore due to both degradation of productive gardens in modern times because of lack of demand as well as lack of water reservoirs due to dense population in the historic town. Due to the high population density, the water demand is compensated by the construction of additional water lines coming from outside of the city.

Mills, *hammams* and mosques are no longer served by ancient water systems; the first two for abandonment, the mosques because connected to modern water supplies. Only, two water mills have survived, and locals sometimes use these mills to grain rice. The gardens are mostly abandoned, both for the absence of the silk production, and for the low remuneration of gardens produced in small productions. At the same time, given the natural limitations of the area, new construction usually takes place mainly in the gardens, which can lead to the gradual disappearance of the gardens.

New buildings have been built on the territory of core and buffer zone over the last years and they cause damage to the original historical appearance of the historical town since they do not correspond to traditional buildings on a scale and style or fundamentally wrong located. Some historic buildings are adapted and used without compliance with initial designation and the laws of monuments conservation. Many of the buildings are monuments of architecture, badly in need of restoration. This issue is especially critical in respect of houses which are privately owned, and therefore their owners must restore or repair them. The owners of these houses either often use modern materials which do not correspond to the materials used in the historical building, or do not have funds for repair.

The tourism has its influences on the development. There are several new hotels in the town, and they do not correspond to the style and scales of historical trends. Scientific approach to the restoration of individual buildings and façades is important which makes up the street taking into consideration its history and difference in time of construction. There is no need to change façades of the buildings with the plaster which were built in 1930-50s of 20th century. They do not alter the overall perception of the street and approach to their restoration should be scientific.

Variety of minor streets face the main street, and the view of these streets spoil the impression of the historical nature of the main street. Restoration of houses and façades of the main street should be implemented together with related streets and blind streets.

Construction is chaotic on the right side of the Gurjana river. Piedmont landscape reveals all the shortcomings of the non-scheduled construction of the new and non-traditional additions to existing traditional houses. Built-up density violates the centuries-old structure of the house garden.

The surface water supply system has been also degraded. In cases where this is maintained, interventions were introduced with the introduction of hazardous materials such as asbestos. These materials, in contact with water and atmospheric agents in general, become more brittle and deteriorate, producing fine powders and fibres that are carcinogenic, polluting the watercourses.

The road system (except for the main one) and the squares have been intervention, thus changed historic views. There is no continuous maintenance, necessary to preserve these types of roads made of stone or earth. The deterioration has undergone further growth due to the increase in urban traffic.

Some fences and buildings that face the streets have discontinuity of materials and shapes, do not allow a uniform reading and urban integrity.The neighbourhoods have lost their historical function, their subdivision into craft, ethnic and morphological districts.

Figure 13. Channelizations and surface sliding systems.

2.3 Discussion and Recommendations

The restoration of the water system of Sheki is a fundamental element both for the ecological system and the hydrogeological safety, as well as an important aesthetic and scenic value.

The system must be restored starting from the maintenance of the rivers, the canals, up to the reorganization of production or even just aesthetics and demonstration of the garden.

Tajlyg and Haji Hasan historic water lines should be restored as taking account of the following recommendations:

• Inadequately restored sections of Tajlyg water network (asbestos and cast-iron pipes) should be dismantled and replaced with earthenware pipes to restore its historic appearance.

• Due to its regular maintenance, there is a trail along Tajlyg network. It is possible to turn this trail into a walking trail for tourists. Information boards should be placed along the trail to inform tourists about its history and significance. It is also recommended that railings be installed at some crossings along the trail to ensure safety.

• It is recommended that the underground water distribution points and some sections of earthenware pipes be unearthed and covered with glass to display to visitors.

• Both Tajlyg and Haji Hasan water networks must be inventoried and protected by being included in the list of monuments of world significance.

The mouth of the Gurjana river, the bridges over it and the stone spurs are another component of the main highway. The restoration of the slopes of the river and bridges, restoration of fences will have a positive impact on the preservation of the river mouth basic for the structure of the town. The annual, two-times cleaning of the mouth will protect it both from ecological and aesthetic point of view. It is necessary to organize “force” collection and disposal of household garbage in the upper part of the river (in Koch Yolu, Dogguz para, Gileyli mahallas) to avoid contamination of the mouth.

The river and water networks must be rehabilitated and managed by considering their importance in the environmental system. It is important to study the rise and fall of water currents, ground waters, periods of flooding and droughts and restore and renew natural water currents based on engineering works. A new water management strategy should be developed and implemented in the urban basin from the mountain to the valley instead of increasing waste and wastewater and the construction of new structures.

The Deyirmanarkh canal is also polluted with solid waste and sewage like the Gurjana River. Residents dump solid waste in the main bed of the channel due to the weak waste management system in the area. The pollution prevents the water mill from functioning and even poses some danger to its wheel. According to the owner of the mill, solid waste sticks to the wheel when the water mill is running and thus stops it from working.

At the same time, due to the fact that there is no wastewater management system in the surrounding areas, all the houses located on the Deyirmanarkh canal discharge their wastewater into the channel.

In order to stop the discharge of wastewater into the Deyirmanarkh canal, preventive talks should be held with the population living near the riverbed, and appropriate incentive mechanisms should be put in place to build necessary infrastructure.

For rainwater drainage system, it is important to increase the efficiency of this system. Field work should be carried out by respective specialists in the area, and the main engineering problems should be identified, and a project assignment should be developed for this purpose.

Also, it is important to consider the following recommendations when assessing the current situation of wastewater ditches:

• In the streets without ditches for the discharge of surface water, new ditches of appropriate size should be built considering the rainfall on every street.

• The ditches should be enclosed with metallic bars of the similar design to ensure safety and cleanliness.• Where possible, a traditional open ditch system will be used to discharge surface water from the streets. Ditches built in the center or edges of the *farsh* paved streets can preserve and restore the historic landscape of the city.

• Hatches should be provided in the distribution areas and street corners to clear the ditches from solid waste.

• It is recommended to cover the surface of the ditches only when they intersect with pedestrian crossings. For example, a complete enclosure of the ditch along the Akhundzada Avenue may result in floods.

Given the abundance of demand in public areas by visitors and local people, it is very important to restore both natural and built springs as well as build several additional ones in identified spots. This would be a good contribution to the provision of free fresh water for tourists and local people in the city.

The revitalizing the use structures such as the mills, the hammams and the gardens, both for utilitarian purposes and for demonstration purposes is important. The construction density ratio must be strictly followed to prevent the destruction of gardens. At the same time, it is important to make the gardens profitable and consequently, to encourage the population to preserve them. Various incentive mechanisms (subsidies, grants for tourism business activities, etc.) can facilitate the use of gardens for domestic, economic, and touristic purposes.

The resurgence of the garden house can have a new function as a boutique hotel or a holiday home or serve as an eco-museum. The productive function can be recovered giving high remuneration to the crops. This is preferring products with higher added value (honey, saffron, silk, etc.) and through traditional and organic food production, if marketed successfully.

The developer or house owner should have a constructive opinion of an expert to prove that the building cannot be restored before being allowed to demolish it. The exception are the houses which do not meet the traditions and approved for demolition in accordance with the plan of site conservation. The new building on the place of the old site should be built according to the plan of conservation and within the scales which do not violate the overall perception of the historical territory.

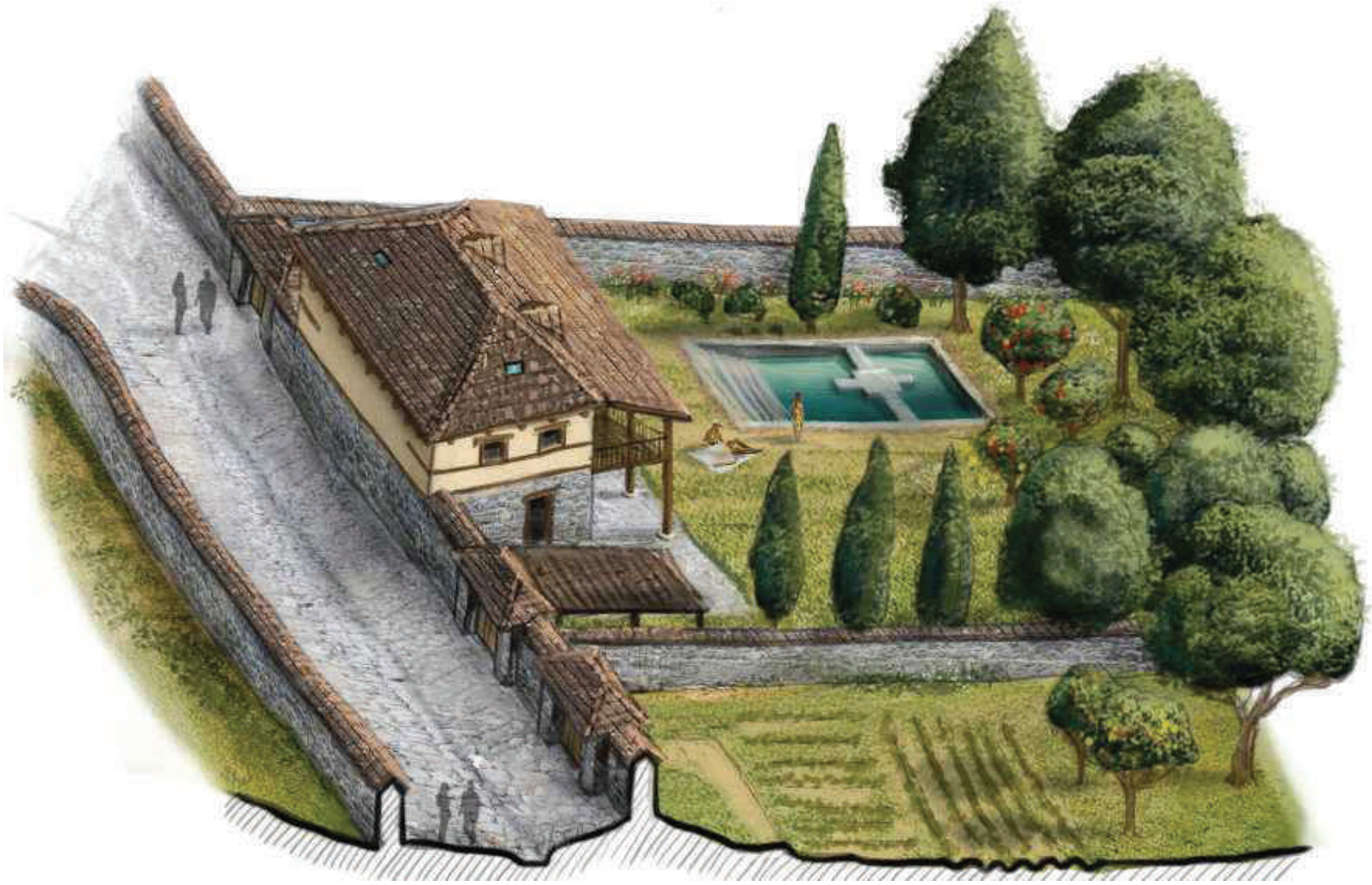


Figure 14. Rendering of the renovation project of a traditional building for the purposes of the new habitability function as a widespread residence or hotel.

Permission for the demolition and new construction is issued at the same time, indicating the timing of demolition and construction. It is necessary to develop construction strengthening project for the buildings which are in emergency condition. In exceptional cases, when the condition of the building is not subject to consolidation, the option of dismantle of the building with preliminary detailed measurement of its dimensions and marking façade elements is possible. According to the developed project of reconstruction of the building it can be recovered with the use of constituent elements of façades.

This does not necessarily mean that a ban on construction of the building (although it could be), it means that any development should be implemented in accordance with design, size, location, destination or other criteria so as not to jeopardize the historic character of the district.

New additions and exterior alterations should not compete with the historic features and the spatial dimensions, characterized by the properties of the building. New additions should be differentiated from the old ones and be compatible with historic materials, features, size, scale, proportions and volume in order to protect the integrity of the property and the environment.

When passing the street, you can see sequence of groups of buildings, façades, fences, and other elements of the urban environment and each of them determines relationship of shared street space. Most of the buildings forming the street should have overall structure of the façade by means of a single principle of shaping, according to horizontal division of the building, in its shape, roof shape and the parameters of the ground floor areas. Materials and large-scale indicators of fences in ratio with the width of streets and blind streets, green planting in the home gardens are type indicators of the streets. The location on piedmont area forms a rampant development of the streets. The steep parts of the streets are covered by the river stones called farsh. The pavements of the main streets were asphalted with growth of prosperity of the population and the number of vehicles. The end most parts of historical town are still unpaved. The restoration work on site should include paving of ground surface with the farsh stone, and the need for regular monitoring and maintenance covering the streets.

FIGURE 16: The current situation (a) is largely compromised by: total or partial absence of tiles; external gas instal¬lations; urban lighting not suitable; metal used in the ridge lines; use of cement. The digital restoration (b) in the rendering shows the actions to be carried out: completion of the roofs with terracotta tiles; burying gas and light installations; substitution or painting of the metal does not respect the colors of terracotta; plastering with terracruda color. The rendering (c) shows the new night lighting system which, through led lights, avoids visible systems and at the same time enhances the city's stone walls.

New construction in the area of historic buildings or the historic landscape has the potential to add or distract from the character of its historic environment. For this reason, to avoid the construction of new buildings and/or additional volumes to traditional houses, it is possible to make parts of the attic and basement habitable (Fig. 15).

Built-up density and scale of construction are important in design in historic part of the town. All buildings should be located so that the architectural ensemble would create a single unit with a further subdivision for detached buildings. To preserve the existing town-planning scale, it is necessary to maintain the existing dimensions.

Traditional one-family house with an adjoining garden plot are characteristic for the most territories. The early constructions were mostly one-story, later 2 or 3 story houses. New buildings should maintain this established scale to the extent possible. The new buildings in the area of the core zone can only have a height of 1 or 2 floors. The 3-storey buildings are allowed only in the case of restoration of existing type.

To preserve the character compatible with historic environment and historic landscape, new construction should be developed so that to correspond by volume, shape, size, materials, proportions, orientation, roof shape, etc. with historical buildings in vicinity. New buildings should be built along with existing red line (building line), without breach of the current structure of its streets and blind streets. The principal façades of new construction should be facing the same direction as existing buildings on the street. Please, see the Infill Design Manual for more information about new construction rules and recommendations.

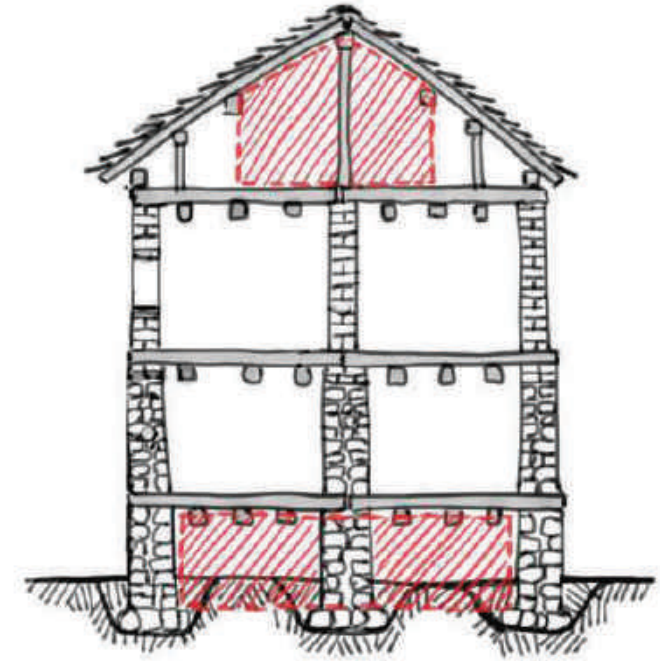


Figure 15. A possible reuse of the volumes of the attic and the basement of a traditional building

Figure 16.

Permissible height of buildings is adopted in accordance with existing historical buildings to the level of the ridge of a roof (max 1 or 2 floor).

Visual integrity and unity should be preserved. Historical building quarters with well-established form of streets, squares and green spaces, residential and public buildings determine the nature and identity of the town and each of its quarters. Each quarter has a small square “Kimga”, which brings together residents of the quarter.

When any planned works are implemented the preference is given to the restoration and maintenance of existing town structure. Change of sizes and designation of the squares inside the squares are not approved. Projects of restoration and reconstruction of the historic environment should be aimed at restoration of historic structures and re-creation of the formerly existing blind streets and passages. New housing construction is carried out within existing sites in compliance with established standards.

Although part of the historic streets is covered with floor made of local river stone, most part of the main street is paved. It is recommended to restore coverage of the street on the left side of the river in its historical form as a major tourist street.

Temporary use of public spaces and squares for events or commercial purposes may be carried out with the special permission of the reserve. Lightweight constructions such as counters or stages, installation of tables and chairs, etc. must be temporary with the permission of the reserve and dismantled after the events, and the damage to the area must be eliminated.

Preserving the historical lighting

New lighting in the historic core area should strictly match the shape of typology of the street space of historical context. All existing and future public utility lines (cables and pipes) within the historic zone should be under the ground or hidden under the surfaces of buildings and fences. Light poles are installed only in squares, when there is not enough wall light.

Landscaping and lighting of the areas within the quarters will contribute to strengthening the tradition of meetings and communication for the residents of this quarter.

Technical infrastructure

All existing and future infrastructure (cables and pipes) within the historic zone should be under the ground or hidden under the surfaces of buildings.

Outdoor antennas, including satellite antennas, air conditioners and ventilation devices and electric appliances should be hidden or minimized. Placing them on the street facades or posts violate the specific view of the street. Existing devices which do not comply with this requirement should be brought into compliance.

Please, see Infill Design Manual about the all rules of technical part of infill units.

Garbage

It is necessary to designate special areas for garbage collection. Storage areas for garbage should not be visible from the main streets and should not violate the visual outlook of the streets, monuments, and public services. Garbage should be classified by containers. Covering green fences should be installed without breaking the border areas of landscaping.

Advertising and signs

Placement of signs and posters on facades sometimes creates serious grounds for concern with increasing number of commercial entities.

The nature of the signs shall be consistent with the character of buildings. The shape, size, color, material, design and placement of signs shall harmonize with surrounding architectural style. Architecture which maintains the individual characteristics is the best advertisement for the town, trade and businesses. The degree of signs should be limited to only those signs which are necessary. Single signs should be adapted to the architectural style of the buildings and streets.

Signs cannot close architectural details or important architectural aspects of a building, such as cornices, decorative details around the windows and doors. The placement of signs from different companies on the same building should be coordinated to achieve a unified effect. Advertising effectiveness depends not on the size of the sightseeing platform but on the location of advertising equipment. The painted signs in the window provide elegant and modern effect and as a result, the building is free from the signs.

The design of the sign should conform to the building and should not diminish the overall external appearance of facade. Maximum height of advertising and advertising letters should be determined. Advertising painted directly on the building facades is not recommended. The surface of the sign should not be shiny or mirror-like.

It is not allowed to paste paper version of the advertisement, posters or promotion materials on facades. Special baseboards should be installed in special designated areas.

Titles glued or printed to glass is a common approach in both historical and non-historical areas. (Fig. 19) The approach significantly lessens the visual pollution and creates unison advertising which can be used in the Site as well.

Figure 17. Scale of title is adequately huge in comparison with building with elements of surrounding.

Figure 18. Despite some attempts, the adapted sign boards are not appropriate with the traditional elements and ornaments

Figure 19.

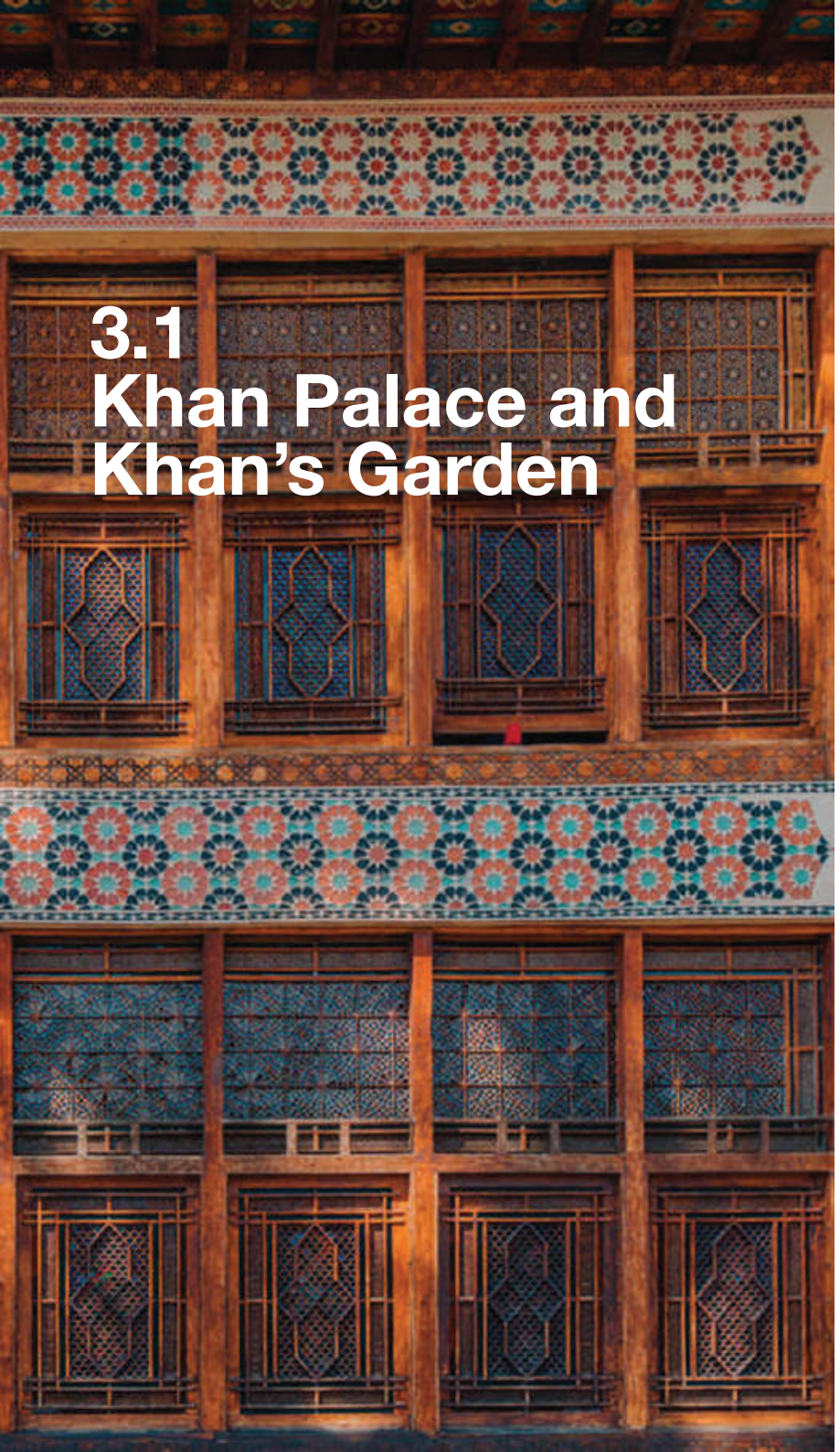
3 Monumental Architecture

The historical center of Sheki is rich in architectural monuments. Khan Palace, Shekikhanov's House, historical caravanserais, mosques, hammams, mills, shops, arched bridges, and merchant houses are included in the list of these monuments. These architectural pearls are objects that prove the identity of Sheki.

The style of a residential house of Sheki impacted the formation of all the main types of buildings, including religious buildings (mosques) and civil ones (hammams and caravanserais). A bright example is the mosques built on the basis of characteristics of the residential house (availability of eyvan and seyvan or doorway, high pitched roofs, etc.).

One of the most outstanding monuments of Azerbaijani architecture and art can be considered the Sheki Khan Palace. The palace is proof of the high level of cultural achievement in Sheki.

After the construction of the Khan Palace, it started a necessary process: mosques and caravanserais were built with architects in competition with each other. Especially the caravanserais show that the city in the XVIII century was open to the outside world. Furthermore, the architecture of these buildings shows in the detail and composition elements some reminiscent of medieval European constructions.



3.1 Khan Palace and Khan's Garden

The Khan's Palace has a unique place among the architectural monuments of Sheki. This significant architectural monument of the XVIII century is famous for its elaborate architectural decorations, and it is a product of a synthesis of several applied arts traditions of Azerbaijan. The Khan's Palace is a classic example of applying traditional construction principles widely reflected in the residential buildings of the area.

The layout of the Khan's Palace and the decorative distribution of the main façade reflect the building's interior with its rooms and halls. The solid windows of the central part of the facade are covered with the fretwork – a grid of wooden windows with geometric patterns and colored and opaque glass called "shebeke". The combination of the colored fretwork windows and the mirrored stalactites at the portals, and the ribbon patterns surrounding the rest of the wall surface are characteristic features of the decorative design of the Khan's Palace.

The interior of the monument decorated with wall paintings is also of particular interest. The rooms and halls of both floors are decorated with wall paintings. Bouquets of flowers such as roses and irises placed in vases, as well as fruit-bearing pomegranate trees and cypresses, are found in wall paintings with floral motifs. Other wall paintings of note are those depicting battle and hunting scenes. The wall paintings are planar in nature as pictures and drawings in the miniatures. They are two-dimensional and placed very tightly on the wall surface without depth. The decorations of ceilings and mantelpieces and the exquisite beauty of fretwork panels filled with colored Venetian glass are also worth mentioning.

The Khan's Palace is XVII century monument of world significance under state protection with a registration number of 20.

In 2013 "Azerberpe" Scientific-Research Project Institute renewed the passport of the monument prepared during the Soviet period. The passport contains historical information and information about the architectural plan of the Khan's Palace as well as its architectural elements, interior, and significance. This information was used in the preparation of the conservation plan of the monument.

3.1.1 Historical context

The Khan's Palace is one of the most significant buildings of the new Sheki built in the territory of Nukha village after the devastating flood of 1772. According to various historical sources, it was completed either in 1797 or in 1760 . There are several old plane trees in front of the main façade of the building, which is in the upper part of the town inside the city walls. The palace is surrounded by walls on all sides despite being already inside the walled keep. This was a characteristic feature of most oriental cities at the time. A plan drawn up in 1853 shows that there were various auxiliary buildings in the keep for the ruling family and their servants. However, the plan does not allow to determine the initial functions of some buildings as those were already adapted for new the needs of the Russian garrison stationed there.

According to the Treaty of Gulustan (1813), most of Northern Azerbaijan, including the khanate of Sheki, became part of the Russian Empire. Russian garrison was stationed in the Khan's Palace. The document prepared by the Russian administration in 1819 during the handover of the Khan's Palace and its belongings to the treasury of the Russian Empire gives a detailed description of the palace complex. According to the handover document, the Khan's Palace was the main residence of a larger complex, including the Khan's Mosque, harem building, bathhouse, warehouses, stables, and other outbuildings. All these buildings were inside the walls and occupied most of the territory of the keep. Subsequent research shows that these outbuildings were gradually added to the complex by khans living in the palace.

The deployment of Russian troops within the keep after the occupation of the khanate of Sheki resulted in the demolition of many buildings of the palace complex and the construction of new buildings such as barracks and prisons in the territory. The Khan's Palace itself had several different functions over time: garrison headquarters, city court, the summer residence of the governor of Elizabethpol province, etc.

The Khan's Palace has the architectural features of the Gajar period. The Gajar style, which was characteristic for the late XVIII and early the XIX century Iran, was also a dominant style for Azerbaijani architectural structures of the period. The architectural features of the Khan's Palace are close in style to the Sardar's Palace in Erivan and the garden pavilions of the late Safavid period, and genetically to the civil architectural monuments of Sheki such as the Shekikhanov House located at some distance away.

Figure 20. Khan's Palace in 1896 (Yermakov D. İ.)

Figure 21. General view of the Khan's Palace from the Khan's Garden

3.1.2. Physical description of the Palace

The Khan's Palace is located inside the fortress walls, in the north-eastern section of the keep. The rectangular palace courtyard is also surrounded by lower privacy walls. The courtyard consists of three terraces, and the palace building stands on the highest terrace. There are a rectangular fountain and two plane trees in front of the southern façade.

The Khan's Palace is a two-story building built in the tradition of residential houses in Sheki. What distinguishes the palace from other residential buildings is its elaborate decorative ornaments. The main – southern façade has a portal complete with stalactites, fretwork decorated with colored glass, and carved and painted patterns on the plaster. The main façade is divided into three sections by two portals. The central area of the façade is formed by fretwork panels, which also constitute the southern walls of the main halls of both the ground and first floors. The side sections are developed in a similar manner with fretwork panels on the first floor and surface screen on the ground floor. Two of them have fretwork windows, and the other four have panels with floral ornaments in sgraffito style. The protruding edges of the floors and interior walls on the façade are decorated with striped patterns in sgraffito style executed on the floral-ornamented plaster.

Portals differ from the general subtle elaboration of the façade. They are formed by deep arches and divided into two floors with entrance doors on the ground floors and a balcony on the second floors. The upper arches of the entrances and balconies are completed with stalactites. The stalactites of the second floors are covered with pieces of mirror. Rhombus-shaped vertical ribbon patterns on both sides of the balconies and on the edges of the façade, floral ornaments on the arches of the portals, colorful patterns on the panels, fretworks filled with colored Venetian glass give the façade an exceptional grandeur and beauty. Between the balconies and the corridors, there are fretwork doors that repeat the patterns of the entrances on the ground floor. There are fretwork windows over the door shelves. The balcony is completed with stalactites. The surface of eight rows of complex stalactites is covered with mirror fragments. The patterns and colors of the southern facade are reminiscent of a large oriental carpet.

The northern façade consists of a plastered flat surface with a simple solution deepening at the edges. The main decoration is a large fretwork panel opening from the hall on the first floor. The northern façade also features sgraffito patterns following the lines of interior walls. However, these patterns have simpler execution, unlike those on the southern façade, and are made of only two colors – light yellow and dark brown. The western and eastern façades are very simple in execution. Only the doors with stairs are found on the plastered façades. On the west façade, there are also two windows and a door on the first floor opening into a staircase leading to the roof. One can only guess the initial design and layout of this door and staircase when it was completed. According to a historian of architecture, Leonid Bretanitsky, there was possibly a wooden staircase starting the northern façade and ending at the door on the first floor of the western façade. There is no additional information about this possible staircase.

Figure 22. Position plan of the Khan's Palace (2020)

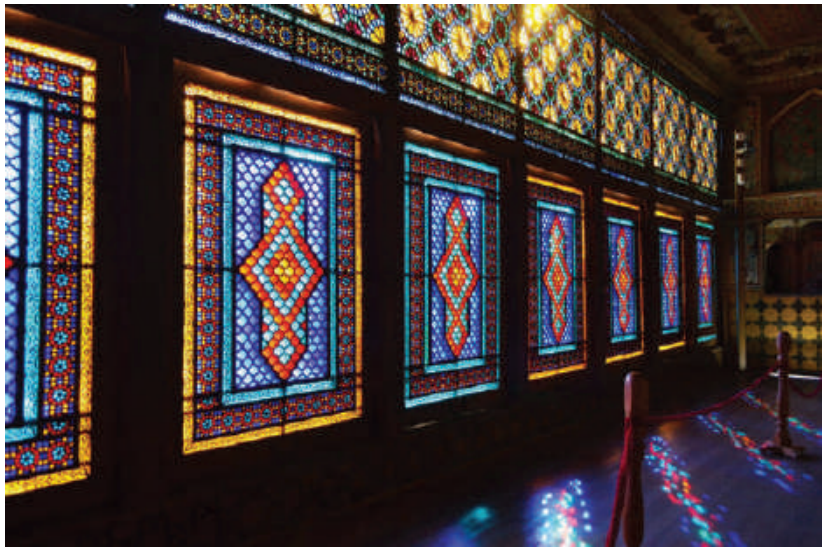


Figure 23. Fretwork windows (shebekes) of the central hall on the first floor

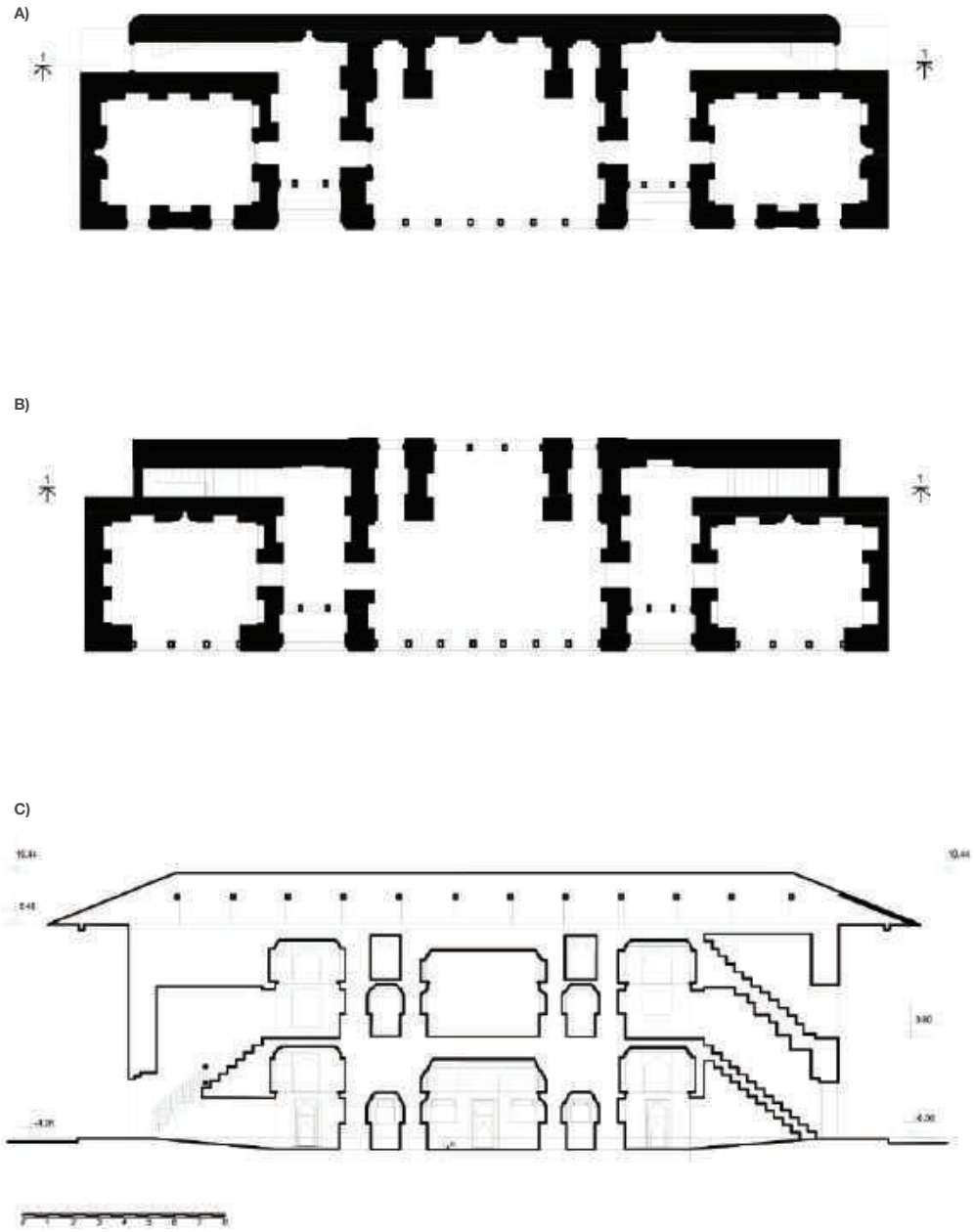


Figure 24. Layout of the Khan's Palace: a. ground floor, b. first floor c. cross-section

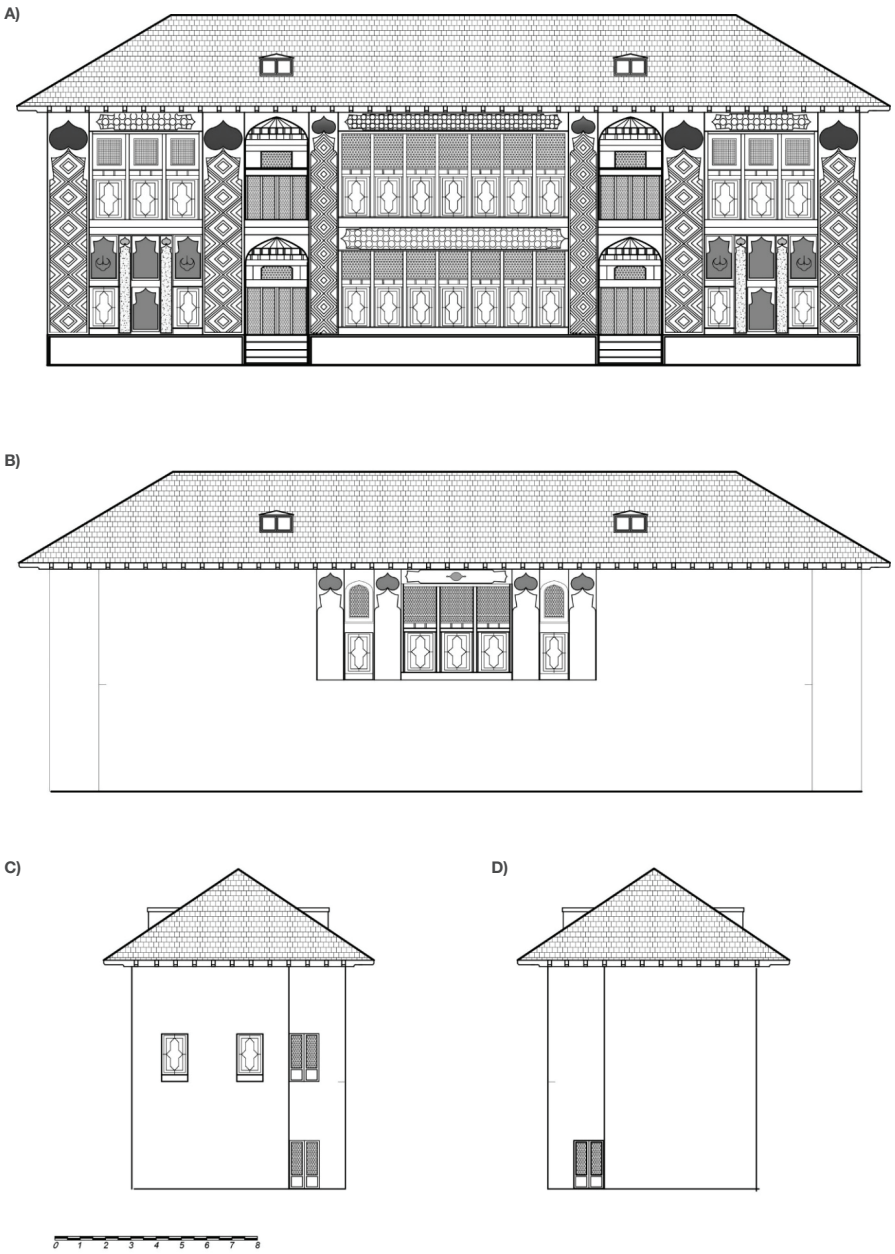


Figure 25: Façades of the Khan's Palace: a. southern façade b. northern façade c. western façade d. eastern façade

Figure 26. Southern and northern façades of the Khan's Palace

Figure 27 . Southern and northern façades of the Khan's Palace

The layouts of the ground and first floors of the palace are identical. Two doors lead into narrow corridors from the main façade. Central halls and side rooms are accessible from the corridors. Another door opens to a small closet under the staircase leading from the building's western façade. As the building is elevated, access to the corridor from the portal is possible through the densely porous limestone stairs. These stairs do not protrude from the façade as the corridor doors are located deep inside the façade. The doors are made of fore panes of glassed fretwork. The two panes are slid sideways, and the other two are slid backward. There are flat-arched fretwork windows filled with colored glass over the doors. From the inside, the windows themselves are placed inside another arch.

The walls of corridors are plastered and divided into two tiers. There are rectangular niches in the lower tier and axially finished niches in the upper tier. The transition from the walls to the ceiling is executed in the form of an arch. The ceilings are rectangular and assembled from colored (red and green) pieces of timber. There is a bukhari built into the northern wall in the corridor on the west side. Its circular mantelpiece is reminiscent of a helmet. There is a passage at the end of the corridors to the stairs leading to the first floor from the east. The stairs were accessible through door openings from the façades, but in the 1960s, a narrow passage was created by cutting off a part of the stairs and opening a passage from the ground floor to the first floor without leaving the building. The stairs are made of stone and covered with wood, and have wooden railings.

The focus of the building is on the central halls of the ground and first floors. The hall on the ground floor is located between the two corridors. Two two-meter interior walls from the northern wall divides the central hall into the main hall, khan's private room (khannishin or shahneshin), and two other small rooms. Thus, the khannishin were reserved for the khan, two small rooms were used as closets, and the main hall was reserved for guests. There are no windows in the two small closet rooms, and light enters only through glassed fretwork windows over the entrances. There is a mantelpiece built into the northern wall of the khan's private room, and it used to have a marble floor with a marble fountain in the middle. The walls of the hall are divided into three tiers. The lower tier is a flat surface up to 1 meter high decorated with carpet-like ornaments with octagonal stars. In the second tier, there are niches completed with stalactites and in the upper tier, these niches are completed with arches. A wide belt is placed between the second and third tiers. The transition from the third tier to the ceiling was executed with stalactites.

The artistic design of the hall is also reflected in the variety of ceiling heights. The ceiling of the hall is a large rectangular panel assembled from fretwork. In the centre of the ceiling, there is a stalactite transition with mirror fragments into the upper structure and a lantern made of fretwork assembled on the mirror. The ceiling of the khan's private room is lower and more solemn. The ceiling is decorated with plaster ornaments carved geometrically on a flat layer of a mirror. This ceiling is one of the best architectural solutions for the palace. The architectural solution of the walls of the khan's private room is slightly different. The difference starts in the third tier. The niches are not axial but rectangular and slightly lower at the corners, and the transition to the ceiling

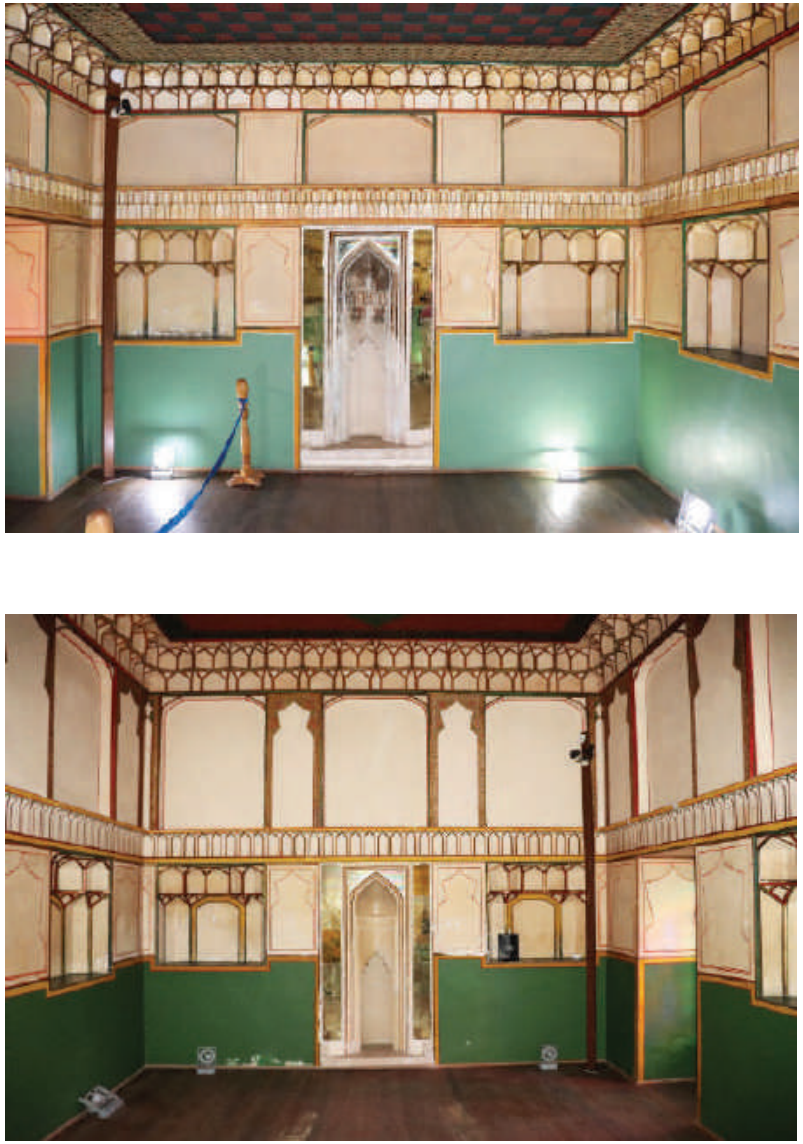


Figure 28. Side rooms on the ground floor

is formed by three-tiered stalactites. The walls, niches, and stalactites of the hall are decorated with beautiful wall paintings. The wall paintings depict bouquets of flowers, pine trees, pomegranate trees with red fruits, and belts with golden flowers. The wall paintings on the stalactites each are a complete storyline. In general, the hall's wall paintings on the ground floor are more subtle and high-quality than the wall paintings on the first floor. Experts attribute this to the fact that the rooms on the first floor have been subjected to renovation more often.

The side rooms on the first floor are slightly different from those on the ground floor. The mantelpieces are built not into the side walls but the center of the northern wall. The southern walls of the side rooms on the ground floor have two windows, and those on the first floor are executed in full fretwork. The niches repeat the patterns of those on the ground floor, but the wall paintings are slightly different. The wall paintings on the first floor are decorated with larger ornaments. The first tier of the western room walls depict bouquets of flowers in a monochrome background instead of octagonal stars. The mantelpiece is decorated with flowers as well. The colors on the walls are red and dark blue. The ceiling is not assembled from timber but executed in plaster and decorated with floral ornaments. Octagonal stars are depicted on the first tier of the eastern room. The niches on the second tier depict lilies and bouquets of flowers. However, in contrast to the ornaments of other rooms, there are depictions of lions among pomegranate trees and flowers on the third tier. Lions, fish, peacocks, and even a human head is also depicted on the plaster ceiling. These murals were probably added in later restorations. The ornaments of the room significantly differ from the ornaments of other rooms by both colors and topics. Another difference from the western room is the two windows on the side façade. The fretwork rises from the floor level to the stalactite belt of the third tier. The southern wall of the room is a three-section fretwork. The ornaments of the room significantly differ from the ornaments of other rooms by both colors and topics. Another difference from the western room is the two windows on the side façade. The fretwork rises from the floor level to the stalactite belt of the third tier. The southern wall of the room is a three-section fretwork.

The layouts of the central halls on the ground and first floors follow a similar pattern. What is different is that the whole northern wall of the central hall on the first floor is a three-section fretwork, not just the mantelpieces, as is the case with the hall downstairs. The ceiling is still lower, but the transition to the ceiling is through stalactites on both sides, and there are no stalactites on the northern wall as the flat ceiling sits on the fretwork. The solemn ceiling is decorated with floral ornaments. The transition to the main hall ceiling is made of two rows of stalactites, and the ceiling is decorated with floral ornaments. The first tier of the walls is decorated with bouquets of flowers on the monochrome surface; the second tier is decorated with lilies and bouquets of flowers in vases. Unlike in all other rooms, here, the cornice belt between the second and third tiers are decorated with hunting and battle scenes, and it is believed that some of these wall paintings depict the khans of Sheki. Such murals rarely depict so many people together in genre scenes. The entire southern wall of the room is fretwork made of seven sections with colored glass. Doors in the Khan's private quarter leading to the closets are executed

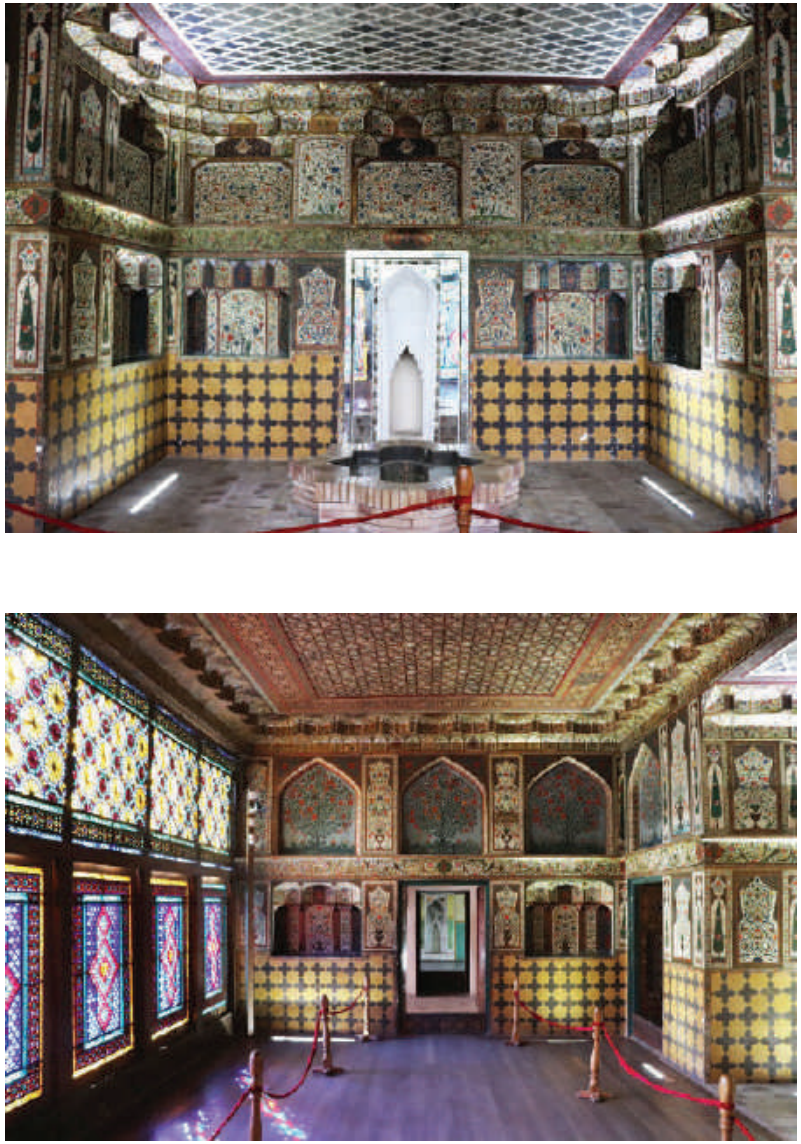


Figure 29. Central hall of the ground floor

in fretwork. The northern walls of closets are replaced with fretwork windows. The walls are plastered with gold stripes painted on the corners. The doors of the rooms are double-paned and decorated with colorful patterns. The outside surface of doors and windows is covered with fretwork at 26 cm above the floor since wood prevents cold.

