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ABSTRACT

of the dissertation for the degree of Doctor of Philosophy

**HISTORICAL AND ARCHITECTURAL MONUMENTS OF
THE GIRDIMAN RIVER BASIN**

Speciality: 6401.01 – *Theory and History of Architecture,
Restoration and Reconstruction of
Monuments*

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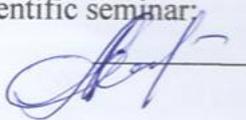
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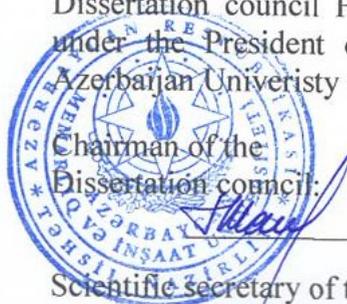
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GENERAL CHARACTERISTICS OF THE RESEARCH

The relevance of the research. Most of the monuments presented on the topic are studied for the first time. These monuments are connected with poorly studied periods and historical events of Azerbaijan's history and architecture until recently. In this regard, the actual materials presented in the research on these monuments can play an important role in solving the problems which have been mentioned.

The main reason for the scientific urgency of the studied topic is the deplorable state of architectural monuments located in the area of the Girdiman River basin. Some of them have been subjected to serious destruction, in others, these processes proceed quickly. The research, preservation and protection of these monuments, as well as their expedient and scientific use is one of the urgent tasks of our time.

The formulation of the question and the level of knowledge. The monuments of urbanization and architecture existing in the territory of the Republic of Azerbaijan attracted the attention of researchers over the last century, and great efforts were spent in the field of their registration and research. The works of prominent scientists and architects - M.Huseynov, A.Salamzade, L.Bretanitski, D.Akhundov, Sh.Fatullayev, K.Mammadzade, A.Mehdiyev, J.Giyasi, G.Mammadova, V.Karimov, R.Amanzade, S.Hajiyeva, V.Muradov, R.Bayramov, M.Mammadbayli, E.Avalov, R.Aliyeva constitute a rich scientific basis on the study of the architectural heritage of Azerbaijan.

The work performed in the field of studying historical and architectural monuments in the Girdiman River basin cannot be considered satisfactory. With the exception of research works by L.Bretanitski and M.Mammadbayli, dedicated to the study of the architecture and planning structure of the Lahij settlement in the last century, almost none of the monuments located in the basin has been studied from the architectural point of view.

However, it is impossible not to mention the works of our historians and ethnographers, F.Osmanov, G.Jabiyev, A.Mustafayev, A. Alizade, M. Suleymanov, who have contributed to the study of the history and ethnography of the basin, and a number of monuments in this area. In these works, some of the ancient settlements in the basin and some of the

monuments here have been studied from the historical context, but architectural issues have not been considered.

Objective and task of the research. None of the architectural monuments in the Girdiman River basin, except Lahij settlement, have been studied from a scientific point of view. From this point of view, the main purpose of the dissertation is to clarify the coordinates of the existing and newly discovered monuments of historical architecture in the basin, analyze their architectural-planning solution, construction-constructive features, determine their peculiarities and place in the history of architecture of Azerbaijan, enter the monuments into scientific circulation. At the same time, provide scientific and practical proposals for their protection, preservation, restoration and utilization.

To accomplish this goal, the following main issues were resolved in the dissertation:

- Study of historical processes taking place in the Girdiman River basin based on written sources;
- Natural and geographical features of the basin and their basis for the settlement of the area from ancient times.
- Determination of the condition of studying historical and architectural monuments in the area under research;
- Determination and classification of types of historical-architectural monuments found in the Girdiman River basin.
- Determination of architectural-construction and artistic characteristics of monuments;
- Identifying problems and making proposals for the protection, preservation, restoration and use of historical and architectural monuments in the Girdiman River basin;
- Analysis of tourism opportunities of historical and architectural monuments in the Girdiman River basin and their integration into a unified tourist system (classification of three routes);

Chronological and geographical boundaries of the research. Since the subject of the dissertation covers all the historical-architectural monuments existing in the Girdiman River basin, the chronology of the research began from the date of the construction of the oldest monuments, taking into account the periods in which they were built. Taking into account the information about basin monuments in the sources, the

chronological boundaries of the research were defined the 6th and 19th Centuries.