The building roof has a gable structure with overhangs protruding 1.2 meters from the façade and reinforced with additional brackets. The gables and brackets are decorated with patterns made by the burning engravement method. Five rows of painted wooden tiles are also fastened on the gables and frames, which reminds a colorful carpet when seen from below. The roof was restored in 2001; the gable structures were changed; the roof covering was replaced with non-abrasive iron sheets reinforced with wooden slats, and placed the ceramic tiles on top. The staircase leading to the roof is on the western façade.

The palace's main construction materials are bricks with dimensions of 20 x 20 x 4 cm and natural stone. The thickness of the walls is 1 meter. The walls are made of straw-clay mortar and plastered with gypsum.

Figure 30. Views of corridors

Figure 31. Side rooms on the first floor

Figure 32. Central hall on the first floor

Khan’s Garden

The Khan’s Garden is the area in the courtyard of the Khan’s Palace (Fig.33). The garden is protected as a monument of national significance with an inventory number of 483. The area of the garden is 1937 m2. There is no information in historical sources that would indicate the time when the garden was planned and laid out, but it is believed that it might happen in the XVIII century. Based on the landscape and relief features of the area, as well as the fact that the main entrance of the Khan’s Palace was previously located in the lower section of the garden, it can be assumed that the garden was intended as a small walking area and ceremonial welcoming place.

There are two pools in the garden. A stone-paved pavement was laid from the palace to the pool. Currently, there are two plane trees, about 350 flowering bushes, 48 pine trees, 6 fir trees, 2 linden trees, 3 plum trees, 2 willows, 2 Japanese plums, and 17 decorative bushes in the garden, but most of these trees were planted after 2000. The historic report prepared by major Lisanevich shows that the garden was planted mostly with flowers. Later photographs also show that there were several other plane trees next to the two existing plane trees in the garden.

Figure 33. A view of the Khan’s Garden from the attic of the palace

Outbuildings and walls

There is an administrative building adjoining the privacy walls to the north of the Khan's Palace. The building has one hall, three rooms (director's office, accountant's office, and security's office), and two water closets for the personnel.

The walls of the building are made of river stones and bricks, and the roof is covered with ceramic tiles. The building was built in accordance with the traditional typology of Sheki architecture but has no historical significance.

Figure 34. Eastern portal

Figure 35. Privacy walls of the Khan's Palace: a. south-eastern corner b. north-western corner

Wall paintings

It should be noted that almost all colors and shades are used to create the patterns on the walls of the Khan's Palace, but warm and gilded shades are most common. The transition between different colors is solved in a harmonious manner, so they do bother the audience. All paints used in wall paintings were made from natural dyes, so they have preserved their colors for a long time.

Battle and hunting scenes depicted on the walls of the central hall on the second floor is worthy of attention. This generous allocation of space for depicting hunting scenes shows that there were magnificent and solemn hunting practices in old Sheki.

The wall paintings in the adjoining rooms seem to call people to discover mysterious meanings in these depictions and make them think about the meaning of the imagery. They mainly depict two-headed dragon breathing flowers instead of fire and various Turkic cosmological ideas such as the myth of the Phoenix bird that emerges from the ashes every 600 years.
In another painting, we see a creature with a human head and lion body holding a dagger in one paw and holding with the other three paws the fish on which it stands. The tip of its tail is a dragon as if standing ready to swallow the head of this magical creature. This image symbolizes the lifelong struggle of human beings and human nature, as well as the constant battle in the world. We can also find a slight variation of this creature on the banners of the Safavid and Afshar empires where there is a lion-like creature with a sword in its right hand and a rising sun in the background, which symbolizes power. The Phoenix bird is also present in this composition. In Azerbaijani mythology, this mythical bird is a helper of good people who are in distress.

There are also many pomegranate trees with abundant fruit in the wall paintings. Pomegranate fruit is a symbol of fertility and abundance, as well as benevolent human intention. The style of wall paintings reflects the influence of miniature painting on traditional applied arts. The emphasis on the decorative aspect is evident in these wall paintings.

As for the influence of other civilizations on the architecture of Khan Place, Rasim Efendi (1976) notes that some of the paintings on the walls of the Khan's Palace, such as those on the stalactite cornices on the ground floor, indicating realistic methods such as voluminous depictions of shadows, light and color contrasts, as well as the content of those paintings are not characteristic for traditional Azerbaijani paintings. Due to their distinctive style, these paintings "... suggest that they were painted by an artist who was well acquainted with European art. It is possible that these murals were painted by an Italian artist mentioned by the Spanish revolutionary Van Galen. Van Galen, who visited Sheki in 1819/20, noted that some of the paintings were "painted in the Chinese style" by an Italian artist who worked in the palace 10 years ago" (Rasim Efendi, 1976, p. 202).

Figure 26. Eastern portal

Figure 27. Eastern portal

Stalactites

The stalactites in the Khan's Palace complement the overall composition of the building in terms of their artistic depictions. The upper stalactites of the rooms are covered with small mirror fragments, and the lower stalactites – with paintings. Natalya Miklashevskaya classified the paintings on the stalactites in the Khan's Palace into two groups: the first group includes paintings in blue tones. The second group consists of all other paintings. The paintings in blue tones were created in the XVIII century and are found in the central hall of the ground floor. B. P. Denike compared these paintings to the Central Asian murals of Chinese school: *"It is impossible not to notice a connection between these paintings and Chinese art, especially the white-blue porcelain paintings."*

The paintings on the stalactites in other rooms differ in their time of creation and motives. Some of them depict small stories with completed plots, and some are decorated with ordinary floral motifs. The second group of paintings realistically represent flowers on a pale ochre background. They are styled in the form of dark-colored medallions. The same patterns are repeated on the stalactites of the first floor's side rooms, although their quality is lower.

Figure 28. Eastern portal

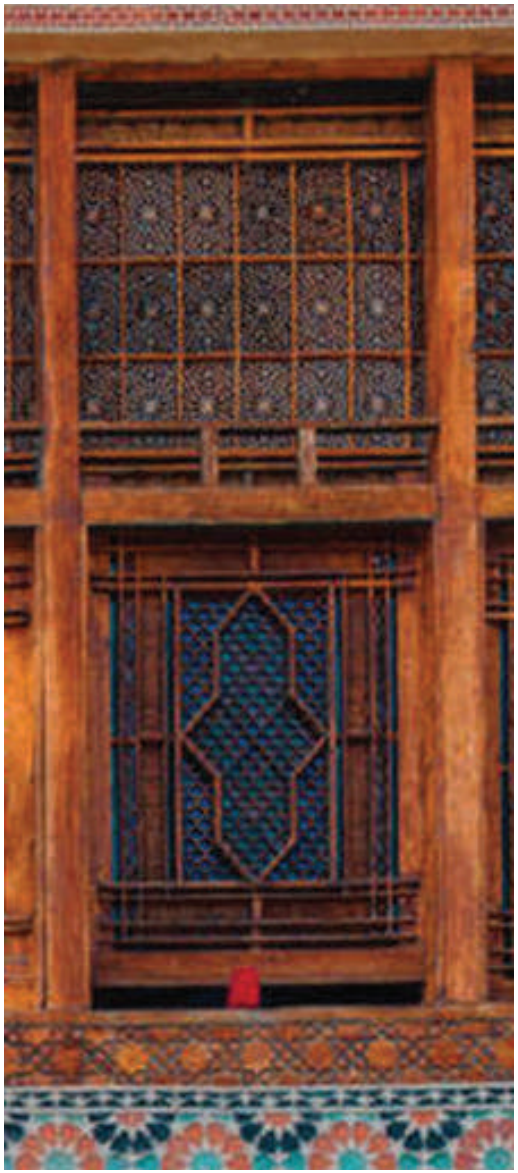


Figure 29. Shebeke of Khan's Palace

Fretwork (Shebeke)

The fretwork patterns were assembled by traditional artisans using small wooden details without the help of glue or nails. One of the main architectural features of the Khan's Palace is the replacement of the outer walls of the main halls of both floors and the side rooms of the upper floor with full fretwork windows with stained glass.

Outstanding Universal Value (OUV)

The Khan's Palace is an exceptional monument with Outstanding Universal Value (OUV) for being one of the exquisite examples of residential architecture of Azerbaijan of the XVIII-XIX centuries both in terms of its overall composition and individual details. Its unique wall paintings, fretworks, and mantelpieces continue to testify to the exceptional talent and skills of the local architects and craftsmen involved in the construction of the palace. The Khan's Palace with both architectural and typological features as well as its natural landscape reflects the image and meaning of the whole city – the integration of nature and culture, aesthetics and production, and art and life.

An advantageous location on the Silk Road has left traces of various civilizations in the interior design of the Khan's Palace and its rich architectural elements together with unique features of local architecture. This includes not only the influences of Gajar and Central Asian architecture but also Chinese artistic design.

3.1.3 Conservation Analysis

The Khan's Palace was thoroughly analyzed by Leonid Bretanitsky, who reviewed numerous historical documents and data. The palace has been renovated and restored several times since the 1830s and underwent several changes.

The main renovation works were carried out between 1848 and 1851 under the supervision of architect Cambiaccio by the orders of Prince Vorontsov. Local Sheki masters – Usta Bagir Usta Ali oglu, Eyyub Haji Ibrahim oglu, Haji Huseyn Karbalayi Yusif oglu were involved in these works. The renovation was carried out mostly on the main façade and the ground floor. Thus, according to the written report, both the plaster and ornaments of the main façade were renewed. The interior of the main hall of the ground floor was also replastered, and wall paintings were renewed. However, the wall paintings in the side rooms were not restored after the walls were plastered. Doors, ceilings, mantelpieces were all repaired. The ground was not altered and remained as made of three-layered rammed earth. The roof was dismantled and rebuilt using painted wood shingles from oak instead of ceramic tiles. The fountain in the central hall of the ground floor was dismantled and not restored. The report did not mention any of the other buildings included in the palace complex. These buildings were demolished by 1851.

In the photo album of General Yermolov, the commander-in-chief of the Russian army in Georgia, the photos of the palace from the mid-XIX century show that there were two windows on the first floor on the eastern facade. Later these windows were closed with bricks, and their interiors were decorated with wall paintings.

Later small restoration works were carried out several times during the XIX century. Another major restoration was undertaken during the Soviet era in 1939 under the supervision of architect P. Baranovsky. During the restoration, several cracks were discovered in the interior, on the western wall of the first floor. Research shows that the western façade had a large window like the one on the northern façade, but it was closed with bricks and decorated with wall paintings from inside. The entrance to the building was from the south façade through two portals. However, it was possible to get onto the first floor only from the courtyard through stairs on the eastern and western façades and behind the side rooms. During the subsequent changes made by the Russian military administration in the 1850s, a part of the floor in the western corridor was removed, and a wooden staircase of three flights was installed. This staircase remained intact until the restoration works of the 1960s. Artist-restorer I. Korin restored the ceiling, re-painted the patterns as they were, and restored the wall paintings without changing them. According to the sources, the palace wall paintings were restored by I. Baranov in the 1950s, and there is no available information on other restoration works before that.

The archives of "Azerberpa" Scientific-Research Project Institute contain drawings of the architectural elements of the palace made in 1955-1964. The drawings are mainly for the wall paintings. Templates of wall paintings are on colored sheets. Drawings also show the foundations, the wooden structures of the walls, the size of the roof, some layouts, and a few cross-sections. Drawings of the façades, their cross-sections, and details are absent.

A detailed restoration plan for the Khan's Palace was developed under the supervision of Niyazi Rzayev in 1955-1964. Since the constructive structure of the building is made of timber framing, its wooden elements have been subject to degradation over time. So timber posts and beams were dismantled and reinforced with new elements where necessary. Although the project proposed a wooden structure to replace the existing roof construction, a reinforced concrete belt was built over the walls, and a metal structure was assembled over it. Some sections of the foundations were also reinforced with concrete. The plaster of the walls, the ornaments of the façades, and the wall paintings was restored. The wall paintings were restored by artist-restorer Farhad Hajiyev and the fretworks – by Ashraf Rasulov, a local fretwork master from Sheki.

Between 2001 and 2004, research and restoration were carried out on the monument with a loan from the World Bank. Local builders, artisans, and craftspeople took an active part in the new restoration with the participation and supervision of German specialists. The research revealed the following:

• Two-thirds of the foundations were built on the foundations of an older building. The foundations were made of rock stone, and they were still structurally sound. The walls went 60 cm deep.

• Some deformations were detected in the load-bearing vertical wooden structures.

• Reinforced concrete beams were placed on the wooden fretwork on the walls of the southern and northern facades. The concrete beams themselves were additional loads on the wooden beams of the fretwork.

• The drawings of the 1950s and 1960s envisioned the roof structure as made of wooden materials. However, during the research, it was discovered that the gable structures were made of steel, and they sat on reinforced concrete. The roof was covered with metal shingles. The roof structure was connected to the existing inter-floor wooden beams by iron wire, which caused the deformation of the structures.

• The beams between the floors were made of oak wood, and the reinforcing beams between them were made of pine wood. They were both infested with woodworms.

• The walls of the ground floor were made of a mixture of river stones and raw bricks; the walls of the first floor were made of fired bricks.

• The technical condition of the plaster made of the straw-clay mixture was unsatisfactory, with numerous cracks and collapsed sections.

• The supports of the shebekes were deformed with losses of wooden and glass elements.

• The floors were made of glazed clay.

• There were numerous gaps in the wall paintings.

The following works were carried out during the restoration to solve the identified problems:

• The metal roof structure was dismantled and replaced, but the reinforced concrete beams installed on the façade walls remain. Their removal could cause static problems on the walls. The new wooden roof structure was installed on the transverse walls to reduce the load on the building walls. The roof was covered with stainless steel plates and then ceramic tiles over them. Thus, both the historic appearance of the roof was restored, and it got additional protection from external waters. The beams of the first floor were bolted to the wooden gable structure of the roof.

• The floor beams were inspected, and their decayed parts were restored.

• The timber beams of the walls were inspected and reinforced where necessary.

• A new drainage system was installed to discharge rainwater.

• The ground floor used to have had floors made of glazed rammed earth. However, the building is used as a museum, and experts have decided that the floors should be made of wood, as the dust rising during the movement of tourists leaves damage on the wall paintings. Therefore, the rammed earth floors were replaced with parquet-style hardwood flooring laid over bricks in the corridors and wooden planks in the rooms. The fountain in the central hall on the ground floor was restored.

• Bukhari flues were cleaned and restored.

• The current condition of the wall paintings and the paints used were analysed and their restoration concept was developed. The paintings on the doors were restored.

• The plaster and ornaments of the façades were restored.

• The fretworks were cleaned, and their missing details were restored. The replacement for missing glasses were imported. They resemble the originals and have a thickness of 2 mm.

• Landscaping works were carried out in the courtyard.

• Electricity was installed in the building, but the central heating system was not. Anti-humidity equipment was also installed in each room to keep the humidity level stable so that the wall paintings do not get damaged. The equipment can also provide heat during cold months. All communication lines have been installed for the activity of the museum.

• A new administrative building was built for the museum staff, a ticket office and souvenir shop were opened.

• The electricity, water and sewage systems of the building were renovated, and video surveillance and fire alarm system were installed.

Figure 30. Cracks and degradation on the southern façade






Figure 31. Gaps on the paintings and decorations

3.1.4 Discussion and recommendations

The monument has been diagnosed again and the following recommendations have been made to address the observed problems:

• Some ornaments on the façades should be restored, and all decorations should be covered with a protective layer.

• Damaged details of the fretworks should be replaced.

• Glass fragments of the fretworks replaced during the Soviet period should be carefully reviewed and replaced in case of necessity.

• Plaster on the façades should be restored.

• Sections executed with emulsion should be rehabilitated.

• Metallic elements should be cleaned and restored.

• Cracks on the façades should be rehabilitated.

• Ceramic tiles on the roof should be dismantled to inspect the metallic sheets underneath and assess the current situation and clean or replace them in case of necessity.

• Missing ceramic tiles should be replaced.

• Plaster in the corridor walls should be restored.

• The artificial lighting is too bright and should be replaced with more dim lighting.

• Ventilation should be provided for the room under the staircase at the end of the entrance corridor. The room can be repurposed as a closet.

• Exhibition barriers in the halls and rooms are not adequate, so they should be replaced in accordance with the context.

• The pool in the central hall should be refurbished.

• The ceiling of the room on the left is lower as it was designed for women and the void between the floors served as sound insulation from upstairs.

• The railings of the staircase leading to the first floor should be replaced with a new one that would not damage the originality of the monument with its shape or material.

• The eastern room on the first floor needs urgent restoration.

• New ways should be designed to prevent the visitors from touching the walls or fretwork.

• The wooded floors need to be addressed as they do not reflect the original intention and raise questions regarding the appearance.

• There is a need for anti-humidity equipment in the rooms.

• There is a need for railings for the exit staircase.

• The exit door, which is a modern addition, should be replaced but its eastern fretwork should be kept.

Privacy walls and Portals

• A doorway on the western section of the walls was built up.

• Salinization and vegetation are observed in the privacy walls.

• The iron door on the western section of the walls was replaced with wooden door in 2003.

• The south-western portal was rebuilt in 2018. There is a walnut tree in that section of the courtyard. The portal can be opened and become a new entrance point for ABAD.

• Erosion is observed in the southern section of the walls.

• The upper parts of the southern and south-eastern sections of the walls are made of 25x12x4.5 brick columns and metallic fence, and the lower parts are built of rock.

• There are no ceramic tile caps on the walls.

• The portal on the eastern section was built in 1987. It is believed that there is a doorway in the section of the wall opposite the portal.

The area adjacent to the lower section of the Khan's Garden is held in private hands and operates as a café. The total area of the café is 1,800 m2. The cafe completely closed the historic entrance to the garden and palace. It is recommended to open a new entrance in the lower section of the garden to provide access to the palace from the garden and open a more spectacular view. However, the difficulty is that the café owner also privatizes the land under the café. It is proposed that the necessary land be purchased from the owner to open the new entrance.

Issues and recommendations related to tourism

Several important issues related to visitor management have already been resolved: a turnstile has been installed at the entrance, online ticket sales have been introduced, etc. The disused building next to the palace warehouse has been repurposed as a photo studio much to the delight of visitors.

Important information for the visitor interpretation of the Khan's Palace is absent. Information boards should be installed in the palace courtyard, and these boards should provide the visitors with a summary of both historical and architectural information about the monument.

For the walls of the Palace, the followings should be taken into account:
• The foundation of privacy walls should be made waterproof.

• Some bricks and patches have degraded over time. There is probably moisture present in the foundation of privacy walls.

• The surrounding area should be adapted to the historical context.

• Ceramic tile caps should be added to the privacy walls.
For the outbuildings, the following issues should be taken into account:

• The administrative building adjoining the northern privacy walls should be demolished, its functions allocated to other facilities in the area, and the water tank should be removed from the courtyard and installed on the roof of the water closet.

• The outbuilding adjoining the northern façade was built in 2002.

• Dormer windows should be repaired.

• The air conditioning should be hidden from the view.

3.2 House of Sheki Khans (Shekikhanov's House)

House of Sheki Khans is the most magnificent example of the Sheki "imarat" (mansion) type residential house. This monument is an indicator of the transition from a traditional Sheki residential house to a palace-type house. Having all the features inherent in traditional houses, rich in interior decorative elements and paintings, the two-story building with a rectangular plan is similar to the palace-type buildings. House of Sheki Khans is registered as an important monument with inventory # 331.

The passport of the monument was prepared at the time of the Azerbaijan SSR and renewed by the "Azerberpa" Scientific Research Project Institute in 2013. Information on historical data, importance, physical description of the monument, restoration and measurement works, architectural volume plans, and drawings were given in the passport. These data were used in the preparation of the conservation plan of the monument.

Figure 32. Main facade view from the yard

3.2.1. Historical context

There is no exact information on the date of construction of the monument. Some sources write that the building is a winter mansion of Sheki khans. However, the House of Sheki Khans is a mansion as the Sheki Khan's Palace, it is believed that this monument is the main building of the Sheki khans' residence belonging to relatives of Sheki khans. Some scholars refer the construction of Sheki Khan's Palace to 1762 - the period of rule of Hussein Khan (1760-1782). In 1819, the palace was registered as the House of Mammad-Hasan Khan (1785-1797) in the classification written during the occupation of the Russian army. Therefore, it is assumed that the House of Sheki Khans was built at that time, at the end of the XVIII century. The building was built in the architectural style of Qajar period. The buildings constructed in this style are also found in Tabriz, Tehran, Shusha, Khoy, Iravan, and Tbilisi. House of Sheki Khans is an example of architecture that glorifies the transition from the residential house to palace-type houses. The two-story building in the form of a rectangle retains the signs of residential hoses of Sheki people, and the rich decorative elements in its interior indicate that the building belongs to palace-type constructions. Apart from the main buildings, these palaces had a complex of kitchens, women's and children's rooms, warehouses, stables, baths and other auxiliary buildings. In the House of Sheki Khans there were also a kitchen, stable, and other auxiliary buildings, but it is believed that there were not protected up to our days. After the occupation of the Sheki Khanate by Tsarist Russia, Russian soldiers were stationed in many important palaces and houses. The auxiliary buildings of the monument were demolished at that time. In 1967, the monument was purchased by the state from the family of Shekikhanov for the purpose of creating a museum, but for various reasons the museum was not created and in 1991 it was again sold to the private owner. Under the influence of natural incentives, the monument gradually fell into unsafe condition due to lack of living in the house.

In 2007, House of Sheki Khans was again transferred to the state property and repair and restoration works were carried out in the building.

Figure 33. Photo of the guest room made in the late XIX century. Portrait of II Alexander in the center

3.2.2. Physical Description

House of Sheki Khans is located among the ordinary houses. The house has a rectangular courtyard measuring 35x23 meters. The yard was divided into four parts by the method of “chahar bagh” belonging to the Middle East in XVII-XIX centuries, roads and flower gardens were built in each part of the project. At present, the entrance of the building is in front of the main facade, in the lower part of the courtyard.

Both floors of the two-story house have the same plan, consisting of three rooms and two corridors. The building has two entrance doors. Unlike the Khan Palace, the entrances are not portal type, but simple, lower than the main facade wall and have a height of 1.8 meters. The entrance doors open to the corridor; from there, one door opens to the central room, the other to the side room, and from the front to the stairs leading up to the first floor. There are two doors on the ground floor opens to the back yard, one from the left side and the other from the central room.

The rooms differ slightly in size. Dimensions of the rooms of the ground floor are 4,95 x 3,5 m, thickness of the walls is 93 cm. There is no decoration on the walls. Typological shelves (takhcha) belonging to Sheki residential houses have also found their place in the House of Sheki Khans. The shelves are simple, and they are built in the depth of the wall. In the ground floor’s central room there is a bukhari, next to the back yard’s passage door. On the other three walls of the room, there are niches, doors to the side corridors, and two windows leading out of the facade. The niches are rectangular; the surface is decorated with ornaments made of plaster. Each of the side rooms has a bukhari, several niches and shelves. Two windows open to the facade. The bukhari in the room on the left side was built during the restoration work carried out in the 1960s. As the flue of the bukharis located on the northern wall, it is believed that the bukharis also located in this wall too. However, since the bukharis were not working during the restoration, a new one was symmetrically built in the northern wall of the room and no flue was built.

The bukharis of the side rooms are rounded in plan and decorated with patterns cut from gypsum on the facade part. On the longitudinal walls, the niches are large and deep, and on the side walls are small and decorated. The windows are covered with colored glazed wooden nets. The floors are of flattened brick. The ceiling is low in height (2,36 m), sprayed on wooden beams (thin narrow wood) and plastered over it. The width of the corridors is 1,9 m. Under the 12 screw-shaped stairs to the first floor, there are small rooms, shelves were placed on both sides under the ceiling, two small niches were built on the side walls in the left corridor.

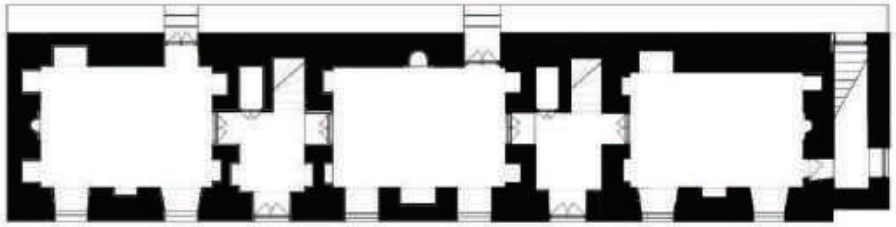
Figure 34. Position plan of Shekikhanov’s House and courtyard (2020)

Figure 35. a. Entrance portal b. View from the yard

Figure 36. Main façade of Shekikhanov's House

A)

B)



C)

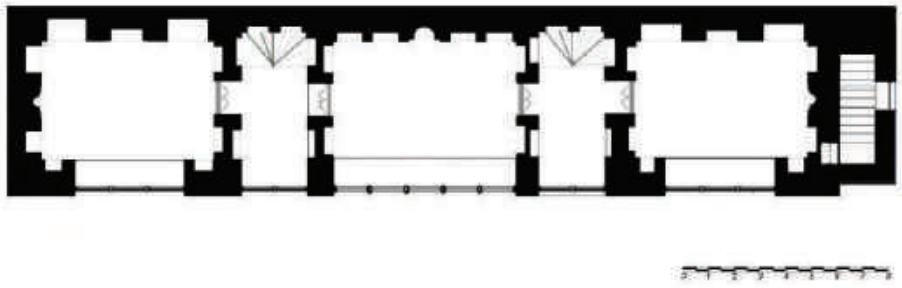


Figure 37. Drawings of the Shekikhanov's House a. Main facade b. Ground floor's plan c. First floor's plan

As the first-floor plan repeats the ground floor plan, the rooms differ for their heights (3,70 m) and decorations. In particular, the decorations of the Central Hall remind of the wall paintings of Sheki Khan's Palace: the wall with a height of 0.94 m without a theme, decorated with recurrent flowers, on the first floor 8 (2+4+2) stalactites were placed on the finished niches. The inner surface of the niches is decorated with portraits, sides, stalactites, and plants with herbal ornaments between the niches. Among the seven niches, the heroes of Nizami Ganjavi's Khamsa poem are depicted against a landscape background. On the right from the central entrance, there is an image of Farhad, then Khosrov, Shirin, Majnun, and portrait compositions of the "Nameless beauty", and on the opposite wall, there are copies of Leyli and the "Slavic beauty" (Miklashevsky, 1949). Four of these portraits are depicted above the waist, in an oval composition, three on their feet, along the figure. "In these images and decorative works, some realist means of depiction show that the artist who drew them is familiar with European painting" (R. Efendi, 2007, p. 121).

Bukhari is placed in the center of the northern wall. The bukhari, which is rounded in plan and reminiscent of its fashionable shape, is decorated with rich ornaments both inside and outside. The upper and lower layers of the wall paintings are separated by a stalactite belt embroidered with mirrors. In the upper layer, the niches, which are completed with arrow-like tacks, are placed 3 on each side and 5 on the north wall. On the surface between the niches are placed metal ornaments filled with mirror pieces. Birds, gazelles, and lions are depicted in the niches surrounded by trees and flowers; the sidewalls of the shelves are decorated with a plant ornament. The passage from the wall to the ceiling was made of intricate stalactites made of mirror, and the ceiling was also composed with paintings. In the plant ornament, 4 angels were described by the restorer-artist Natig Safarov as four Great Angels of Islamic religion-Jabrayil, Mikayil, Israfil, and Azrael. According to R.Efendi, 4 half-naked fairy drawings on the ceiling of House of Sheki Khans are not typical for Azerbaijani wall paintings because of the theme and the image solution, and "these portrayals remind more of Iranian Palace paintings, which are mostly erotic". (R. Efendi, 1976, p. 202).

In the center of the ceiling is a panel made of gypsum material, the surface of which is covered with gold dust. In the past, an ancient chandelier was hung from the panel. On the basis of old chandeliers used in the Sheki environment, a new one was made by local craftsmen and hung from the panel. In the center of the ceiling there is a rosette made of gold, in which there was once a chandelier. The southern wall of the room is replaced by 5 fretwork (shebeke) panels decorated with colored glass. It consists of 30 cm from below, a glassless ink-patterned net on the outside, and a small collection of gold-plated plates on the inner side of 3 rows. The next shebeke layers are with colored glass. The lower layers are opened, the upper layers are stationary, unopened. Dimensions of the shebeke board are 5,1 x 3,2 meters. From the central room to both sides, and the door to the corridor opens.

The doors were decorated with flowers, embroidered paintings on both sides, embroidered copper bars were arranged. The southern wall of the corridors, located on both sides of the central room, is a two-section, decorated with colored glass, on the first layer of which there is a glassless network from the outside, and on the inside two rows wooden boards with the image of a lily flower. The second layer consists of openable sections, and the top layer consists of unmovable sections. The rooms have been plastered with skew solutions from the interior.

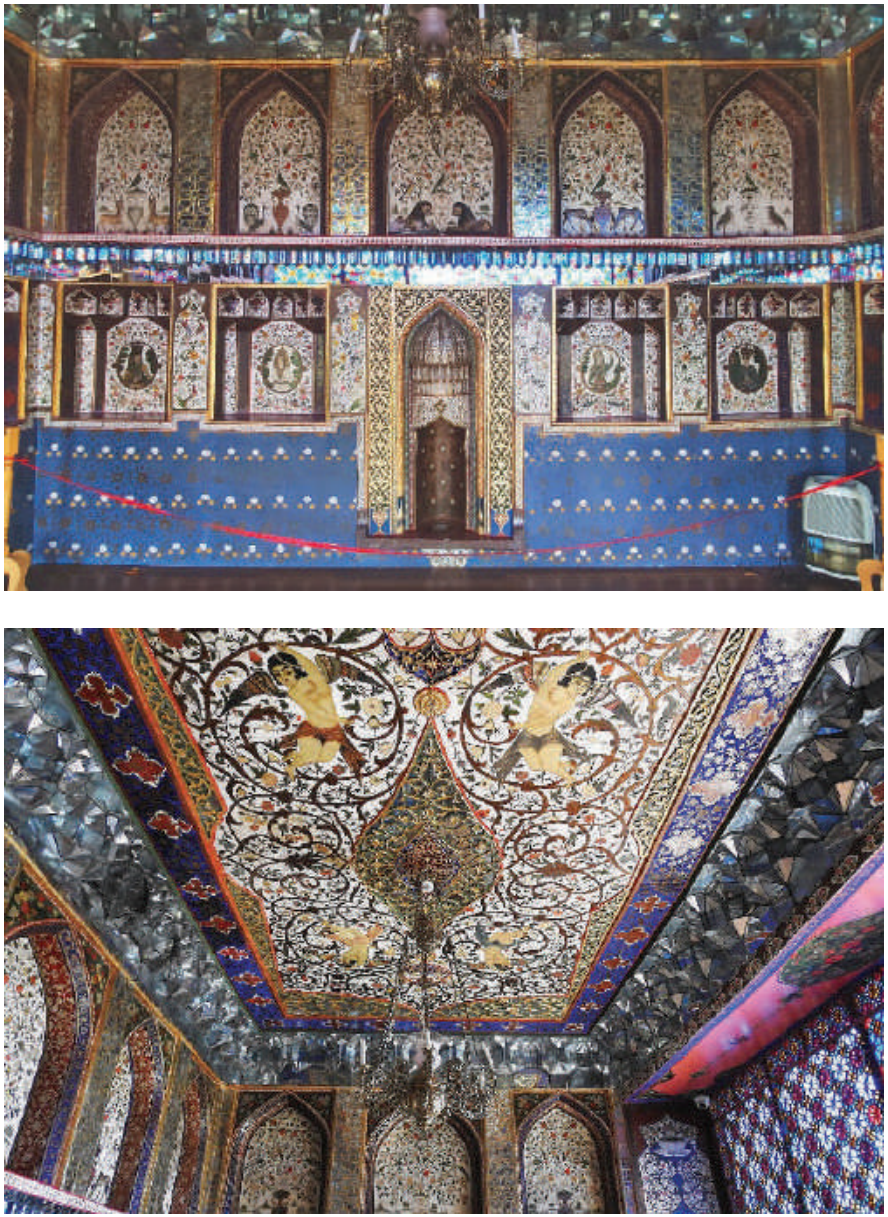


Figure 38. Images of interior of the guest room on the first floor

Figure 39. a. Corridor of the ground floor b. Shabaka pattern of the first floor's corridor

Figure 39.1. Images of the interior of the guest room on the first floor

In the interior, the upper layer is made of arched finished niches (3-2-3), the lower layer is made of simple rectangular niches. The corridor is separated from the stairs by a wooden lattice curtain. Arches built on wooden beams and plastered several times. There was a transition from the walls to the ceiling with a semi-circular pattern.

The walls of the first floor's side rooms are divided into two levels with niches. The arches of the upper level were completed with curved arrows, rectangular arches were placed on the lower level. On the side wall of each room, a bukhari is built, the decoration of the top of it, the patterns carved around it, giving it a solemnity, plays a dominant role in the room. The three-section shebeke of the southern wall is similar to other rooms. On the wooden boards on the lower floor, there are paintings of roses from the patterns of the central room. The thickness of the walls of the ground and the first floors are different: the walls of the first floor are 10-18 cm wider than the ground floor.

Only the main facade and the south facade are of interest from the late facades. On the first floor, there are two entrance doors, six windows; on the first floor, there are five large shebeke panels in the center, and on the sides and corridors. There are 4 pairs (8 in general) shebeke panels, wooden boards with a drop-color give a particular shade on the facade. Only two doors open in the back - north facade. On the south side of the facade, the door of the stairs leading to the roof was placed, on the north - side facade the neighboring residential building was laid, and from the right facade a door and a window were opened to the six rooms. The stairs leading to the roof are made of wood, on the right side of the building, also located on the block.

The roof has overhangs, and they are 1,20 m apart fromthe facade walls. Between the two roof legs, one more wooden bracket is placed. A plant pattern was made by the method of the protrusion of the roof leg and the engraved from three sides to the bracket. Five rows of wooden boards were laid to the wall along the protrusion of those legs, and a smooth surface was formed. Wooden boards are of five colors: white, yellow, red, green, and blue. The bottom surface of each wooden panel is decorated with colorful embroidered ornament. The roof is covered with tile.

Importance of monument

The monument is one of the richest examples of residential house architecture of XVIII-XIX centuries of Azerbaijan, both for the settlement of the structure and its details. Unique wall paintings, nets, bukharis tell about the talent and skill of architects and masters working in the building.

Just like the Khan's Palace, the House of Sheki Khans reflects rich architectural and artistic elements of different civilizations in its interior design. These elements of architecture, decorative and applied art, including the influences of Qajar and Central Asian architecture, the influence of Miniature Art (Chinese culture) in artistic design, European architecture, and the unique features of local architecture.

Figure 40 a. Side room of the ground floor b. Side room of the first floor

3.2.3. Conservation Analysis

In 1967, after the purchase of the building by the state from a private owner, measuring works began in the monument. Before that, some changes were already made in the time of living in the building. The main facade of the first floor in the corridors, shebeke openings were built, two doors opened, wooden balconies were constructed. In the interior of the building several niches were laid, some of them were expanded, as well as cracks on the walls and decayed on the wooden construction of the roof were appeared.

In 1967, the restoration project was started, and reconstruction works were carried out. In 1983, since cracks were formed again on the walls, measurement and restoration works were carried out again.

In 1968, in the monument was started the capital measurement work under the leadership of A.Salamzadeh, and the restoration project was developed by N.Rzayev. As the building's constructive system is with wooden carcass-fachwerk, decays have been formed on the board. During this restoration, the trellisworks were uncovered, inspected, additional reinforcing beams were joined in the required places. The same works were carried out on the inter-story beams and roof structures of the building. Roof construction has been completely changed; wooden roofs have been replaced with iron constructions to lighten the roof. According to local architectural traditions, the roof legs were raised 1.2 m from the side of the facade, and wooden boards with colored patterns were laid in this part. During the restoration, the ledges were raised on all three sides of the building (the building was merged from the east side into the residential house), and the patterned wooden boards covered the building from all sides. The main facade networks, doors, arches, steamers have been restored.
In 1983, the building was renovated again. During the restoration, reinforcement works were carried out on the constructive beams. On both sides, the girders were fastened to the feet of the wood structure near the facades. The seats of the same girders were concreted due to the rotting of the trellisworks. Several sections of doors and nets, as well as part of the wooden slabs under the roof, have been changed. The plaster of the rooms has been renewed, and the block of stairs leading to the roof has been restored. Since the building was built of raw brick, the deformation of walls in wet conditions was very severe, and in the lower parts of the facades during restoration, raw bricks were replaced with baked bricks.

Although the main entrance to the yard was intended from the eastern gate when the building was built, as the city grew, the direction of the streets changed, and the entrance gate to the yard fell into a dive. For this reason, the restorers built a new gate in the south-western part of the yard for the comfortable access of tourists and visitors to the yard.

The last restoration works at the monument was carried out in 2012-2013. First, strengthening works were carried out, chaff-clay plaster on trellisworks was cleaned, each wooden structure was inspected separately, damaged parts were restored. The building's foundation is made of a river stone at a depth of 40 cm as a continuation of the walls. According to the project, the roof was restored with wooden construction; the iron sheets was replaced with under the tiles. Two roof windows have been designed to ventilate the roof; five gutters have been installed to collect rainwater. The decayed wooden boards and damaged brackets in the protruding part of the roof have been replaced.

The floor of the ground floor of the building is made of baked brick, and the first floor is of a complex construction: wooden boards were laid on the wide beams made of chestnut wood, and a clay layer of 200 mm thick was poured. Considering that the building will be used as a museum, the clay layer has been replaced with wooden flooring. In the building's interior, walls and ceilings were plastered with a few solutions; only in the central room of the first-floor walls were decorated with thematic drawings by graffito method.
During the restoration, the wall paintings of this room were restored by the artist, the shebeke patterns in the side rooms and corridors of the first floor were replaced with a new one. As the window beams were deformed in the hall, the two beams were replaced with new ones, plastered on the beams, and the paintings were restored by the restorer-artist. On the first floor, most of the mirror stalactites used in the hall have been restored, cleaned, and replaced with new ones since 40% of the mirrors are out of order.

Due to the fact that the level of the soil is different, and the building is moistened from the northern side, the drainage system was installed. The steps of the stairs to the roof on the western facade of the building have been restored from brick and wood because of poor quality. The doors opened to the two main halls of the building were decorated with paintings, 5 candilers were hung in the rooms of the first floor, and 3 candles were hung in the corridors.

The difference between the level of the building and the level of the ground is 4.8 m. The fence built from the street is also the reference wall of the monument. Taking into account the difference between the levels, the technical rooms were built not in the yard, but behind the retaining wall, under the ground, along the retaining wall, there were two lavatories (male, female), a ticket kiosk, and a pumping station. The buildings were covered with concrete ceilings, ground layer was laid on them, and a lawn was planted. The historical gate of the building has been restored and reconstructed. Light, water, sewerage, video surveillance, anti-fire alarm systems have been installed.

Figure 41. Photo made in 1968 during restoration works

3.2.4. Discussions and recommendations

At present, the monument has been re-diagnosed, and the following recommendations should be taken into account:

• It is necessary to replace problematic parts in the shebeke pattern details.

• Replacement of windows in the Soviet time shebeke patterns should be considered again.

• The singir parts on the facades must be restored.

• Emulsion parts must be updated. The cracks on the facade are covered and must be restored.

• Metal elements of doors, chandeliers must be cleaned and restored.

• Opening the roof tile, looking at the metal plates at the bottom, determining the situation, cleaning on it, or replacing with new ones should be provided.

• Missing tiles on the roof should be added.

• The lights located on the upper level in the side rooms should be replaced by more hidden ones as they are seen in the distance. Hidden lighting (indirect lighting) from behind the level and inside the beams is more suitable for this purpose.

• Since the protection fence in the rooms and halls is not suitable for the monument's environment, it should be replaced with a new one.

• Since the lighting system in the yard does not correspond to the monument's context in terms of form and material, it must be resolved again.

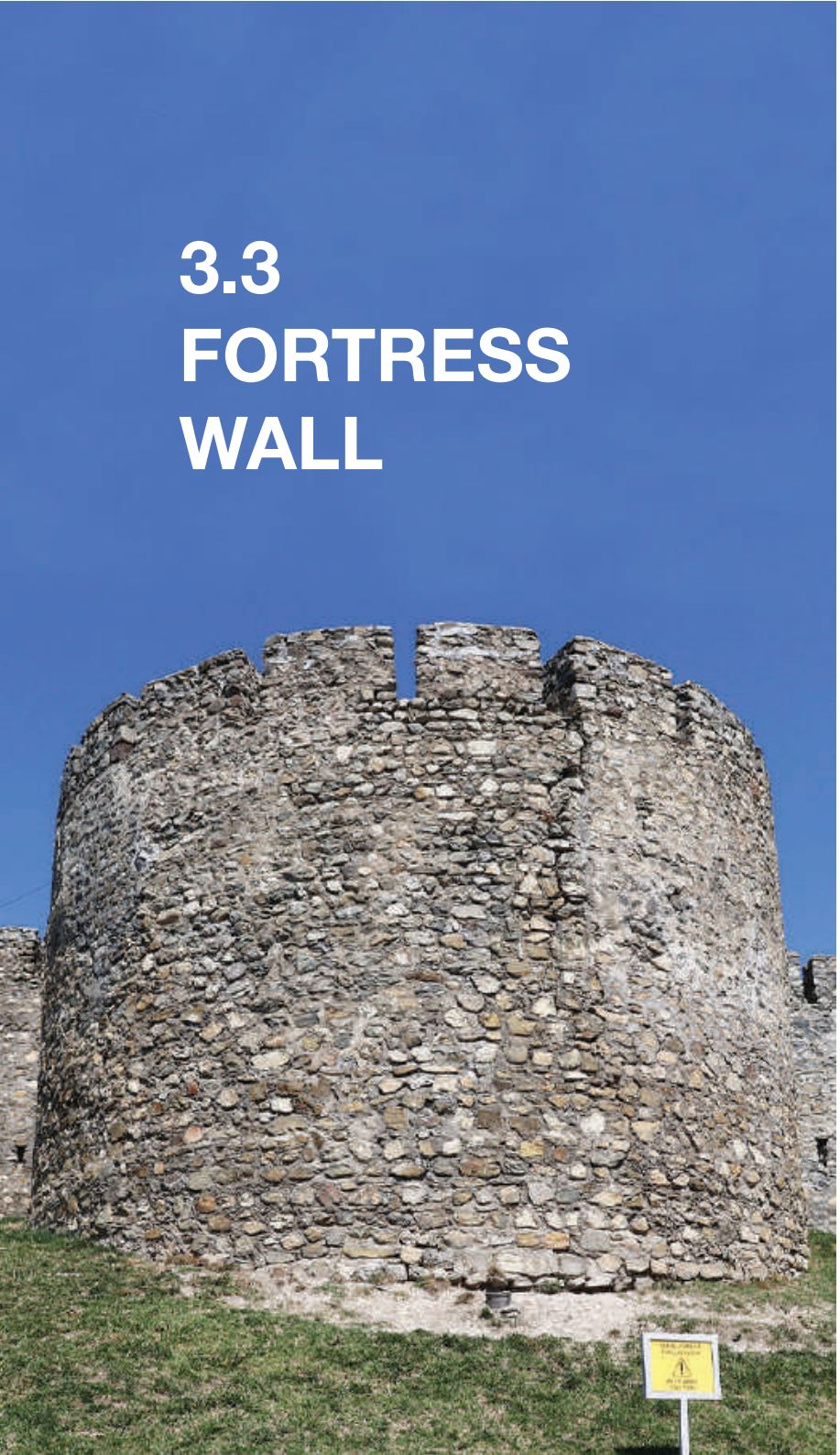
• Replacement of the stairs to the first floor with a hand-rail that does not damage the monument's authenticity due to the shape and material choice should be provided.

• Since anti-humidity equipment and extinguishers in the rooms pollutes the visual integrity of the interior, it is recommended to hide them suitably in the room.

Tourism opportunities and challenges

Tourniquets and digital ticket sales (I-ticket) were organized for the management of visitors to the House of Sheki Khans. The rooms of the monument are empty, a new ethnographic house is planned for the museum project. Thus, the purpose of the construction of the House of Sheki Khans in the concept of the ethnographic museum is to demonstrate the political activities, literary creatures, living styles, traditions of Sheki Khans in XVIII-XIX century and inform visitors about this. This museum, whose exposition will be re-designed, will be a significant museum in terms of studying both ethnography and political history of Azerbaijan at the end of XVIII at the beginning of the XIX century. The volume, color, and location selection of all exhibits to be placed appropriately in the museum, as well as sound and lighting equipment and other technical facilities, should be set in a way that they do not create visual discrepancies.

3.3 FORTRESS WALL



Sheki's fortress, which is located in the upper northeast raised part of the town and is a Khan citadel, was a planning center. Buildings on its territory (the Khan Palace with its adjoining garden, Round temple, and several auxiliary barrack buildings) against the backdrop of the surrounding mountain forest landscape create a complete architectural ensemble. The fortress's stone walls with an overall length of 1300 meters are protected by protrusive towers and loopholed. The terrain has identified the broken nature of the configuration of fortress walls. There was a highway from the fortress along the Gurjana river, which became the primary trading and market street and characteristic element of the urban structure. This highway was underlining the importance of the Khan Palace on top of the fortress as the main dominant of the town.

The placement of the shopping center on the highway was no coincidence. The town was linked by caravan routes of Azerbaijani khanates, and other countries converged on the trade route.

There was trade, handicraft, and uptown around the fortress, which was the core of spontaneous urban development. This characteristic floor-plan diagram of the Eastern feudal towns of Sheki unites the lack of pronounced urban boundaries. Trade and craft areas adjacent to the urban core of the fortress and trade routes were gradually moving into the residential areas of the urban center and further becoming less densely populated parts of the suburbs with their large plots of land.

The building of barracks built in the late XIX century on the territory of the fortress walls remained unchanged. Two buildings were used by the medical institutions for various purposes during the Soviet period. These institutions are transferred, and now the buildings are not used. Museums and art gallery and also shebeke workshop are located in other three buildings and in the Round Temple. It is planned to implement restoration works in four barrack buildings – in History and Lore Museum, Art Gallery, and two unused buildings to transform them into administrative buildings of the Reserve. In addition, a small Russian praying house is also going to be restored. The planning of the restoration works has already been started by the State Tourism Agency. Thus tender was held, and the winner of the tender has already started the works of designing project.

There are two buildings of the former prison on the territory inside the fortress walls and the Russian military men built these buildings at the end of the XIX century. One of them is currently being restored and renovated and is planned to be transferred to a hotel. The second building of the prison was renovated in 2005-2007 and the members of the Association of artisans are working there.

In 2018, one of the barrack buildings, which was formerly used as a medical hospital, was completely and used for ABAD Ceramics and Applied Art Centre. It was noted that the sale of products made by artisans will be organized at Sheki's Ceramics and Applied Art Centre. In total, about 40 citizens will be provided with a permanent job. The building is a historic-architectural monument built in 1867. The two-story building also has leisure rooms for employees and staff members. It also houses

thermal furnaces and training rooms, raw and ready-made material warehouses, ethno-boutique, office, and carpet-making rooms.

These five barrack buildings of the XIX century inside the fortress walls built by Russian military servicemen reflect not only Russian architecture but also local architectural elements. The architectural patterns here have a local character. The building is an exceptional testimony of the synthesis of different architectural civilizations in Sheki. The state will inventory them for providing their conservation and relevant use.

Round Temple inside the fortress is one of the major Christian architectural monuments in Sheki. The temple is made up of surface- tooled stone big plates. Gracefulness and elegance of the proportion, lucid composition make this edifice an outstanding event in the architecture of Sheki. Currently, the temple and its courtyard are open to tourists. It is one of the significant landmarks in the fortress, attracting a lot of tourists with its admirable architectural structure. Sheki People Applied Art Museum also operates here, but this museum is planned to be moved into another place. The temple consists of 4 halls. The restoration of Round Temple is planned by the State Tourism Agency in the near future.

The fortress contains the majority of touristic attractions such as monuments, museums, art centers, workshops, and boutiques. Still, it should implement outdoor activities, even at nighttime in the summer season, with a program of events of national and international relevance (e.g. concerts, food festivals, sport events).

Figure 42.

3.3.1 Historical context

Sheki city was the capital of the Sheki khanate in the XVIII century, where the khans' residence was located. Prior to the devastating flood of 1772, the city was located in the Kish valley where is below from the current city. After the flood had destroyed the city, people of the town moved to the village of Nukha, just above the city, at the eastern foot of the Caucasus Mountains, and rebuilt their homes there. In the village of Nukha, there were summer houses as a pasture of khans at those times. In the part of Nukha called Yukhari Bash, the khan's residence and fortress walls were built around it. Some sources state that the fortress walls were built in 1790 by Haji Chalabi Khan (1743-1754), but others write that they were built by his sons Muhammad Hussein khan (1760-1782) or Mammad-Hasan khan (1785-1797).

According to the 1826's source, the fortress walls were built of baked brick , but at present, the walls are mostly made of river stone. The book of Firudin Bey Kocharli notes that there is a palace in the city and a fortress with Russian barracks on the upper side, which is read as "Muhammad" in the Arabic alphabet. The fortress wall had two gates: Ganja (south) and Shirvan (north).

The place of the fortress's construction was chosen strategically on the mountain slope with natural obstacles. The location of the fortress was favorable not only for military purposes but also for the pleasant microclimate in this part of the city. Due to the relief of the area occupied by the fortress, the perimeter of the Fortress walls was reduced. According to the fortress's plan drawn by the Russians in 1853, there were no significant changes in the fortress until the middle of the XIX century; changes were mainly related to buildings inside the fortress. According to Rashid Bey Efendiyev, after the Russian government occupied the fortress walls, four big towers were built in four corners.

The monument was inventoried by the Ministry of Culture and Tourism of the Republic of Azerbaijan as an architectural monument under the name of "Fortress walls" ("Qala divarlari") with the number 330.

Figure 43. B14 and B15 tower (early XX century)

3.3.2 Description of monument

Sheki fortress is located at an altitude in the territory of the “Yukhari Bash” Narional Historical and Architectural Reserve, in the west of the Gurjana River. The total length of the Fortress walls located around Mirza Fatali Akhundzade Avenue from the east, Molla Veli Vidadi Street from the north, Ganjlar Street from the west, and Huseyn Akbarov Street from the south, was 1300 meters and it covers an area of 5.7 hectares.

Sheki fortress was built from crushed rock stones. The river stones used during the restoration work carried out in different periods are noticeable in the general picture of the Fortress.

There are two gates located in the south and north of the fortress (respectively, the Ganja and Shamakhi gates). The south gate has tiers and over, the door edges are made of baked brick and has brick embrasures. In contrast to the south gate, the north gate has no brick embrasures, and in its interior, the door edges are built in a rock-stone mixture with brick arches. The upper part of the tiers of both gates is built with Herringbone. (Figure 46 and Figure 47)

Taking into account the importance of relief and the necessity of protection of the territory, the height of the outer part of the fortress from the south is 8 meters, while in the northern part, it goes down to 4 meters. The fortress has fifteen towers. Three of them were larger and used as gun towers. The upper parts of the gun embrasures of these towers are covered with bricks. Gun towers are located in the southwest, northwest, and northeast.
Inside the fortress, there are 8-pitch pandos, which rises along the wall to the guard’s path. Most of these pandos were restored in 2016. Width of the fortress walls varies between 1.60-2.2 meters. The width of the parapet part varies between 60-70 cm.

3.3.3. Importance of monument

Fortress walls attract attention in terms of their structure and location as a defensive fortification of the medieval feudal state. Also, during Tsarist Russia, Fortress walls were restored and used as defensive fortifications. In addition, the territory chosen for its construction gives a favorable position for the protection of the Khanate, allowing convenient monitoring of trade caravans arriving in the city and other processes taking place there.

Figure 44 Position plan of the Sheki Fortress (2020)

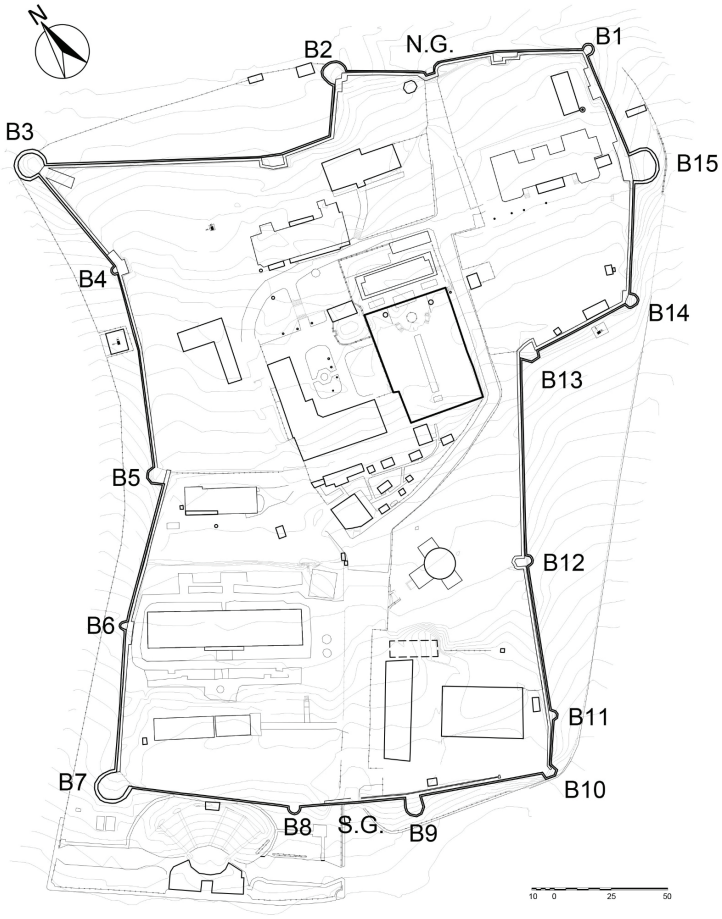


Figure 45, B14 and B15 tower (early XX century)

3.3.4. Conservation analysis

During the period of Tsarist Russia as it was operating as a military unit, relevant repair work was carried out in the fortress. According to Rashid Bey Afandiyev, the Russians built four large circular gun towers in 4 corners of the fortress to open fire. Only 3 of these towers (other than the B10 tower) were able to survive to this day. After the collapse of the Russian Empire, the fortress was neglected because it lost its military significance.

The first measuring works in the fortress were worked out in 1958 by “Azerberpa” Scientific-Research Project Institute (SRPI) during the Soviet period, and the restoration project in 1959-1961. Restoration work carried out in the 1960s covered the eastern and southern part of the fortress walls - from the Northern gate to the B7 tower. During the restoration, cracks and abrasions are observed in most parts of the masonry, because there were mainly used the small river stones and the stones didn’t intersect properly in the wall. During this period, access to the guard path of the restored embrasure nests along the wall was not opened. The embrasure nests in these parts are currently only of a visual nature.

In 2007, undocumented repair and restoration works were carried out on the basis of the 1959 project in certain parts of the Fortress walls. The parapet part of the B15 tower, the part completely flown on the B1-B2 wall, and along its walls the merlons were built and restored on the top of the parapet.

Although the project of restoration of the parts between the B7-B2 towers on the northwest and western parts of the fortress towers was prepared during the Soviet period, it was not implemented. However, in 2013, “AzerBerpa” SRPI worked on the basis of this project a new restoration project, and those parts were restored in 2015-2016. The experienced local masters took part in the restoration. The river stones used were larger in size and were broken and

Figure 46. South gate (S.G.) From left to right: a) external appearance; b) internal appearance

Figure 47. North gate (N.G.) From left to right: a) external appearance; b) internal appearance.

shaped. This provided the permeability of the stones to each other and strengthened them in the masonry.

Small repair-restoration and protection works have been carried out in different periods since 1970 in the Sheki Fortress. These include filling of small broken parts, filling of masonry ranges, etc.

Southern Gate (S.G) was rebuilt in 1960 on the basis of the 1958 restoration project. The upper part of the door, as well as arch, vault, embrasure nests made of light-colored baked brick, the upper embrasures made of river stone were restored, and the guard path of the walls continued through the door.

Northern Gate (N.G) While looking at the dimensions of 1958, it is known that the upper part of the Northern gate was completely crashed up during this period, and the door was built and closed. Southern gate was restored on the basis of the 1959 restoration project at the same time as the Khan Palace in 2002. The upper part of the door, including the roof of the baked brick, embrasures were restored with river stones, the guard path of the walls was continued through the door.

Northern gate-B1 - It was restored with river stones in the 1960s. Since the stones are built in one layer, it is not durable. It was rebuilt in 2000, as much of it had been dismantled and dispersed. In the section towards the Northern gate, noticeable vertical cracks are observed.

Since most of the **B1** tower was destroyed, it was rebuilt in the 1960s. Noticeable cracks, ruptures, and abrasions are observed on the outer wall.

B1-B15 wall is in an emergency condition. As a result of the rainwater in the guard path was filled into the wall, the wall was demolished and collapsed towards the B15 tower as the wall weakened between the masonry. The opened embrasure “nests” has no access to the guard path. Swelling is observed in some parts of the wall.

Figure 48. Northern gate -B1 wall

Figure 49. B1 tower

Figure 50. From left to right: 1) B15 tower; 2) B1-B15 wall

Figure 51. From left to right: a) B14 tower b. A wall between the B15-B14 towers

Figure 52. a. B13 tower b. A wall between the B14-B13 towers

Figure 53 a. A wall between B11-B12 towers b. B12 tower

Figure 54 a. Inner appearance of B1-B15 wall b. Inner appearance of B12-B11 wall.

Figure 55. a wall between the B13-B12 towers a.b. demolished part of parapet and external wall c. Part restored in 2009. d. B13 tower appearance

Although the **B15** tower has previously had baked brick-tailed gun embrasures such as B3 and B7 towers, at the moment, the upper part of the parapet level is in a demolished state. Since there are abrasions in the foundation, there is a need for reinforcement. In 2007, the parapet part was rebuilt. A vertical crack appears on the tower. The inner part of the mansory should be disassembled and assembled with a cage-metal fixture. Vegetation is observed. There is a pipe outlet on the outer wall of the tower to discharge the inner waters.

B14-B13 wall was restored in the 1960s. On the wall appear 5 layers of masonry, built at different periods and times. The tiled roof of the tea-house in the fortress can be seen from the outside.

The outer wall of the B13 tower is made of 2 rigid steps. Although the rock stones were broken and used in the original part of the tower and covered with rigid corners, the angular corners (fillets) were formed in the later restored upperparts. Vegetations and ruptures are observed.

B14-B13 wall was restored in the 1960s. On the wall appear 5 layers of masonry, built at different periods and times. Tiled roof of the tea-house in the fortress can be seen from the outside.

The outer wall of the **B13 tower** is made of 2 rigid steps. Although the rock stones were broken and used in the original part of the tower and covered with rigid corners, the angular corners (fillets) were formed in the later restored upperparts. Vegetations and ruptures are observed.

On the outer **B13-B12** wall, the undocumented masonry work was carried out in the late 2000's. Although the original wall is in a swelled state, the difference between the walls is felt since the masonry is built vertically by the masonry rule. The combined part of the restored wall with the original wall looks like a crack. Vegetations and ruptures are observed in different parts of the wall. It is believed that the parapet of the wall near the B12 tower flew from the guard path, as the rainwater flowing into the wall washed the masonry ranges. In 1998, the other three parts were made more neatly. Along the wall, small plants and moss-grown vegetation are observed.

Upper part of the **B12-B11** wall was prevented from demolition in the 1980s. Merlons were built in 2007 on the top of the wall towards **B12** with river stone. A noticeable crack appears over the B12 tower.

The upper half of the **B11** tower was built and restored in the 1970s. The span, whose lower part was subsequently stuck, partially overlaps the stones. There are three cavities on it for drainage.

B11-B10 wall should be strengthened and restored, as there are abrasions in the lower part of the wall. Masonry intervals were filled with span in the 1980s. The span partially covers the stones. From the outer part of the wall, the facade lighting begins.

The outer wall of **B10** tower is made of 3 rigid beams. In the Soviet era, this part was built up to the fun tower, then it demolished, and the old tower remained below the level of the square appeared. In 2011, the Khanate period form was restored on the basis of the project developed by "AzerBerpa" SRPI. Large-sized stones were used in the restoration. This, in turn, leads to the fact that the masonry is more durable. The tower is in good condition from the outside. Vegetation should be prevented on the walls.

The span of the **B10-B9** wall was renovated in the 1980s. Towards the tower of B9, the masonry was

Figure 56. a. B9 tower b. B10-B9 wall

repaired undocumentedly. There is a lightening of the facade in the outer part of the wall and on the embrasures.

A noticeable crack appears over the **B9** tower. Foundation has abrasions and ruptures. It is in an emergency condition.

Southern gate-B8 and **B8-B7** parts are located on the territory of the "Folklore House", behind the amphitheater. In 2016, at the initiative of the executive authority, small repair works were carried out on the fortress walls. In the 1960s, although a span was applied to the masonry ranges, at present, the span barked, it needs restoration. Since the wall is high outside the ground level in the inner part of the tower, and there is no drainage on the inner side, humidity is observed on the walls. This part of the tower is in good condition since the walls and towers between the B7-B2 towers were restored in 2016.

B7 tower is two-steps from the outside. Although the gun embrasures were rebuilt with bricks, original two gun embrasures have reached today. In 2016, a part of the tower was filled between the stones, and the ruptures on it were restored. Although the **B6-B5** wall is gradually preserved, the embrasure merlons were restored in 2016. The outer walls have not been spanned between the masonry. As the middle part of the wall crashed, the outer and inner walls are again built with round river stones. Part of **B6** tower was subsequently recovered.

A garden was built in the area occupied along the **B4-B3** wall. Since some trees are planted near the walls of the fortress, their location should be changed. During the restoration of **B4** tower, the outer walls of the masonry were not spanned. Salinity is observed. Embrasure nests continue to the guard path.

B3 gun tower is in mostly protected condition. During works in 2016, at the restoration of small ruptures and abrasions, the upper part of the tower was restored with its rock stones fallen around it. At the same time, the pandos taking to the gun tower have also been restored.

The height of the **B3-B2** wall was very small; it was restored in different periods from the ground level. For the last time, it was possible to enter the fortress from here since some of the walls crashed from the foundation level before it was restored in 2016. Since in the external part there are tall trees very close to the walls, it is important to change the location of the trees so that their roots couldn't cause problems with the fortress walls.
B2 - Northern gate, the wall was in a state of emergency from the outer part; most of it was demolished in 2007 and restored without documents.

Figure 57. a. B10-B9 wall, b. B10 tower and B11-B10 wall

Figure 58. a. N.G-B2 wall and B2 tower b. B2-B3 wall

Figure 59. a. B3 tower from outer part b. B3 tower from inner part c. B3-B4 wall d. B4-B5 wall

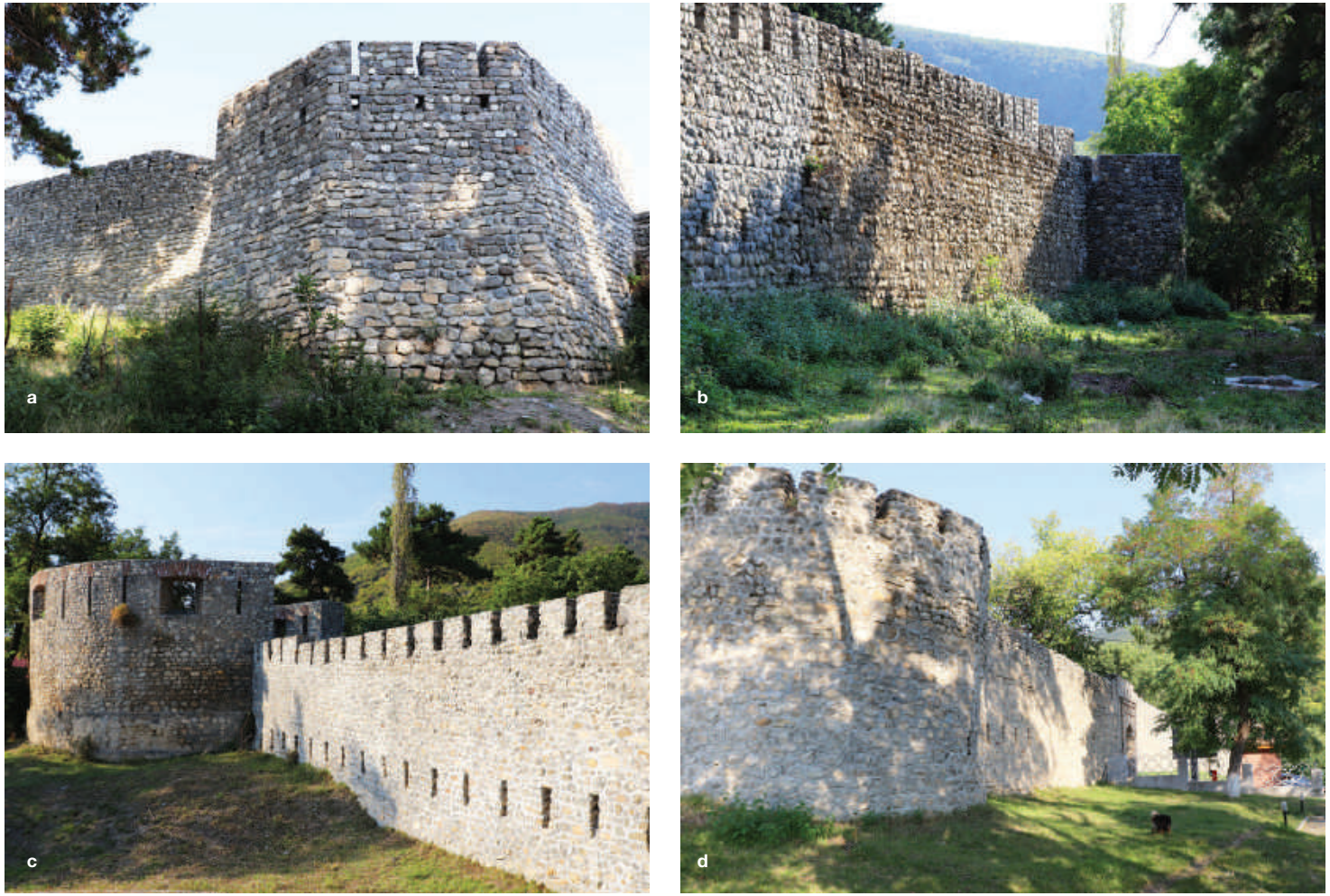


Figure 60. a. B5 tower b. B5-B6 wall and B6 tower c. B7 tower and B7-B8 wall d. B8 tower and B8-S.G. wall

3.3.5. Discussion and recommendations

At present, the monument was re-diagnosed, and the following recommendations should be taken into account:

• NG-B1, there is a need for reinforcement on the walls, which were built one-layer.

• It is essential to drain rainwater from guard paths and tower yards. The lower part of the road should be covered with concrete-sand solution, and stone cover to be implemented. To prevent rainwater from leaking through the outer wall, it is necessary to solve the guard path towards the fortress's inside. Simultaneously, the vegetation at the tower floor and the guard path can also be prevented.

• As the roots of the trees at a distance of up to 2 meters along the fortress walls pose a threat to the tower, trees should be moved to another place.

• Since part of the North and South walls are under the ground, drainage solutions are needed along the wall to manage the waters.

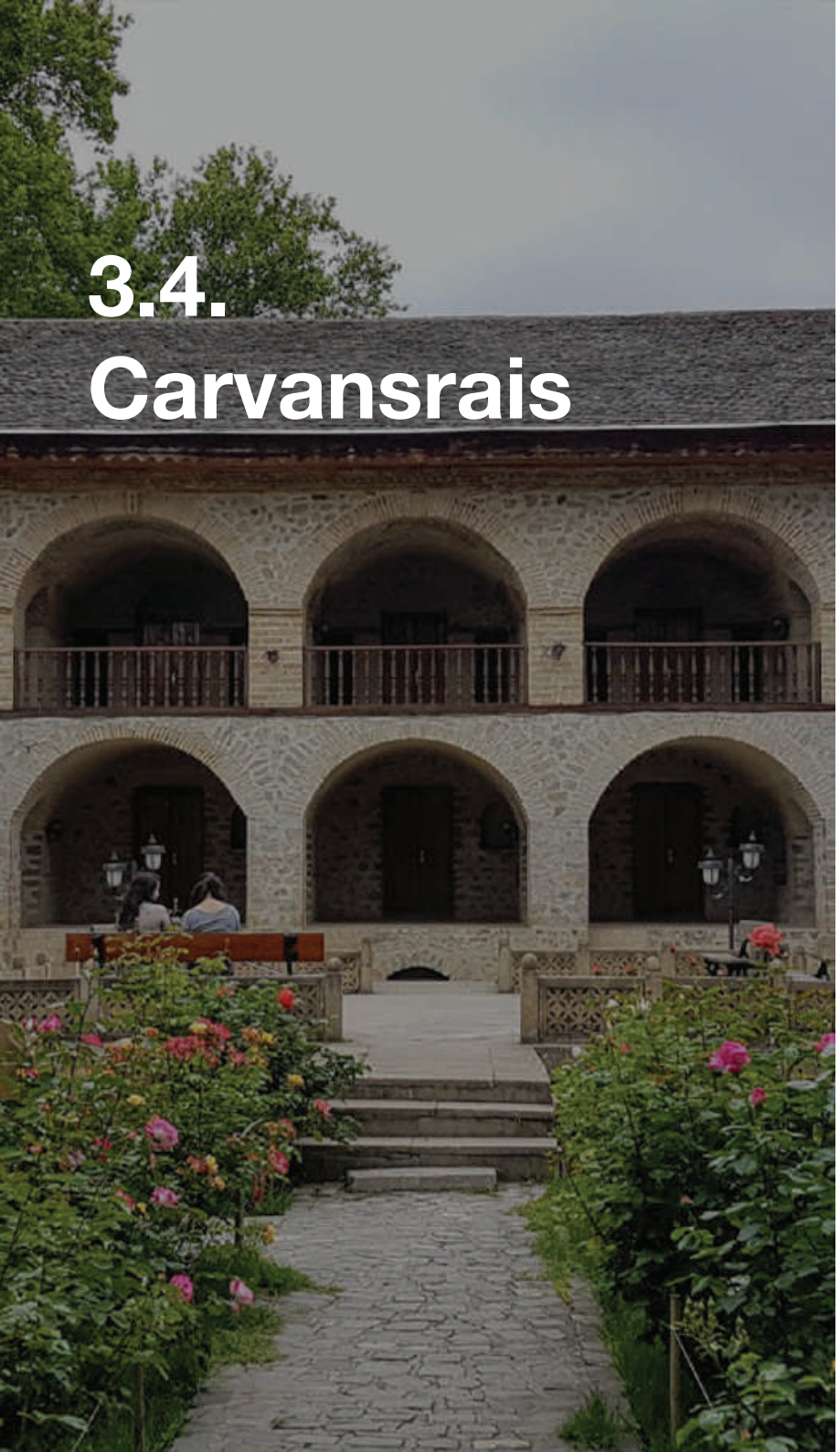
• During the flood, rainwater should be prevented from flowing through the Northern gate. It is important to direct the floodwaters from here.

• Plants should be cut in places where vegetation was observed, essentially on the fortress's outer wall, tower yards, guard paths; roots should be dried chemically. (mainly in B2-B9 ranges).

• Chemical measures should be taken against salinity in places where the salinity of the outer wall of the fortress is observed (mainly in B3-B7 ranges). Otherwise, this can lead to erosion of the masonry intervals in the long perspective.

• Scattered parts of the walls should be built with lime-cement solution from river stone; restoration work should be carried out.

• After filling the walls with lime-cement solution, the intervals should be covered with a span.



3.4. Carvansrais

Of the 5 large caravanserais, only two are currently preserved: Upper Caravanserai (Yukhari) and Low Caravanserai (Ashagi).

All caravanserais have a similar base facility; each unit, consisting of 3 floors, is dedicated to a single visitor. The lower, cooler floor is used to store the goods; the ground floor is dedicated to commercial negotiations, and the last floor is used as a dormitory. There is a stone staircase to connect the first floor, while to get to the second, there is a straight wooden staircase.

The bazaars were located in the courts of the caravanserai and in the emerging areas around.

The caravanserais were generally located on the main road. They presented a square plant with some corners cut to improve the entrance to the structure.

Caravan sheds of Sheki were built in full compliance with their functional designation and local traditions. Their general scheme was a landscaped yard surrounded by the same scheme carrels as a single room of antis residential house. Corner premises were quadrate or octagonal depending on the design of the corner of the yard. Since both caravan sheds were located on the main tradeline, they also had the rooms for various trade transactions in addition to the recreation rooms. The Caravan sheds of Sheki are the largest on the territory of Transcaucasia.

The main objects placed along the right bank of the Gurjana river, the town's business center, were the Upper and Lower caravanserais. The caravanserais are considered as one of the main types of the social structure of the feudal East. Almost all the historians and travelers, who visited Azerbaijan at different times, mentioned the caravanserais, sometimes giving much attention to their description. In the middle Ages, the caravanserais played the main role in the town structure. From Literary sources, it is known that there were a lot of caravanserais in the large towns of Azerbaijan. For example, according to E. Chelebi's writings, there were up to 200 caravanserais in Tabriz. It is to be noted that despite different periods of their erection, the caravanserais preserved their main features. The caravanserais had been constructed both in towns and along trade routes. However, they differed in purposes - the caravanserais in town were used not only as a stop-off of caravans of individual travelers but also for negotiating some commercial deals.

To this end, the caravanserais in towns were provided with special rooms for commercial bargains. Along the trade routes, the caravanserais were built at some distance from one another.

In the XVIII-XIX centuries there were five big caravanserais in Sheki.

At present, two caravanserais have been preserved; the Upper and Lower Caravanserais. These two monuments of the XVIII century, built by local masters. According to their planning structure, big dimensions and conveniences for trade are considered to be the largest of this kind observed in the territory of Transcaucasia.

At the present time, they are both restored and used as accommodation facilities. Their usability should not change their identity and aspect.

Upper Caravanserai

Historical context

The date of construction of the Upper Caravanserai was adopted in 1823. After the Socialist revolution, the Caravanserai ceased its main activity. Separate enterprises of the Soviet government are located in the rooms of the building. Tobacco shops in the building in the 1930s, then confectionery shops, then (in the 1970s) a library in a part of the building, state departments, museums of ethnography were located there. At the same time, some changes are being made in the Caravanserai: balconies were glazed, steamers and niches are used either as a door or are being demolished. In the 1980s, the building was renovated and up to date it is used as a hotel. The monument is protected by the state as an important architectural monument since 1968.

Physical Description

Lower Caravanserai was built in the historical part of the city, on Mirza Fatali Akhundzadeh Avenue on the banks of Gurjana River. Upper Caravanserai has a trapezium-shaped plan with a rectangular inner courtyard. The building has three floors from the south and two floors from the yard. This is also the result of skillfully sitting of the building in acute relief. The lower part of the southern facade is 14 meters, the upper part is 8 meters. The trapezoidal shape of the building is also due to its skillfully placement in the existing place. The inner courtyard is in a rectangular shape, surrounded on all four sides by overlapping arch beams. Behind each layer there are two rooms, which are built in the form of an amphilade. Four entrance gates or doors lead to the courtyard. The main gate is in the east-facing corner of the building. The gate literally opens to the main distribution corridor in terms of the plan of the building. Octohedral, in the height of a two-storeyed building and covered with a dome of 12 m in diameter, this corridor leads to the courtyard, to the first floor and to the courtyard located in the north of the building. Two more gates fall on the north facade, and the entrance to a building on the main facade. The door opened on the head facade is located very below due to the relief. From that door the stone steps lead straight to the first floor. Two more gates are brought to the yard of the building with an arched corridor from the northern facade. The summer restaurant of the hotel, which is currently operating in the Caravanserai building, is located on the north side of the building. The main facade has been solved on three floors. Rooms on its ground floor are designed for shops in the past. Now the Sheki craftsmen show and sell their handicrafts in those rooms. The large sections of these rooms give the facade a monumentality. The windows of the second floor are flat, the windows of the third floor are complemented by semi-circular arches. The small size of the windows emphasizes the importance of the ground floor arches. The building is from the local river stone characteristic of Sheki. The trees are lined with red brick. Since the other two facades are two-storey, they do not appear to be so self-sufficient. The windows on the floors on the main facade, the gate on the north facade, the elements from the brick on the stone walls give beauty to the side facades. The plan of the building has been decided interesting. The entrance hall opens into 10 small rooms adjacent to the octagonal corners. From there, two screw-shaped stairs lead to the second floor, to the south and west arms of the Caravanserai. The north arm is located in the north-west corridor opposite the main entrance to the staircase yard. The staircase from the lower part of the main facade to the flat door leads to the eastern arm. The rooms of the three branches of the Caravanserai (south, west, north) have the same layout – open balconies in front, two rooms located in a row are

Figure 61. Position plan of the Upper Caravanserai (2020)

intended for guests. The east wing has a different plan: from the stairs to the rooms on both sides with different structures, as if this part did not serve public purposes, but from the very beginning. In this arm there are open rooms, lavatories. The east side is also covered with a wide staircase from the yard. Currently, those arms are used as a restaurant block. In the project of using the Caravanserai as a hotel, the improvement of the yard was carried out. Rooms of the ground floor have a direct stairs from the yard. In front of each room there are two stone steps leading to the corridor. In the plan, the rooms of the ground and first floors were placed without changing overlapping. Most of the rooms on the ground floor have stone stairs, which leads into the rooms that are in the basement and repeat the plan of the living rooms. Those rooms were built for storage of goods brought or purchased by merchants from Sheki.

The basement rooms were lightened by a small window, under the covering arch. These windows open to the front of the yard. According to scientists, the Caravanserai has 300 rooms with square of up to 6000 sq. m. The building is covered with wooden construction. The face is tiled. On the ground floor of the building there are 17 artisan shops along the Akhundzadeh Avenue.The 2-storey building located in the western part of the Caravanserai was later incorporated into the hotel complex in the 90s and turned into kitchen and technical rooms. Although the ground floor of the building was in good condition before that, some of the rooms of the first floor were rebuilt in accordance with the appearance of the Caravanserai and the roof was covered with tile.

On the ground floor there are 9 artisan shops along the Akhundzade Avenue.The inner courtyard of the monument is currently operating as a summer restaurant of the hotel. It is also well-known for providing various cultural events and activities.

Figure 62. Upper Caravanserai from the bird-eye view (2015)

Figure 63. Inner courtyard of the Upper Caravanserai

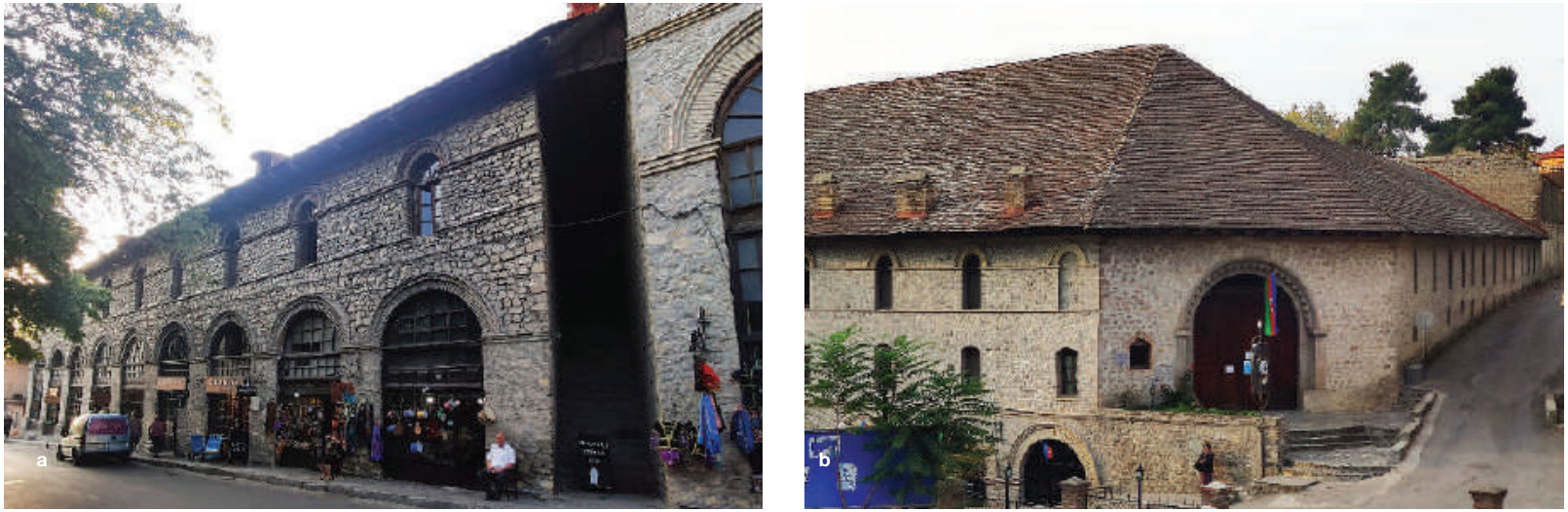


Figure 64. a. Kitchen and technical part included in Upper Caravanserai b. Main entrance of the Upper Caravanserai.

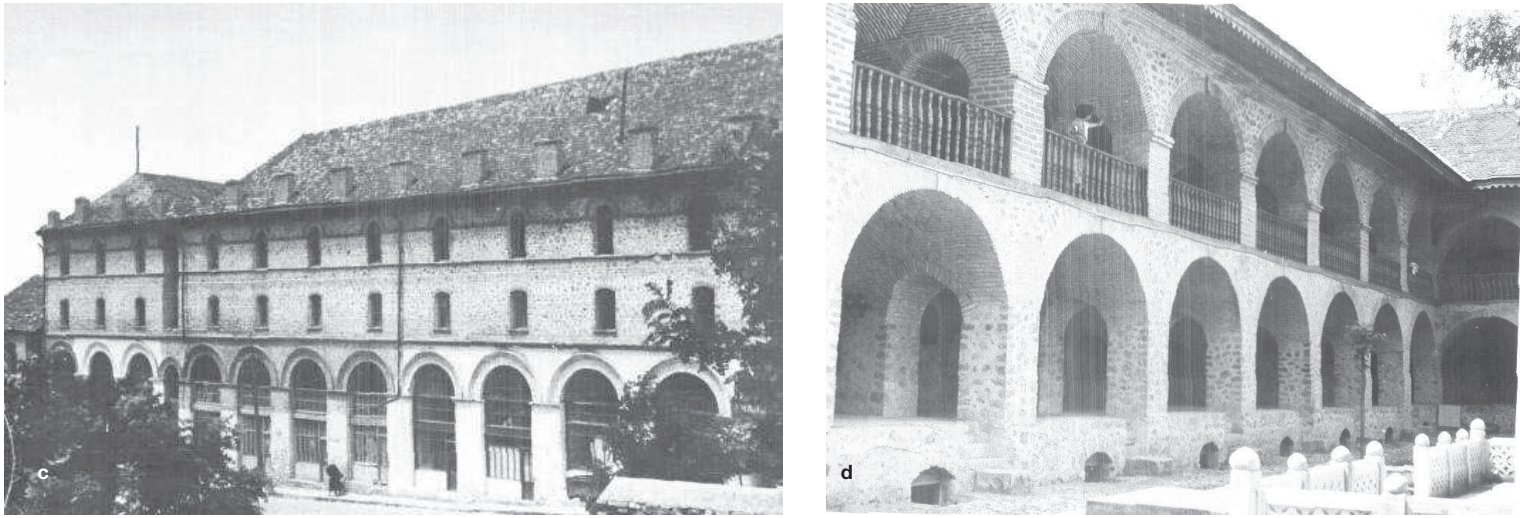


Figure 65. Photos of Upper Caravanserai in the 1970s a. From inner courtyard b. Facade opening to the Akhundzade Avenue

Conservation Analysis

Restoration work was carried out in 1988-1991. Along with the restoration work, the Caravanserai was adapted to the hotel. Some destroyed parts of the garret with roof construction have been repaired and tile coating restored. Walls, arches, floors, doors, and windows, balconies are for the activities of the restaurant and cafe. On the ground floor, in the rooms leading to Akhundzadeh Avenue, craftsmen workshops are created and so on. Water and power lines are laid for the operation of the hotel. The hotel does not have a heating system. At the moment, the monument still needs the restoration.

In terms of a space extension, most of the floors of the first floor have been demolished and wooden columns replaced. In the 1980s, these arches were restored.

At present, the following problems were observed when viewing the monument:

• During its activity since 1991, major repair and restoration has not been carried out.

• Deformations, cavities are observed on the roof, especially on the wooden construction.

• Decay and pollution are observed on the roofing part.

• Masonry of the walls did not correspond to the historical appearance of the monument, abrasion was observed in many areas.

• Abrasion was observed in doors and windows.

• All elements of the kitchen part and restaurant block - doors, windows, hand-rails and other wooden elements are outdated and deformed as a product of the restoration of 1986. Also, their appearance also does not match the historical look.

• For a long time, the basement rooms have remained unused. It was used as a warehouse in the past.

Discussions and recommendations

The Caravanserai is currently operating as a hotel, and it is planned to continue its activity as a hotel after its restoration. At the entrance to the monument should be placed a sign with information about its history.

At present, the monument has been re-diagnosed and the following recommendations should be taken into account for the observed problems:

• A constructive diagnosis of the monument should be made and, accordingly, constructive reinforcement work should be planned.

• Abrasion and cavity problems in the wooden construction of roofing should be eliminated.

• To ensure longevity of the roofing, bottom of the tiles should be covered with covers made of metal plates. This experience was used in the restoration of the Khan Palace and the House of Shekikhanovs.

• Missing tiles on the roof should be added.

• Reconstruction of communication lines is required.

• The walls and ceiling of the kitchen are blackened. They must be overhauled.

• There is a need to redesign the hotel area, especially the lavatories, without violating the structure of the monument.

• Special attention should be paid to the restoration of facades and landscaping.

• Project proposals for the repair and use of basement rooms should be prepared and renovation work should be implemented.

Figure 66. Rooms of the Caravanserai

Figure 67. View of the garret

3.5. Mosques and Minarets

Mosques and minarets are parts of the architectural ensemble of the historical site, mostly built in the XIX century. Most of them are located in the main trade center, which shows that there were many visitors coming to the city who needed mosques to worship. Most of mahalla have their minarets and mosques, built with the same technique. Among numerous quarter mosques, only a few have come down to the present completely preserved; the rest are almost destroyed. There are left five mosques and two minarets without a mosque in the historical town, out of which the three are functional and well-preserved. Thus, a minaret is preserved in the Gileili mosque situated at the edge of the precipice of the Gurjana river. Now the minaret has been restored. In Sary torpag mahalla, there is a quarter mosque with a minaret, which was called by people as the Gödek minaret (Short minaret). It is not functional and needs restoration. In the upper part of the town in Agamali ogly street, another minaret of the nonexistent mosque arises. The Sheki's Juma mosque is the biggest one located at the entrance of the historical site. Khan mosque is of particular interest, situated near the House of Sheki Khans in the center of the town. It was built in 1745-1750. There is a graveyard with some preserved tombstones in the form of stone arrows near it. The tombstone planes have stone engravings, are covered with ornaments, and are artistically executed. It is not functional yet, but the Khan Mosque and abandoned buildings in its yard will be restored and renovated soon. Then it is planned to be a functional mosque. Find the conservation plan of the Khan mosque in the Annex 3 for more information.

Imam Ali mosque is the only mosque of the Shia community in the town that mainly resides in Ganjali mahalla. The restored mosque locates on the main trade street is now functional. Omar Afandi mosque is also functional and well preserved, which also locates on Akhundzade street.

The planning structure of mosques is usually in the form of a long rectangular form with an open terrace in front (a roof supported by bricks or wooden columns adjacent to the building). There is a passage from the entrance hall to the prayer hall. In order to increase the width of the prayer hall, large mosques often have wooden poles supporting the ceiling along the long axis of the hall. The steep wooden roof structure of the mosques are covered with tiles. The minarets have a special place in the design of mosques, with vertical towers of 10-30 meters, they can be seen in the low-rise residential buildings located among the rich greenery of the gardens. The minarets are usually located in the courtyards of mosques, near or adjacent to the prayer hall.

The planning and interior design of the mosque are identical to a Sheki dwelling with many wall recesses and multicolored painting decoration. The minarets are built of bricks, and the main room of the mosque is rectangular. In many mosques, walls are made of brick and cobblestone plastered from outside and inside with subsequent colorful paintings. This colorful decoration of the prayer-hall is the most valuable feature of the monument. The hall walls are covered with gypsum-clay plaster, on which flora and geometrical ornaments painted in some colors are carved out. But generally, the mosques are notable for simple and functional architectural-planning structure, a characteristic feature of the monuments of architecture in Sheki.

Mosques and minarets have been inventoried for conservation and their conservation is ensured by the State Tourism Agency.

Currently, most of the mosques have been restored and, because in good conditions, should be included in the different visiting trails. Of particular interest could be the visit to the minarets. These, raised over the city, offer particular viewpoints. Continuous maintenance is recommended (Fig. 68).

Figure 68. The minarets, like in Imam Ali Mosque, have an important place in the composition of mosques, they are distinguished by 25-40 m vertical lines against the rich greenery of the gardens and low-rise residential houses.

3.6. Hammams

There are many bathhouses in Sheki, out of three locates in the historical area of Sheki which were built in the XIX century. Since Sheki has been the town of craft and trade from olden times, along with many markets and caravan sheds, hammams and mosques were also built here. The majority of shops were located along the central highway of the town, including two hammams – Aghvans and Abdul Salam hammams. Dere hammam however locates in Ganjali mahalla.

The hammams of Sheki all have a very similar traditional structure and take over the structure of the medieval period. Unlike traditional hammams of the East domed halls do not protrude over the volume of the building; a pitched roof covers them with tiled floors.

Façades with vertical divisions of the windows and the entrance portal are made and decorated with bricks. Hammams maintained their heating system under the brick floors that were made of ceramic pipes. The internal system includes the divisions with the function of a separate entrance, a changing area, a *caldarium*, a *tepidarium,* and a *frigidarium*.

Besides the sanitary-hygienic functions, the hammams of Azerbaijan like those in many countries of the feudal East served as a gathering place for the inhabitants of quarters, *mahalla* were they could discuss the news, have a rest, and spend their free time. Along with this, the hammams were used for the functions settled by the *Shariah*, because was forbidden to visit the mosques to perform *namaz* without ablution. For these purposes, people were obliged to perform a ceremony of ablution, called *gusul*, as it was stated by *Shariah*. *Gusul* was usually performed in a bath-house, where swimming pools were used for this purpose. It should be noted that in some cases, the hammams were used for sport trainings.

The Sheki bath-house follows the traditional hammams structure of the medieval period. The hammams plan mainly includes two large rectangular rooms divided by four pylons into the smaller premises. One group of rooms is used as a cloak-room and is called *chol* or *bajyr*, with another one is a hall with a valet of auxiliary rooms called *icheri* used for washing. The cloakroom and washing halls are connected through the subsidiary rooms. Each hall is covered with a dome with light lanterns in the shape of the small domes with cutout windows. The washing room from the side that is opposite the auxiliary premises abuts on the cold and hot water reservoirs called *khazna*. The water into hammams is supplied through the clay tubes from the nearest branch of the ancient water line. The hammam facades have simple forms. They are buried in the ground, and only domes are covering two large halls rise above it. The hammams in Sheki were built in the XIX century.

Out of three, two hammams were partly restored recently but are not yet functional. Dere hammam on the other hand needs immidiate intervention for restoration since it is in unsafe condition. All three are registered as monuments and under the protection of the state.

Aghvans hammam is planned to be restored further for use. A case study of Aghvans hammam is given in Annex 2.

Figure 69. Interior of the Abdul Salam Bath.

Figure 70. The façade has vertical divisions where the windows and the portals all have a terracotta brick deco¬ration, as the Abdul Salam Hammam. It should be noted that restoration work in this bath has not been completed. Sheki hammams are covered with cross roofs like dwellings.

3.7. Watermills

There existed a lot of small mills in the upper part of Sheki to provide the historical town with flour products, many of which were built on the Deyirmanarkh canal. Out of 47 mills that existed along the banks of the two Sheki rivers, currently **two mills** with the ancient system remain. Some mills have been dismantled because of becoming useless and not performing their traditional function, some - because a tributary river has stopped bringing water.

In the upper part of the town, there were many mills providing the town with the bread and, as a rule, these mills were built near the Deyirmanarkh canal.

These are mostly small mills. They were used for grinding and mainly used small volumes of water. They were equipped with a technological mechanism for the exploitation of hydraulic power, by observing a wooden “tracery”, placed at the edge of the water, which operated through a simple axis. The revolving stone grinder was placed right above it. It is what is called “horizontal wheel hydraulic mill” (called also Greek or Scandinavian), whose most ancient documentary testimonies date back to I century B.C. This type of mill, not suitable for large rivers of lowland, rich in water, but too slow, represented a primordial form of hydraulic machine. Being able to work only with small volumes of water at rapid current, it was particularly used in high-hill areas, where its performance usually came by building a canal water conveying (shower), equipped with a hopper with inclined walls, closed by a flap.

The approximate quantity of ground product varies based on the speed of the water stream. In the watermill No2 (XIX century mill it is part of the Deyirmanlar Mahalla), you can produce 100 kg of wheat or 50 kg of rice a day. This low yield of horizontal wheel mill (it rotates slowly, making a single rotation for each revolution of the hydraulic wheel), capable of grinding only modest quantities of wheat or rice, making it unsuitable for commercial production of flour, destined to serve the needs of individuals inhabitants of each district (mahalla), so a large number of mills was needed to satisfy the needs of the city population. At the end of the 18th century, about 6.000 people lived in Sheki. These buildings are in a state of abandonment, but, if wisely restored, they could be a location for a Productive-Museum for exposing how were realized different types of wheat and food products. Some could be used for the creation of associations on typical products or for their original use. Rice flour is still used to prepare the most famous Sheki sweet - Sheki halva. Restoration of the mills will sustain provision of the traditional cuisine as in the past through relevant incentive programs.

Currently, there are two watermills survived in the historical town. They are close to each other and use the water stream of the Deyirmanarkh canal to operate.

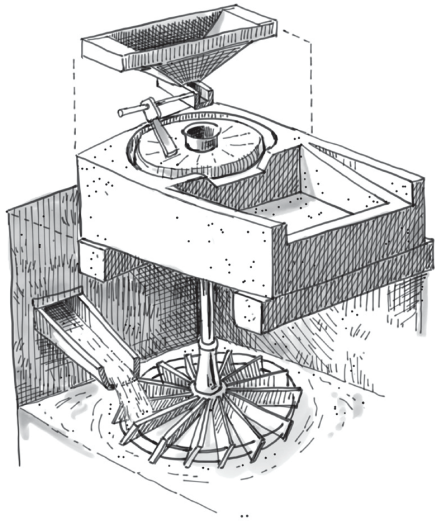


Figure 72. Hydraulic mill with horizontal wheel.

Figure 71. Situation plan of remaining Water Mills in the buffer zone

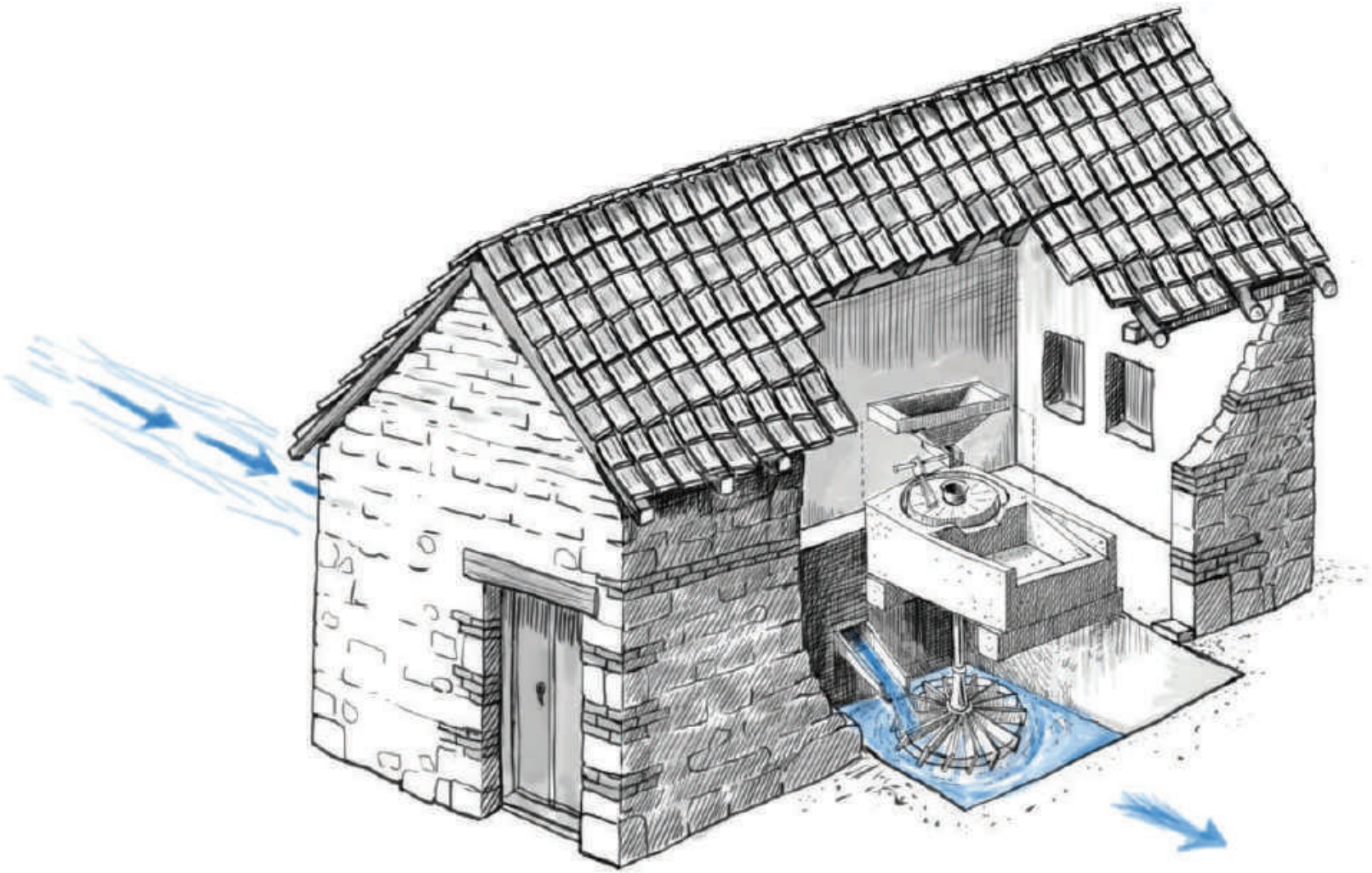


Figure 73. Traditional Water Mills of the XIX century from Deyirmanlar Mahalla.

3.7.1. Watermill №2

Figure 74. Soviet time board of the Watermill N.2

The watermill was built in 1898 and was restored in 1926, 1950 and 1985. Since 90's, the mill is privatized. According to the owner, after the mill was restored in 1985, it became operational again.

The exterior walls are made of river stone and bricks. The roof has been covered with corrugated asbestos roofing sheets. The wooden structure of the roof is built with rough timbers. There are two wheel-chambers in the mill, one of which is broken and not functioning.

In the late renovation, limestone blocks are used in the corners of the building to strengthen its structural integrity. Extension to the building is built to expand the storage area. Currently, it needs to get renovated. The metal gate is used for the entrance to the site, which does not comply with architectural typology.

Roof structure and asbestos roofing material need to get changed to roof tiles. Ruptures on the wall masonry must be fixed with the same kind of stone. The door and windows need to get replaced with appropriate ones. The site around the mill should be rethought and the concept for the mills should be redeveloped. It is possible to fix the second wheel chamber which will bring the mill to the fully working condition. The interior also needs a retouch. The small canal which brings water into the mill should get renovated.

Figure 75. Photos of Water mill N.2

3.7.2. Watermill №5

Figure 76. Soviet time board of the Water mill N.5

The watermill was built in 1892 and restored throughout the Soviet period. Latest renovation happened in 2019. Since 90's, the mill is privatized.

The exterior walls are made of river stone and bricks and interior side of the walls is mortared. The roof has been covered with roof tiles. Some of these tiles are missing and some need to be replaced. There are 2 wheel chambers in the mill, one of which is broken and not functioning. It is possible to fix the second wheel chamber which will bring the mill to the fully working condition. Extension to the building is built to expand the storage and technical areas. There is a garage in front of the mill which blocks the main entrance. Removing it would open up area around the mill and could accomadate public space as well.

Figure 77. Photos of Water mill N.5

3.6.3. General discussion and recommendations

Both mills need to get renovated and restorated. Regeneration works should include the use of the watermill that bring more demand for its use and incentivize the owners to maintain it.

The mill should be inventorized in the list of monuments with local importance and should be under protection of state. Along with the traditional function for rice flour grinding for the Sheki cuisine, the watermills should be used for tourism purposes as well. The process of grinding can be visible for tourists and could be a good tourism experience. Projects of renovation and restoration should take these issues into consideration.

Relevant signs and interpetative boards for the visitors should be installed in the mills.

with local importance and should be under protection of state. Along with the traditional function for rice flour grinding for the Sheki cuisine, the watermills should be used for tourism purposes as well. The process of grinding can be visible for tourists and could be a good tourism experience. Projects of renovation and restoration should

3.8. Arched bridges

Four of the arched bridges built on the Gurjana River in the XVIII century are still standing. These bridges are located along the M.F.Akhundzade Avenue on the Gurjana River, “Dere hammam”, “Upper Caravanserai”, “Lower Caravanserai and “Secondary School No. 3”. The bridges with the total area of 156,5 m2 are protected by the state as a monument of local importance under the inventory No. 4996.

Bricks and lime were used in the construction of these bridges. In order to reduce the speed of the water, throws (beams) were built in the River; fences were laid on the walls of the river. Although the bridges’ load bearing properties are very high, in recent years, their constructive dimensions have deteriorated as a result of abrasions.

Regulatory policy for four historic bridges on Gurjana

The Ministry of Emergency Situations diagnosed current technical situations of the four historical bridges in 2020 according to report of which all bridges are in need of restoration and are subject to have special regulatory and maintenances policies.

Out of four, in three bridges, the allowed speed limit of 20 km per hour and 7 ton of weight of vehicles at maximum is determined. However, in one of them (bridge next to School No.3), all kinds of vehicles are prohibited considering its load-carrying capacity, and only pedestrian use is allowed.

These policies have been sent to the local police department by the State Tourism Agency to implement the regulations. The police department has already put relevant signs on them.

Figure 78. Arched bridge

3.9. Merchant houses

In 1743, Sheki was established as the first and the most powerful of a series of Khanates in the Caucasus, representing a new administrative system in the region. This was followed by Russian rule in the 19th century. These different cultures have also influenced many of the architecture and interiors of wealthy merchant houses such as fireplaces (bukharis), decorations, a vernacular type of windows (shebeke), etc.

Merchant houses are based on traditional houses' layout. However, they are increased by size, more enriched, and developed with details and decorations on façades and interiors. Typically, merchant houses are 2 or 3 storied, and floor height is about 3-5 meters. Their foundation is built with stones, as well as plinth level till the ground floor. Having a plinth level makes the floor level above the ground, which increases the resistance against floods. This also allows the house to have a basement. Floors are made of wooden beams, secondary beams, and wooden planks as finishing.

Merchant houses are built using red bricks, carved rock or river stones in a rectangular shape and are mostly used in combination with fired bricks. Façades divided into several bays. Bricks are widely used for façade ornaments, cornices, platbands around doors and windows. The roof overhangs were decorated with ornate wooden planks.

Some verandas are covered with shebeke or glazing works. Wooden columns carved into the projecting balconies are turned into bay windows (closed balconies) when they are enclosed with planks, windows, and fretwork. Bay windows are common in the facades.

Interiors of merchant houses consist of elements such as bukharis, decorative patterns, takhchas. Bukharis - fireplaces is the most notable interior element of the wealthy merchant houses that survived in most of the houses till today. They have lost their practical need with advent of gas and alternative heating types. However, the population still has the fireplaces as a decorative element in the interior.

Figure 79. Aljanbeyovs' house in 1890

3.9.1. Issues with Merchant houses

There are several issues with merchant houses that need to emphasis on. One of them is having multiple ownerships of some of the merchant houses. After the Soviets took over, some of these houses were publicized, some were divided and are given to different families. These divisions applied to the garden areas as well, so every family has their garden and entrance to the house. But divisions of the houses are mostly caused by inheritance to children and then grandchildren of the original owner. In some cases, these multiple ownership issues are not solved between siblings and relatives. Because of this, some of the houses are abandoned, left to decay.

Another issue caused by having different families living in the same house is their different approaches to the renovation of houses. These renovations can alter the exterior view of the houses, such as different wall colors, room expansions, different roof materials, etc. In some houses interiors have been altered or endangered to lose its original interior elements. In some houses these elements haven't survived.

This raises a question of the status of the merchant houses; most of them are not registered. Right now, there is no legal requirement or demand for restoring or saving them.

Some of the government-affiliated merchant houses are not in use. This also increases the chances of decay in these properties.

Figure 80. a. Huseynbeyov's mansion b. Zulfugarov's house

Figure 81. Bukharis of the merchant houses

3.8.2. Policies on Merchant houses

Starting with government-affiliated ones, all merchant houses will be registered as monuments of local importance. This will follow restoring government-affiliated properties first.

After the buildings are registered, any dramatic alterations to the interior will require consent. This doesn't mean that all alterations are prohibited. All houses need to change over time to meet new requirements. However, interior elements of the houses (especially bukharis) need to be saved. For that, they have to be documented and conserved.

Unused houses will be put on appropriate use or long-term rented to private investors. Listing the houses as monuments will impose multiple owned houses to cooperate with each other to restore and conserve the original look of the merchant houses.

Owners of private affiliated properties will be encouraged with incentive mechanisms to use and restore unused abandoned houses. Incentive mechanisms should be developed to resolve these issues.

The following list of merchant houses consists of basic information, such as name, address, use, condition, use, and ownership affiliation. In the near future, they will be researched and documented case by case.

N	Name	Address	Condition	Use	Ownership affiliation
1	Kindergarten number 5	Ahmadiyya Jabrayilov street.	Critical	Kindergarten	EXCOM (GOV)
2	Abbasqulu's house	F.Khoyski street 113	Fair	Residential	Private
3	Aghashirins' house	M.F. Akhundzade 132	Fair	Residential	Private
4	Chopurs' house	Shafiga Akhundova street 10	Critical	Residential	Private
5	Dadanovs' houses (5 houses)	M.F. Akhundzade 164	Fair	Unused	Ministry of Education

N	Name	Address	Condition	Use	Ownership affiliation
6	Afandizadeh Abdulla's house	Otageshiyi 11	Good	Residential	Private
7	Aliyevs' house	Ganclar street 23	Fair	Pedagogical College	Private
8	Haji Adbulalimov Ismayil's house	A. Ahmadov 5	Renovated	Residential	Private
9	Haji Musa agha's house	F. Khoyski 69	Renovated	Residential	Private
10	Haji Rzagulu's house	M. Gasımov 15	Renovated	Residential	Private
11	Haji Yusif's house	M. Gorki 8	Good	Residential	Private
12	Haji Zeynalabdin's house	M.F. Akhundzade 14	Poor	Residential	Private
13	Hamid agha's house	Sh.Akhundova street 3, 6	Fair	Unused	EXCOM (GOV)

N	Name	Address	Condition	Use	Ownership affiliation
14	Merchant Hamza's house	Saida Imanzade 14	Poor	Residential	Private
15	Huseynbeyov's mansions (2 buildings)	M.F. Akhundzade	Critical	Unused	STA (GOV)
16	Ismayilbeys' house	M.F. Akhundzade	Fair	Unused	Ministry of Health
17	Mammadov Abbasgulu's house	C.Cabbarli 2	Fair	Residential	Private
18	House of Murad's grandfather	Gulara Gadirova 23	Renovated	Residential	Private
19	Mulayim Gamzagizi's house	Pishnamazzadeh 20(A)	Fair	Residential	Private
20	Samadovs' house	Damirchizade street 8/10	Poor	Unused	Private
21	Zulfugarov's house	Ganclar street 21	Fair	Unused	STA (GOV)

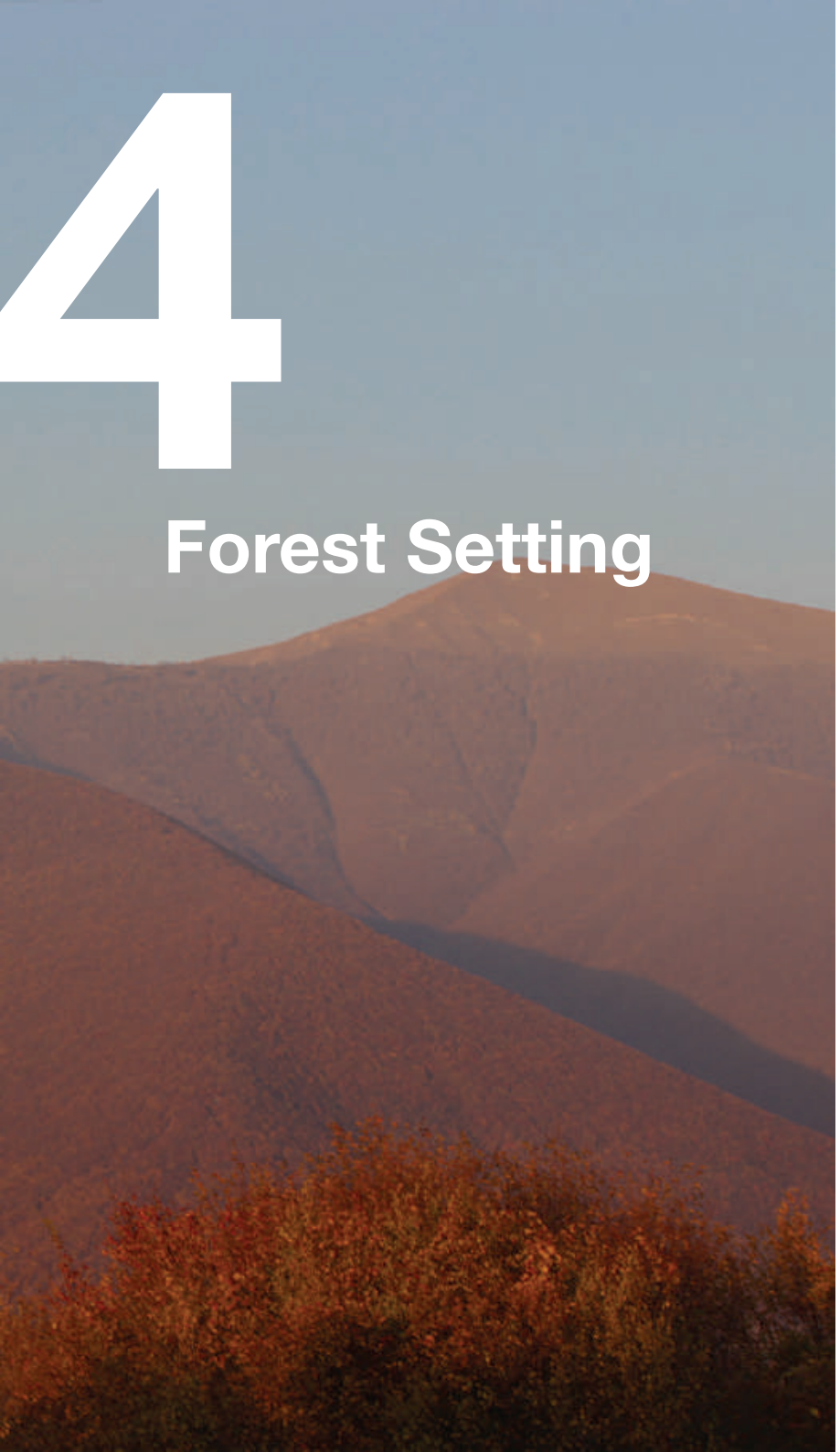
N	Name	Address	Condition	Use	Ownership affiliation
22	Alicanbeyovs' house	M. Huseynzade 6	Fair	Residential	Private
23	Farhadbeyovs' house	A. Haqverdiyev 2	Fair	Residential	Private
24	Mansion of Jalil Khalilov and Akhund Farajullah	Jalil Khalilov 7	Critical	Residential	Private
25	Haji Abdulalimov Ismayil's house	B. Mammadov 27	Good	Residential	Private
26	Haji Süleyman's house	F. Khoyski 10	Good	Residential	Private
27	Isa's house	A. Sadiqov 5	Fair	Residential	Private
28	Aghabeyov's house	Haqverdiyev 3	Fair	Residential	Private
29	Nasibova Gulnar's house	Azadliq 3	Poor	Residential	Private
30	Haji Gadir's and Haji Mammad's house	F. Khoyski 3-4	Critical	Unused	Private
31	Tuz Abid's house	A. Bayramov	Renovated	Guest house	Private

3.10. Silkworm factories

Sericulture, which is the most crucial industry throughout the town's history, has been preserved up to now although in much smaller size compared to earlier periods. The factory is currently continuing operations of manufacturing silk fabrics and carpets. The national shawls-kalagayi and scarves made of silk fabrics and painted at the factory and private workshops are known not only in Sheki but are appreciated throughout Azerbaijan. They are one of the best souvenirs of Azerbaijan. Sheki throughout its history has been one of the centers of decorative and applied arts. There are only one factory and one private workshop that are currently operating in Sheki. The availability of cheap synthetic fabrics and products reduced the demand for natural silk. Private factories (only 5 factories remained, 3 of them are located in the reserve) do not operate, and the buildings of the factories are privatized by individuals not involved in the silk industry, and these individuals use these premises, often rearranging them.The factories manufacturing the silk threads were built with sericulture development, but today it is not used. The factories differed from housing accommodation by construction and simplicity of facades decoration (Fig. 82). They had halls with equipment later (the halls with dyeing rooms, they also had the courtyards with the barns). These buildings are all in a state of abandonment, but if wisely restored, they could be a location for an ecomuseum of silk, explaining the work and the process for the realization of the silk or other cultural purposes. They could be used as a base for associations to promote, nationally and internationally, this specific product of Sheki, or could be re-established their original function of production.

Two factories (No 1 and No 2) have been inventoried and are under state protection as cultural monuments, but only Factory No 1 locates in the Reserve area.

Figure 82. Factory No 3



4

Forest Setting

4.1 Understanding the Forest Setting

Natural morphology of Sheki has a landscape with great visual impact and ecological support for the city. Its historical center is located in a valley surrounded by mountain forests on three sides.

All the forests that appear from the Reserve territory belong to one basin, and all the water that accumulates here flows into the Gurjana River. Total area of forests covering the city belongs to the Kish forestry, which is 13 thousand hectares. The part of this area belonging to the buffer zone is 67 hectares.

Mountain forest landscape surrounding the area is well beyond the Reserve and its buffer zone. When talking about the influence of forest areas on the historical part, it refers not only to the forest area in the buffer zone, but also to forests outside the buffer zone, mainly in the Gurjana basin.

In suburban forests, the altitude varies between 1000-1900 m and there is a clear vertical zonality. This means that the tree and plant composition of forests varies depending on the height. Oriental beech (Fagus orientalis), Oak (Quercus), Chestnut-leaved oak (Quercus castaneifolia) and European hornbeam (Carpinus betulus) are the main trees that form forests in the area. In addition, there are also valuable tree species such as Birch (Acer L.), Linden (Tilia), Ash-tree (Fraxinus) and Birch (Betula), Sweet Chestnut (Castanea Sativa Mill), Turkish Hazel (Corylos colorna), Ordinary Walnut (Juglans) in the area. These trees have been used to meet the daily living needs of the Sheki population, to develop artistry and Sheki culture, and are an exceptional proof of the harmony of the nature and culture of Sheki. At the same time, these trees have exceptional regulating services and aesthetic values.

State Tourism Agency of
the Republic of Azerbaijan

HISTORIC CENTER OF SHEKI
WITH THE KHAN'S PALACE

MAP OF THE SURROUNDING FOREST AREA OF THE SITE

Legend

- World Heritage Area
- Buffer Zone
- Forest area inside Buffer zone

Scale 1:3500

1 cm = 35 meters

0 65 130 260 390 520 Meters

Date: 2020

Map 6.

4.1.1 Ecosystem Services of the Forest Setting

Ecosystem services mean all ecosystem contributions we receive from the environment. Provision of people with various natural products, protection from natural hazards, moral and cultural values created by natural beauty are all related to ecosystem services. Water, valuable food products, recreation and tourism resources, all values associated with nature in human consciousness are components of the ecosystem services. Concepts of “ecosystem products and values“ or ”natural values“ are synonymous with the concept of “ecosystem services”.

Ecosystem services is the transformation of natural products and resources into useful products such as wood, water, spiritual values, protection from natural hazards.Ecosystem services are divided into Supply Services, Regulatory Services, Cultural Services and Support services (MA Assessment, 2005). The following table (Table 1) provides an overview of these services.

In addition, it would be appropriate to note some of the concepts that we classified in Sheki as non-use values of forests and natural heritage. Thus, in addition to the values of forests and plants located around the historical heritage zone, as well as springs, gardens and parks located within the heritage zone, non-use or moral values are very important. Although natural objects and their properties are not directly used, they contain in themselves any economic or spiritual value. These values can be attributed to the existence, aesthetic and ecological values.

Existence value. The existence value or the value of being is understood as the value of the existence of any type of valuable tree or animal. Valuable plane trees located in the historical part of the city of Sheki or forests in the buffer zone, valuable mammals (roe, deer, mountain goat, gemsa) are an example of the existence value of Sheki forests. We never use these beings directly, and simply because their existence gives us satisfaction. If we do not preserve this value, it can lead to the extinction of plants and animals.

Aesthetic value. Aesthetic value is a value derived from the beauty that natural landscapes and gardens give to surrounding areas. For example, if a historical building is surrounded by mountains covered with beautiful forests, or if there is an ancient garden near it, then the value of this historical building also increases. The mountain-forest landscape, which covers the historical part of Sheki can be held as an example. It is accepted that tourists coming to the area also enjoy visiting the mountain forests surrounding the city, climbing the Khan plateau and watching the area. This is due to the aesthetic appearance created by forests in the surrounding areas.

Ecological values. At the same time, it is worth noting the ecological values of both natural objects and natural heritage samples. Ecological values refer to the ecological functions carried by natural objects, that is, forests, trees, gardens. Forests and gardens in the historical heritage area are a habitat for many valuable species of animals and birds, and they have a very important ecological function. If there are no forests and gardens in the area, these birds and animals will not be in the area either. Figure 21 describes the information about all types of value that the natural heritage carries.

Supply services	Regulatory services	Cultural services	Support services
Building materials	Water quality protection (natural filtration and water purification)	Recreation and tourism	The role of protection against natural hazards (role in the protection of flood fertility), primary production
Food and medicines	Control of floods and erosion, buffering of the fight against flooding	Existence values	Relationships and ecosystem resilience between predatory and herbivorous animals
Natural products (mushrooms, plants, berries, honey)	Natural regulation of flow	Option values	
Irrigation and drinking water	Prevention of droughty	Recreation fishing	

Table 1. Eco-system services

4.1.1.2 Supply services in the area

Supply services are products that can be obtained from ecosystems, or a culture that is formed in relation to the natural resources of the community. Historically, everyday life in Sheki and the craft developed here have been closely related to the environment. Water, wood products, plants, fruits and berries, clay-soil, medicine plants, forest honey are the main products taken from forests and plateaus around the city. These products had a significant impact on the formation of craftsmanship in the city and at the same time seriously entered the domestic life of the local population.

The potential of Sheki as a tourist destination is closely related to its natural, ecological and cultural resources, including its flora and fauna and diversity of national traditions. Local life of Sheki city and whole Sheki district and the craft that has historically been formed here are closely connected with products from local nature. Natural products are widely used in everyday life, both in household and in crafts. Over time, this use is gradually decreasing, but it still maintains its level on a certain scale today.

Natural coloring has historically been one of the art fields in Sheki. When coloring naturally, the roots, stems and leaves of various plants are used. The main used plant in color production is the Cotinus (smoke tree). Leaves and steams of this plant are used in the production of red, golden and yellow colors. Beech, hornbeam, oak trees are widely used in the preparation of wood carving and wood products. Caraway, saffron, hazelnut and forest walnut are widely used in the preparation of various sweetmeats, Sheki halva, local cuisine dishes (Table 2).

Most of the restaurants serve only local dishes, and there are very few portions of imported products in the services.

Local name of plant	Scientific name	Use designation	Ways of use	Additional notes
Smoke tree (sumach)	Cotinus	Production of red, golden and yellow colors	Usage as color in silkworm breeding and carpet making	Its use gradually decreases
Mulberry	Morus (Mulberry)	Historically, to cocoons for silkworm breeding, and now in local kitchen	Bakmaz (boiled juice) and other mulberry products	Almost every yard in Sheki has mulberry trees.
Caraway	Carum Carvi	Preparation of food and sweets	Preparation of cookie, pilaf cooking	Currently is widely used
Hornbeam	Carpinus betulus	Preparation of dishes, wood carving	Leaves are used in the cooking of pip dolma	Currently is widely used
Chestnut	Catanea Sativa Mill	Preparation of food and sweets	It is used in the preparation of pilaf and piti	Currently is widely used
Hazelnut	Corulus Columa	Preparation of sweetmeats	It is widely used in various sweets	Currently is widely used
Beech	Fagus Orientalis	Wood carving works, construction work	Preparation of craft samples such as Shabaka works, in the construction of shelters	Its use gradually decreases
Linden	Tilia	Use of leaves, wood and flowers	Herbal tea, leaf dolma, Linden honey and wood products	Currently is widely used
Mountain saffron	Crocus speciosus Bieb	Preparation of dishes and sweetmeats	It is used in the preparation of pilaf and sweets, cookies and halva	Currently is widely used. It is one of the rare plants
Oak	Quercus	Wood carving works	Preparation of craft samples such as shabaka works (in shabaka and construction works)	Its use gradually decreases
Frangula	Frangula	Production of wood products	Production of various craft products	Its use gradually decreases

Table 2. The usage of trees and plants around Sheki in the local kitchen and daily life

Figure 83. Beech trees in the area and shabaka door made of Beech tree

Sheki environs is also known for its numerous medicinal plants. Some of local residents are engaged in the collection and drying of these medicinal plants. In general, food supply in the area is of great importance in the development of tourism in terms of the use and production of many products.

Rare plants

Along with ordinary forest trees, there are a lot of rare and valuable plants in the area. Some of these plants are very collected because they are very valuable and are subject to the threat of eradication. Part of them are widely used in local cuisine and crafts, like most forest plants. Information about some of these plants is described below.

Khari-bulbul (Ophrys caucasica): it is a species of plant in the Orchidaceae family. Among the people is known as Khari-bulbul flower. There are many cultural values and stories related with Khari-bulbul. According to the IUCN Red List, the category and status of the species belong to the category of “endangered plants”. It is also included in the Red Book of Azerbaijan. Ophrys is a perennial herbaceous plant. For its decorative significance, it is intensively collected by the population and gradually extirpated (Figure 84).

Mountain saffron (Crocus speciosus Bieb.): It is also called “beautiful saffron” among the people, it is a species of plant belonging to the Iridaceae family. According to the IUCN Red Book, it refers to the category of “plants, which are susceptible to extinction”. It is considered one of the rarest species of the territory and also of Azerbaijan. It is more common in forest, alpine and subalpine meadows. Its reserve is rapidly decreasing in recent decades. The cause is excessive collection, grazing, trampling and other anthropogenic factors. Saffron is used as a medicinal plant. At the same time, it is widely used in local cuisine (piti, pilaf, baking) (Figure 85).

Red tubule (Pyracantha coccinea): is naturally distributed in forests in the territory of Sheki region. It is a reddish-brown flowering plant with a height of up to 4 meters. It is a decorative plant. Fruits is an important feed base for birds. Reserves are very few. In recent years, it is rapidly disappearing due to the influence of human activity. From its fruit are prepared jam, confection and other foods.

Platanus orientalis (Khan Planes): In the historical city there are also up to 25 **Platanus orientalis**. All these trees are cultivated ones and their ages vary between 150-450. Local people also call these trees Khan Chinari. These trees were usually planted in private places, in front of mosques and palaces, and this is due to a special approach to these trees. Khan Chinari is characterized by local people as a symbol of purity, power and domination. Their protection is provided by the Ministry of Ecology and Natural Resources.

It is a broad umbrella tree with a height of 40-50 m, diameter of its trunk can reach 1,5-3 meters.

Plane tree in front of the Khan Palace was planted in 1530. Trunk of this tree is 7.3 meters, while height is 42 meters. Both plane trees here are included in the Red Book.

In addition to the courtyard of the Khan Palace, plane trees are located in the courtyard of the Caravanserai, Khan Mosque (2), Yukhari Bash Mosque (2), Imam Ali Mosque, Secondary School No. 4. The plane trees in the historical part of the city are given in the following table (Table 3), map (Map 7) and figure (Figure 87).

Khan tiles need regular maintenance. Trimming of plane trees in front of the Khan Palace was not carried out correctly. There are technical problems with trimming. Trimming and maintenance of tall trees has emerged as a serious issue because of the lack of large equipment inside the Fortress walls.

Figure 84. Ophrys caucasica (Khari-bulbul)

Figure 85. Mountain saffron

Figure 86. Cotinus

Khan tiles need regular maintenance. Trimming of plane trees in front of the Khan Palace was not carried out correctly. There are technical problems with trimming. Trimming and maintenance of tall trees has emerged as a serious issue because of the lack of large equipment inside the Fortress walls.

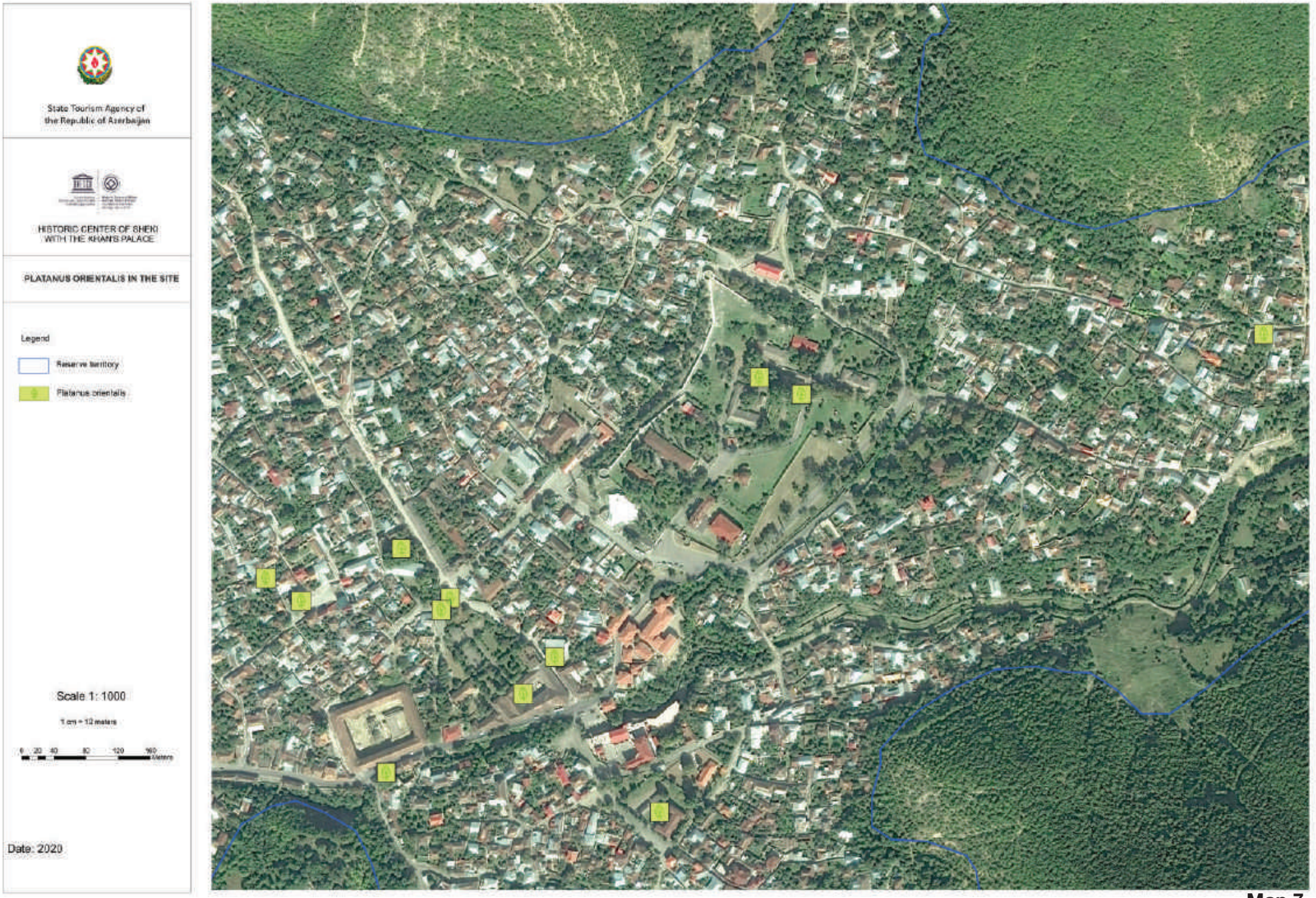
Sweet Chestnut (Castanea Sativa Mill)

It is widely distributed in forests around Sheki, as well as in the buffer zone. It is a broad-leaved tree with a height of up to 30-35 meters. Its fruits are widely used in local Sheki cuisine. It is one of the rare trees in Sheki. Currently, in the upper part of the city, in the area close to the district of Ganjalilar, there is a garden called the Chestnut garden. This is actually not a garden, but an area where chestnuts are naturally distributed. However, it gradually got a garden stand because of their protection and care by the Abbasids family famous in Sheki. The map of the garden is given below (Map 8).

Although the garden is well preserved by the local forest department in recent years, the garden is not cared for. Currently, there is a gradual drying of chestnut trees in the area (Figure 88). According to forest experts, the chestnut trees have been affected by fungal diseases. At present, it is recommended to carry out agrotechnical measures against the disease by specialists, although there is no preventive measure that can be fully effective for this disease. These preventive measures include the use of mechanical methods, cleaning of dried and decayed parts by infection, cleaning and dilution of damaged and dried branches. At the same time, in order for the tree to regenerate itself, fungicides must be splashed, or injections of stems should be carried out. Specialists recommend that this process be carried out in the winter months.

Location area of the Khan plane	Number	Note
In the courtyard of Juma Mosque	1	
On the room's edge	7	
In the courtyard of the Khan cemetery	1	
At the Khan Mosque	5	Trees must be trimmed
Lower Caravanserai	2	Both trees have dried up
Behind the old drug-store	1	
In the yard of the Imam Ali Mosque	1	
In the courtyard of School No. 4 (Guldasta sanctuary)	1	
Khan Palace	2	
Ahead of the Eye Hospital in the area of the Fortress walls	1	
Minaret (A.Hagverdiyev Street)	2	

Table 3. Plane trees in the area


State Tourism Agency of
the Republic of Azerbaijan
HISTORIC CENTER OF SHEKI
WITH THE KHAN'S PALACE
PLATANUS ORIENTALIS IN THE SITE
Legend
Reserve territory
Platanus orientalis
Scale 1: 1000
1 cm = 10 meters
0 20 40 80 120 160
Meters
Date: 2020

Map 7.

State Tourism Agency of
the Republic of Azerbaijan

HISTORIC CENTER OF SHEKI
WITH THE KHAN'S PALACE

MAP OF THE CHESTNUT AREA

Legend

Reserve territory

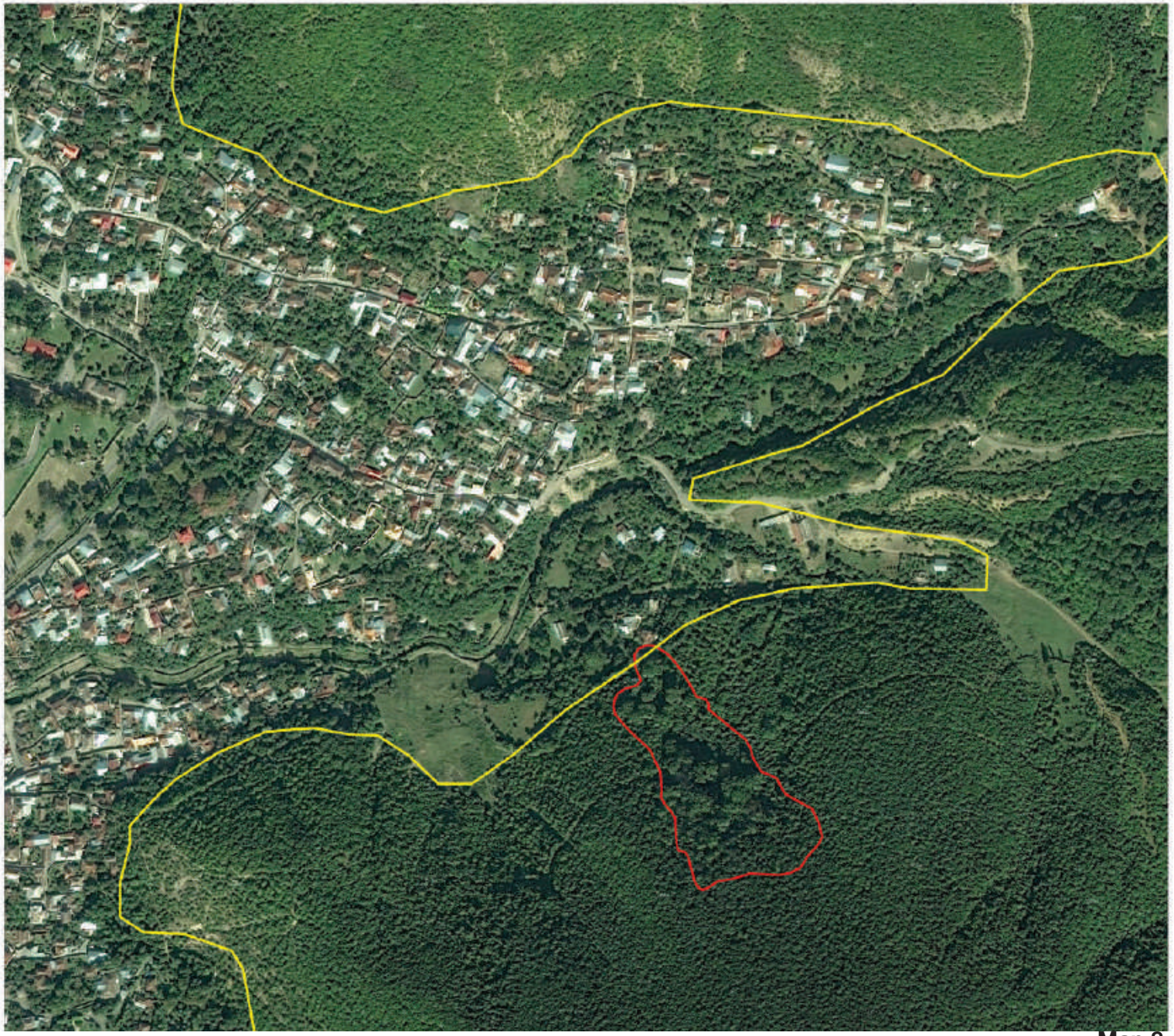
Chestnut area

Scale 1:1000

1 cm = 10 meters

0 30 60 120 180 240 Meters

Date: 2020



Map 8.

Figure 87. Khan Chinars (Plane trees) in the courtyard of the Khan Palace and Khan Mosque

Figure 88. Dried chestnut trees

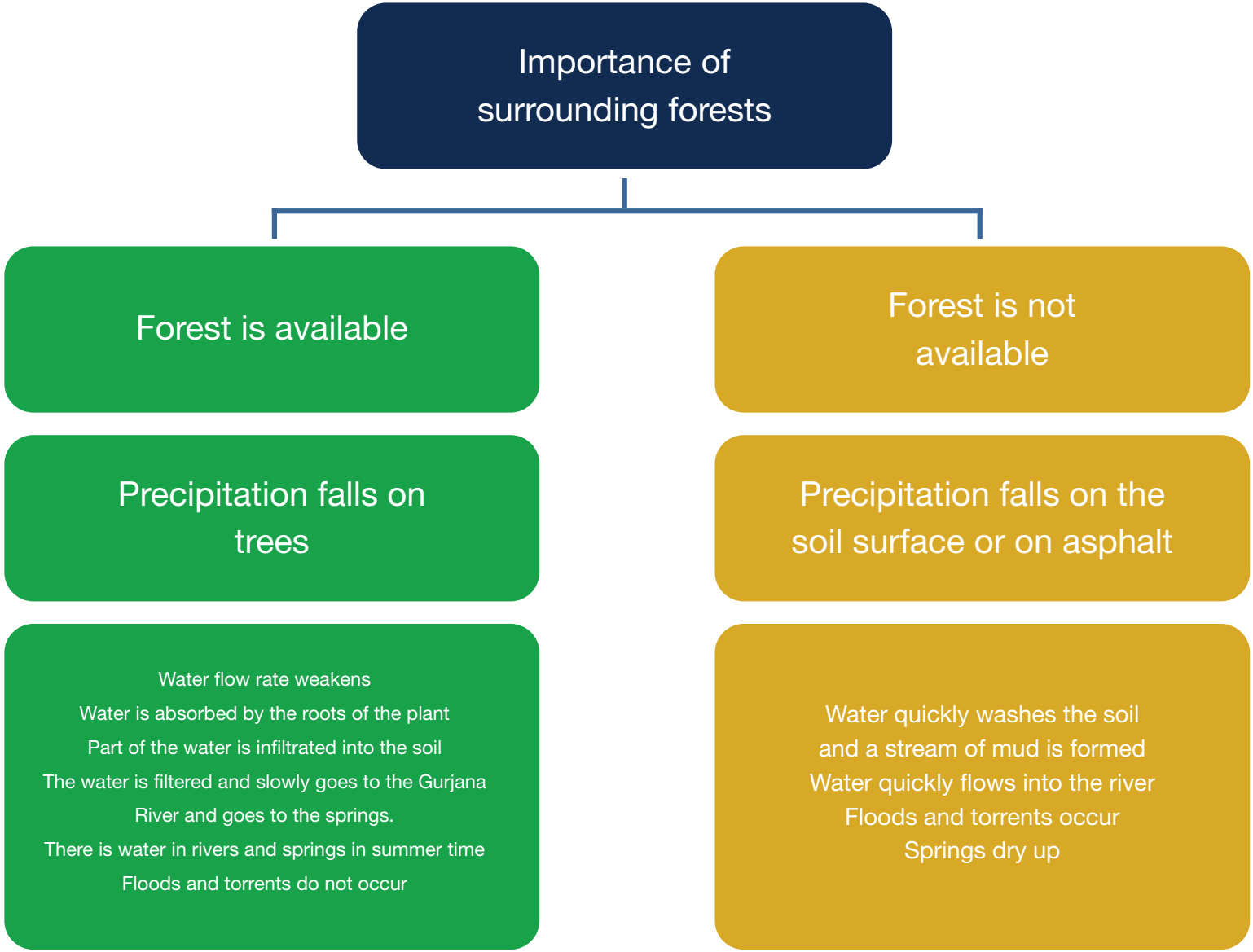
4.1.1.3 Regulatory Services and Environmental Values

Regulatory services relate to the natural regulation of ecosystem processes. Such regulations play an important role in protecting the local population from natural hazards and providing them with quality water. For example, natural filtration by plants and soil greatly improves the quality of water in rivers and plays a major role in providing the population with quality water. This regulation ultimately takes on the nature of supply. For example, The Crown (Tajlyg) water can be cited as an example.

It is especially worth noting the protective functions of forests in the area. Forests are also of great importance in the prevention of floods and torrents. Forests and dense vegetation reduce the risk of natural hazards in the area and significantly retain a larger percentage of precipitation in the basin, increasing the water retention rate. Forests reduce the speed of torrential rains in the soil, play a major role in the absorption of rainwater into the soil. Thus, the wooded area plays a major role in the prevention of floods, at the same time, it prevents the drying of rivers in arid periods. This shows how the forests have an important regulatory role in the area.

Sheki city is located in a rainy and mountainous area. The floods formed in the area depend heavily on the intensiveness of precipitation falling on the area, as well as the condition of vegetation of the area. Dense vegetation, that is, weakens the flow of surface in wooded areas, precipitation is captured by trees and infiltrated into the soil. If the trees are broken in the area, then precipitation turns into a surface stream and the probability of flooding increases.

At the same time, forests and shrubs in the area play an important role in the formation of many indirect values of use. This can be attributed mainly to clean air and clean water. Forests are the main sources of springs in the historical part. If there are no forests, these springs will also dry up, and in the future the city will lose its water resources. Forests and gardens located in and around the historic part are considered a source of fresh air both in the area and summer time. Forests also have an exceptional role in cooling air and temperature adjustment in summer time. The shades provided by the forests are considered a favorite for tourists as place of recreation and sightseeing.


Importance of surrounding forests
Forest is available
Forest is not available
Precipitation falls on trees
Precipitation falls on the soil surface or on asphalt
Water flow rate weakens
Water is absorbed by the roots of the plant
Part of the water is infiltrated into the soil
The water is filtered and slowly goes to the Gurjana River and goes to the springs.
There is water in rivers and springs in summer time
Floods and torrents do not occur
Water quickly washes the soil and a stream of mud is formed
Water quickly flows into the river
Floods and torrents occur
Springs dry up

4.1.1.4 Cultural services

Cultural benefits of ecosystem can be greater than other benefits. We noted above that the forests around the city do not play any less role in the development of tourism than historical monuments. These forests are considered as a source of water and food, as well as a source of raw material for many areas of production, as well as they have very important place of rest for the local population and visitors by regulating floods. In this regard, forest ecosystems have important functions in supporting the tourism and recreation - cool air, abundant oxygen, walking opportunities, ability to drink water from clean water sources, etc. These forests are at the same time considered a source of health for the local population and have an exceptional role in climate regulation.

Walking areas in the city and surrounding areas vary from the proximity of the historical part to 10-15 km. These attractions include both wooded areas and plateaus located in Subalpine and Alpine meadows. The most famous of the plateau is the Khan Plateau. There are several not very tall waterfalls on the trails (eg. Boiling waterfall). Fortress “Gələrsən Görərsən” (“You can see if you come”), located at an altitude of 1200 m above sea level, is also considered one of the places of interest by tourists.

Picnic places around the city are more often found in open glades. These picnics can be found both in the ancient districts of the city and around the Khan Plateau.

Along with picnics, there are also various places for camping in the area. However, neither the picnic areas nor the camping areas have the necessary infrastructure. Therefore, it is rarely used as camping, even if the area is used as a picnic place.

Walking trails are also mostly pathways where locals go for hunting and other purposes. There are also various historical roads and trails built from the mountains that have historically played an important role in the economic life of the city. Of these, the Silk Road, the Copper Road and the roads of nomadic cattle-breeders can be mentioned. Most of the trails start from different parts of the city and mainly lead to the direction of the Khan Plateau. However, going for a free walk on most of the trails is a rather difficult task. It is impossible to cross these paths and their usage by all sections of population here. At the moment, classification work has not been carried out on these trails, and tourists who come here cannot get an idea of what degree of difficulty they have. In the figure below (Map 9.), a map of the trails, potential picnics and camping places around Sheki is given. It is very important to note that at the moment there is almost no supply work is provided in these places.

A large number of picnics and recreation places in the suburban green zone are not “intended” picnic places. It is simply places chosen by tourists who come to the area. In such places as a rule, garbage piles and plastic waste are encountered. Tourists arriving on the territory do not comply with fire safety regulations and other environmental regulations. Therefore, a fundamentally good management plans of picnic places and walking trails should be prepared. Information about this work is provided in the Recommendations section.

State Tourism Agency of
the Republic of Azerbaijan

HISTORIC CENTER OF SHEKI
WITH THE KHAN'S PALACE

HIKING TRAILS, PICNIC AND CAMPING AREAS AROUND SHEKI CITY

Legend

- Hiking trials
- Picnic areas
- Camping

Scale 1:5500

1 cm = 55 meters

0 150 300 600 900 1,200 Meters

Date: 2020

Map 9.

4.1.1.5 Glades and Panoramic Heights

Mountain forest landscapes around the city provide a high-value aesthetic appearance. At present, many places around the city have picturesque panoramic views. Looking at both the city and the mountains, these places are the most popular areas where tourists essentially go. The sights include both the mountain-forest landscape of Sheki and the city landscape. Both the glades and trails are considered the main walking and picnic places for tourists.

Figure 89. Panorama from Madan plain to the city

State Tourism Agency of
the Republic of Azerbaijan

HISTORIC CENTER OF SHEKI
WITH THE KHAN'S PALACE

**MAP OF THE
SHEKİ SCENİC VİEWS**

Legend

Reserve territory

Scenic views

Scale 1: 1500

1 cm = 15 meters

0 30 60 120 180 240 Meters

Date: 2020

Map 11.

4.2. Conservation Analysis

As a result of unplanned human activity in the territory, natural values are rapidly decreasing in the area, and if this trend continues, the values of the natural heritage will rapidly decrease and disappear.

The main factor in increasing human activity is the high historical and natural value of the territory. Many businessmen build hotels, restaurants and various entertainment venues in places that look good from a picturesque and aesthetic point of view. This, in turn, gives an impetus to the development of non-sustainable tourism - more and more tourists come to the area, forest areas are gradually reduced, and as a result, the values of the environment are reduced. To prevent this trend, work should be carried out with the local ecology department, local municipality and Sheki EXCOM, and seizure of the territories should be completely prohibited. This is stated in details in the Discussions section.

Also, many picnic and recreation places in the suburban green zone are not necessary infrastructure picnic places. It is simply places chosen by tourists who come to the area. In such places, as a rule, garbage and plastic waste are found. Another problem is the excessive trampling of grass cover and very high fire risk in the area. Large-scale educational measures are needed to prevent these problems. Instructions on the installation of explanatory boards, training for employees in the tourism sector, installation and use of fire-fighting equipment along the paths and on the glades are considered important activities. In addition, there is a need to promote activities that limit the use of plastic containers by tourists. Therefore, there is a need to put information boards along the roads and on the glades that explain the use of plastic containers is harmful, as well as explanatory boards that show that it is important not to litter the area. The content of these boards should be prepared and coordinated with local authorities and specialists.

In addition, since oak, chestnut, beech, hornbeam trees are often used in the household and construction industry, their number is gradually reducing. In particular, in the last 20 years, oak and beech wood have been used around Sheki in the construction industry (parquet making, furniture industry), as well as beech and hornbeam trees as fuel resources, reducing their total number and distribution area. It is also widely used in the furniture layout, as the beech wood is solid. Therefore, their number is rapidly decreasing.

Valuable and rare plants are also collected very much, since some of them are very valuable, and they are in danger of eradication. Part of them is widely used in local cuisine and crafts, like most forest plants.

At the same time, population growth in recent years indicates that the new construction is expanding towards the forest area. In order to study the trend of changing forest landscapes in the area, it was found out from the analysis carried out on satellite images in 2004-2019 that in the last 16 years forest areas are gradually decreasing and this decrease was 47 hectares. Thus, the total area of the urbanized area around the historical part was 215 hectares in 2004 and 262 hectares in 2019 (Map 12).

This decline occurs mainly as a result of intensive urbanization around the historical part. Thus, the construction of houses, hotels, restaurants and cafes in the area is accelerated. One reason for this trend is population growth, another reason is the strengthening of business interests in the area related to the development of tourism. This, in turn, leads to a decrease in forest areas, pollution of water sources in the area with wastewater and the formation of increasingly solid waste.

Taking into account that the territory is located in a valley with a natural boundary surrounded by mountains on three sides, the threat of a new construction trend moving towards forests continues.

Assessment of existing impacts on natural heritage in the Site and Buffer Zone

Among the current impacts on the natural heritage, the strongest impacts are the effects on forestry areas around the city. Over the past 30 years, the impact on forests in the area has been multifaceted and intensive. It can be attributed to deforestation, as well as the construction of houses in wooded areas.In general, the impact of human activity on forest landscapes in the area can be grouped as follows:

Deforestation to solve the fuel problem: Since the beginning of the 90s, the energy problem in the country has dealt a serious blow to the suburban forests. In order to solve the heating problem as a result of gas cut to the houses, the inhabitants of the city went to the forests, made wood from precious trees and used it for heating the houses. Although the process of gasification of the city and surrounding villages is still ongoing, the impact of the long-term cuts on forests is still being felt.

Furniture production: Many interested parties have used it in the preparation of furniture, cutting valuable trees. At present, this process has also largely stopped. However, at the time of this process, the vast majority of old and very valuable trees in the area were out of order.

Urbanization: The area of city is growing at the expense of forests. This is an urbanization process that has been going on gradually for many years. The process is becoming more intensive. Currently, more and

State Tourism Agency of the Republic of Azerbaijan

HISTORIC CENTER OF SHEKI WITH THE KHAN'S PALACE

MAP OF THE DYNAMIC CHANGES OF THE URBANIZATION IN THE SITE

Legend

Urbanization boundary 2019

Urbanization boundary 2004

Scale 1: 2500

1 cm = 25 meters

0 60 120 240 360 480 Meters

Date: 2020

Map 12.

more forest areas are under construction in hotels and residential houses. As this process extends, the area of forests gradually decreases, earlier wooded areas replace residential houses and hotels. As we have already noted, the main factor driving this process is not only the natural growth of the population, but also the desire of individual people to own property in the territory.

Wood coal production: Production of wood coal has gained wide scope in recent years. In most cases, coal is extracted from the outside, but coal production is also found in the area. Despite the supply of electricity and gas, the population pays special attention to food and drinks made with coal. For example, instead of the boiling an electric kettle to set the samovar tea has literally taken the form of a tradition. At the same time, people think that the dishes cooked with coal have a special value, supposedly better quality. Although this process is not very obvious in the area, it is a fact that all catering facilities in the historical part use wood charcoal.

Grazing: Another danger to the natural heritage is the excess of keeping cattle in the area. This creates the problem of excessive grazing. As a result, valuable plants are threatened with extinction, creating permanent thinning in the area and increasing the risk of erosion on the soil layer. Thinning out is a complete failure of grass and vegetation as a result of prolonged grazing of any area. According to the relevant rules, a maximum of 8 heads of sheep and goats can be kept per hectare of pasture land. However, this rule is not followed and neither the municipality nor the members of the community have the necessary opportunities to monitor this activity. In general, any control over the number of sheep and cattle in the area is weak. As a result, the maintenance of more sheep and goats makes the soil excessively thinning, and the soil is eroded. Although animal husbandry is a favorable source of income, the long-term continuation of this has resulted in more losses. Thinning out has a long-term negative effect on vegetation, reduces the value of the soil and, in turn, increases the frequency of natural hazards that cause numerous problems for residents. The thinned land is eroded more quickly and loses its value forever. Thus, the desire of cattle-breeders to receive a high income in a short period of time is detrimental to employees in the other sector and residents of the city. The lack of restrictions on grazing and the lack of control in this area is one of the serious issues waiting for a solution.

Plant collection: The area is very rich in food and medicinal plants. However, control for the collection of these plants is implemented poorly. In many cases, excessive collection of nutrients and medicinal plants cause serious damage to the vegetation, causing a lot of valuable and rare plants to be completely extirpated. Currently, such plants as the Mountain saffron, Khari-bulbul, Turkish hazel are included in the Red Book of Azerbaijan and IUCN. Therefore, it is very important to deal with the local population in this regard.

Household waste: Another problem concerns the use of household waste. Over the past 30 years, the rate of use of plastic materials in the household has increased. The lack of waste management in rural areas of Azerbaijan leads to the direct disposal of plastic waste into the environment. Poor management of solid waste and wastewater systems in the area is alarming. Plastic waste growing in the environment not only creates a number of problems for wild animals and the environment, but also reduces the aesthetic value of nature. In recent years, it has become common to see solid waste in tourist places, river canals and roadside. In most cases, the problem of solid waste is caused by tourism companies and local population.

Spontaneous tourism: At the same time, the increasing flow of tourists to the territory and willful or spontaneous recreation and picnic areas is one of the main factors that damage the vegetation. The increase in the risk of fire on the trails and willful picnic areas, the destruction of grass cover, the scavenging of the area by tourists, the widespread of hunting in many cases and danger of eradication of many animals listed in the Red Book are of serious concern.

Willful management of private land areas: Another problem is that private landowners independently manage their land plots. For example, any activity in small yards and nearby areas, as well as in privatized sub-wooded areas, is not coordinated with the local tourism organization. This type of activities includes the construction of new yard areas, cutting down trees and so on.Information on adverse effects on natural vegetation, other natural objects in the area and ways out of this situation is given in Table 3. As can be seen from this table, human activity in the area has jeopardized all the values associated with the natural heritage.

4.3. Discussions and Recommendations

Parties interested in the use of forest cover and work that should be done with them

In the area there are different stakeholders with different needs and expectations. These parties are determined by their sources of income and the level of exposure. The reason for the high interest is the growing number of local residents and the expansion of urbanization, on the one hand, and on the other hand the various interests related to the development of tourism in the area. The large number of natural stakeholders essentially complicates the efficient use of natural resources and, finally, leads to the fact that at least a lot of plans are not effective and cause damage to users. For example, if cattle breeders suffer damage to forest cover, this reduces the attractiveness of the area and, as a result, damages the development of tourism. If small trees are perished by cattle, this also leads to the destruction of forests and the drying of springs, increasing the flood and torrent risks. As a result, the population suffers from thirst.

The stakeholders that are currently in the area can be divided into the following groups, and information about these stakeholders is provided below.

Figure 90. View from the upper part of the Fortress to the Sheki hills

Local Population

Local population should be attributed not only to the population in the historical part of the city and the areas close to it, but also to the entire urban population. Craftsmen, hotel owners, tenants, employees in the food and catering service, cattle breeders, medicinal and food plant collectors and employees in the tourism sector form separate interesting groups of the population. Therefore, it is very important to separately analyze the factors in which these interests collide and coincide.

The number of craftsmen belongs to the declining population group. The dependence of this group on natural resources has historically been very high. Plants, clay and trees were used during the preparation and production of color, kashi and shabaka. At the same time, a smaller group continues to work on the preparation of traditional wood products. Currently, their impact on the environment is not very strong, as the production areas of this type are gradually decreasing. However, the protection of this group is very important from the point of view of their relationship with local nature more proportionally, demonstrating the role of local nature in the development of historical crafts traditions.

Medicinal and food plant gatherers are forming relatively large groups. People in this group collect medicinal and food plants not only for their personal needs, but also for commercial purposes in surrounding areas. In recent decades, the growing strengthening of commercial interests in the area has threatened to eradicate many valuable plants. This process goes on for decades and unnoticed. This, in turn, leads to the fact that the valuable plant species in the area are extirpated, as a result, reduces the value of the environment. Therefore, intensive work should be carried out in order to organize protection and more efficient use of these plants together with the local administration of MENR (Regional Office of The Ministry Ecology and Natural Resources No. 7 and Sheki Forest Protection and Restoration Enterprise). First of all, it is necessary to consult about the plants in the area, develop a conservation plan for these plants. The legislative framework for the implementation of such measures is good enough, but the lack of necessary knowledge in the local population, low level of education hinders the solution of this problem. Therefore, it is very important to carry out educational activities in this area, for example, work with schools, to provide information about endangered plants in the areas where schools are located, to hold competitions and trainings, to bring these issues to a special agenda in extracurricular activities and to put special information boards in certain places.

On the other hand, serious measures should be taken to ban it. During the implementation of the ban measures, it is necessary to use the legal framework on which Environmental departments are based on.

Among the local people living in the historical heritage area, the number of those engaged in cattle-breeding is high. Breeding of goats and sheep in the area is gradually increasing. Thus, the level of use of meat products in the local kitchen is very high. However, as a result of the activity of those engaged in cattle breeding, there is very serious damage to vegetation on the territory. This not only reduces the vegetation cover, but also increases the risk of erosion and flooding in the area. Therefore, in these areas, which are important in terms of tourism, strict control over the dealing with cattle breeding should be organized, in one direction, multilateral relations with local ecology, forestry and agriculture departments should be created.

Other population groups working in the tourism sector are interested in protecting the tourism potential of the area and increasing this potential due to natural heritage resources. Therefore, it is very important to involve this part of the population in the protection of natural heritage.

Transition to the principle of sustainable ecosystem management requires active participation of the local population. In this regard, it would be important to conduct awareness campaigns and trainings to explain to the local population the values of the environment, the sustainable and their longer-term use.

Information about population groups and their interests is given in Table 4.

Stakeholders	Interests
Cattle-breeders	It is a traditional group of mountainous places. They are mainly interested in using the area as a pasture in the summer months. Animals need land with good vegetation. A wide range of livestock activities cause serious damage to vegetation.
Bee-keepers	It is a kind of traditional deal in mountainous regions. Bee-keeping in the area is not as widespread as animal husbandry. For bee-keeping activity, it is important to have a rich dense vegetation. It has a fairly high potential in terms of durability. It is well integrated with ecotourism. It can also be successfully integrated into gardening.
Gardeners	Gardening has a fairly large potential in terms of sustainability. It is important activity in the area. However, gardeners should plant well-sold varieties of fruit. It is possible to effectively integrate gardening with bee-keeping and ecotourism. The establishment of fruit processing enterprises in municipalities can give an impetus to the development of gardening.
Wild fruit and medicinal herb gatherers	The collection of wild fruits and medicinal herbs has great potential for the local population to engage. Wild mountain berries and fruits are highly appreciated by tourists in local markets. Medicinal herbs are sold well. Wild fruit and medicinal herb gatherers are interested in the preservation of vegetation, wild fruit trees and shrubs. This activity can be successfully integrated with bee-keeping, gardening and ecotourism.
Business groups engaged in tourism activities	Business groups engaged in tourism activities should be interested in preserving the natural heritage. As noted, there are great opportunities for ecotourism in the area. The potential of ecotourism in the territory should be carefully assessed and developed ecotourism, so that its economic contribution to the territory is increased, as a result, gradually replacing such activities as animal husbandry with ecotourism activities.
Employees of food and catering services	Those included in this group work in the food and restaurant business. Although they do not have direct links with nature, they buy different goods and products from other groups of people. It is a very important group in terms of ecotourism. However, many restaurants belong to the group of negative environmental impact in terms of pollution of the area.
Craftsmen	They are engaged in painting, pottery, carpentry, carving on wood, etc. Currently, their impact on the environment is not very strong, as the production areas of this type are gradually decreasing. However, the protection of this group is very important from the point of view of their relationship with local nature, more proportionate organization, demonstration of the role of local nature in the development of historical crafts traditions and ecotourism.

Table 4. Stakeholders and their interests

The Ministry of Ecology and Natural Resources (MENR)

The Ministry of Ecology and Natural Resources (MENR) is the central executive authority implementing the state policy in the field of environmental protection, nature conservation, efficient use and restoration of surface and underground water resources, observation and forecasting. The MENR has several offices in the area. The Regional Ecology and Natural Resources Department No. 7 of the Ministry operates in Sheki. At the same time, the Local Department of the Forest Development Service operates in the area. The department is engaged in protection, management of forests and planting of new forest areas in Sheki region. Territory around Sheki is subject to the Kish forestry. The protection of forest cover, improvement and restoration of forest care work around the World Heritage Site stipulates bilateral special cooperation with the MENR.

The specific subjects of the bilateral discussions to be held with the MENR in this regard should be as follows:

1) Problems of ecotourism development should be discussed with the MENR. Therefore, consultation on ecotourism should be carried out with the above-mentioned ministry and a new plan should be developed for the development of ecotourism in a coordinated manner.

2) Spontaneous tourism activities in the territory cause serious damage to the natural values of the territory. Therefore, it is very important to move to the organized tourism in parts of the territory with natural monuments. The establishment of tourism infrastructure and work in this area should be ready and managed jointly with the participation of the State Tourism Agency. In this regard, it is recommended to develop a bilateral action plan between the STA and the MENR. This action plan will enable both parties to know what they will do concretely where there are common interests and where the interests intersect. In the action plan, each action should be clearly indicated by the time period. The same action plan can be worked out with the Ministry of Emergency Situations (MES). Action plan should include trail building around the reserve area in forest, installatin of sign boards as well as other necessary infrastructure for sustainable tourism development.

3) Taking into account the protective and providing function of forests around the city, the establishment of forests in the thinned out areas, bilateral cooperation for the protection of historical gardens in the area, the coordination of picnic areas, hiking trails and camping places, the preparation of various data sheets on the nature of the area should be carried out together with the MENR. Walking trails should be classified and information about the examples of nature (eg. waterfalls, springs, other water sources) should be given.

4) Bilateral cooperation for the protection of Chestnut Garden in the area and Mustafa Bey garden, the development of a Special Action Plan for the protection of valuable plant species (eg. “Beautiful saffron”) that can be attributed to natural heritage can also be carried out jointly with the MENR. In order to prevent over-grazing of the Khan Plateau and forestlands, appropriate measures should be taken together with the MENR to stop the production of wood coal and over-grazing, to lay new greenery and other measures. Also, in order to regularly organize the care of Khan planes, the STA and MENR should cooperate in bilateral relations.

5) At the same time, taking into account the natural restrictions of land and the attractiveness of the surrounding areas for tourism and accommodation, bilateral discussions should be held with the MENR in order to prevent the growth of houses and tourist facilities (mainly hotels and residences) towards forest areas in recent years. To prevent this, work should be carried out with the MENR, the local municipal authority and the Sheki EXCOM, the seizure of these territories should be completely prohibited.

6) And it is recommended to create the Museum of Nature together with the MENR in one of the buildings not used in the historical city area. In the Museum of Nature, information about valuable animal and plant species belonging to natural heritage, natural history, exhibits showing the impact of natural heritage on local culture can be displayed.

“Azersu” OJSC

“Azersu” Open Joint-Stock Company (OJSC) is an organization that provides the population with drinking (fresh) water in a centralized manner and provides sewerage services. “Azersu” OJSC organizes the gaining of water from water sources, technical cleaning and its delivery to consumers. Local administration of “Azersu” OJSC operates in Sheki district. The local administration controls all water sources, water-pipes and sewer lines. In recent years, “Azersu” OJSC has built new water lines and built a sewerage system in the historical part of the city named “Yukhari Bash”. But at this time, part of the historical water pipes was seriously damaged and completely out of order. Currently, there is a need for serious cooperation with “Azersu” OJSC for the restoration of these waterways. At the same time, there is a problem with the installation of meters in houses of the residents who receive free water from the Crown water pipeline, which originates from parts close to the Mustafa Bey Garden. Local residents objected to this because they protected the water pipeline themselves. These historic water lines reflecting the history of Sheki, as well as a very good example of direct use of ecosystems, should be restored and free springs should be placed on the streets in certain areas.

In general, cooperation with “Azersu” OJSC should be carried out at the following points.

To restore the historical waterway from the water sources at the foot of the Khan Plateau to the Sheki Khan Palace,

it is necessary to conduct necessary consultations. It should be noted that until the recent years, this water pipeline was operating and supplying water to the neighborhoods in the upper part of Sheki. However, during the construction of the sewerage network in the territory by ”Azersu” OJSC, this waterway was seriously damaged.

It is also necessary to put free water springs in the area and sections with walking paths and hang boards on the water source for tourists.
The table below lists the main recommendations and the list of parties to cooperate in the conservation of forest cover and the action plan:

Sheki City Municipality and Sheki City Executive Commitee (EXCOM)

Sheki City Municipality controls all land owned by the municipality and at the same time is in close contact with the local population. State water economy facilities of local importance located on municipal lands are the property of municipalities. The operation and management of these facilities is regulated by the Law of the Republic of Azerbaijan On Water Economy of Municipalities. According to this Law, municipalities can establish water management enterprises to operate water management facilities that are in balance. Cleaning of irrigation systems in the balance of municipalities, maintenance of collector-drainage networks is also within the authority of municipalities. In addition, municipalities can organize the management of water facilities owned and develop plans for various measures to ensure the protection of water facilities. For example, municipalities can set water intake points in water facilities, establish special prohibition zones and create tree lanes that protect water.

At the same time, it is proposed to include the local municipality and Sheki EXCOM in the action plan to be prepared by the Ministry of Ecology and Natural Resources and to implement it trilaterally.

Measure	Main partners and stakeholders	Activities
Management of forests	MENR, local municipality and Sheki EXCOM, local population	Restoration of forests, planting of new trees, trimming of old trees
Restoration of Mustafa Bey Garden	MENR, EXCOM, owner of the garden	Care for trees, planting new trees, putting information boards and historical photos, restoration of Mustafa Bey’s house
Restoration of Chestnut Garden	MENR, EXCOM, owner of the garden, local population	Trimming of dried trees, thinning out of forest, improvement of walking path, laying of springs and seats
Selection of walking paths and creation of necessary infrastructure	MENR, EXCOM	Classification of trails by difficulty, putting information boards on trails, preparation of interesting natural heritage examples ((eg. waterfalls, springs, other water sources), information about wild animals and plants)
Improvement of proposed picnic and camping areas	MENR, EXCOM	Modernization of picnic areas, putting garbage bins, construction of springs as much as possible. Implementation of strict prohibitions on the organization of picnics in unspecified places
Creation of the Museum of Nature in Sheki	MENR, EXCOM	Determination of exhibits to be displayed in the museum, development of Sheki craft
Education of population	Ministry of Education, EXCOM, city municipality, schools	Organization of trainings on the nature of Sheki, environmental management problems. Preparation of reading materials, implementation of various activities in schools
Improving waste management mechanism	MENR, EXCOM	Suspension of use of plastic containers, preparation of waste management mechanism, training and education
Creation of springs in historical neighborhoods	“Azersu” OJSC	Restoration of historical waterways to the Yukhari Bash area and construction of free springs here

Table 5. lists the main recommendations and the list of parties to cooperate in the conservation of forest cover and the action plan:

Measure	Main partners and stakeholders	Activities
Consultations on protection of historical underground waterways (kahrizs) and restoration of collapsed waterways	“Azersu” OJSC, Sheki EXCOM	Restoration of water pipelines to the Khan Palace and the historical area
Improvement of Khan Plateau. Placement of information boards here	MENR, MES, local municipality and EXCOM	Improvement of trails leading to the Khan Plateau, modernization of picnic areas, provision of use of only agreed picnic areas
Releasing of various information pages on valuable plant and animal species in the area	MENR	Preparation and distribution of separate information boards, as well as placement on roads and trails
Suspension or regulation of production of wood coal	MENR	Creation of new sources of income for those engaged in the production of wood coal, change of directions of engagement, control over the sale of coal
Suspension of over-grazing	MENR, local population, municipality	Income diversification, awareness-raising
Reduction of collection of medicinal and food plants	MENR, EXCOM	Awareness-raising, income diversification, strict control measures
Taking steps that will contribute to the development of agrotourism. Creation of local food market.	Ministry of Agriculture, EXCOM	Income diversification

Table 5. (continue) lists the main recommendations and the list of parties to cooperate in the conservation of forest cover and the action plan:

Current situation	Outcome	Influence on Value of Natural Heritage	Recommendations
Construction of houses, restaurants and hotels continues	Area of forest cover is gradually decreasing	↓	Strict control over building permits, improvement of relevant legislation
Flow of tourists to the buffer zone is getting	Damage to vegetation is caused by tourists	↓	Laying out green walking trails and camping places. Providing the transition to ecological tourism
Collection of wild fruits and medicinal plants increases	Increased production of wild fruits and medicinal plants destroys vegetation cover	↓	Hanging information boards about valuable plants and their importance, conducting awareness campaigns
Solid waste management system is poor	The area is contaminated with plastic waste	↓	Suspension of sale of plastic containers and bags in the area, conduction of incentive campaigns on reduction of the use of plastic containers
Camping and walking places are determined arbitrarily	Vegetation is destroyed, the land is dumped with waste	↓	Determination of special camping and walking routes, involvement of local municipality in management
Private landowners independently manage their land plots	Private garden areas are occupied by buildings	↓	To determine specific rules for the protection and management of construction of gardens on private land in the historical heritage and buffer zone. It is important to improve the legislative framework and make effective use of existing legislation
Arbitrariness in catering	Solid and liquid waste increases in the area	↓	Involvement of catering entrepreneurs in education campaigns, effective implementation of fines
Education of the population is low	Preservation of natural and cultural heritage is not sustainable.	↓	Involvement of local people in participatory management, creation of sustainable sources of income. Systematic education of population related to natural heritage

Table 6. Summarizes the existing threats to the natural heritage in the historical heritage area and buffer zone and ways to eliminate these threats.

5 Visual Integrity

5.1 Understanding of Visual Integrity

The current historic center of Sheki is reconstructed after the mud flood of 1772, preserved visual integrity of the historic urban landscape, protected by mountain slopes, and composes a city garden. The buildings have a plot with a garden, which was reflected in the general character of the town planning. Gardens form a coherent and distinctive visual integrity of the historic urban landscape. Monumental architectures absorb the basic elements of traditional architecture and enhance its scale and decorative aspects. The most streets are paved with stones, the fences are built with the river stone, and most of the roofs are covered with traditional tiled roofs. When viewing the town from its highest points, it is impossible to distinguish the public buildings located close to each other as they are all covered with a pitched tiled clay roof. The availability of mosques can be seen only by minarets jutting through the thickness of the tile surfaces.

Protecting aesthetic aspects represented by the site is central to the idea of visual integrity. Associated values of the site that is mountainous forest setting and surrounding greenery, is very important for the perception of Sheki. Thus, it is not enough to focus on the conservation of the buildings and town structure but rather take into consideration a vaster territorial context in the conservation of the historic town.

Roofs are a dominant visual element of the landscape of Sheki with its distinctive shape and material which characterizes the urban landscape within the surrounding of the natural landscape. Historical materials are mainly traditional tile shingles which still constitute the majority in the roofs of traditional houses.

Social and cultural practices and values, economic processes and the intangible dimensions of the heritage as related to diversity and identity in the historic town include the notion of visual integrity. Craftsmanship and sericulture had made up principle economy of Sheki in the 19th century. Today, you can see crafts working in their workshops and selling their products along the main trade street as it was in the past.

5.2. Conservation Analysis

Inappropriate buildings developed in recent years have damaged the visual integrity of the historical town and its surrounding green hills. Tourism impact should be underlined in this sense. The issue is discussed separately in Chapter 8.

The visual integrity of the roofs has been decaying in recent years, too. When building new houses or repairing the roofs are often replaced with modern roofing materials, including light grey aluminium sheets, asbestos-cement roofing, and bright red modern industrial plates, which come into conflict with traditional harmony historical character. Local people prefer these materials because, first of all, they are relatively cheap and more sustainable, and secondly, the traditional tiled roofs require time-consuming and frequent repairs. It is also more vulnerable to the rain and windy weathers comparing with the modern materials. Another big issue in this regard is that unfortunately, there is no roof tile production in Azerbaijan because of low demand. Till now, the restoration works have been carried out with the roof tiles collected from the old houses in villages and districts of Sheki.

However, one can view that traditional ceramic tiles are still present in many buildings (77.7% of total building stock). The percentage of roofs that have been contaminated with modern materials, which contrast with the traditional features, makes up 14.8, whereas 5.7 per cent of houses have roofs made of tin plates and 1.8% – of fibrolite.

Issues related to forest protection that also raise an issue about visual integrity. The issues regarding the conservation of forest setting, such as deforestation due to anthropogenic impacts (grazing, cutting trees for construction and coal-making purposes, etc.) poses threat in sustaining visual integrity of the site. This issue is discussed in the Chapter 4.
The intangible heritage conservation issues and recommendations are discussed in Chapter 6.

Figure 91. View from the upper part of the Fortress to the Sheki hills

State Tourism Agency of the Republic of Azerbaijan

HISTORIC CENTER OF SHEKI WITH THE KHAN'S PALACE

The map has been updated on the database of the map prepared by "Azerberpa" SRPI in 2015

ANALYSIS OF THE CURRENT SITUATION

ROOFING MATERIALS

Legenda

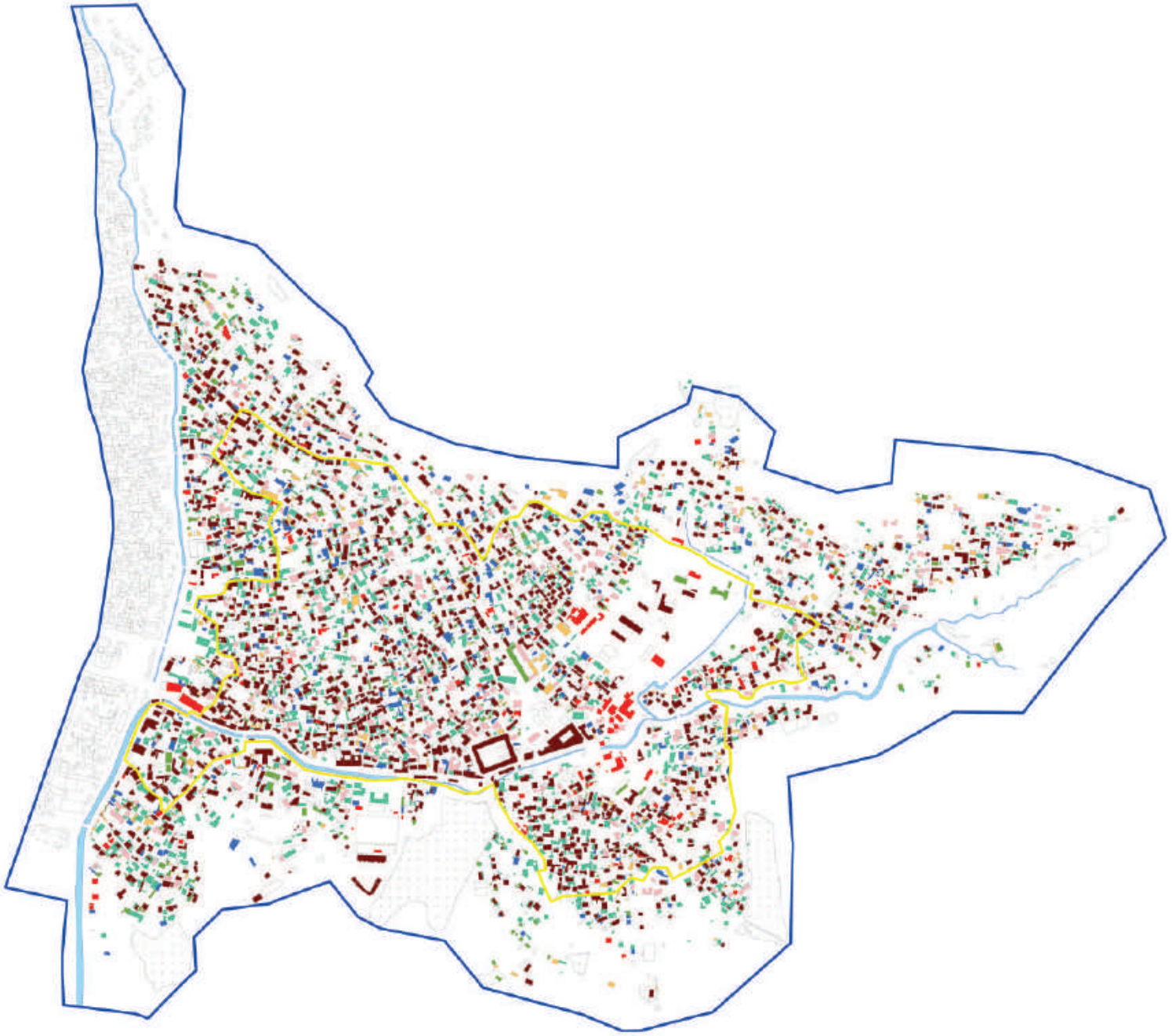
- Tradition tiles
- Partially traditional tile
- Red corrugated iron sheets
- Metal sheet
- Rusty metal sheet
- Galvanized metal sheet
- Slates

Scale 1:2500

1 cm = 25 meters

0 65 130 260 390 520 Meters

Date: 2020



Map 13.

5.3. Discussions and recommendations

The historically developed urban structure of Sheki should be adopted together with the natural environment. Therefore, it should be considered in the overall context to make a place sustainable from a cultural and environmental point of view in the long term.

The town's location in a mountainous terrain poses special requirements concerning the protection of the total landscape of the town. The town landscape, the forested area is included into the zone of landscape regulation. Intensive development of tourism creates risks in landscape protection. New buildings on the territory and outskirts of the town should not infringe the existing views of surroundings of the town, stand out from the overall structure of the gradual merger of the town with nature. Artificial deforestation of the areas included the buffer zone is not allowed. On the hillside and panoramic spots, the prescriptions are the same as those already mentioned for the urban settlement, such as the control of the height of the buildings, the visual impact, the overbuilding. All these aspects must be regulated through the realization of a landscape plan.

Growing tourism can have a negative impact on social fundaments of the historic town. Hence, the historic town is attractive for the tourism industry as a famous place, therefore local people can be subject to gentrification if no actions can be taken against. Keeping inhabitants in the town and investing in those economic activities that do not betray its history is central to the conservation of visual integrity. Therefore, tourism activities should be controlled by strategically evolving them to community tourism as well as thriving intangible heritage in the site.

Protecting and reviving cultural traditions and spirit of the places (Kimga places, abandoned factories and other buildings, etc.) are important to the identity of the town. Kimga places have retained its spirits as traditional places for socializing but are fragile to the process of urbanization and gentrification. These issues are discussed in Chapter 2 of the conservation plan as well as in the Urban Regeneration Plan.

Despite some successful attempts have been taken, additional policies and strategies are required to address the issues. Prohibition of use of materials which do not comply with the historical look of the town and a pilot program for renovation of existing contrast roofs is in the list of the upcoming planned works. The traditional roofing tile is required because it will provide tonality of the color which is harmonized with the total environment.

Due to mild climate, there are several auxiliary facilities on the territory of the site and they play an important role in the perception of the town streets since they are often built near external gates and face the street. Coverage of these buildings should also meet the traditional buildings of the historical town. In exceptional cases, tile lining should be replaced with metal shingles the color of which corresponds to the color of historic tiles. It is not allowed to install plastic or metal water tanks at the auxiliary facilities. For water collection, it is allowed to use traditional swimming pools in the yard or water tanks which do not project outward and do not violate perception of the street.

Production of the ceramic tiles is possible in Sheki Brick Factory opened in Sheki in 2006. There is a plan to initiate production of the tile roof in Sheki Brick Factory with the involvement of other state organization (such as Ministry of Economy) that intends to cover up the costs of the company in terms of technical needs and to incentivise the production to start.

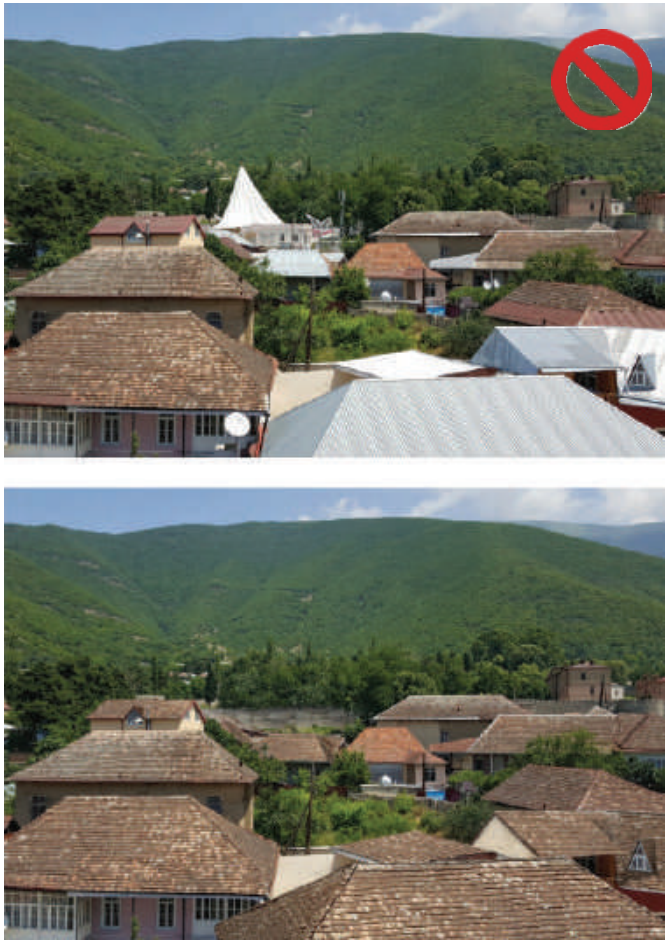


Figure 92. Rendering for simulations to mitigate the visual impact on the core zone of the Site

Figure 93: The layout of the village, with historical photo of XX century from a distant point of view, has been preserved on the first comparison (on top); but from a nearest point of view, in the second comparison (photos above), the scale and shape of the buildings has changed the traditional landscape.

6 Intangible Heritage

6.1. Introduction

Located on Great Silk Road, Sheki was always one of the important cultural and trading hubs in the whole Caucasus region. Geo-climatic location of this oldest city of Azerbaijan with beautiful natural surroundings, plenty of different types of raw materials- clay, timber, river stone, etc. influenced the development of a wide range of crafts which techniques and knowledge were preserved and transmitted from forbears to nowadays. The intangible heritage of Sheki can be divided into two thematic areas for study – Craftsmanship, and Sericulture that have had direct and indirect impacts on the forming of Outstanding Universal Values of the site since it was born in the 18th century.

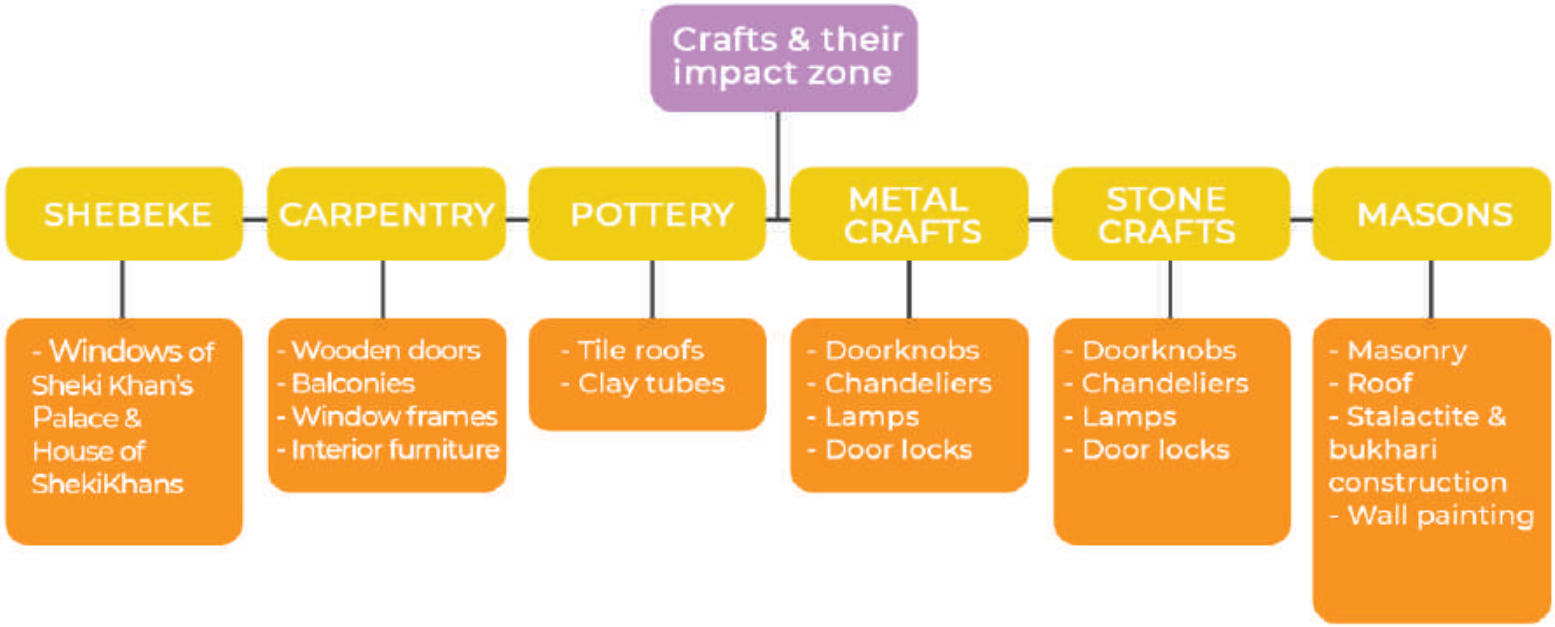
As it is mentioned in Chapter 4, the main source of raw materials for these crafts come from the surrounding nature of Sheki, rich in all the necessary materials. All materials that craft products are made from are available in the surrounding forest of Sheki. Among the crafts, materials for making shebeke (fretwork) and other carpentry products, large clay quarries determined the development of pottery, bukhari mastership, as well as natural dyes which are obtained by special processing from various types trees, herbs and used in decoration, wall painting, kelaghayi art, embroidery etc., can be mentioned.

As Sheki has been the city of masters and crafts since 19th century, craft products were not only produced for local needs, but largely for export purposes. The products made by Sheki craftsmen were of the best quality, and they were always in high demand outside of Azerbaijan. At the same time, since Sheki was a center of silk trade, merchants coming from different parts of the world created large demand for flourishing of craft products for export.

The Sheki craftsmen were also sellers, meaning that they had point of sales in the trade street. Foreign merchants and workers continuously came to Sheki to trade and work. This mutual interaction of cultures between tradesmen and craftsmen influenced the aesthetic forms of crafts. This important cultural interchange nuance influenced the intangible heritage of Sheki.
It should be noted that this process is still ongoing. Sheki craftsmen are still seller and they transform and commercialize their products to the needs of the tourists as well as supplying local needs. The tourism has also indirect impact on creating demand for some crafts. For example, traditional samovar tea service is offered to the tourists in Sheki. The damaged samovars are repaired by local black smith masters. If the demand to samovar tea is high, there will be more job for blacksmith masters, thus the incentive will be high work in this area. Hence, tourism has played positive role to sustain craftsmanship in the historic town along with supplying local needs.

In Sheki, artisans of a specific profession tended to live in the same part of the town, and therefore each part of Sheki (mahallas) is named for the profession of its inhabitants. For instance, “Duluslar” (Pottery) mahalla, or “Nalbəndlər” (Horseshoe makers) mahalla are some of the famous ones. It is important to note here that exactly these clusters of artisans had a great impact on urban formation and visual appearance of the city. A large number of bazaars, Akhundov Avenue, as well as the first floors of the central caravanserais – Ashagi (Lower) and Yukhari (Upper) filled with the various workshops and selling points are the vivid examples of how Sheki looked like. Handicraft workshops determined not only how the streets of the city looked, but in general, crafts themselves were and are key elements in the formation of the traditional architecture of Sheki.

Diagram showing the connection of crafts with traditional architecture of Sheki



This diagram explains how Sheki crafts directly and indirectly affect the OUV attributes of the Site such as urban form, traditional architecture, interior design of wealthy merchant houses and so on. That is why the preservation and further sustainable development of the crafts is the very first step to be taken in the near future.

6.2. Main Types of Craft in Sheki

Shebeke

Shebeke (fretwork) is a type of decorative-applied art made of small pieces of colored glass to stacked wooden parts with protrusions and indentations. Shebeke is an exceptional testimony of Sheki's intangible cultural heritage, which has survived since the city was settled in the 18th century, shows the connection of Sheki khanate to the outside world. Initially, shebeke were made of stone in Azerbaijan, which were found during archeological excavations dating back to the IX-XI centuries. In later times, this art was applied on local wood such as plane, oak, walnut, beech and colored glass brought from Venice. Shebeke art is used to decorate doors, windows, stair railings, and items such as curtains, lamps, chests, and cupboards. The most impressive buildings of Sheki – Sheki Khans Palace and House of Sheki Khans are a bright example of shebeke use. The skill is still alive, and many locals prefer this decorative windows as it is considered part of their cultural identity in Sheki.

Current situation

This craftship skill continues to develop in Sheki by 10-15 artisans despite of declining demand like many other traditional types of craft. Most of the shebeke workshops need restauration and renovation. For example, shebeke workshop of Tofig Rasulov located in the Castle is one of the main workshops where tourists can observe the process of shebeke making on site, but the conditions of the work space needs renovation for more convinient work process and tourist visit.

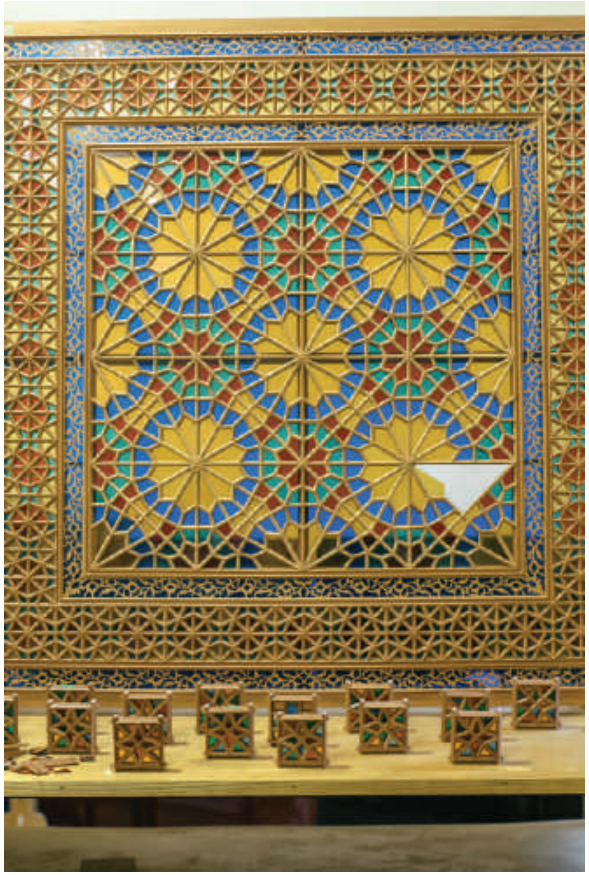


Figure 94. Rendering for simulations to mitigate the visual impact on the core zone of the Site

Carpentry

The woodwork was one of the most widespread crafts in Sheki. Decorations on the wooden surface were made mainly via three techniques: carving, shebeke, and metal carving. The most common of these is carving. At that time, the most beautiful examples of woodcarving were found on doors, windows, railings, wooden columns, and several household items. These carved doors were decorated with floral and geometric patterns and various inscriptions and symbolic paintings. At the beginning of the 19th century, there were 24 carpenters in Sheki. Wood was also used to make different household items. Sheki was one of the central cities of this field of craft. Even the fact that Mohammad Hasankhan's "Dəstür-üləməl" *(Dastur-ulemal)* law contains an article on taxation of this field of art indicates that this field was widespread in Sheki.

Current situation

At this time, this craft is being continued by craftsmen working in various directions of this field. Some craftsmen work only by hand, and there are those who have acquired new technologies and thus, can fulfill more complex orders in a short time. The masters working manually are mostly tourist oriented and they are engaged to production of smale-scale items, such as souvenirs. The reason is that industrialization affected aslo this spehere and nowadays there is a considerable number of carpentry workshops that carry out more large-scale orders with its fast technological base. Also a plenty of new products replace the need for wooden handmade items.

Dower chest craft

Dower chest making is one of the widespread crafts that historically developed in Azerbaijan. Sheki, as the craftsman city, is also famous for its trunk artisans. During the wedding ceremonies, the dower chest is traditionally used for carrying valuable items as a dowry of the bride.

Current situation

At the moment, several artisans are continuing this craft. Most of them have a workshop at the "Köhnə bazar" *(Old Bazar)* where they also sell the products. The number of orders is not so many, mostly locals who buy large chests. Considering this and modern requirements, the craftsmen also adapt their skills by making small size furniture, such as washbasins, phone cabinets, shoe cabinets, etc.

Figure 95: Rendering for simulations to mitigate the visual impact on the core zone of the Site

Copper smiting

The heyday of this craft in Azerbaijan falls in the 18th century. Travelers from around the world note that in Tabriz, Ganja, Sheki, Shusha, Shamakhi, Baku in these centuries, there was a particular coppersmith street, where copper-decorated, original-shaped utensils were made. At the beginning of the 19th century, there were two coppersmith workshops in Sheki. Essential and inseparable from copper smiting was always tinsmith craft. Tin smiting, which formerly used to be mainly mobile type, began to settle during the khanate period. At that time, along with some mobile tinsmiths, there were also 14 tinsmith workshops in Sheki.

Current situation

Given the specificity of this craft compared to others, it should be noted that it is difficult for artisans to adapt their skills to modern needs. Considering this and the large industrialization of many areas in recent years,the development of coppersmithing has declined significantly. Replacement, especially of household utensils with modern ones, is strongly affecting the number of orders.

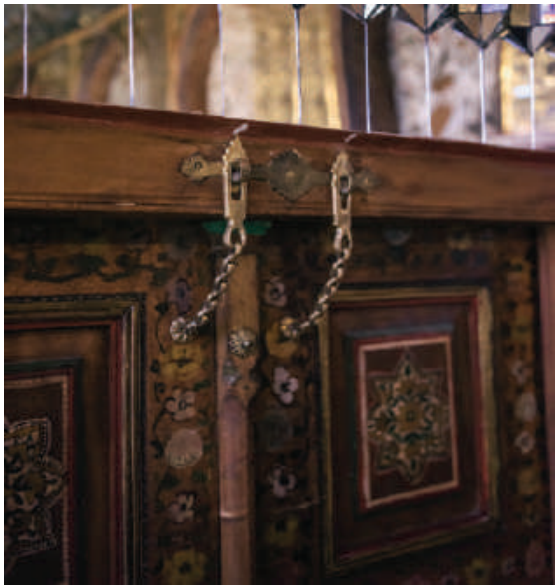
Black smiting

As in many other regions, black smiting as one of the important and needed craft was developed in Sheki. Elements of architecture – doorknobs, chandeliers, horseshoes, household items, etc., were the central part of this craft. At the beginning of the 19th century, there were 56 blacksmiths and 14 blacksmith workshops in Sheki.

Current situation

As well as with the copper smiting demand for blacksmithing has also decreased since modern materials and products meet the needs of the local population. At the moment, mostly blacksmiths are engaged in small scale works or works related to the restoration of old products.

Figure 96. Copper pot



Pottery

Pottery is one of the essential crafts that historically developed in Sheki. Traditional tiled roofs and clay pipes of hydraulic water systems – famous “Taclıq suyu” and “Hacı Həsən suyu” spring waters running from the surrounding mountains which are equipped with these pipes and also different household items are the examples of various use of the clay in this region. As with the other crafts, there is also “Duluslar” (Potters) neighborhood in Sheki that was famous for its artisans. Especially from the 19th century, roof tile began to be used more widely in the population’s life. In 1872, a man named Shahbazov built the first tile factory in Nukha (old Sheki). After that, the production of tile factories began to increase, and for the first quarter of the 19th century, there were already 12 tile factories in Sheki.

Current situation

This traditional craft has declined significantly over the past few years. There is only one family left that continues traditional pottery in Sheki – Şöyüboğlu (Shoyuboghlu) family, whose ancestors were also engaged in this craft. Despite this, it is important to note the opening of the ABAD Center of Ceramics and Applied Arts in 2018 in Sheki, which promises the cultivation of a new young generation of potters who could continue traditional and modern paths of this craft. It is about ten artisans that are currently studying and working at ABAD.

Another important place to mention is the brick factory located in Sheki region (10 km away from Sheki Railway Station). This factory was established in the’ 80-the ‘90s and works so far. Mostly the factory produces standard bricks that are used in construction works. From 2009 the factory also producing bricks (200x200 cm) that can be used in the restoration of traditional houses.

Stone craft

Stone craft represented in Sheki in various forms and activities. The most prominent examles of stone carving craft found on the tombstones of Sheki’s cemeteries. Due to the lack of soft and easily carved stones in Sheki foothills, carved surfaces were relatively shallow. Therefore, to make the tombstones look more artistic, craftsmen in these places widely used a combination of paint and precious stones (marble, granite, etc.) The most original tombstones left are located in the Khan Mosque’s courtyard in Sheki (territory of the reserve). These tombstones are carved from the hard gray river stone and decorated with carved flowers and epigraphic inscriptions. Also, there are stone inscriptions that were used as an architectural element. A distinctive feature of Sheki stone inscriptions was that in addition to Koranic inscriptions on them, the name of the master was mentioned.At the beginning of the 19th century, there were 36 stone workshops in Sheki. Along with the stone carving, it is also important to note the development of such a branch of stone craft as stone cutting. Basically, the work of these craftsmen consisted of stone cutting and its preparation for construction works. Later, these processed stones were used in masonry and paving works.

Current situation

At the moment, stone carving is not as that widespread as it was before, and compared to other crafts, it has evolved into a more technological form. Nowadays in Azerbaijan tombstones as a quite big part of this craft mainly are made of modern technologies along with some handmade parts. Changing architecture and its elements make stone inscriptions not so attractive for locals, therefore demand is not high. In comparison, stone cutting is still in use, and there are some artisans in Sheki and especially in surrounding villages as Kish, Shin, Bash Goynuk, where they do their job mostly in a traditional way. For example, artisans in Kish village prepare stones as paving materials and in Shin village as masonry and cladding materials.

6.3. Masons and interior masters

Current situation

Mostly the work of the masons depends on the orders related to restoration and renovation works. Many of the masters living and working in Sheki know different techniques – from masonry works to the tile roof construction. It should be mentioned that most of the current masters have experience in work not only in Sheki but in other regions of Azerbaijan where they worked as builder-restorers. The most challenging years for the masters was in the 2000s, when it was difficult to find a job in the field of restoration and construction in general and because many of the masters knew very well brick masonry, many of them started to travel and work in Russia. They adapted their skills to construct modern brick barbecues and fireplaces that were quite popular out there. Even today, some of the masons continue their seasonal work when they face difficulties in finding a job in Sheki. At moment, along with the traditional construction, some of the masons adapted their skills to modern needs and work in various construction fields.

A similar situation is seen in such areas as bukhari *(traditional fireplaces)* construction and its decoration with plaster carving method, in wall painting art and stalactites construction. Due to the emergence of new types of finishing materials as well as modern design methods, interest in these types of home decoration gradually decreased, and nowadays, just a few masters are active in these spheres.

6.4. Sericulture

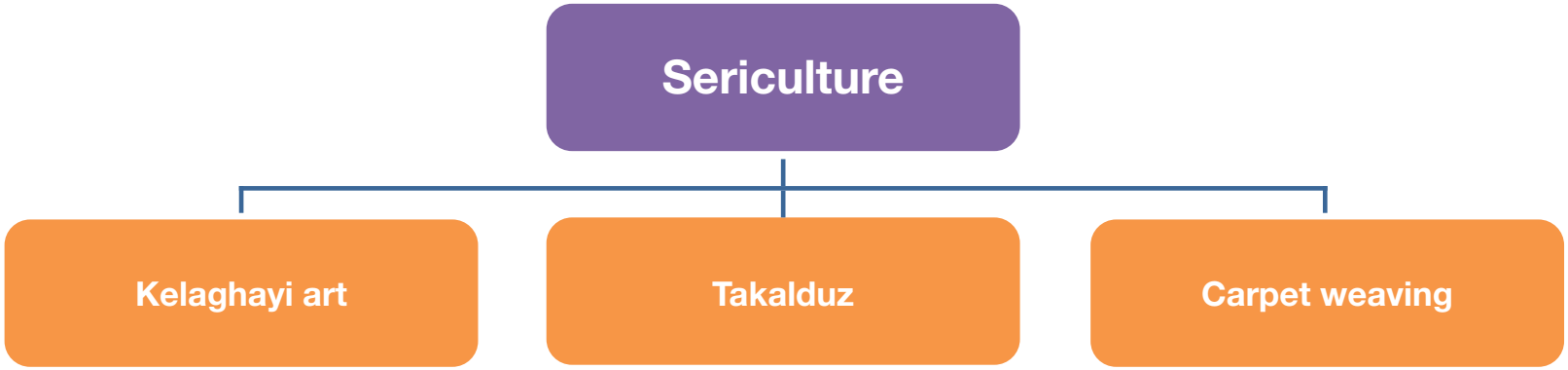
Historically Sheki was considered a trade hub in Azerbaijan and a major center of silk production in the whole Caucasus. Even in neighboring areas to Sheki, the population was engaged in silkworm breeding. For example, Zagatala, Balakan, Samukh, Arash. Wild mulberry trees growing in the Samukh forest close to Sheki, silkworms wrapping silk in a wild form in Sheki forests , existence of taxes in form of silk contribution in feudal times and various notes of travellers are the evindencies showing how much Sheki population was involved to sericulture.

Silk production was not only to meet local demand but also for foreign trade. From here, silk was sent to Rome, Iran, Georgia, and neighboring khanates. For example, it was sent to Ganja to weave kelaghayi *(traditional women headscarf)* and Shamakhi to weave taffeta. Merchants from various countries were coming to Azerbaijan to get oil, salt, copper smith and pottery items, etc. as well as the famous silk of Sheki. In the 19th century, a large number of silkworm seeds were exporting from Sheki to Europe. In the first half of the 19th century, about 900 mulberry orchards in Sheki supplied feed for the silkworms.

According to historical sources, 1927 was the beginning of a new stage in the silk industry's history in Nukha *(old name of Sheki*). The foundation of the largest silk factory in the Caucasus located in Sheki was laid and for that time, Sheki alone produced 15,000 pounds of silk.

Further silk production continues to develop in Soviet times. Even in the most challenging times of history- in times of World War II, Sheki was supplying the front line with particular silk fabric for parachutes, silk stalks, and even silk threads used for the surgical purposes of wounded people.

There are some traditional crafts that are based on silk production



Takalduz *(traditional type of embroidery)*

Sheki is the center of tambour embroidery known as takalduz in which exquisite floral ornaments are added to dark velvet, cloth, or leather. Sheki, as one of the leading silk production centers, was producing dyed silk fabrics and threads, which were the key elements for decoration. It is mainly used to decorate bags, pillowcases, and tablecloths.

Kelaghayi *(traditional silk headscarf)*

The kelaghayi is the colorful national headscarf worn by Azerbaijani national costumes. The color has a symbolic meaning, often tied to specific social occasions such as weddings, mourning ceremonies, or festivities. Kelaghayis were originally made by artisans on the Silk Road.

Silk carpet weaving

Azerbaijan was always famous for its wide variety of beautiful carpets. Mainly Azerbaijani carpets are made of wool (lamb or sheep). Sheki is the only place left where carpets made of silk are producing. Azeripek LLC silk factory still produces these carpets but in limited quantity.

Figure 97. Kelaghayi workshop

Figure 98. Kelaghayi workshop

Current situation

There are only one factory and one private workshop currently operating in Sheki – Azeripek LLC silk factory, built in Soviet times and kelaghayi shop located at Yukhari Caravanserai. The production of this shop comes from the private house workshop of kelaghayi master – Amiraslan Shamilov. He and his two sons are managing the production and business. Azeripek LLC produces silk threads, silk fabric, kelaghayi and silk carpets. Nowadays silk products like kelaghayi are in big interest and demand among the local and foreign tourists.

It should be noted that the industrialization of sericulture, in general, has greatly influenced the traditional activities associated with this area. For example, it is almost hard to find people who manually produce silk threads nowadays with traditional equipment.

At the moment, there is a state program on the development of sericulture in the country. Within the framework of this program, sericulturists are given subsidies in the amount of 5 azn. Ready cocoons are delivered to the Azeripek LLC *(Silk Factory under the base of Azerbaijan Industry Corporation JSC)* located in Sheki for a fee of four azn per 1 kg. Thus, sericulturists receive a total of nine azn per 1 kg of the finished product. Also, the program is aimed to develop needed infrastructure for the factories that are engaged in sericulture. At present, there are around 33 villages with a total number of 401 individuals in Sheki who supplies the silk factory with the cocoons.

In its turn, silkworm seeds supply to the silkworm breeders come from the seeds plant located in Gakh region of Azerbaijan *(35 km away from Sheki city center).* This plant was thoroughly renovated in 2018. Based on Chinese technology, around 5 hectares of mulberry orchards have been planted on this plant's territory.

In general, it should be mentioned that the state program began to influence the development of sericulture in Azerbaijan very positively.

6.5. Conservation Analysis and Related Issues

The decreasing number of people engaged in the listed craftship skills is the main problem for all types of crafts in the world heritage area. The table below shows the numbers of craftsmen and masters in the fields that are directly and indirectly support the OUV of the site.

As seeing from the table, it is alerting to take actions for providing some craft areas that are under danger of extingushing.

The first reason for the decreasing of the number of the craftsmen is that there is a tendency of declining demand for traditional craft products due to economic reasons. People prefer modern machine-made cheap products rather than handmade expensive craft products. In its turn, it has led to a lack of interest in learning this craft skill among the younger generation.

Type of craft	Number of craftsmen
Shebeke	6 professional masters, 8 apprentice
Carpentry	10 carpenters (only masters working manually), 5 dowry-chest masters
Metal crafts	8
Pottery	2 professional pottery craftsmen and 3 pottery apprentice from Shoyuboghlu family; 5 professional craftsmen and 5 apprentice at ABAD
Construction (masons)	Around 20 builders-restorers
Sericulture	314 employees of Azeripek LLC, 401 silk breeders in Sheki region, 1 kelaghayi master in Sheki

Below, some issues are listed regarding these crafts

- All craft spheres in Sheki are more or less industrialized. Many of them were partly industrialized already in Soviet times. Nowadays, a wide variety of modern products and materials are more popular than traditional ones, and it does not matter whether we are talking about pottery or black smiting, for instance. Often cheap modern product is more preferable as the handmade's price is relatively high. This also applies to new design methods. For example, it is almost hard to find people interested in the ornamental decoration of their houses when it is a wide variety of modern paints, wallpapers, etc.

- Handmade works take quite of time and hard work. At present time, new speed technologies replace handicraft works. In some cases, special machinery helps save time and get more delicate results in complex orders. Handmade items are mostly produced for local needs, not for tourists. For example, it takes about 3-4 months to make one classic trunk, one week for a small one. It is quite difficult for tourists to carry such big items, so mostly the option is to buy small types of boxes. Also, as there is no commission for handicraft works for checking in Sheki, serious obstacles appear for tourists at the border, and especially large-scale products are confiscated. For a commission check, it is necessary to go to Baku, which is not always easy and comfortable for tourists.

- There are some difficulties with finding raw material in some of the crafting areas, such as pottery, kelaghayi art, etc. Although there are clay quarries in Sheki, as for Shoyuboghlu family of potters, they face problems getting raw material because of authorities' restrictions to use quarries located in Sheki. Nowadays, there is a lack of natural dyes as well. As it was mentioned the dyes were mostly used in the area of wall paintings, bukhari decoration and silk dyeing. Many of the dye workshops are no longer functioning in Sheki, and the local market is filled more with non-organic dyes.

- Although all the craftsmen is free of taxes in Azerbaijan by law, without creating demand it seems difficult to sustain these areas. Thus, additional support porgrams are needed to incentives young generation as well as create relevant demand in the market.

- The real capacity of the Sheki crafts is not demonstrated enough *(except Akhundov street).* Most craftsmen don't have proper place to demonstrate their products and workshops for the tourists. The craftsmen have their workshops in their house, and they do not have the proper infrastructure to welcome tourists. The visitor could observe the making process of craftsmen's products which is important for visual integrity of the Site. It can be actually new approach and experience for them, and all can get benefit from tourism and invest in their job as its consequence.

- Although the main trade street *(Akhundov avenue)* accommodates a lot of workshops for craftsmen, some fake craftsmen take advantage of tourism inflow as well. This issue will be partly solved after the restoration of Yukhari (Upper) Caravanserai and Ashaghi (Lower) Caravanserai as well as the regeneration of Akhundov avenue in general.

Below, some issues are listed regarding masons and construction works

- The main issue expressed by the builder -restorers is that there are no orders at the moment due to a lack of restoration works not only in Sheki but throughout the country where their experience can also be applied.

- In some cases, the restoration work is performed poorly due to ignorance of the case by the project curators, who often involve ordinary builders in the work while professionals should provide it.

- Local people have prefered to use modern materials in construction or renovation work and often this leads to the loss of both traditional elements and used materials. In the historical part of Sheki, where the State Tourism Agency has authority to work, control construction and restoration works now.

- There is a need for amandment on construction code and urban planning in relative to restauratioin manual which will be aplicable in the histroric site

Below, some issues are listed regarding Sericulture

- Private factories *(only 5 factories remained in Sheki, 2 of them are located in reserve area)* do not operate, and the factories' buildings are privatized by individuals not involved in the silk industry, and these individuals use these premises, often rearranging them.
- The material-technical base of the Azeripek silk factory needs professional renovation. All parts of this big factory – from its production site to its museum part-need modern equipment to increase and make better quality products and showcase existing rich exhibits. Also, part of the factory responsible for dyeing is not in average condition.
- There is a lack of cocoon drying stations and silkworm seed plants in big regions related to sericulture.
- After the Soviet collapse in the '90s, the territory of mulberry gardens in Sheki decreased significantly as agriculture direction changed to the cultivation of cereal crops. This led to a decline of whole silk industry in general.
- In general, it should be mentioned that the availability of cheap synthetic fabrics and products reduced the demand for natural silk.
- Even though the state program increased significantly the number of people engaged in silkworm breeding, many interviewed silkworm breeders say that the income is still insufficient compared to the hard work they do.
- Another issue mentioned by the silkworm breeders in Sheki is that some of them don't have the needed conditions for more effective work. The reason is that they don't have enough space to make the breeding process at their houses *(or garden),* and this leads to the use of some parts of public buildings in the villages for these purposes.
- Mulberry gardens are sometimes in quite a big distance from where the breeding process goes, and it takes time for breeders to get the feed for worms. As a result, it turns into a very time-consuming activity for the silkworm breeders.
- Due to still low production, partly raw silk comes from other countries such as Uzbekistan, Iran, and Tajikistan to Azerbaijan. Individual artisans such Amiraslan Shamilov mainly uses the imported silk for making traditional headscarves as their price is cheaper.
- Amiraslan Shamilov's workshop is the only place left where kelaghayi production is made traditionally *(not fully industrialized).* Despite this material-technical base of the workshop needs renovation. As for Shamilov, after renovation, this place could be visited by more local and foreign tourists.
- There is a lack of interest among young generation in sericulture because this industry was in decline for a long period of time.

6.6. Discussions and recommendations

The intangible cultural heritage of Sheki needs a capacity-building strategy by connecting more several state and non-state organizations, build a unified attempt among all. To create demand for craft products and skills in the market, the responsible state bodies and other stakeholders should consider the measures given in the tables below. The measures include relevant responses to the needs listed below:

• Restoration and use of buildings where craftworks are needs, for instance, shebeke, bukhari, and other outstanding applied art works in Sheki and the wider region.

• There is a need for creative and educative training among the younger generation in Sheki for all types of crafts.

• There is a need for organizational institutions to manage craftsmen and support them from various aspects, including marketing and financial support

Measure	Main partners	Activities
Organization of educative trainings on pottery	ABAD, Ministry of Education, Ministry of Culture, “Support to Intangible Cultural Heritage” Public Association, Icherisheher Center for Traditional Arts, “Regional Development” Public Union	Organization of summer schools and practical classes for vocational schools at ABAD with ceramic and pottery tutors. Bringing up attention to traditional pottery workshops with local craftsmen as Shoyuboglu family could sustainably develop this craft.
Organization of educative & professional trainings	Ministry of Education, Ministry of Culture, “Support to Intangible Cultural Heritage” Public Association, Icherisheher Center for Traditional Arts, British Council	Organization of training and practical classes for vocational schools and art-based universities related to coppersmithing, blacksmithing, carpentry, kelaghayi art, stone carving, etc.
Restoration of historical monuments located on the territory of the reserves	State Tourism Agency, local executive authorities	Involvement of various craftsmen in further restoration works, which will be carried out in multiple reserves of STA. These craftsmen’s experience can also be applied to other analogical restoration works that might appear throughout the country.
Renovation of craft centers/workshops/art galleries	State Tourism Agency, Local executive authorities, KOBİA, ABAD, Ministry of Culture, “Support to Intangible Cultural Heritage” Public Association	The opening of new or renovation of existing craft centers. Also, as we know, Sheki is famous for its crafts neighborhoods such as “Duluslar” (Potters), “Nalbəndlər” (Horseshoe makers), etc., and the opening of small thematic workshops in these places could increase the interest significantly to these spheres among the locals and tourists. Also this could be very important base for the craftsmen cluster revival. Sheki Art Gallery, located on the territory of Castle Walls, will be restored and equipped with all needed infrastructure in 2021. It is supposed to carry out a small workshop for children and students from art-based schools and universities about the history of arts as well as organize painting practices.
Placement of masters	State Tourism Agency, Local executive authorities, “Support to Intangible Cultural Heritage” Public Association	The policy of placing artisans in various areas of the reserve is an essential point for revision. As the placement directly affects this industry’s quality development, these places like Craftsmen House, Ashaghi Caravanserai, Yukhari Caravanserai, Old Bazaar should be analyzed, and new regulations should be applied. Priority should be given to local based traditional craftsmen.

Measure	Main partners	Activities
Allocation of subsidies and loans for craftsmen	ABAD, Ministry of Education, Ministry of Culture, “Support to Intangible Cultural Heritage” Public Association, Icherisheher Center for Traditional Arts, “Regional Development” Public Union	Development of state programs focused on artisans’ supports from various aspects, including marketing and financial support. Financial support might be in the form of subsidies and credits for raw materials purchase.
Organization of festivals on crafts	State Tourism Agency, Local executive authorities, ABAD, Ministry of Culture, “Support to Intangible Cultural Heritage” Public Association	The organization of the craft festivals in Sheki to get more attraction and attention on local crafts. Annual festivals on such crafts as silk and carpentry could be a nice tradition of bringing up craftsmen from Azerbaijan and worldwide.
Organization of art residencies in Sheki	State Tourism Agency, ABAD, Ministry of Culture, “Support to Intangible Cultural Heritage” Public Association	Issuing governmental and non-governmental grants for young artisans and artists based in Azerbaijan and abroad can change the attitude towards traditional crafts and give them a new vision.
Promotion of Sheki intangible heritage	State Tourism Agency, ABAD, Ministry of Culture, “Support to Intangible Cultural Heritage” Public Association, Ministry of Education, Ministry of Agriculture, “Regional Development” Public Union	Promotion of Sheki intangible heritage at the state level. It may include various video materials describing the history and current situation of crafts and craftsmen.
Development of new touristic products	State Tourism Agency, ABAD, “Support to Intangible Cultural Heritage” Public Association, Ministry of Culture, Icherisheher Center for Traditional Arts	Rethinking the use of crafts in one direction and development of new methods of use while maintaining the main – the technique. For example, it is possible to point on souvenirs in the form of a shebeke, which retained the technique but became convenient and exciting for buyers. At the moment, ABAD develops souvenirs in this direction with local masters. As mentioned before in this document, STA is also working on a new project called “touristic product development project,” where the idea is to develop newly designed products based on traditional techniques.
Establishment of quality regulations and special comission	State Tourism Agency, Ministry of Culture, “Support to Intangible Cultural Heritage” Public Association	It is recommended to apply regulation on distinguish of foreign mass and low-quality products, filling the local market with local handmade products. Especially this true for Chinese products, which are replacing handicrafts products due to their low prices. As an option in the future, the Reserve Administration can apply the Origin Appellation Standards for souvenirs and this kind of product. It should be noted that STA has also developed a project in which it is envisaged to create a “Tourist Assistance Center” in Sheki which will help tourists in checking various kinds of handicraft products exported from Sheki and issuing special certificates to them. This project will help increase the interest of artisans in the manufacture of not only small traditional products but also big ones.

MASONS (masonry and roof construction)

Measure	Main partners	Activities
Documentation of mastership	State Tourism Agency, Ministry of Culture, “Support to Intangible Cultural Heritage” Public Association	As these types of mastership are in a more sensitive state of preservation, it is important first of all to “document” the techniques. This implies preparing different photo-video materials, drawings, and written theoretical and practical advice from professionals.
Restoration of historical monuments located on the territory of the reserves	State Tourism Agency, Local executive authorities, Ministry of Culture	Involvement of various masters in further restoration works, which will be carried out in multiple STA reserves. Also, the experience of these masters can be applied to other analogical restoration works that might appear throughout the country.
Organization of trainings and raising of new generation of masters	State Tourism Agency, Local executive authorities, “Regional Development” Public Union	Organization of trainings and workshops for local young builders. For quality results, it would be beneficial to involve young builders in future restoration works that will be carried out on the reserves’ territory. In the future, their skills can make a significant contribution to restoration work and in general to rethink the traditional architecture of Sheki and the construction of new buildings based on the traditional methodology.
Development of governmental programs and regulations for construction control	State Tourism Agency, local executive authorities, Cabinet of Ministers, Ministry of Justice, Presidential Administration	In order to preserve the historical appearance and for sustainable development of the city, it is necessary to develop rules governing the construction of new and preservation of old buildings on the territory of the Sheki “Yukhari Bash” Historical and Architectural Reserve.

MASONS (bukhari, stalactites and wall paintings)

Measure	Main partners	Activities
Documentation of mastership	State Tourism Agency, Ministry of Culture, “Support to Intangible Cultural Heritage” Public Association	As these types of art and craft are in more sensitive state of preservation it is important firstly all to “document” the techniques. This implies preparing different photo-video materials, drawings, and written theoretical and practical advice from professionals. It is also important to collect all historical data that exists, starting from state and private archives ending up with the high-quality photo fixing of the houses.
Restoration works	State Tourism Agency, Local executive authorities, Ministry of Culture	Existing elements *(especially in old merchant houses)* which require restoration should be restored.
State preservation of existing elements	State Tourism Agency, Ministry of Culture	A special state program for the protection of houses consisting of these elements should be developed.
Organization of trainings for young masters	State Tourism Agency, “Support to Intangible Cultural Heritage” Public Association, “Regional Development” Public Union, Ministry of Culture, Ministry of Education	Organization of trainings and practical classes for art-based vocational schools and universities.

Measure	Main partners	Activities
Expansion of mulberry tree plantation	Ministry of Agriculture, Ministry of Ecology, ASC JSC	To increase the feed base of the sericulture industry, an inventory of mulberry trees should be conducted in the regions, and to fulfill the needed demand, mulberry agriculture of Sheki and the country, in general, should be expanded.
Development of new sericulture infrastructure	Ministry of Finance, Ministry of Agriculture, ASC JSC	Construction of a new cocoon seed plant in several regions for the production of hybrid mulberry silkworm seeds. Establishment of an incubation chamber in each region to prevent long-distance damage of resurrected mulberry silkworms. Construction of cocoon drying points in large sericulture regions with acceptance and primary processing of cocoons.
Organization of trainings	ASC JSC, “Regional Development” Public Union, Ministry of Agriculture	Organization of regular training for the professional development of silkworm breeders.
Promotion of sericulture sector	ASC JSC, “Regional Development” Public Union, Ministry of Agriculture	To attract more people to this area, it is necessary to carry out activities aimed at identifying current opportunities and future career prospects for the local population.
Regional management of industry	ASC JSC, “Regional Development” Public Union, Ministry of Agriculture	Involvement of qualified specialists in management processes in sericulture concentrated regions.
Provision of necessary equipment for silkworm breeders	ASC JSC, Ministry of Agriculture	Organization of timely disinfection of cocooneries and help to local silkworm breeders located in different villages in organizing of space for breeding, as well as buying and installing the necessary equipment for the excellent working process.

Sericulture

Measure	Main partners	Activities
Renovation of Azeripek LLC silk factory	ASC JSC, Ministry of Agriculture	As noted in the issues, Azeripek Silk factory needs renovation. Even though in 2018 the factory acquired modern equipment from China, some parts of the multi-building plant still require renovation and additional modern technology.
Allocation of subsidies and loans for local craftsmen	ASC JSC, “Support to Intangible Cultural Heritage” Public Association, KOBİA, State Tourism Agency, Basgal Silk Center	To reduce foreign supplies of raw silk, as well as to increase domestic production, it is necessary to allocate subsidies and loans for local craftsmen (especially for kelaghayi masters). For now, Azeripek LLC is the only silk factory producing silk not only in Sheki but in a whole country and it is necessary to establish the link between factory and artisan. Providing of raw materials at lower prices will increase the motivation of local craftsmen. It should be noted that this will be beneficial not only for the Sheki artisans but also for the masters of Basgal settlement, which is another center of kelaghayi art and which is another historical reserve protected by STA.
Renovation of kelaghayi workshop	“Support to Intangible Cultural Heritage” Public Association, State Tourism Agency, Ministry of Culture, KOBİA, ABAD, “Regional Development” Public Union	In order to preserve and develop the traditional method of obtaining natural dyes and improve working conditions, it is necessary to carry out renovation work in the kelaghayi workshop of Amiraslan Shamilov. Also renovated workshop will attract an ample tourist flow as a new destination point to visit.
Organization of kelaghayi workshops	“Support to Intangible Cultural Heritage” Public Association, State Tourism Agency, Ministry of Culture, ABAD, “Regional Development” Public Union, Ministry of Education, British Council	To preserve and develop kelaghayi art, it is crucial to attract a young generation of artists and artisans. Classes held free of charge for participants can attract the young population’s attention not only in Sheki but also in the whole country. Organization of summer master classes, art residences can also involve students from art-based schools and universities.

7

Risk Assessment

The heritage site has the several risk factors to be considered for the conservation of the site such as earthquake, flood, and fire. General risk assessment is given in this chapter, but response measures to these risks are discussed in a separate document - Emergency Management Plan.

7.1. Flood

The rivers located in Sheki-Zagatala region are highly flooding ones. Flood is a dangerous flow of water consisting of more than 70 percent of rocks, mud and other solid materials. Kish and Shin Rivers located in Sheki region are the rivers that differ with their high flooding intensity. This is due to the presence of flood beds in river basins. Flood bed is a forestless area with ongoing intensive flick erosion. If the forests are cut down, there is a danger of potential flooding.

Assessment of flood and torrent risks in the Gurjana River

The Gurjana River divides the historical town into two parts. Area of the river's basin above the historical part of Sheki is 19.7 km^2. The area is mainly covered with forests. The dense forest cover is of exceptional importance in stabilizing the stream in the Gurjana River Basin.

The role of forests in stabilizing the stream of rivers has been confirmed by numerous scientific studies. Forests reduce the speed of torrential rains in the soil, play a major role in the absorption of rainwater into the soil. Thus, the wooded area plays a major role in the prevention of floods, at the same time, it prevents the drying of rivers in arid periods.

In recent years, floods have been observed in the Gurjana River during intensive rainfall on the mountainous areas around the city. These torrents are mainly mud floods, which fill the basements in the area where historical buildings are located, roads collapse, and dangers arise for historical buildings. The flood keeps buildings in the Site at risk of destruction. As noted in the other section, according to the analysis conducted in 2004-2019, there was a 47-hectare decrease in the forest landscape. This decline occurs mainly as a result of intensive urbanization around the historical part.

The Table 7. shows the precipitation and suitable scenarios that have occurred in the last two years in the Gurjana River.

Studying surface flow relative to the scale of forest is worth underlining here. The surface flow can be considered as one of the main components of the water balance in the area. Surface flow means the flow of water flowing through the land surface and going to the rivers after the fall of the rain. The frequency and speed of surface currents are considered to be one of the main factors affecting the occurrence of floods and torrents.

A Rational Surface Stream model was used to evaluate the surface stream. This model is expressed by the following mathematical formula:

$$Q = CiA$$

Here, ***Q*** - stream, ***i*** - intensity of precipitation (mm / h), ***A*** - drainage area (m2). Daily rainfall data of Sheki meteorological station were used to calculate surface streams. When using the model, the area is conditionally divided into two different zones.

Densely urbanized area of the city is characterized by high surface streams. The running coefficient here is quite high and consists of about 0.75. In recent years, the area of the urbanized area has been growing rapidly. This, by increasing the speed of water streams from the surrounding areas, threatens the historical area of the city.

The surrounding area of the historic city consists mainly of wooded areas. In a small area there are bushes and mountain meadows. This part has a large role in reducing the speed of a stream (Map 14).

As can be seen from Table 6, peak water consumption in the Gurjana River in different surface coatings varies dramatically. For example, on August 08, 2019, 72 mm of rain fell on the territory within 10 hours, and forest cover prevented the flood, peak water consumption was only 1.26 m3/h. If there is no forest cover here and houses are built in the area, streets are covered with concrete, as a result of the rainfall; the peak water consumption in the Gurjana River can be 20.5 m3/h, which can lead to devastating results. If the forest is broken and the area is covered with soil, a flood with peak water consumption of 12.5 m^3/h will occur. However, the soil structure in the area is such that it causes mud floods in forestless conditions. This can lead to the formation of strong mud floods. This means that reducing the area of forests can lead to the gradual increase in flood costs in this river, which will lead to a gradual increase in the destructive power of the river in the historical part of the city.

Sheki city is located in a rainy and mountainous area. This means that the floods generated in the area depend heavily on the intensiveness of precipitation falling on the area, as well as on the vegetation of the territory. Dense vegetation, that is, weakens the flow of surface in wooded areas1, precipitation is captured by trees and infiltrated into the soil. Then, if trees are broken in the area, the chance of flooding increases by turning the precipitation into a surface stream.

The fundamental solution to this problem of flooding is, first of all, the restoration of forests, as well as the effective orientation of rainwater, as well as the deepening of the river basin. Therefore, the system of drainage of rainwater should be put into operation in the historical part and rain should be poured into the Gurjana River not in the historical area, but after leaving the city. Equally, it

is necessary to study the historical experience of the local population in the management of floods and torrents.

Refer to Figure 32 in Chapter 4 that gives a comparative scheme of wooded and non-wooded areas.

Role of local population in flood management

Data collected from the local population confirm that the local population, who historically lived in the upper quarters of Sheki, has great experience in managing floods and fires. For this purpose, forests were established in the mountainous areas around Sheki, as well as fixing works were carried out to regulate the direction of flood flows. The people selected from each house or among two and three neighbors, when there was no flood, went to the mountainous part and identified the valleys where the flood came most. Then, in each valley, trees were broken and laid vertically in a horizontal direction. Trees were filled with brushwood and small dams were installed. These dams were built so that the water temperature changed gradually and went not to the valley, but to the forest part. Thus, during heavy rains, water flows were prevented and there were no strong floods in the downstream.

This experience and knowledge are familiar to us from UNESCO's Indigenous and Local Knowledge (ILK) platform. The ILK means the knowledge gained as a result of interaction of the environment and the local population. This knowledge refers to the continuous use of natural resources, the increase of benefits and the reduction of losses during the interaction of human with nature. In this regard, it is very important to study the ability of the local population to manage flood incidents. It is recommended to prepare animations and mock-ups related to this knowledge and present them in the Museum of Nature.

Date	Area of basin, km^2	Precipitation, mm	Water consumption for various covers, m^3/s		
			Forest	Land	Concrete
12.05.2019	15.2	23	0.9	9.05	14.4
21.05.2019	15.2	56	1.17	11.7	18.8
07.09.2019	15.2	20	0.85	8.91	13.6
08.09.2019	15.2	72	1.26	12.5	20.5
22.07.2020	15.2	69	1.32	12.2	19.8
SCENARIOS			Safe river stream	Mud flood	High peak destructive flood

Table 7. Historical 2019 maximums and suitable scenarios in the Gurjana River

State Tourism Agency of
the Republic of Azerbaijan

HISTORIC CENTER OF SHEKI
WITH THE KHAN'S PALACE

MAİN DİRECTİONS OF SURFACE WATER FLOWS İN THE SITE AND NEARBY AREAS

Legend

Drainage area

Streams

Scale 1:5500

1 cm = 55 meters

0 150 300 600 900 1,200 Meters

Date: 2020

Map 14.

7.2. Fire

Experience of the past years shows that the forests in the area are very sensitive to fire, and in the last 10 years there have been several large-scale fires in the area. Six fire incidents have been registered in the territory since 2014. However, according to the information given by the local population, there are also a lot of unregistered fires, which, as a rule, are extinguished with the participation of local population. The last fire incident was extinguished at the end of February 2020 at the initiative and activity of local people.

Reasons for occurrence of fires in the area are different. The main reason is that tourists coming to the area make fire (hearth) and use other burning tools. At this time, the cinder falling into the area spreads around with the wind and quickly turns into a large-scale fire. Although fires were usually observed in the summer months, large-scale fires were observed with the burning of dry grass in December and February. As with the management of floods and torrents, it is important to learn the knowledge and experience of local population along with the participation of professional organizations.

7.3. Earthquake

According to the classification of earthquakes, the area is located in the high-altitude seismological risk zone, 8-point earthquake zone and there are continuously low-power quakes in this area. For example, on September 4, 2015, a 7-point earthquake in the epicenter of Sheki was recorded, causing damage to many buildings.

Traditional buildings which combine timer and adobe brick structure as well equipped to withstand earthquakes, however, this ability is at times reduced by inappropriate restorations with concrete and other modern materials. This issue is not regulated by law in Azerbaijan, therefore a proper legislative amendment should be proposed to reach the goal. Thus, according to the Urban-Planning and Construction Code of Azerbaijan, only public buildings go through technical expertise appraisal when preparing project design of the construction while the law does not apply to residential buildings. Consequently, residential buildings cannot be regulated as public buildings now in the Site. Relevant requirement should be applied to the building of residential houses so that provide safeguarding of the houses from earthquake damages.

High quake risks are especially a threat to historical buildings located in the area. Also, earthquakes can lead to large-scale landslides in the future. Gradual decline in forest areas in recent years exacerbates this problem. Therefore, along with stopping the construction of houses in slope areas, practical steps should be taken to restore forest area.

7.4. Environmental Pollution

Solid waste

Although the garbage collection has been recently improved in the Site, there are still issues in this sphere. Few places are often littered by the locals (upper part of Gurjana river in Gileyli street, valleys etc). Recycling of the garbage is another issue in the town.

In most cases, the problem of solid waste is caused by tourism companies and the local population. This is confirmed by a survey conducted in the area. Solid waste is often dumped spontaneously, which eventually accumulates in the cavities, mainly around the Gurjana River and Deyirmanarkh canal. Every year in the tourist season, a problem of solid waste becomes even more acute. Garbage mainly comes from houses, hotels, cafes and restaurants. Sometimes the cafe owners pour waste into the dump sites in the forest area in order to reduce their costs, and at best bury them. This, along with reducing the aesthetic values, creates very serious problems in the life of forest animals. Plastic waste growing in the environment not only creates a number of problems for wild animals, but also reduces the aesthetic value of nature, reduces the recreational potential of mountainous areas and the attractiveness of the area for tourists.

To solve this problem, it is necessary to organize the sorting of solid waste and their removal from the territory.

The survey results show that one of the best ways to solve solid waste problems is to switch to a waste reduction scheme and refuse plastic containers. If catering establishments located in the area refuse plastic containers, the problem of waste can be partially solved.

Waste should be separated by containers. It is necessary to close the containers with green fences without breaking the surrounding green areas. Low-gabarite garbage collecting machines should be used in order to reduce vibration on historic buildings. Garbage should be collected daily, channeled from the city. It is recommended to organize “force” collection and disposal of household garbage in the upper part of the river (in the areas of Michelle Koch Yolu, Dogguz para, Gileyli) to avoid contamination of the mouth of the river. The garbage should be collected every day. Those who dump on the river slopes should be fined according to the accepted tariff. The Reserve should organize cleaning of river slopes once a year.

Also, solid waste disposal must be organized considering recycling, with waste to be deposited in bins for separate waste collection, underground drop-off points. Domestic humid and vegetal waste must be conveyed in composting systems. Recycle of the garbage industry as well as the relevant behavioral change for organizing waste disposal should be encouraged in Sheki.

Waste water

The wastewater has historically been drained into the natural waters of Sheki city. Over the past 5 years, a sewage network has been established and wastewater management has been improved in Sheki. In order to continue the reconstruction of water supply and sewerage systems of the Sheki city 25 mln manat was allocated to “Azersu” OJSC from state budget with the Order of the President of the Republic of Azerbaijan dated January 15, 2019, No 890.

However, although the problem of sewerage is solved, there is still a lot to be done in this area. First of all, it should be noted that rain water in the area is mixed into the sewer waters, which in turn causes the sewer system to fill up very quickly during intensive precipitation. Large-scale water flows have been observed in the streets during intensive rains observed in the area since 2008. This proves that the sewerage system is insufficient during heavy rains.

To solve this problem, the system of rain water management in the Site should be separated from the sewer system. The system should be organized in such a way that the water collected during heavy rains should be poured not directly into the Gurjana River, but into the river after leaving the city. This will slightly reduce the water in the Gurjana River, helping to solve both the problem of flooding and the problem of wastewater.

7.5. Climate Changes

According to the National Climate Data, climate changes will increase the risk of drought, extreme rainfall and flooding in many areas of the country. While many trees are drought-resistant to some extent, increasing temperature can make drought tougher for future periods. In addition, drought increases the risk of natural fire in wooded areas, as the number of dry trees and shrubs in wooded areas increases.

Climate changes also increase the formation of parasites in trees. At the same time, the increase in temperature in the area can also affect the finish of new species of trees or shrubs. These new plant species can increase rapidly in new area conditions and disrupt traditional species.

The variety and prevalence of forests in the Greater Caucasus depends on climate, land, different heights and other conditions. Therefore, the height zones of forests are clearly observed in the mountains of Azerbaijan. Observations show that oak trees in the low-altitude area are drying, which can be associated with both a decrease in groundwater reserves and a rise in temperature.

Drying of oak trees increases the risk of flooding in medium and low mountainous areas. At the same time, oak forests have moved upwards in the altitude zones, replacing beech and hornbeam trees in many places.

Pathological changes in forests reduce the resistance of the soil layer to erosion. The drying of the roots of trees reduces the adhesion of the soil. It also increases the amplitude between day and night temperature due to climate changes. As a result, dried and physically eroded soil becomes weaker against washing. Thus, strong washing of the soil layer leads to the breakdown of forest soils and flood waters.

Taking into account the risk of climate changes, it is important to carry out the following measures in the future together with the Ministry of Ecology and Natural Resources:

- Planting of trees that will be more resistant to drought
- Implementation of complex measures to prevent fires in the area
- Fixing of potential sliding places in the area
- Strengthening control over plant diseases, implementation of forests management
- Development of water saving strategy

8

Integratred policies, general discussions and recommendations

8.1. Transportation

Reserve Administration applies certain regulation regarding transportation system in the site area. For instance, heavy vehicles for construction is not allowed to enter in the fortress. This is due to protect monuments from the vibration of heavy vehicles that potentially pose threat for the monuments.

The very regulatory measures and policies should be applicable for the whole historic town. Thus, traffic within the historic town must be strictly controlled. Pedestrian traffic is to be encouraged and speed on the historical territory is to be limited as well as parking along the main highway is to be prohibited. Taxi stands should also be determined. Public transport should be light sized with carrying capacity of no more than 2500 tonnes and environmentally friendly. The use of heavy vehicles can generate mechanical impact on historical buildings (cracks, erosion of traditional materials, destabilization of foundations, etc.) that may cause further damage to the stability of buildings.

It is not recommended for the heavy vehicles (above 3500 tonnes) to enter the territory of the reserve. It is not recommended for the heavy vehicles (above 2500 tonnes) to enter the territory of the fortress where are many architecturally and historically significant structures. Only the vehicles designed to serve the needs of the population of the historical town (transporting construction materials, furniture, goods for commercial stores) can enter this territory.

Transport designed to collect garbage should be light sized to be able to enter the most problematic areas of the historical center of the town (narrow streets, blind alleys) with no mechanical impact on the structure.

Development of tourism brings to the need of parking places for excursion buses and individual transport as a result of increase of number of tourists. These parking places should be determined from the point of view of development of old town.

Transport designed to serve the tourists should be parked in a special designated parking place or in the parking station of hotels. The entry of buses into the territory of the fortress is not allowed.

Parking should be limited in designated areas. Tourist vehicles, taxis and buses should be parked in specially designated areas.

Garages

The number of vehicles increases, and it inevitably brings to the need to build garages. There are courtyards nearby the residential houses which simplifies solution of the problem. There are trends that the garages should be on the ground floor of the newly built buildings or nearby the fence provided that the gates to garage face the courtyards and have no impact on the overlook of the street or blind street and will not be higher than the height of the fence line. In new and renovated houses, garages are recommended to be located on the ground floor, in order to avoid the construction of new structures and the destruction of gardens. Underground garages of new public buildings should also follow the rules of maintaining town structure.

8.2. Restoration and Regeneration of Buildings

All work on the Site should be aimed at conservation in general. Any updates even with the best intentions, tend to reduce the traditional atmosphere of this place. When conducting work on the urban development and change of the functions of individual buildings, it should be taken into consideration that conservation of traditional spirit of the historical town is a priority.

Buildings and facilities on the historical territory are divided into the following:

• buildings and facilities which fully retained their historicity

• buildings and facilities with minor additions or separate maintenance buildings on the site

• buildings and facilities with significant modifications and additions

• buildings and facilities which are in poor condition

• inappropriate buildings

The works on restoration of monuments and improvement of the streets are continuously implemented through the state funds and grants. These are mainly museums, public buildings, palaces and the main thoroughfare. In this regard, the competent implementation of restoration projects and construction in these buildings is relatively easier.

Repair and construction works in residential buildings have been mainly aimed at increasing of the living space, improving of sanitary living conditions - glazing of “eyvans”, construction of toilet facilities stipulated in traditional house in the yard.

There are significant buildings that are under emergency conditions. Some of them are included into the list of priorities for carrying out the emergency measures. First of all, there is a need to find a new use and prepare resoration projects, to find ways to consolidate and restore them using traditional technologies and materials.

The works on restoration of monuments and improvement of the streets are continuously implemented through the state funds and grants. These are mainly museums, public buildings, palaces and the main thoroughfare. In this regard, the competent implementation of restoration projects and construction in these buildings is relatively easier.

Repair and construction works in residential buildings have been mainly aimed at increasing of the living space, improving of sanitary living conditions - glazing of “eyvans”, construction of toilet facilities stipulated in traditional house in the yard.

There are significant buildings that are under emergency conditions. Some of them are included into the list of priorities for carrying out the emergency measures. First of all, there is a need to find a new use and prepare resoration projects, to find ways to consolidate and restore them using traditional technologies and materials.

State Tourism Agency of
the Republic of Azerbaijan

HISTORIC CENTER OF SHEKI
WITH THE KHAN'S PALACE

The map has been updated on
the database of the map
prepared by "Azerberpa" SRPI in 2015

ANALYSIS OF THE CURRENT SITUATION

PRESERVATION OF TRADITIONAL TYPOLOGY

Legend

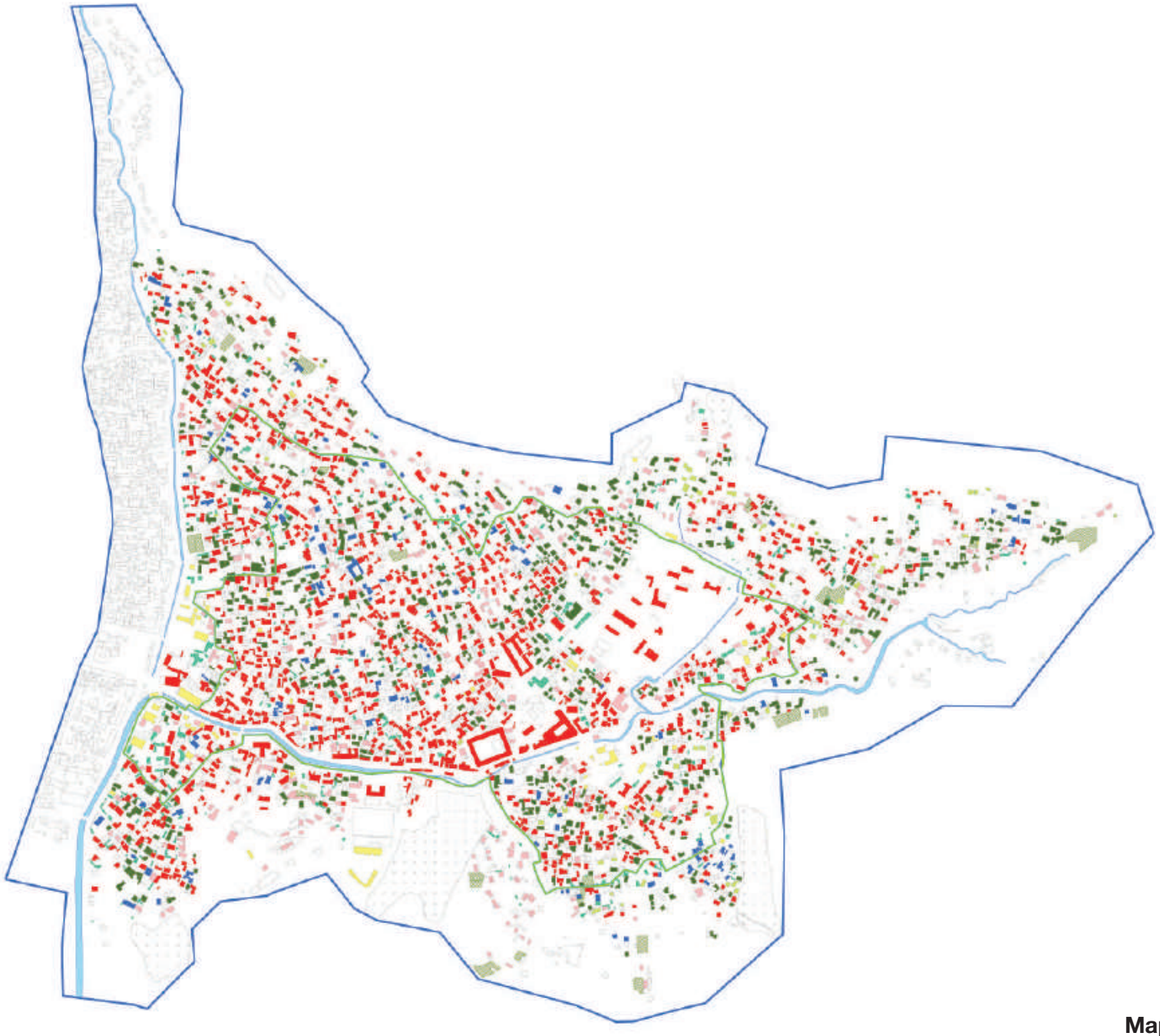
- Building typology preserved in its integrity
- Building typology partly modified
- Building totally renovated
- New buildings in the traditional fabric
- Traditional fabric buildings under emergency situation
- Building not compatible with traditional fabric
- Ancillary and service buildings and structures
- Area without constructions

Scale 1:2500

1 cm = 25 meters

0 65 130 260 390 520 Meters

Date: 2020



Map 15.

8.3. Construction and Demolishing

Construction is strictly regulated in the Site. There is a certain procedure for construction that is regulated by two state bodies – EXCOM and the State Tourism Agency in the Site. **The Construction which requires permission** are all kind of new buildings (private and public ones). The first step of the procedure of the permission is to send the project documents of the buildings to the EXCOM which is responsible body to issue permission for the construction in Sheki region. Once the EXCOM receives the project documents, it sends to the State Tourism Agency to confirm the proposal according to the conservation policies and rules of the Site. After the State Tourism Agency gives consent, the project can be taken forward.

The construction which does not require permission is the reconstruction works on the parts of the house without changing its existing plan or ancillary buildings in the yard, such as WC, stables, etc. However, those ancillary buildings should be compatible with the policies and rules of conservation plan. Local population should be notified about these rules.

Regulation of compaction. Construction density relative to the space is regulated with the Code of Architecture and Urban Planning according to which up to 30 per cent of lands of the individual houses with backyards can be built. The enforcement of this law is a main legal mechanism to regulate overbuilding of the backyards.

Demolition. Demolition of public or residential buildings in the Site area must be authorized by the State Tourism Agency. According to the approved project, only reconstruction works can be carried out in the buildings. If the annexes to the buildings do not have a permit from the relevant organizations and these additions and changes violate the historical morphology of the building, they should be demolished or changed according to the conservation policies by a decision of the State Tourism Agency.

The developer or house owner should have a constructive opinion of an expert to prove that the building cannot be restored before being allowed to demolish it. The exception are the houses which do not meet the traditions and approved for demolition in accordance with the conservation plan.

Demolition permission may be granted in the following cases:

1. The building is not a main residential building, but a small ancillary building in the yard

2. The building is in an emergency situation and there is a danger of collapse.

3. The building is in the area intended for the development of the Site, has no value in historical and urban structure, can be taken down by the consent of the owner.

Permission for the demolition and new construction is issued at the same time, indicating the timing of demolition and construction.

New construction

New construction policy is regulated by two documents of the State Tourism Agency – Restoration Manual and Infill Deign Manual. There is a shortcoming in the Code of Construction and Urban Planning in applying these regulations in the Site. Therefore, the relevant amendments should be made to the Code that can provide the applicability of the relevant rules and regulation exceptionally for the Site.

Since new construction in the area of historic buildings or the historic landscape has the potential to add or distract from the character of its historic environment, it is necessary to ensure the follow of the rules and recommendations set in the said documents.

New buildings should be built along with existing red line, without breach of the current structure of its streets and blind streets. The principal facades of new construction should be facing the same direction as existing buildings on the street.Ancillary buildings in the yard should not affect the street views.

Unacceptable methods are not characteristic of the traditional buildings of the town - cantilevered overhangs of the second floor, large balconies facing the street, attic with windows, coating of facades with limestone, etc., which are found in the architecture of other regions, but uncharacteristic for town buildings of Sheki.

New additions

New additions and exterior alterations should not compete with the historic features and the spatial dimensions, characterized by the properties of the building. New additions should be differentiated from the old ones and be compatible with historic materials, features, size, scale, proportions and volume in order to protect the integrity of the property and the environment.

Construction Regulation Zoning

The rules of use of the property and the defined policy framework take into account a number of obligations and restrictions on the use of property, public buildings and land by the population or users living in the Site.

The Site is divided into several urban zones according to its state of conservation and use. It can be grouped as follows and illustrated with an annotated map.

A. Significant historical and architectural monuments and buildings. Since these buildings are of great architectural, artistic and environmental value, only scientific restoration techniques are allowed in these buildings.

B. Zone I

Since these buildings are integral parts of the town-planning ensemble, conservative rehabilitation category of intervention should be applied to these buildings, meaning that restoration techniques intend for full conservation, or restoration of external appearances of the buildings. New construction is prohibited in this zone.

C. Zone II

The buildings belonging to this area are located along the main streets and play an important role in the creation of the historical urban landscape. In this zone, construction and restoration work is allowed, but by only considering the full application of all rules of Restoration Manual.

D. Zone III

As part of historical urban fabric, it is imperative to use minimum settings in the Zone III in order to keep the visual and spatial homogeneity of the historical urban landscape.

These zones determine level of regulation in terms of restoration, reconstruction, construction and regeneration works in the Site by applying rules and recommendations differently. All restoration works on the certain elements (e.g. façade, doors and windows, and roofs) in significant historical and architectural monuments and buildings in Zone I should be based on scientific and conservative rehabilitation category of intervention and to some extent, the restoration with partial reconstruction, while Zones II and III have some alternatives in terms of material use. The latter must follow rules of the color palette according to the Infill Design Manual, although it has not covered the zoning issues to differentiate use of materials for clearer guideline. This will be developed as a next step after in-depth analysis of the Site in the regard.

Preparation of urban zoning is necessary for the urban regeneration where introduction of new facilities with clearly defined rules for project areas is allowed. It should take into consideration the peculiarities of spatial environment, functionality, and the needs of the district population. In addition to the abovementioned concept of urban zoning, an in-depth analysis should be conducted in the Site to address the said issue in the Infill Design Manual.

Urban zoning will regulate new development strictly where only case by case approach to the space and buildings are allowed. Infill Design Manual will be helpful for local people as well as other stakeholders who plan to construct any kind of buildings and development projects in the Site in this regard.

In general, the construction of any building, or the changes of an existing building for public use, is possible only after the project has been approved by the relevant organizations, which should ensure that the proposal will retain the historical style and does not disrupt the urban structure.

8.4. Inappropriate Buildings

There are several hotels and residential houses built in the Site that do not respect the surrounding architectural volumes and designs. Some of these buildings have been built in the very heart of the town that needs relevant intervention and refurbishment, and adapt to the historic urban fabric.

This sub-chapter analyses the incompatible buildings case by case, which are in the very visible parts of the town, includes location and photos of each, and explanatory texts of issues, as well as gives relevant recommendations for the adaption.

The incompatible buildings are evaluated within the standards of the Infill Design Manual that are based on the followings 6 principals:

a. Character

b. Scale

c. Form

d. Sitinge.

e. Materials & Color

f. Elements & Detailings

The list of incompatible buildings are the followings:

1. Haciseyidov Tofiq's House

2. Otag eshiyi

3. Old Nukha Hotel

4. Sheki Palace Hotel

5. Building of Dormitory

6. Abbas's House

7. Small shop

8. Wine shop

9. House at Pishnamazzadeh str.

10. Pasha's House

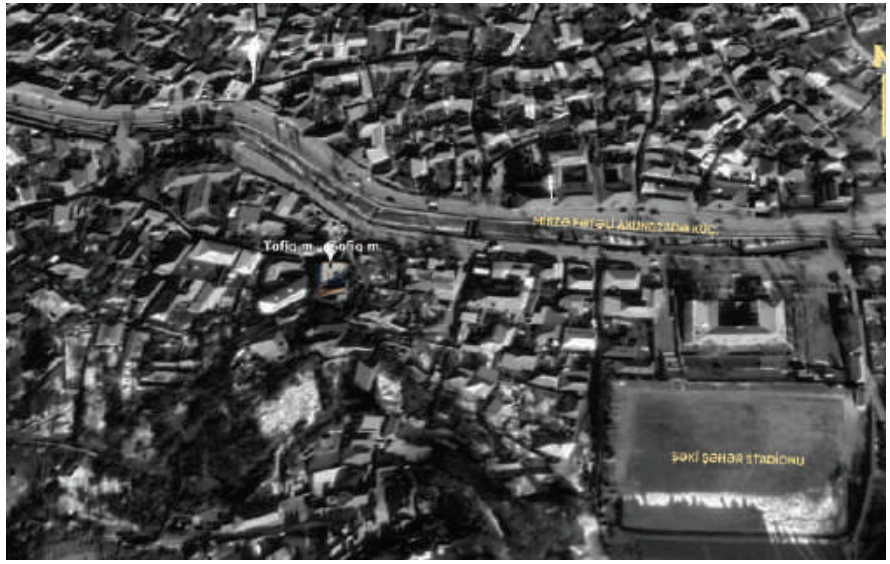
11. Dr. Rafig's House

12. House at the intersection of Azadliq and Teymur Kh. streets

13. Zemfira's House

14. Folklore House

1. Haciseyidov Tofiq's House



Location:

Coordinates: 41°12'00.68" N 47°11'06.36" E

CHARACTER: The building does not reflect the character of a traditional house in total. Because of size and scale, building tries to be dominant on the edge point. Traditional houses are humble and aesthetically naive and appreciate the environment. Here, the building is very sharp and cold in manner.

1. **SCALE**

The scale of the building responds to the typical three-story houses. However, the vicinity where the building sits consists of mainly low profile one-story. This is the main reason why the building does not reflect the general harmony of its surrounding.

FORM: The form of the building is a closed polygonal shape, which unusual for traditional forms. Traditional houses are mainly long rectangular or almost-square shape.

SITING: The building sits at the streets intersection and the area has a reasonable slope. Building constructionally placed appropriately and the entrance is located at the intersecton of streets which is similar to Upper Caravanserai.

MATERIALS & COLOR: Despite the building has yet to be finished, but it is obvious that the materials used for construction do not fit traditional materials category. Because of having limestone walls, concrete frames it can be elicit that the building will be coated with cement and later painted with certain color. That practice is unequivocally is not encouraged. Windows are framed wood-imitation on on one pf the facade other one is white. It is encouraged not to use PVC frames. Considering prices and current market, wood imitative PVC can be used as a solution.

ELEMENTS & DETAILING: Except the entrance door, almost the rest of the architectural elements do not fit traditional element typology. Windows are divided into three equal parts, which is not very common for window proportions in the area. The balcony is constructed not symmetrically but in irregular shape.

General Recommendations:

Considering the building is still on the construction process, certain touches can halt further incompatible actions.

- Windows need to be changed and placed again by having an equal distance in between.

- White frames of windows should be replaced by wood frames or with a material that can imitate wood. (PVC with wood color and texture)

- Shape of the balcony needs to be re-formed again to right rectangle keeping in mind surrounding obstacles (electrical cables, width of the street). If possible, to replace the entire balcony from concrete to wood. It will diminish the 'coldness' of the building.

- In the process of roof tiles placement, terra cotta tiles or imitative material can be used. Lightweight dark corten metal (weathering steel) roof plates is an option.

- Surface of the building can be coated with yellowish composite plaster which has a certain resemblance of traditional coating, because of being bright color yellow coating may not work. It is better to analyze the surrounding and surface of the building respectfully its surrounding.

2. Otag Eshiyi 1 & 2

Location:

Coordinates: 41°12’07.38” N 47°11’26.55” E

Otaq Eşiyi 1

Otaq Eşiyi 2

Otaq Eşiyi 2

CHARACTER: Otaq eshiyi 1 roughly has a similar character to those in a historical setting. Despite proportions and scale is neglected rest of the elements that compose the form create certain associates with traditional houses.

Otaq eshiyi 2 ruins the visual integrity of the area. Buildings with heavy mass can be found in the historical area, but those buildings later are compensated by adding elements that let the building 'breathe'. Here the building presents itself as a closed solid.

SCALE: Scale of the building responds the typical three-story houses. But the vicinity where the building sits consists of mainly low profile one-storey houses. Both of the buildings designed as an infill building on linear context. In that context building has to follow it's neighbour buildings. This is main reason why the buildings does not reflect the general harmony of it's surrounding.

FORM: Both buildings have a rectangular shape which is appropriate for it's vicinity.

SITING: Both of the buildings look at the public area, which is called Kimga traditionally. The setback of buildings are compromised by placing them on the street wall. Otaq eshiyi 1 has it's wooden entrance door at the facade looking at the street. Siting of both buildings is approrpiate and create general continutiy.

MATERIALS & COLOR: Despite the building has yet to be finished, but it is obvious that the materials used for construction do no fit the traditional materials category. It can be prognosed that the building will be coated with cement and later painted with a certain color. That practice is unequivocally not encouraged.

Both of the buildings have roof elements that differed from terracotta tiles or similar color material. Otaq Eshiyi 1 (Rosewood red), Otaq Eshiyi 2 (Green).

Otaq Eshiyi 1 - Windows are framed wood-imitation on one of the facade other one is white. It's encouraged not to use PVC frames. Considering prices and current market, wood imitative PVC can be used as a solution.

ELEMENTS & DETAILING: Otaq eşiyi 1 shows similar traditional seyvan and glazing elements on the side facade (next to the building with terracotta roof tiles). In general proportionally, it does not work with other windows coherently. Because size of the windows and the distribution on facade is haphazard and does not reflect any canon. Building has a rainwater pipe and lightmeter unit on the street facade of the building. This is an action prohibited on restoration manual as well. New way of solution to be found.

Otaq eşiyi 2 is archshape windows the shape which is mainly used for entrance doors or caravanserai gallery. It is actually an encouraged practice to refer the common shapes and rephrase them.

Sharp triangular shape elements on the roof (for both buildings) can be found in traditional houses, but they have to be approached carefully. Here those elements are competing with the general frame of the building. It's should be redesigned or removed.

General Recommendation:

- *Otaq eshiyi 1. Covering the roof with terra cotta tiles, adjusting facade openings (windows) proportionally to traditional buildings, and coating the facade with appropriate material may help the building to adjust itself to its surrounding.*
- *Otaq eshiyi 2. Because of its form, any cosmetic touches to the building will not be adequate for adaptation. To demolish and rebuild it is the best option.*

3. Old Nukha Hotel

Location:

Coordinates: 41°12’02.76” N 47°11’48.11” E

CHARACTER: The building locates in between trees and can be seen from far away. Thus it has got the specialty of being a vista. Building in general distinguishes itself differently in material and elements. Consequently partially reflects and partially neglects the harmony of its surrounding.

SCALE: The scale of the is different and one level higher than its surrounding. But the vicinity where the building sits consists of mainly low profile one-story. This is the main reason why the buildings do not reflect the general harmony of its surrounding. Traditional houses around almost play a 'hide and seek' in nature. In this context new construction has to follow the 'game' of other buildings. Here the building exhibits itself and trying to be dominant.

FORM: The form of the building consists of traditional right angle shapes in total 6 faces. No issue is detected.

SITING: The building sits inside of nature and covered with threes. Because of its scale and mass building cannot be calculated as successfully sited.

MATERIALS & COLOR: The facade is colored with rosewood red and part of the building has yet to be finished. Roof material used rosewood red metal tiles. Drainage pipes are on the surface.

ELEMENTS & DETAILING: The building has got an additional 360-degree glazed attic type spatial element on top of it. It's encouraged to put in practice certain spatial elements but the design solution at the same has to be appropriate to those around it. Windows are disproportionally distributed, and they are not symmetrical on the facade. White PVC frames with massive thickness are used.

General Recommendation:

- *Replace of white plastic window frames with wood imitative cover and symmetrize the windows.*
- *Change the facade color with not bright and appropriate material. (Pale yellow for eg.)*

View space on top of the building to be replaced with lightweight structure. A new design is necessary (Colonade of arches can be a useful option)

4. Sheki Palace Hotel

Location:

Coordinates: 41°12’02.76” N 47°11’48.11” E

CHARACTER: The building is included in the category of residential, commercial buildings. Building exhibit itself as a monumental structure due to having strong symmetry, long window heights, sharp window slopes, anchoring two wings perpendicularly and connecting them in the vertical entrance block. The front part is designed for parking space. Having a large empty front which allows the building to be seen from a distance. Thus it creates a sense of authoritarianism in the area, which is very uncommon for historical settings.

SCALE: The scale of the building resembles “a building divided into small parts” and diffused on the landscape. The height of the building is not appropriately solved because of presenting itself from a distance and competes with the existing height profile.

FORM: The building is formed up by placing two horizontal blocks perpendicularly, which is similar to L-shape. A similar form is used traditionally for private houses.

SITING: The structure captures a reasonable amount of footprint space. Main hotel block, 4-5 supportive structures in the front area, and extension in the form of the obtuse angle at the back. Traditionally L-shape form placed in a way that the part of the building follow-up or contributes to the linear outline of the street shape. Here the building performs individually which does not reflect a placement method used precedently.

MATERIALS & COLOR: The facade is colored with rosewood red and part of the building has yet to be finished. Roof material used rosewood red metal tiles. Drainage pipes are on the surface.

ELEMENTS & DETAILING: Ornamented window frames, street lighting fixtures, cornices all along the top of the building are the main problematic elements for the building.

General Recommendation:

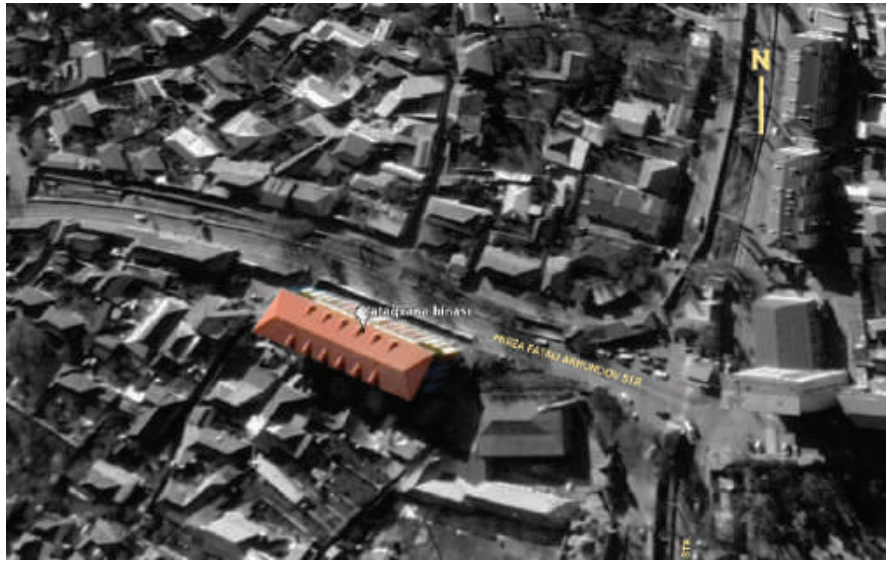
- *The main problem with a building is form.*
- *If demolishing is possible, actions below can be followed sequentially as an option:*
    a. *Building to be designed by taking nearby Caravanserai form as a reference*
    b. *Entrance from Pishnamazzadeh and Akhundzade streets can be provided so the building will welcome customers from both streets.*
    c. *Reflecting the form of Caravanserai will add the top of Akhundzade street to have two buildings behaving as ‘gate’ with the same function (Both of them functioning as an accommodation)*
    d. *Having two buildings with almost the same size and scale will create coherence in the setting by acquiring a new landmark.*
- *If demolishing is not possible cosmetic works will be a priority:*
    a. *Ornamentation works on windows to be carried out in order to ‘beautify’ the building*
    b. *Roof material to be changed - either terra cotta or imitative material*
    c. *Facade color to be changed that is similar to mud.*

Laying a garden in the front yard will be helpful to cover the building partially, at the same time reinforce the gardening idea.


WINE HOUSE


WINE HOUSE

5. Building of Dormitory



Location:

Coordinates: 41°12’07.57” N 47°10’55.43” E

CHARACTER: Building was designed neat and symmetrical and exhibit itself as a landmark. Materials and elements partially compatible and partially distinguishable.

SCALE: Because of being higher than the houses next to it, the building cannot be considered as successfully scaled. The scale of the building is the main problem with its dominancy.

FORM: The form of the building is right; rectangle and which is a reasonable design and appropriate for the general urban setting.

SITING: The building sits along the street. The building has got gaps from both right and left sides. Those gaps separate the building from the concept of 'street continuity'.

MATERIALS & COLOR: Window frames, window glass, balcony handrails are the main incompatible materials. Window frames are black metal, and glazing is chameleon type. This is not a common approach in the vicinity. Despite red brick and pale yellow (similar to mud coating) can be found in the area, here they do not perform together naturally. This is because they are being separated with thick white cornices and column-like plaster elements.

ELEMENTS & DETAILING: The main incompatible elements are white cornices and vertical white separators. Comparatively, the proportions of those elements are not appropriate because of being thick. This comparison is made with respect to the proportions of window openings.

General Recommendation:

- *The last story should be removed in order to maintain the height profile.*
- *Window frames and window glasses to be changed or adapted*
- *white cornices and white window second frames to be removed or if ornamentation is necessary decorative elements like 'shilasar' can be considered for cornices.*
- *The roof of the building to be changed with appropriate material.*
- *Infrastructure elements on the facade to be hidden.*
- *Because of being a long building, surface material to be selected pale or a material which will blend the whole building in its surrounding.*

6. Abbas's House

Location:

Coordinates: 41°11'56.48" N 47°11'48.18" E

CHARACTER: The building is a severe case of incompatible buildings because of its many-sided gabled roofs and form selection. The building has a character of a massive block which cannot 'breathe'.

SCALE: The building is resolved spatially with heavy masses. The building is reasonably higher than its surrounding homes which are generally one and two-story low-profile buildings.

FORM: The building is formed up by mixing different 'styles'. Those styles may not be ones theoretically celebrated in the practice of architecture. But because of having certain remembrance of typological form elements, it can be considered that the building was designed with a postmodernist approach. Circular 'view tower' in the area can be perceived as a reference to a minaret of a mosque, but if it is true, it does not follow the proportions.

SITING: The building does not follow spatially garden and building proportions. The entrance faces the street which is a common approach.

MATERIALS & COLOR: Pinky brick, Red metal roofing, green windows and 'snake skin' fence stone are the main materials which differentiated the building even alienate it. Yellow color used on facade is very bright that's why the building is completely distinguishable in the area.

ELEMENTS & DETAILING: Metal lighting on both sides of the entrance door and some around the circular 'view tower', balcony handrail ornaments, window proportions, thick contour on some of the windows, cornices on fences, windows, bas-relief columns of 'view tower', chimney are the main incompatible elements. Proportions of opening do not follow the proportional play of typical Sheki houses.

General Recommendation:

- *If possible, to demolish and redesign and rebuild the project.*
- *If demolishing it not possible, then the possible actions to be taken as below:*

  a. *Replace facade color with paler or with a color that will be appropriate with its surrounding.*

  b. *Replace pinky bricks*

  c. *Replace roofing with terracotta or imitative material*

  d. *Replace green windows. If green windows are against UV rays, then another solution needs to be found.*

  e. *Traditional Sheki ornamentation elements like shebeke and shileser can be paraphrased and used for cornices and balcony handrail.*

  f. *Entrance need to be diminished in its 'fancy' look, should be modest.*

Snakeskin fence wall surface should be changed and adapt to the ones it's surrounding.

7. Small shop (Dükan, market)

Location:

Coordinates:41°11’58.94” N 47°11’39.90” E

CHARACTER: The building has got two stories, both of them are different and are not coherent together—a building with a double personality.

SCALE: Surrounding buildings are designed as one-story different than the Small shop. Because of opening to a public space any building with differentiated scale will be immediately conspicous. Here the shop present itself an individual and does not consider itself a part of it’s vicinity in its scaling

FORM: The only problematic part regarding the form is the second floor. It seems the first floor is a shop and second floor is a house for shop owner. Traditionally side walls of all floor sit on top of each other. Here the second floor is narrower the then first floor. The design of second floor actually makes the building avoid being massive block because of its pyramidal shape. On the other hand, it’s not a common design practice in area.

SITING: The building locates parallel to the street and does not break the ‘red-line’. Thus, not any problem detected.

MATERIAL & COLOR: White plastic window frames, green window glass, second floor facade covering with white PVC panels, roof material for both floors, side wall rosewood color are the main incompatible list of materials.

ELEMENTS & DETAILING: Proportions on the second floor of windows are not compatible with those traditionally used and even with the proportions of the first floor. Opening on top of the first floor at the side wall with rosewood-red color is not compatible also.

General Recommendations:

- *If possible, to remove the second floor or redesign it.*
- *White plastic windows, green glasses, and white facade covering the second floor to be replaced with traditional materials. The first floor can be taken as a reference because red bricks are used on the surface.*
- *Side wall rosewood-red color to be covered with a material which will be similar to the visuals of the street.*
- *Roof material to be changed with terracotta or appropriate imitation.*

8. Wine shop (Dükan Şərab Evi)

Location:

Coordinates: 41°12’02.29” N 47°11’38.89” E

CHARACTER: The wine shop is a small structure with a modest character.

SCALE: The scale of a building constitutes a coherence with it’s surrounding.

FORM: The building has got a rhombic form.

SITING: The building locates on the opposite of Upper Caravanserai and has got open yard on the back and a tree in front of it. The building locates on top of the bridge, which is a recommended site for a building. The siting of the building is successful because of having small stairs in the front and respecting the existing tree. The issue with the building is the location. Because of sitting almost on top of the bridge.

MATERIALS & COLOR: Roof and facade materials are appropriate. Red brick on the surface is too bright and saturated, and it colored. Window glasses are almost mirrors.

ELEMENTS & DETAILING: The building does not have any specific elemental issues.

General Recommendations:

- *Replace colored red bricks on the surface with natural red brick.*
- *Redesign or relocate the building.*

9. House at Pishnamazzadeh str (Ev Pişnamazzadə küç)

Location:

Coordinates: 41°11’59.96” N 47°11’40.31” E

CHARACTER: The building is a narrow-enclosed mass with small openings on top of it.

SCALE: The height of the building is not appropriate, two-storey attic. In total higher than its surrounding.

FORM: The form of the building is a traditional house with a gabled roof.

SITING: Building sites parallel to the street and red-line tolerated.

MATERIALS & COLORS: Facade color, white PVC window frames, roof material are the main inappropriate things in the material category.

ELEMENTS & DETAILING: Proportions of windows on the first floor, dormer window in the attic, are the main incompatible elements.

General Recommendations:

- *Replace roof tiles,*
- *Redesign the first floor windows (depends on the functions) and make them symmetrical to the second floor*
- *Redesign the attic window*
- *Change facade material, coat with either singer or with a material of the fence that exists next to the building.*

10. Pasha's House

Location:

Coordinates: 41°12'11.08" N 47°11'58.57" E

CHARACTER: The building is formed by mixing some traditional-like elements with and extravagant taste. Thus the result is an unsuccessful collage of personal taste with tradition.

SCALE: The building is two-story, not higher or lower than the vicinity. No scale issue is detected.

FORM: The building is almost square with a crown-shaped 'view tower' in the center, which is an inappropriate element.

SITING: The building is placed inside the property; from Google Earth pictures, it has been seen that the building keeps the footprint and garden ratio, but most of the area for gardening is actually surfaced with stone pavement.

MATERIALS & COLOR: Saturated-red roof parts, brownish window glass, dark window frames, whites of cornices, fence wall limestones are the main incompatible materials.

ELEMENTS & DETAIL: Element on top of the crown-shape 'view tower' white cornices, proportions of facade windows, Venetian-Gothic similar arches of entrance part are the main incompatible elements of a building.

General Recommendations:

- *Replace all roof tiles.*
- *Replace the arches of the entrance part (vestibule)*
- *Redesign the cornices*
- *Remove the crown-shape*
- *Coating of fences and walls should be appropriate during the process.*

11. Dr. Rafig's House

Location:

Coordinates: 41°12'02.24" N 47°11'50.29" E

CHARACTER: Because of materials, elements building acquires a character of an alien in the vicinity.

SCALE: The building is three-story and keeps the tolerance level of the general outline.

FORM: The building has a form of a rectangle, long vertical block is intersected from top, probably a staircase block. Traditionally staircases do not have any special block.

SITING: The building sits on the property wall, which is very common for traditional siting typologies.

MATERIALS & COLOR: Grey color on the surface, roofing material, balcony handrails, white cornices, and frames are the main incompatible materials.

ELEMENTS & DETAIL: Shebeke is used for wall decoration. Despite it's been encouraged to use traditional elements for different purposes, here it's unsuccessful example, because of taking too much facade space, and presenting itself as museum exhibit rather than a strong part of facade element. White frames around the windows and white cornice along the roof are not designed successfully due to their thickness and a palpable mass. Ornamentations of balcony handrails are not appropriate as well.

General Recommendations:

- *Replace roof tiles*
- *Repaint the grey part of a building or coat with singir*
- *Remove the thick white frames or lessen the thickness, paint them with a color which will be blendable in the facade and will not be visually tangible from a distance.*
- *Removed shebekes from the facade*
- *Proportions of traditionally used aynabands (glazing) can be taken and vertical glazed part of the building to replaced with. In this way building will acquire modesty.*

Removed the 'snakeskin' fence covering and replace them respectfully to its surrounding.

12. House at the intersection of Azadliq and Teymur Kh. streets

Location:

Coordinates: 41°11’56.85” N 47°11’44.30” E

CHARACTER: Due to it’s proportions and warm material selection, building resemblance more of a model rather than being a building in respect with human scale. That is why the building appears as a collage element. Because of a design approach, building creates an association of restaurant or cafe rather than being a house.

SCALE: The vicinity is mainly one-story low profile; the building is two-story does not fall in the category of successfully scaled.

FORM: The building is a cubic block. First floor created by cut-out method. The second floor sits on thick columns, which is not a common type building in the area.

SITING: The building does not have a garden because it is built on the location of the building which has been a market previously. The building sits parallel to the street and crosses the red-line tolerance level. Thus, the general continuity of the street level is interrupted.

MATERIALS & COLOR: Yellowish stone shape facade covering, roof tiles, ‘snake skin’ building base, are the main materials of incompatibility.

ELEMENTS & DETAILS: Windows proportions, red brick windows contour lines, handrails, and landscaping elements such as fir tree are the incompatible elements of a building.

General Recommendations:

- *If possible demolish and rebuild a new building with a new design*
- *If demolishing in not possible actions as below can be followed:*
    a. *Remove the second floor extension replace it with aynabend and change the support columns with traditional proportions.*
    b. *Replace roof tiles*
    c. *Replace landscape elements*
    d. *Replace handrails.*

Replace all yellowish stone shape covering on the facade.

13. Zenfira's House

Location:

Coordinates: 41°12'09.57" N 47°11'58.82" E

CHARACTER: Building presents itself as a closed solid without a point of breathe. A kind of design approach destroys the modest character of urban setting.

SCALE: Building formed up as a three-story house, considering street width and general surrounding outline, the building exhibits an over-dominance. Scale creates an association of 'castle' rather being a home. Building scale is almost equal to two houses are put together.

FORM: Rectangular form of a building is common type form in the area. The problem appears with the proportions of form to the proportions of the area.

SITING: Building sits on the property wall which is a common siting for traditional houses.

MATERIALS & COLORS: Building is yet to be finished. For this point roof tiles, and whites of cornices are noticed problems.

ELEMENTS & DETAILS: Proportions and form of the windows and drainage pipes on top of the building are the noticed problematic details.

General Recommendations:

- *If possible, to demolish and redesign and rebuild.*
- *If demolishing is not possible, then the actions below can be followed:*
    a. *Remove the third floor*
    b. *Redesign the windows*
    c. *If property area is tolerated instead of one massive building, two building can be built which can be connected together with a certain design agent but to be readable as a different building from outside. This will release the heaviness of building.*
    d. *Replace roof tiles*

14. Folklor House

Location:

Coordinates: 41°12’09.57” N 47°11’58.82” E

CHARACTER: The building is a typical open-air theater on the slope, and it is in the process of abandonment and decay.

SCALE: Despite the building partially hides the facade of Sheki Fortress, the scale is designed appropriately. The building does not over trample the land both horizontally and vertically.

FORM: Form of the building is sloped triangle, similar to Greek open theater. No any issues detected.

SITING: The main problem of the building's siting is that it sits on a slope in front of fortress wall and closes the appearance of fortress wall partially.

MATERIALS & COLORS: White color of theatron, pink color of stage and technical building, 'snakeskin' of base part of technical building are the main detectable color problems.

ELEMENTS & DETAILS: Because of being a typical open theater and relative comparison between typical Sheki building and this building can not be carried out. But the stage and technical building have elemental issues which are: the battlement cover the top-outline of the building, ornamented frames of windows, and proportions of windows.

General Recommendations:

- *The condition of the building is abandoned, it is probably because the building did not meet the standards of service or the necessity of having a folklore house in the area became less important. In both cases, if the structure is not demanded anymore, actions below can be applied sequentially:*

a. *Rehabilitation period to be decided*

b. *During a process of rehabilitation a new adaptation design and a program to be prepared. A new design should consider keeping the form as it is and giving it more blendable appearance to hide the amphitheater on the green slope.*

c. *Top part (one or two rows) of the building to be removed in order to create an adequate visibility for the fortress wall behind it.*

d. *Techcnial room and the stage to be removed and a new lightweight, modulor, easy constructuble structure to be erected.*

e. *Wood and lightweight metal elements can be used for any new structures.*

A new design and a program will help to lessen demolishing works, and adapt the building to its environment and at the time will create a new recreation space for people.

8.5. Unused buildings

There are some unused public and residential buildings in the historic city some of which are historic buildings. Urban Regeneration Plan includes proposals for using these buildings. The proposals should be offered to stakeholders and the wider public for consideration, and their views should be sought. These proposals should be flexible and can be changed if more loyal proposals are received from stakeholders, even if their initial appointment is a priority.

8.6. Archeological studies

The historic center of Sheki has potentials for archeological studies to learn more about the monuments and town. Circular Temple, area inside the Fortress come as priority places to conduct archeological excavations.

During the construction and structure excavation, it is possible to detect the materials of archaeology. In this case, the works are suspended, and the issue is solved at the level of government institutions and specialists according to the Law.

8.7. Tourism

Although there are many hotels, artisan shops and workshops on the main tourist routes of the World Heritage Site, there is a lack of open canteens or teahouses for recreation. The yards of the residential houses can be used for this purpose which is very good tool to develop community tourism in the Site without having additional burdens on the town.

The following conditions should be considered when the adaptation of dwellings into recreation places:

- Business in residential houses should be organized mainly by the owners or residents of those houses
- Residents themselves should be involved in working in this business
- The work should not disturb the peace of the neighbors and cause them to complain
- Parking of visitors' cars should not impede the movement of pedestrians and vehicles.

Industrial use of the dwelling is not recommended.

Also, there are many unused houses in the world heritage site. Some of them can be used for accommodation as Bed & Breakfast facilities or rented through negotiations with the owners. Owners should be aware that if the dwelling remains unused and is not regularly maintained, it will lose its former condition, and therefore should be motivated to use it.

9 Action Plan

CONSERVATION AND REHABILITATION ACTION PLAN

The First Stage of Conservation and Rehabilitation Action Plan 2020-2023

Action	Responsible party	Finding Resource	Time Period
Restoration of Fortress Walls including the landscaping of the area, streets and roads inside the Fortres Walls	RMC & Reserve administration	State Investment Fund of the State Tourism Agency	2020-2023
Restoration of buildings inside Fortress Walls: Art Gallery, Historical Museum, the building of Former Ophthalmology Hospital (will be used as Administrative building for Reserve team) , former Diabetic Hospital (will be used as Event Hall), Soldier's Pray House (will be used as Cultural Artifact Storage of the Reserve)	RMC & Reserve administration	State Investment Fund of the State Tourism Agency	2020-2022
Restoration of Khan Mosque and the Khan's graveyard	RMC & Reserve administration	Fund from Heydar Aliyev Foundation	2021-2023
Restoration of Round Temple and Shabaka Workshop inside the Fortress Walls	RMC & Reserve administration	Investment Fund of the State Tourism Agency	2021
Conservation of Khan Palace	RMC & Reserve administration	Investment Fund of the State Tourism Agency	2022-2024
Conservation of Shekikhanovs' House	RMC & Reserve administration	Investment Fund of the State Tourism Agency	2022-2023
Restoration of Aghvanlar and Dara Hamams	RMC & Reserve administration	Investment Fund of the State Tourism Agency	2022-2023
Carvanserais (Upper and Lower)	RMC & Reserve administration	Investment Fund of the State Tourism Agency	2021-2023
Prison Building 2 inside Fortress Walls	RMC & Reserve administration	Sheki Art Residence NGO	2020-2021

The Second Stage of Conservation and Rehabilitation Action Plan 2023-2025

CONSERVATION AND REHABILITATION ACTION PLAN

Action	Responsible party	Finding Resource	Time Period
Restoration of 3 x historical arched bridges and Prison Building 1 inside Fortress Walls	RMC & Reserve administration	Investment Fund of State Tourism Agency	2023-2025
Restoration of 2 functioning Watermills	RMC & Reserve administration	Investment Fund of State Tourism Agency	2023-2025
Restoration of 5 Merchant Houses out of 30 ones	RMC & Reserve administration	Private investment is seeking	2023-2025
Restoration of 2 Silk Factories	RMC & Reserve administration	Private investment is seeking	2023-2025

Reference list

1. Araz Dadashzadeh, “XVIII əsr Azərbaycan lirikası”, Baku: Təhsil, 2017
2. Aleksandr Duma. “Voyage to Caucasus”, Paris, 1859
3. Азербайджанская Советская Социалистическая Республика. Под ред. Введенского Б. А. “Малая советская энциклопедия: Большая советская энциклопедия”, Т. 1. 1958.
4. A.R.Salamzade, M.A.Ismayilov, K.M.Mammad-zadeh. Sheki (Historical-architectural essay). Baku, Science-1988.
5. Archive materials of the Institute of Manuscripts named after Fuzuli of the ANAS
6. Веймарн Б. Росписи, “Дворца-музея в городе Нухе”, № 3., Москва, Ленинград: Искусство, 1938.
7. Сегаль, И. Л. Елисаветпольская губернии. Впечатления и воспоминания. Тифлис: Кавказский вестник (1902).
8. Скубченко Г. М. “К вопросу о состоянии Ханского дворца в городе Нухе”, «Памятники архитектуры Азербайджана. Сборник материалов». Москва, Баку, 1946.
9. Design In Context’ by The Royal Australian Institute of Architects NSW, 2011. https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Heritage/design-in-context-guidelines-for-infill-development-historic-environment.pdf
10. Description of the Persian invasion of Georgia in 1826. Notes of M.E.Kotsebu // Caucasian collection, Volume 22. 1901.
11. Ениколопов И. “Нухинский дворец”, Научный архив Института истории АН АзССР. инв. № 1023, 6, 1940
12. Elmira Muradaliyeva, Города Кавказа на Великом Шелковом пути (The towns of Caucassus at the Great), *Кавказ*: Baku. 2011
13. Façade drawings, Sehran Mammadov’s personal archive (architect in Sheki)
14. F.Kocharli. Azerbaijani Literature. Volume I, 2005.
15. G. Mammadova, T.Abdullayev, S.Hajiyeva, E.Aghamaliyeva. Architectural monuments of Sheki. Baku. 2003
16. Kerr, James Semple (2013) *Conservation Plan, the 7th edition: A guide to the preparation of conservation plans for places of European cultural significance.* Australia ICOMOS
17. Karim agha Fateh “Şəki xanlarının müxtəsər tarixi”. “Azərbaycan Ensiklopediyası”. Baku 1993.
18. Millennium Ecosystem Assessment, 2005. Ecosystems and Human Wellbeing: Synthesis. Island Press.Washington, DC, p. 137.
19. Manuscripts of R. B. Afandiyev, “About archeological monuments in Nukha district”. Baku, Institute of Manuscripts, 1927.
20. Мамед-заде, К. М. “Строительное искусство Азербайджана”. Баку: Элм. (1983)
21. Миклашевская Н. М. “Стенные росписи Азербайджана 18-19 веков”. Искусство Азербайджана. Баку, 1954. — Т. 4.
22. Mammadli Z. “Şəki Xan Sarayı”, Baku: Tutu, 2006
23. Nukha. Thomas Spencer Baynes (IX edition/ XVII volume). The Henry G. Allen Company: The Encyclopaedia Britannica: a dictionary of arts, sciences and general literature. 1890.
24. Nadir Zamanov. “Nizami Poem and Fine Art”. “Science” Publishing house, Baku, 1981
25. Photo materials taken from the National Archive of Georgia.
26. Plans and drawings, “Azerberpa” Scientific-Research Project Institute
27. Passports of monuments, “Azerberpa” Scientific-Research Project Institute, 2013
28. Rasim Efendi. “Art of Azerbaijan”. East-West Publishing house, Baku, 2007
29. Rasim Efendi. “Azerbaijan Decorative Arts”. “Ishig” Publishing house, Baku, 1976
30. Radó Sándor. Guide-book to the Soviet Union. 1928
31. Shamil Fatullayev- Figarov. “Urban planning and architecture of Azerbaijan in the XIX-early XX centuries”. Leningrad 1978
32. Salamzadeh A.R., Mammadzadeh K.M. “Şəkinin memarlıq abidələri”. Baku: Elm, 1987
33. The story from a book, written by an anonymous person belonging to the sect of Muhammad, Institute of Manuscripts, code B-589/10505, pp.: 51b-52a.
34. Бретаницкий Л. С. “К истории Дворца Шекинских ханов”. Труды Института истории им. А. Бакиханова. Баку, 1947.
35. Бретаницкий Л. С. “Дворец Шекинских ханов”. Архитектура Азербайджана. Баку, 1952.
36. Энциклопедический словарь Брокгауза и Ефрона: В 86 томах (82 т. и 4 доп.). СПб. 1890-1907
37. Фридолина П. П., “Дворец в Нухе”, Архитектурная газета, 1937.
38. Флора Наджи, Арзу Ашраф гызы, “ХАНСКИЙ ДВОРЕЦ”, YOL: №1 (49), 2015
39. Шеки/ Под ред. В. М. Полевого . Популярная художественная энциклопедия: Советская энциклопедия. 1986.
40. Шəки Ханларынын Сарајы/Под ред. Дж. Кулиева (Т. 10.) Азербайджанская советская энциклопедия:Главная редакция Азербайджанской советской энциклопедии. 1987.
41. Illustrations by Panaiotis Kuklidis

ANNEXES

Annex 1: Table of information on the medicinal plants found in the area

Title	Scientific classification	Characteristics	Usage
Yarrow	Achillea Millefolium	Perennial herbaceous plant. It contains vitamins, efirium and fatty oils, flavanoid, alkaloid, glycoside.	Neurosis, colds, rheumatism, and many diseases
Tussilago	Tussilago Farfara L	Perennial herbaceous plant. It contains vitamins, efirium and fatty oils, flavanoid, alkaloid, glycoside.	Veterinary, wart and corns, inflammatory processes, wounds and ulcers
Nettle	Urtixa Dioica	Perennial herbaceous plant. It contains various vitamins, carotene, efirium, and fatty oils.	Blood coagulation, bleeding, polyps and tumor diseases
Cichorium	Cichorium L	Perennial herbaceous plant. It contains flavanoid, various vitamins, carotene, efirium and fatty oils, bitter substances, carotenoids.	Veterinary, liver, atherosclerosis, jaundice, toothache, diabetes mellitus, gastrointestinal diseases
Anise	Foeniculum Vulgare	Perennial herbaceous plant. It contains coumarins, flavanoids, efirium and fatty oils, steroids and sntosians.	Diseases of the kidneys, urinary bladder, respiratory tract, eyes, neurosis, bronchitis. It is anti-bacterial.
Berberis	Berberis Vulgare L	It is a bush plant. Its fruit is dark red or yellow-red. Contains alcohol, coumarin, vitamins, fatty oils, vaccine ingredients, etc.	Diseases of the eyes, kidneys, rheumatism, gall and urinary bladder.
Sumac	Rhus Coriaria	It is a bush plant. Its fruit is red or dark red. It is rich with C vitamin, flavonoid, antosian, carotene.	Kidney, gall, rheumatism, diarrhea, thiroid, pneumonia, bleeding, Inflammation of the oral cavity, etc. It is antiviral and anti-bacterial.

Title	Scientific classification	Characteristics	Usage
Plantago Major	Plantago Major L	Perennial herbaceous plant. It contains coumarins, flavanoids, efirium and fatty oils, steroids, and anthocians.	Tuberculosis of the lungs, intestinal ulcers, gastrointestinal, skin, kidney, intestinal ulcers. It is anti-bacterial.
Althaea	Althaea officinalis L	Perennial herbaceous plant. It contains coumarins, flavanoids, vaccine ingredients, efirium and fatty oils, steroids and anthocians.	Diseases of the respiratory tract, bronchitis, bronchial asthma, stomach.
Black elder-berry	Sambucus Nigra L	It is a bush plant. Rich in C vitamin, flavanoids, oils, pitch, antocian, vaccine ingredients, carotens.	Diseases of the intestine ulcers, cardiovascular diseases, prostatitis, measles, arthritis, radiculitis, etc. It is anti-bacterial.
Polygonum	Polygonium aviculare L	Annual herbaceous plant. Contains cumarine, flavanoid, efirium oils	Tuberculosis of the lungs, malaria diseases, tumors, gout, gall bladder, kidney, skin diseases.
Smoke tree	Cotinus coggygria	Vitamin C, coumarin, flavanoid, efirium oils, steroids, vaccine ingredients	Gastrointestinal, liver, various tumors, stomatitis, diarrhea, purulent wounds, burns and rheumatism. It is anti-bacterial.
Inula helenium	İnula helenium L	Saronins, sesquitar, coumarin, flavanoid, efirium oils, vitamins, bitter substances, pitch	Rheumatism, arthritis, epilepsy, wounds and tumours.
Caraway	Carum Carvi	Biennial herbaceous plant, coumarin, flavanoid, efirium oils, vitamins, bitter substances, pitch	Gastrointestinal, urinary bladder, gall, eye neurosis, tuberculosis, etc.
Dog-rose	Rose	Perennial herbaceous plant. Vitamin C, efirium oils, etc.	Diseases of the gastrointestinal tract, kidneys, urinary bladder

Annex 2: Aghvans hammam

Figure 98. Aghvans Hammam

Historical context

In the cities of Azerbaijan as in the eastern feudal states, hamams were a meeting place for residents of the mahalla, in addition to their sanitary and hygienic functions. It was possible to hear the latest news here and relax and spend time. One of them is Aghvans Hammam (popular as the “Gochu Abbas”). The hammam was built by Gochu Abbas, an entrepreneur who was one of the residents of the neighborhood in the XIX century. The name “Aghvans” is due to its location in the neighborhood of the same name. Since the hammam is located on the main road up to the fortress, near the caravanserais, it is assumed that foreign guests, merchants who came to the city, mostly used this hammam.

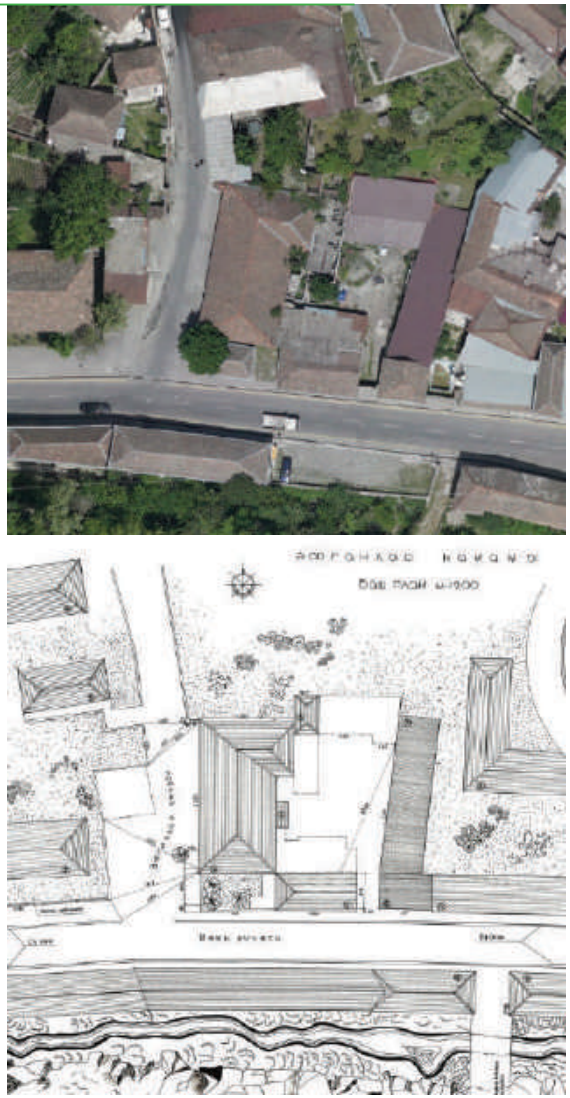


Figure 99. Position plans for Aghvans hammam. Image 1 from the left: Satellite shooting 2020, Image 2: line of measuring works 1982

Figure 100. Outside hall and dome

Monument description

Aghvans hammam is located at the intersection of Mirza Fatali Akhundzade Street, at the 1 Aghvans Street, Sheki city. The hammam repeats the traditional structure of Azerbaijani hammams of the Middle Ages.

There is a inscription on the rock on at the entrance door. In Arabic, verses 51-52 of Surah Al-Qalam of the Qur'an are engraved:

"And indeed, those who disbelieve would almost make you slip with their eyes when they hear the message, and they say, "Indeed, he is mad." But it is not except a reminder to the worlds!"

The building was built from the usual rock stone, baked brick, glazed stone. The building is about 50 cm deep since it was built at the ground level. The height is 10 m. Small rooms are only 31.6 m2. The total area is 82 m2.

The solution of the facade, divided into several parts with vertical jagged protrusions is very interesting. In one of these parts there is the entrance, which is distinguished by its arc, and in another there are windows framed with figured mesh. Vertical potrusions are made of interchangeable bricks and stone slabs. A four-slope tall roof covering is typical for the hammam. Side facades of the building have also been designed in this way.

When entering the hammam, a tambour with an ornament and a corridor leading to the main rooms appears. On the right side of the entrance, there is a window opening to the Akhundzade street and on the left side there is a cash office. The cash-office has a light wooden construction, there is a door and a window for ticket sales. The top is covered with wood in the same way. Floor of the corridor is covered with baked bricks of 24x12x5 cm. At the end of the corridor there is a small technical room and the entrance door of the "outside" hall.

The hammam consists of two large rectangular halls (outside and inside), separated into several small parts by 4 pillars and combined auxiliary rooms. Some of them are designed to be changing rooms. These parts are called "outdoor" or "outside", the width is 4.20 meters, length is 10.30 meters (43.86 m2). When entering the ouside hall, on the right side there is a technical room where the towels and necessary means for hammam are kept, and on the left side there is a staircase to up to the private room above with the stairs. Floor is covered with divided rock stone plates. The octagonal water pool in the middle of the outside hall is attractive. Internal size of the pool is 140 cm. On the right and left sides of the pool, there are corners for undressing and dressing at a height of 60 cm above the level of the pool. There are separate pillars (totally 6) for climbing into each corner and 2 arches (totally 12) for putting shoes around each pillar. Designed for the storage of clothes and necessary means for hammaming, the shelves are placed on the wall to ensure the comfort of the changing room. From above the hall is covered with dome-shaped cut-hole light lanterns and decorated. The corridor between the outdoor room and inner room is separated from the corridor leading to the inner courtyard.

The main hall and auxiliary rooms around it are called "indoor" and are intended for hammaming, the area of which is 60 m2 (6 m x 10 m). These two groups of rooms combined with a system of auxiliary rooms. There are 7 small pools for washing in the inner hall. There is an entrance from the main hall to the secret place section. This secluded place itself is divided into 3 cabins with small arches.

The private hammam room at the back entrance of the hammam consists of small rooms. It is believed that a private hammam room should be used by noble men and wealthy merchants.

Figure 101. Appearance of inner hall.

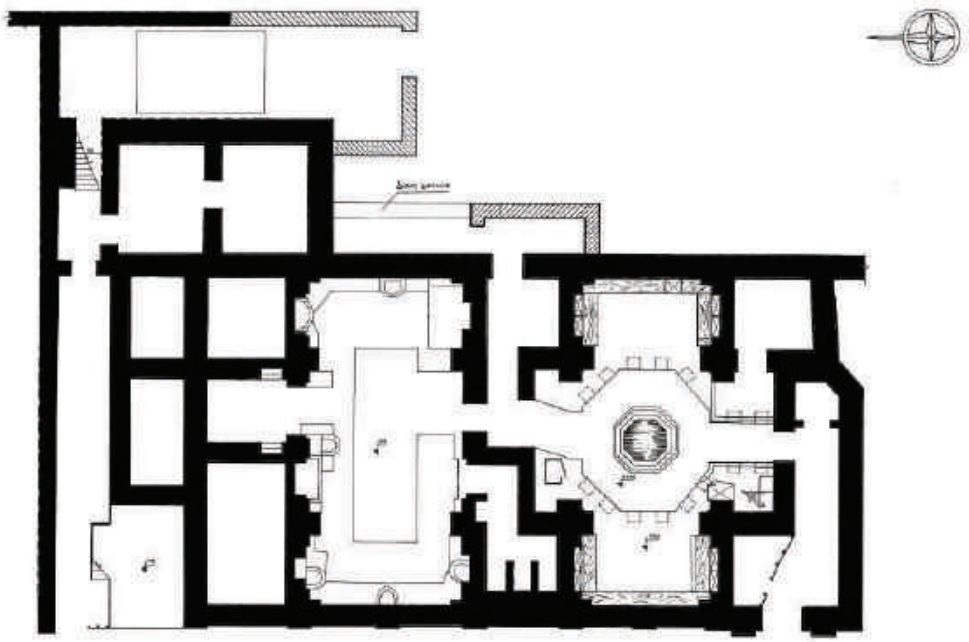


Figure 102. Aghvans hammam. +1.20 level plan

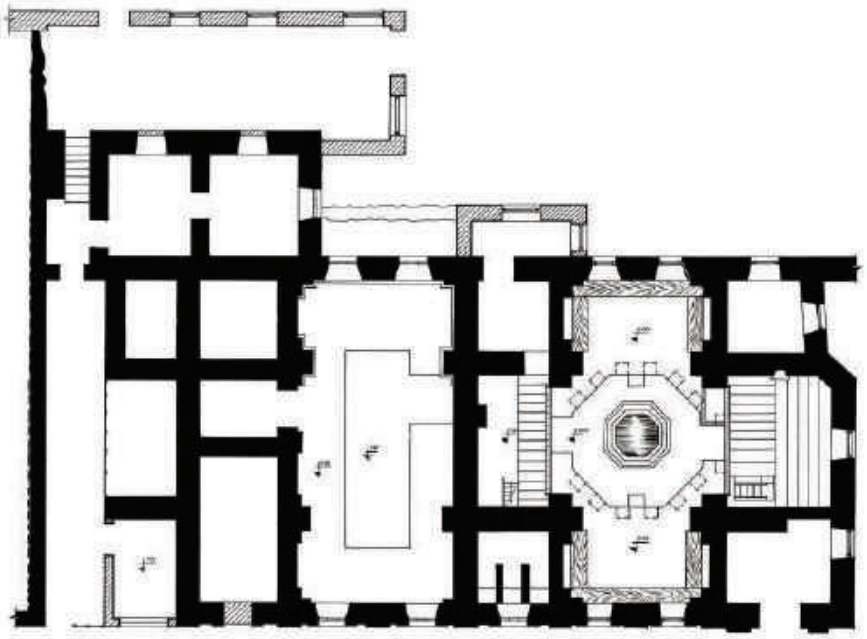


Figure 103. Aghvans hammam +2.00 level plan

Importance of monument

The hammam is of great importance as an example of historical architecture in the style characteristic of Sheki architecture in XIX century. Aghvanlar hammam was registered as a monument of national importance.

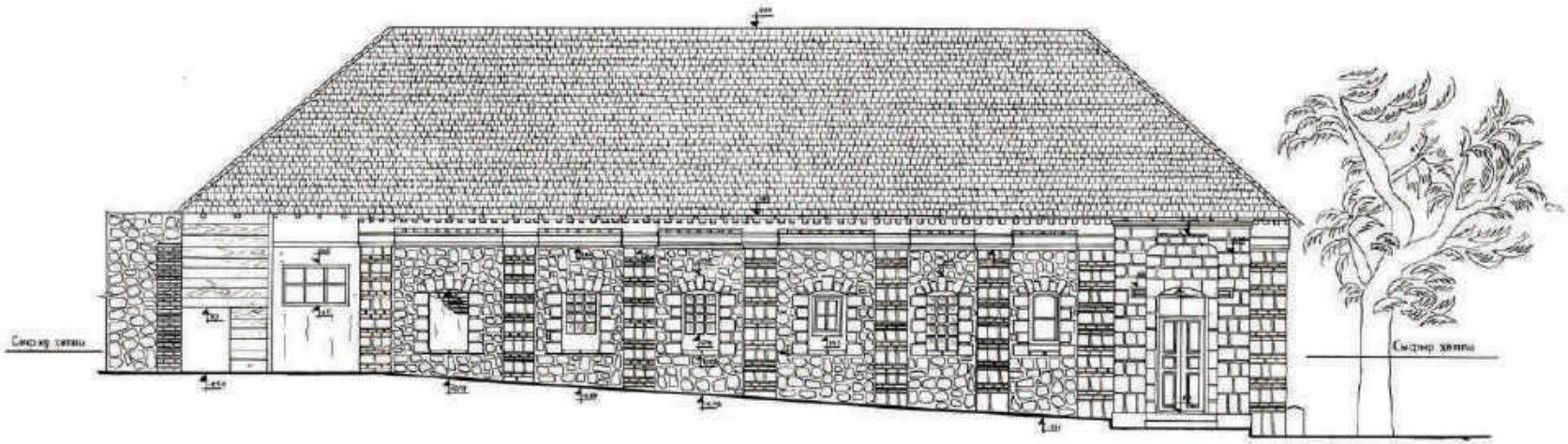


Figure 104. Aghvans hammam, front facade scheme

Conservation Analysis

In the early Soviet period, natural stone and brick covering of the front facade was bleached, some windows were replaced with empty glass blocks, and some of them built with brick and plastered. According to local residents, the hammam is bleached every year on the “October” holiday. Like other hammams in Sheki in the 1950s, Aghvans hammam was also heated with black oil. For this purpose, to the eastern facade of the hammam were added a boiler room and its supply facilities - fuel tanks, metal chimneys. A part of the technical entrance on the front facade was built and since then it has been operating as a shoe repair place.

In different periods, undocumented repair work was carried out in the interior of the hammam. Floor of the “inner” room was raised in the central part of the room by pouring concrete at a height of 150 mm and covered with flooring tiles. Wooden lockers were added to hang clothes in the “outside” room. In some places, floor covering is changed and covered with mass-produced flooring tiles and dalles.

The first measurement works of the monument were carried out in 1982 by a Special Scientific Recovery Production Workshop, on the basis of which the restoration project was developed, but not implemented.

In the first years of independence, from the mid-90s, the activity of the hammam was stopped.

In 2012, within the framework of repair work carried out along M.F.Akhundzade Avenue, with the participation of experienced local architects and masters, the roof of the monument has been renewed by traditional method, color of the facade has been scraped and cleaned. With the cleaning of the facade, traditional stone and brick masonry layer of the hammam and the inscription on the gate were exposed. Tall metal chimneys of the boiler room behind the hammam were dismantled.

Despite the good condition of the tile coating and roofing construction, numerous abrasions, injuries and masonry ruptures are observed on the top of the dome and roofing in the garret. The arch cover of the cold water and hot water reservoirs collapsed.

Numerous small and medium-sized cracks are observed on the front facade and on the inside walls. (Figure 106)

The building is in satisfactory condition. Currently not in use.

Figure 105. Present view of the boiler-room.
b. Garret, water ponds and technical entrance

Figure 106. Main visible cracks and damaged parts (from left to right) a. at the arch of the entrance corridor, b. - the arch of “inner” room with a water pool, c. - the cornice at the top of the annex of the technical entrance, d. - Pillar in the outdoor room.

Discussions and recommendations

After the hammam is restored, it is planned to return the initial appointment of the hammam. An informational plaque should be placed on the monument at the entrance to the hammam.

As part of the diagnostics of the monument, it is planned to scratch the upper plaster of the inner walls of the hammam and collect information about the condition of the lower layer. It is important to use waterproof solutions, provided that the historical texture is preserved.

The hammam should have a modern, energy-efficient gas heating system. Historically, although the floor of “inside” room of the hammam was heated by the burning wood smoke of the ashtray room, its modern application should be using a warm floor made of underground composite pipes.

To restore the hammam and adapt it to its previous appointment, the following recommendations should be taken into account:

1. Empty glass blocks on the windows on the facades should be removed, windows of the hammam should be returned to their former appearance. (1982’s measurement works should be used as reference).

2. Cover of water reservoir rooms (ponds) must be restored again.

3. Former water ponds should be adapted to such purposes as a cold pool, sauna and massage zone.

4. Construction and equipment of the boiler room extended during the Soviet period should be abolished, and should be turned into a teahouse/rest corner of the hammam.

5. Former secret (secluded) place can be used as shower cabins.

6. Useless lockers should be removed in the outside room. New wardrobes should be adapted to the existing stalls and niches.

7. Special rooms in the outdoor room should be used as a continuation of the dressing room.

8. Cash desk in the entrance corridor must be replaced by a new architectural solution.

9. The small technical room at the end of the entrance corridor should become a lavatory.

10. Between the interior and exterior rooms, the corridor with access to the internal courtyard should become a lavatory.

11. It is advisable to continue the activity of the shoe shop adjacent to the technical entrance.

12. The water tank tower of the neighbor house pollutes the image of the front facade area. The water tank should be taken from this area and put it in the yard part of the house.

Tourism opportunities and challenges and other issues

As the monument is located on the main tourist route (at intersection of M.F.Akhundzade Avenue and Aghvans Street), its tourism opportunities are very large. Since hammams in the Eastern culture are both a traditional place of rest and a place where the community is socialized, the use of this ancient hammam for its elements of beautiful historical architecture in accordance with its previous destination will become one of the main points of interest of tourists coming to Sheki.

Financial resources for restoration of the monument

Funding for the restoration of the Aghvans hammam will be at the expense of the state budget. Restoration work is expected to begin in the near future (2021-2022). After the monument is restored, it will be put into use as a hammam.

Annex 3: Khan Mosque

Introduction

The Khan Mosque and Khan Cemetery, under the name of ”Mosque and Grave”, is a monument of architecture of national importance of the XVIII century (1745-1750), taken to the state protection by registration # 329. After the establishment of “Yukhari Bash” State Historical-Architectural Reserve in 1967, it was inventoried as a historical and architectural monument and taken into special protection. Since that year, its protection was given to the management of the “Yukhari Bash” State Historical-Architectural Reserve.

Some information about mosques and graves (historical-religious and ethnographic data, drawings and plans, architectural elements, and importance) in the passport of the monument prepared by the “Azerberpa” Scientific-Research and Project Institute, was used in the preparation of the conservation plan of the monument.

Historical context

The Mosque was built by the Sheki Khan, Haji Chalabi Khan in 1745-1750. Haji Chalabi Khan is the founder of Sheki Khanate (1747-1755). He headed the Sheki uprising in 1773 against the Iranian authorities and seized power. Haji Chalabi Khan, resisting Nadir Shakh, who attacked Sheki in 1744-1745, then pursued a policy of uniting Azerbaijani lands to Sheki Khanate.

During the Soviet period, the Khan Mosque first functioned as a warehouse. In the 1980s, the mosque was the place where the club of intellectuals was regularly convened. The club was a community uniting different creative personalities and scholars of its time, and subsequently became the venue for discussion of important issues. Although the monument has been restored as a mosque since years of independence, its use as a mosque has been stopped to protect it in 2016.

Inscriptions on the gravestones of the Mosque and Cemetery tell about the history of their formation, the author, and the identity of historical persons related to their creation.

Figure 107. The courtyard of the Khan Mosque (1970)

Description

Khan Mosque

The Khan Mosque is located in the area of ancient “Bazar Bashi” settlement, at 140 Fatali Khan Khoyski Street in Sheki city. In the south-east of the Mosque, there is a large square and “jimja” at the intersection of Fatali Khan Khoyski and Ganjlar (Youth) streets.

In the construction of the Mosque, local building materials - river stone, baked brick, limestone, tile and oak, beech, poplar wood were used. On the northern facade of the Mosque, there is an external arched gallery built of baked bricks. Starting from the gallery, the brick minaret enriches the Mosque’s scope-venue solution and fixes its appearance. Plane trees and a pool in the courtyard of the Mosque give special beauty to the building.

Entrance doors to the courtyard of the Mosque are made of wrought metal. The entrance to the Mosque building is from the north facade of the arcade balcony. In addition to the Mosque building, there is a kindergarten #2 and a Young Workers House where several families took refuge in. The main entrance of the Monument is from the north. The courtyard area of the Khan Mosque is 1200 m2. In the courtyard, in front of the building entrance, there is a water pool and 6 ancient Eastern chinars (plane trees). A fence of the courtyard which opens to Fatali Khan Khoyski Street was built with a rock with brick columns on them. These columns are fastened with metal fences.

The mosque is surrounded by a cemetery with 10 graves in the south. The courtyard of this cemetery rounded up by a fence made of river stone.

The walls of the Mosque are made of river stone and lime. It has a rectangular plan structure. The length of the Mosque is 47.73 m, width is 15.3 meters. The Mosque consists of an arcade porch made of brick, a prayer hall, a basement floor in the western part, and a minaret built of brick. The porch pillars and arches are made of baked brick with a size of 24x12x5 cm.The height of a prayer hall is 4.28 meters. The floor was replaced with non-traditional bricks of 34x12x5 cm during repair works in 1979. On the right side of the north facade, stairs are leading to the minaret. 12 wooden columns on the long central axis of the prayer hall support the roof farms. Wooden columns have a diameter of 22 cm and a height of 4.25 m. In the interior of the hall, there are 3 niches with 82cm on the surface of the north facade. There are two different types of mihrabs here, supplementing the monument’s interior with their architectural solutions.

The thickness of the walls in the prayer hall is 1.05 meters and they were built of rock covered with lime mortar, and the arches, corners, and window edges of the building were built of baked brick. Since the Mosque is located on the relief, it has a height of 6.0 m from the east and 2.6 m from the west. The height of the basement layer located in the western part of the monument is 2.54 m. On the basement floor of the Mosque, there are five rooms of different sizes and a veranda of 3.07 m along the length of the basement. There are three windows niches on the western wall of the basement layer, two on the southern wall, and one on the northern wall. Rooms have niches with a depth of 40 cm on the inner surface of the walls.

The edges of the arches are framed by bricklaying, while the upper parts are made of rock. There are three-door niches and on the left side two windows niches open to the porch.

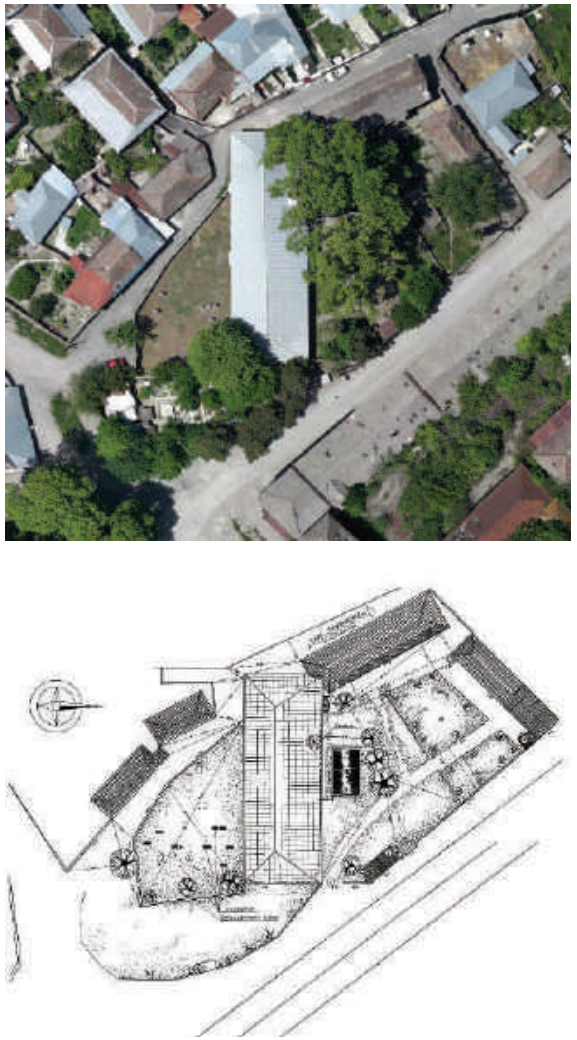


Figure 108. The Khan Mosque Complex

The edges of the arches are framed by bricklaying, while the upper parts are made of rock. There are three-door niches and on the left side two windows niches open to the porch.

All three entrances of the prayer hall open to the arcade porch located on the north facade. The edges of the doors were decorated with platbands, while the upper parts enriched with floral ornament and solved with gypsum decorations formed from the intersection of semicircles. All three exterior doors of the Mosque were decorated with numerous wooden ornaments and kept their original appearance. The height of two-layered doors from wood material is 2,72 meters.

In the center of the lower part, which is separated by a complex section of doors, there is an engraving element decorated with circles of different diameters, the upper part of which is supplemented by Moon and Star elements.11 windows niches were opened on the back of the building, i.e. on the southern, and 2 ones on the western facades. The center of the south facade, the back of the wall where the mihrab is located from inside, is built in a special form with baked bricks.

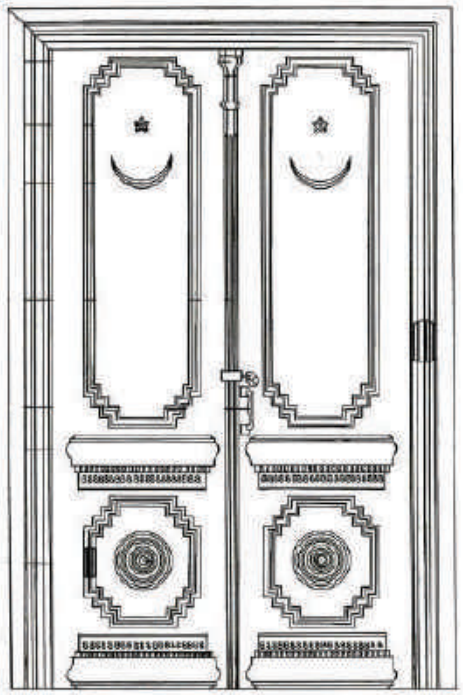


Figure 109. Entrance

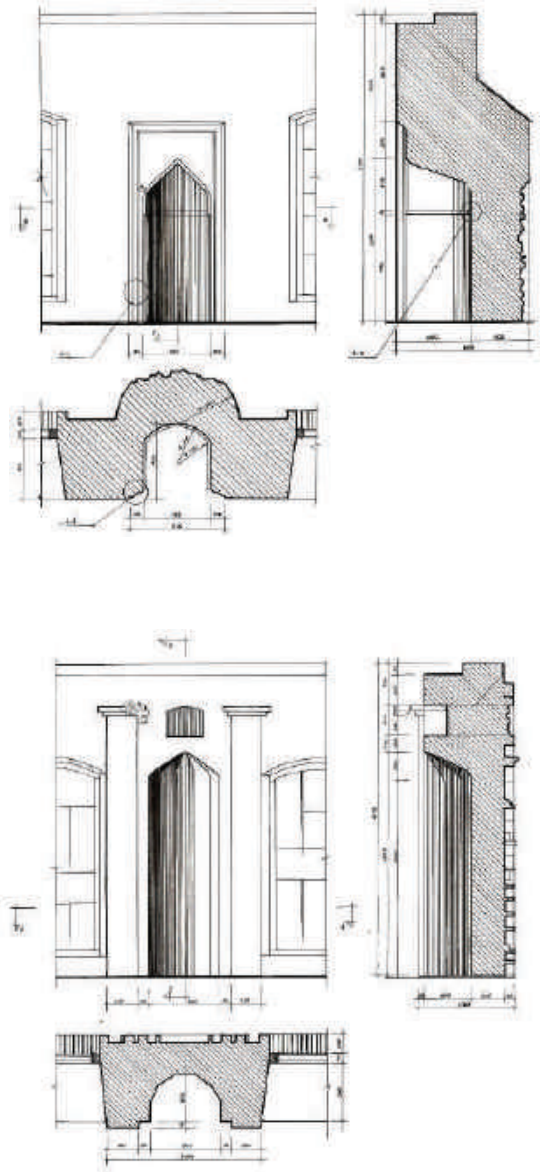


Figure 110. Sketches of mihrabs in the Khan Mosque

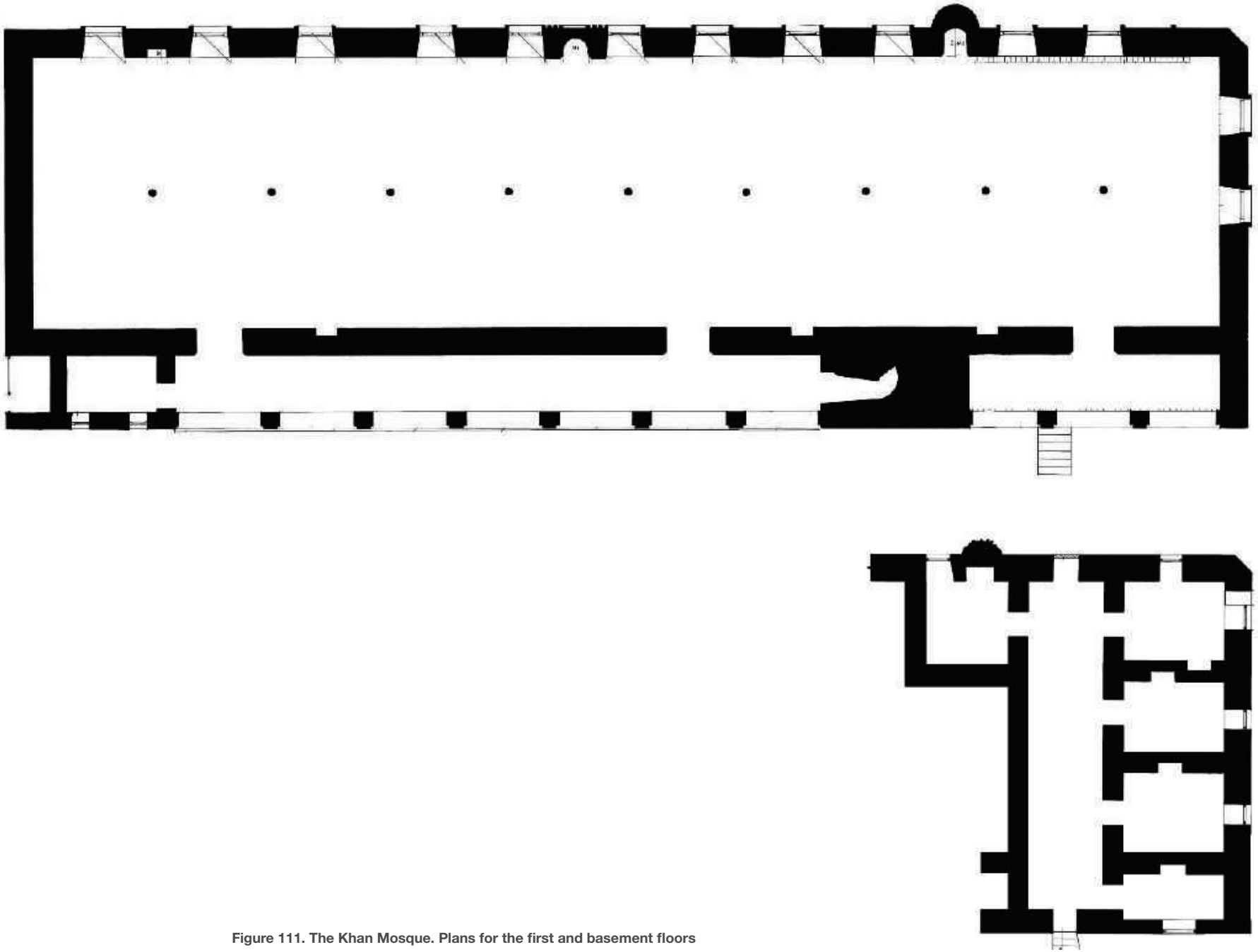


Figure 111. The Khan Mosque. Plans for the first and basement floors

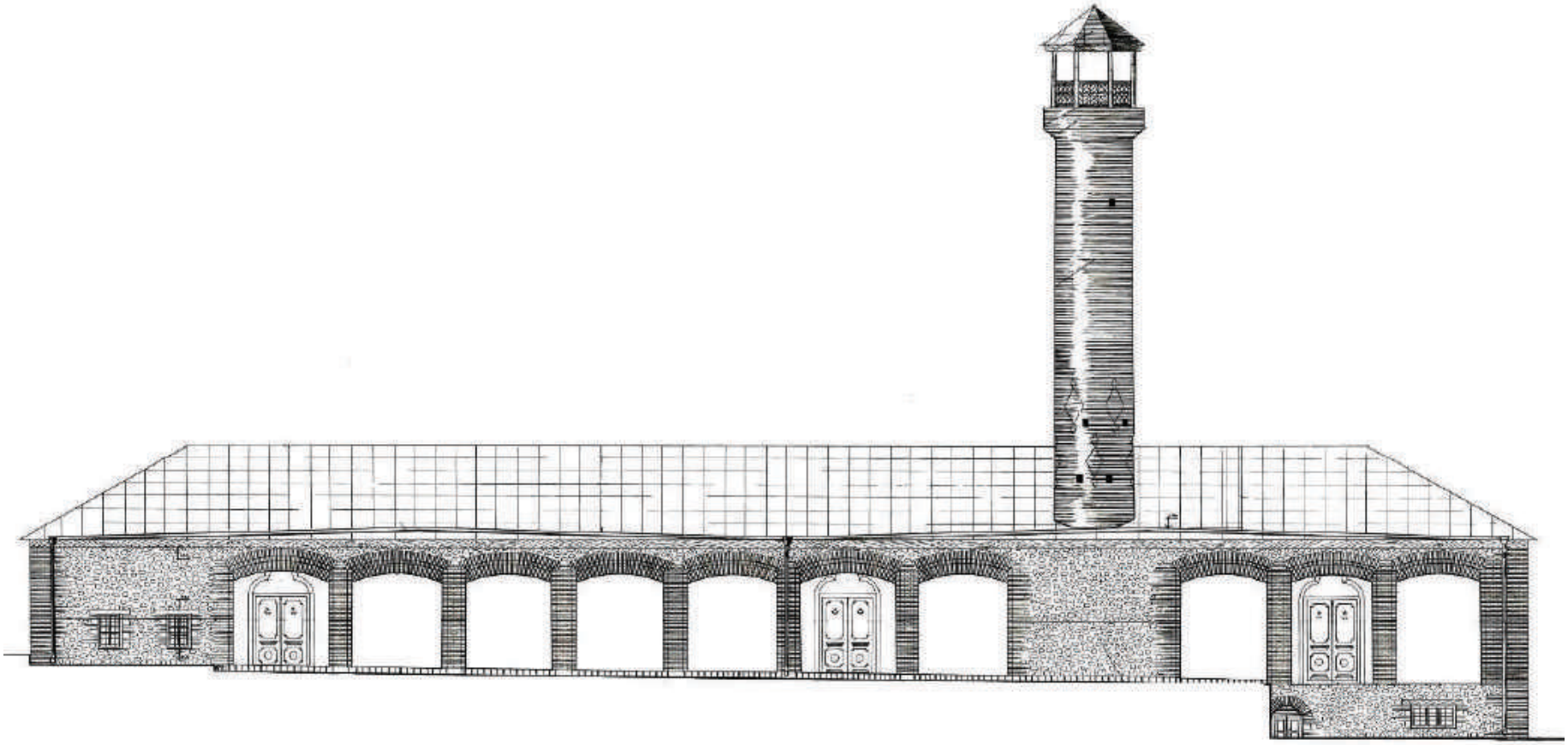


Figure 112. Front facade of the Mosque

Minaret

The height of the minaret is 19,39 cm, the diameter of the circumference of the plan cross-section is 2.48 meters in the form of a cylinder. Minar the interior of the building is a staircase built of baked bricks and wooden stairs. The thickness of the wall is 39 centimeters. On the surface of the wall, there are niches with 20 width for lighting. Sharafa part goes beyond 22 cm on the surface of the minaret. In the lower part of the minaret's body surface, there are two-layered patterns in the form of rhombus. Minaret's porch has a roof in the form of a tent covered with metal plates over supported by 8 wooden bearings. Sharafa's hand-rails were later replaced and installed from metal. The height of its trunk to the top of the cornice is 13,94 m, and the height of sharafa is 3,17 meters.

Figure 113. Interior banisters of the minaret

Mosque courtyard

A fence connects to the facade of the Mosque from the left side. Stone and brick were used in the architectural solution of the entrance gate's portal to the yard (Figure 8). The Gate of the portal is decorated with wrought metal elements. A small roof was installed on the top of the gate. There are 4 Eastern plane trees in the courtyard of the Mosque. There are 4 old Eastern plane trees in the mosque yard, and 1 in the courtyard of the cemetery. These trees, which have remained intact until today, are easily distinguished in the urban landscape of Sheki. There is a water pool in the courtyard, in front of the entrance to the building.

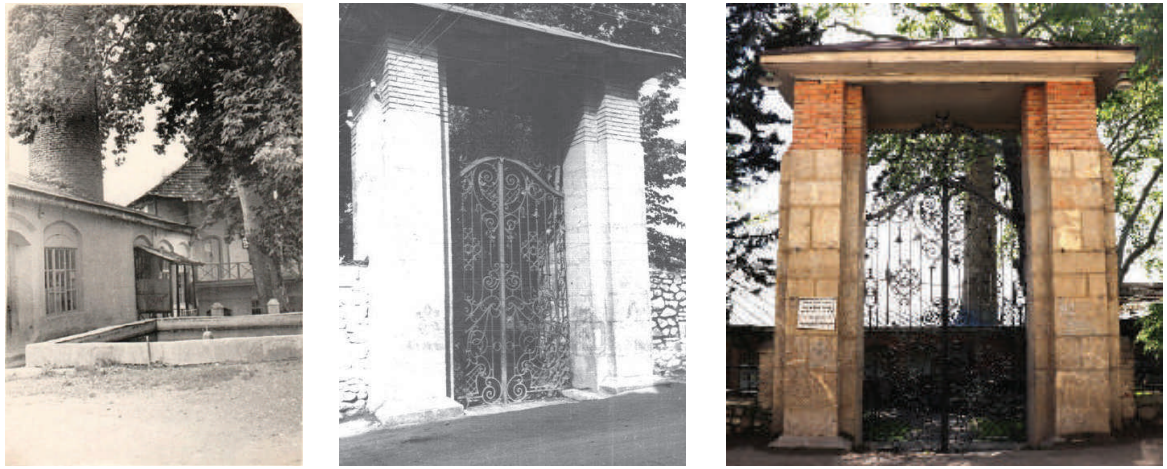


Figure 114. The first picture from left to right - the courtyard of the Khan Mosque (1970), the second and third pictures - entrance portal of Khan Mosque courtyard (the second picture also refers to the 1970s).

The Khan Cemetery

On the back of the Mosque and in the southern courtyard there is a cemetery with gravestones, decorated with carved patterns. It is called “The Khan Cemetery” because of the burial of Sheki Khans, their family members, and close relatives here. The total area of the cemetery is 530 m2. The cemetery is surrounded by a fence made of rock. The entrance portal of the Khan cemetery is built of baked bricks and rock stones, while the upper part is covered with tiles.

In the courtyard of the Cemetery, there is an ancient Eastern plane tree near the south-eastern corner of the Mosque.

An inscription about the Mosque was found in 1936 by A.A.Alasgarzadeh near the spring of the mosque. A three-line inscription with the Tuluth letters on a marble plaque is read as follows:

1) This lofty mosque was built by Al-Haji Chalab. 2) Sultan Bey Gurban is the ruler of Sheki, the Emir of Shirvan. 3) On the blessed month of God, in the Ramadan of 1162 (Christmas-1749).

The inscription is decorated with Nabati (figurative) patterns.Inscriptions on three gravestones have been translated. The inscriptions on the tombstone at the cemetery:

1) Arche of Stele (dikildash) made from rock is decorated with a complex composition of floral patterns. Here is a wreath of carnations, lilies, and six-leaved flower. In the frame of inscriptions and the lines between the inscriptions, there is a mentioned ornament as a ribbon. The central part of the inscription reads: “This is the grave of the noble ruler (Amir), most famous, late, powerful, worthy Fath Ali-Khan, a son of noble Amir, pardoned, the highest among the Khans, the mighty Huseyn Khan - Let the Almighty God take both of them to heaven. Passed from the frail world to the eternal kingdom. Al-Ahir’s second Friday, 1230 (1814)”.

On the left side in the frame:

“Have mercy on our mistakes and forgive our sins.
You are Pardoner of great sins.
O Revealer of troubles, my soul is in your hands.
We broke off relations with the other and turned to You. I do not have good deeds to rely on them. I come close to You and believe in You”.

The right side of the frame reads: “If we look at humanity from the point of thought, then the miserable (cheap) world will seem to you like a paradise. All things in it are frail, God is majesty, and being of your God will abide forever. When you think about what will happen to it (the world), then all things besides God are worthless. O my God! I am not a dweller of heaven and I cannot endure the fire (agony) of hell. For me, there is a non-mediator than You.”2) Stele (dikildash) (0.75 x 0.40 m size) is supplemented with an arrow-shaped arche. An inscription in the central part of Stele is written in Tuluth style: *“Haji Agha Nigar - this is the tomb of Haji’s daughter. Pray For the Mercy of Her Soul. Hijri 1233 (1817/18)”*.

3) Karim Agha Fateh’s monument. A stele made from rock. The Arche sofit and Stele frame are decorated with floral ornament patterns. Arabic inscription is located in the inner frame of the central part of Stele: *“This is a grave of noble Amir, famous, mighty, honourable, servant of the Quran, son of the noble Amir and high-ranked Fath Ali Khan, the high-ranked Karim Agha. May God place both of them in paradise. In the year of One Thousand and Two Hundred and Seventy-Fifth, he passed from the frail world to the eternal kingdom. He died on Wednesday in al-Awwal.”*

”In the frame: *“Please forgive a faint man, who perceived his sins and turned to you. If you forgive, you are mighty to do it. If you give up, who will have mercy on me, O my Allah! I am not a dweller of heaven and I cannot endure the fire (agony) of hell. Have mercy on our mistakes and please forgive our sins. O mighty Pardoner of great sins. The fourth day of Jumad al-Awwal, Hijri calendar 1275 (1858)”.*

Figure 115. The entrance portal of the Khan Cemetery

Figure 116. Khan Cemetery in the back yard of the Mosque

Conservation analysis

In 1981, measurements were carried out on the territory of the monument and on the monument itself. Metal columns of the minaret are considered to be installed during a subsequent repair. The existing window frames were laid out later. The right side of the eastern facade of the monument and a certain part of the northern facade were later closed.

The first restoration project of the monument was developed in 1981 by the Special Scientific Recovery Production Workshop and restoration works were carried out according to the project. Restoration of the Mosque floor with an ancient brick of 22x22x4 cm was planned. 9 wooden columns, which hold the ceiling construction located inside the Mosque, have been designed in the plan according to their analogies in an eight-angled form and replaced the existing columns. Then restoration sketches of the mihrabs have been worked out. Restoration solutions of the roofing construction were given in the sketches. The brick trunk of the minaret was cleaned of dirt and the seams were restored with lime mortar. According to the project, the complementary part of the minaret was restored with ancient bricks. Some doors and windows of the monument have also been restored according to the project. A fence covering the courtyard of the Mosque has been designed and implemented. The fence was made of rock stone and metal grille. Besides, electricity, water, and sewerage lines have been restored in the monument.

In 1994, local people wanted to reconstruct the Mosque on their initiative, and as a result, they did it without observing the norms of restoration in the monument. There was a need for reconstruction and restoration of the monument.

The monument has not been kept in good condition so far. Although the restoration made in 1981 by the Special Scientific Recovery Production Workshop rehabilitated the monument, the monument was left uncontrolled in the early years of independence and as a result, the norms of restoration of the monument were violated with the intervention of local people.

At present, work is underway on the restoration project of the Khan Mosque on the initiative of the State Tourism Agency (STA). After the restoration of the monument, its operation as a mosque will be regulated by special rules and given back to the use of local people.

It should be noted that the monument cannot be privatized, as it is an important monument in the country.

The importance of monument

The Khan Mosque is one of the rare buildings of Sheki, which survived to this day before the devastating flood of 1772, which destroyed ancient Sheki together with the Khan cemetery.

The XVII-XVIII centuries are characteristic of traditional organization with a strong influence on the whole architecture. From this point of view, the monument reflects the traditions of the architecture of the period, region, and people.

Figure 117. Sample of an epigraphic inscription on a grave

Discussions and recommendations

The Mosque

After the restoration of the Mosque, it is planned to return the mosque to its original destination. Information boards about the Mosque should be placed in the courtyard and at the entrance.

At present, the roof of the Minaret and Mosque is covered with metal sheets, which were added later. The roof is intended to be restored from the tile material again. The dimensions of the wooden cage, which is stuck under the metal sheets, also proofs that the roof is covered with tiles before the metal sheets. It is recommended that the roof be restored and adapted to the Sheki Historical City Landscape again.

1) Materials subsequently applied to the building of the Mosque must be dismantled and replaced with original materials or their analogues.

2) Traditional wooden-carved ornaments under the roof cover must be restored and placed. The gutters and troughs to be installed should be in the color of tiles and must not be visible as much as possible from the main facades of the Mosque.

3) Tiling the roof should be carried out by the traditional method (See: “Yukhari Bash” Reserve’s Restoration Instructions Manual).

4) Wooden cornices under the roof projection (shilasar) should be made according to the original, based on photo archive data.

5) To prevent new additions in the courtyard of the Mosque, the basement of the Mosque can be adapted to technical or administrative purposes.

The Minaret

During the restoration of Sheki, a comparative proposal with other Sheki mosques should be prepared and the restoration should be based on this comparison. Also, based on archive materials and photographic facts, patterns and designs on the entrances of the minaret porch can be reconstructed.

Erosion is observed in the ready-made brick masonry in some places of Minaret. Therefore, it is also necessary to carry out cleaning and fastening work in the brick masonry of Minaret.

Azan is usually given using an electrically operated amplifier. When placing these devices, it is necessary to try to hide them among other architectural elements of the porch. Since the surrounding areas close to the minaret are vertically dominant, faint lighting is recommended for the evening time.

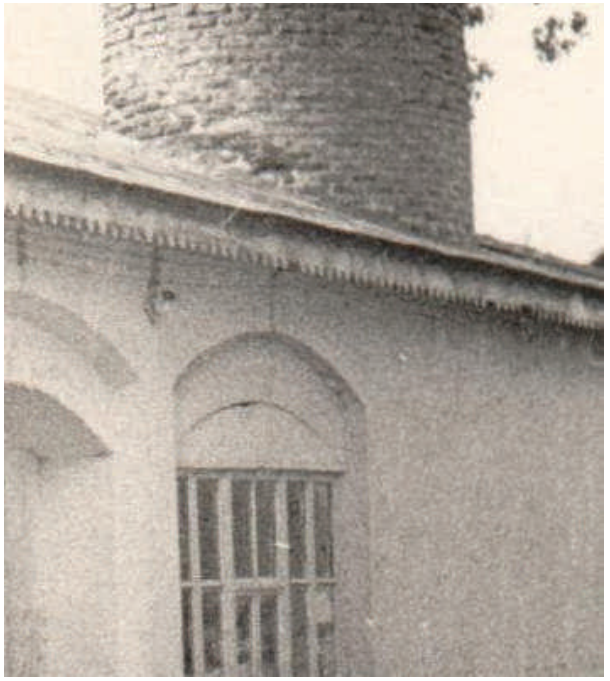


Figure 118 : Shilasar

The Mosque courtyard

Metal bars at the gates of architectural complex is an example of applied art. The iron doors of the gates must be restored after cleaning and strengthening procedures. Stairs at the gate of the Mosque must be restored with rock stone.

A fence surrounding the courtyard of the Mosque from the west side (Fatali Khan Khoyski Street) was built in the XX century. The fence must either be preserved as it is, or it must be rebuilt in the typology of traditional tiled hat Sheki fences (See: “Yukhari Bash” Reserve’s Restoration Instructions Manual). Tiled cover fences not only protect against rain leakage but also create harmony with the gate and roof covering in terms of overall appearance.

During landscape work, eastern tiles, which are the main elements of the yard, should be accented, the existing pool should be restored with traditional materials; seats, garbage cans, evening lighting should be installed. If necessary, local plants should be used for additional landscape work, taking into account the requirements for appropriate seats, the place for ablution before namaz, sanitary junctions and other infrastructure.

Prayer hall

Interior walls should be plastered according to the Restoration Instructions Manual. A part of the wall should be kept as an example of an ancient plaster. This is a good way to show how the ancient plaster layer was before the restoration.

Since the existing floor of the Prayer hall is not repaired with traditional floor bricks, it should be replaced with old 22 x 22 x 4 bricks.

During the restoration of the ceiling, mihrab of the main Prayer hall, samples from other mosques in the territory of Sheki should be taken into consideration, proposals should be prepared based on comparative analysis.

The Mosque has been historically lightened by a lamp. Candlesticks were historically put on the niches of the Mosque. There was also an experience of hanging chandeliers from the ceiling. The oil lamp peculiar to Sheki was made of bronze material, the furnace was made of glass, while lamp prepared of ceramics. It is recommended to use this type of decorative elements in the process of restoration by returning functionality to itself by modern means (to ensure its operation by electricity).

Comparative analysis of samples found in similar religious buildings should be carried out during the restoration of various carved patterns, Nabati patterns, and reconstruction of the fire-place section in the Mosque. It is recommended to use the practice of a variety of writing with plasterboard on the mirror and assembling ornaments in fire-places.

It is necessary to conserve the doors and windows of the Mosque.

The Khan cemetery

The Gate roof of the Khan Cemetery should be covered with tile, the brick masonry, and the epigraphic monument on it should be cleaned and fastened. In the Khan cemetery, the grass cover, as well as the soil surface should be kept in their natural form. A path may be paved over the grass cover due to the route from rock stones. Information boards should be installed at the entrance to the yard and inside the courtyard. The boards should be installed on the edge of the yard, without damaging the view.

It is important to develop a repair and restoration project by specialists in the field of epigraphics at the Khan Cemetery, putting back the tombstones taken to other places for security purposes, to ensure the maintenance of conservation regime of all epigraphic monuments in this regard. The cemetery requires landscape intervention and cleaning work to a minimum extent. During the construction of the paths for the tourists, it is necessary to ask the imam of the community to take into account the sensitive moments there and not to trample graves.

Auxiliary buildings in the courtyard of the monument

The following auxiliary buildings, which have a common yard with the Khan Mosque, create certain problems for the conservation of the Mosque.

The **Kindergarten building** and its auxiliary building, which shares the same courtyard and currently in a bad condition. This building was constructed in the first half of the XX century. Since the building of the kindergarten has no historical significance and in an emegency condition, it should be dismantled to open the yard for the use of locals during special religious days and holidays.

The former **Young Workers House**, partially adjacent to the eastern facade of the Khan Mosque, and now in a unsafe condition, was built in 1928. Seven families (Karabakh IDPs) were used to live in the buildings at present. In order to protect of the mosque, the families have been recently moved from the buildings to the new houses by the assistance of the state.

The front facade of the building should be dismantled, as the reinforcements violate the visual image and are incompatible with the previous form. The building can be restored and turned into a library / museum-type cultural center serving cultural tourism and community.

There is also a **tea house and a gathering place** (Otagheshiyi mahalla of Sheki) of the residents built primitively, and adjoining the courtyard fence of the mosque. At present, this land area has been privatized and fenced. Because the fence is made of limestone, it spoils the visual image. For this reason, it is recommended to dismantle the fence and replace it with a natural fence, and to plant crops between them.

Figure119. On the left is the former Young Workers House, on the right is the abandoned building of kindergarten # 2.

Figure 120. The old (1979) and the new appearance of the Young Workers House.

Reserves Management Center
under the
State Tourism Agency
of the
Republic of Azerbaijan

2020