The study of architectural monuments along river basins is reflected in the works entitled "Monuments along the Araz" by prominent architect-researchers A.Salamzade and K.Mammadzade in the middle of last centuries. Their effort resulted in the creation of a successful work. Continuing this tradition, the author chose the Girdiman River basin as a boundary for research. The Girdiman River flows through three administrative districts of the modern Republic of Azerbaijan - Ismailli, Aghsu, and Kurdamir. Historical and architectural monuments found along the basin are located in the mentioned regions.

The historical urban and residential monuments in the Girdiman River basin- Lahij settlement and the newly discovered Sadun settlement, remains of the settlement-fortress of Mehravan, defensive structures- the fortresses of Girdiman and Haram, religious structures- mosques on the territory of Lahij settlement, Bilal Efendi Mosque near the village of Padar in Aghsu district, memorials - Pirabilgasim, Sheikh Amir Ahmed, Red and White Gunbez (Dome) Tombs, civil constructions- 8 houses not registered as monuments in Lahij village, 2 workshops, 3 hamams (bathhouses) in Lahij reserve, Seyid Ashraf Agha healing bathhouse, hamam complex found in the "Shahargah" area of the Kurdamir district were chosen as the **research object**.

Theoretical and methodological basis of the research.

- Collection and systematization of data in historical sources, scientific literature, archival materials, archaeological excavation reports on the topic, analysis of data collected from the local population;

- The systematic use of field research (measurements, drawings, photo fixations) conducted by the author in the specified area over 25 years;

- Comparative analysis of the studied monuments with similar monuments located in other regions of the Republic;

The following theoretical and methodological techniques were also used in the study of the topic:

- systematic approach- interrelated research of historical, urban, natural and artistic factors of the territory and their effect on the creation of a unique architectural environment;

• socio-functional approach- determination of the impact of production and non-production factors in the development of socio-cultural processes in the area.

The scientific novelty of the research is that the historical-architectural monuments were studied not in a limited area, but along the entire basin of the Girdiman River, which is a diverse natural, historical and landscape environment.

Within the geographical boundaries of the research, several historical and architectural monuments were discovered or identified in the course of the study. Existing and newly discovered monuments were involved in the research for the first time. Their typological classification is provided, concrete proposals were put forward on the issues of conservation, restoration and use.

Practical significance of the research. Today, compared to previous years, there is a great need for a deep study of Azerbaijani culture and architectural heritage, and its promotion both at the country and abroad. In this regard, the study of historical and architectural monuments that have not been studied so far serves to illuminate profoundly, promote and protect architectural history by enriching our architectural heritage. The actual materials presented in the dissertation of the studied monuments provide the basis for appropriate research of other fields of science.

The research can be of practical use in including the studied monuments in the scientific period, in preparing their conservation and restoration projects in the future, and in developing appropriate teaching aids at the Faculty of Architecture.

Approbation of the dissertation. The author presented articles and reports on the main provisions of the dissertation at various scientific conferences - Republican Scientific Conferences of Doctoral Students and Young Researchers organized by the Ministry of Education of the Republic of Azerbaijan, various scientific and practical conferences and other scientific events held at AUAC. The results of the dissertation were published in scientific journals.

At the same time, materials of the research were used in documentary films on “Girdiman Fortress” and “Fit Fortress” on the Public Television of the Republic of Azerbaijan. Materials collected on

the dissertation were used in the certification of monuments located on the territory of the Lahij State Historical and Cultural Reserve. The methodical and practical results obtained in the research were also used in the development of restoration projects of architectural monuments located on the territory of Lahij and Khinalig State Reserves.

Structure and volume of dissertation.

The dissertation consists of introduction, three chapters, and a conclusion. A list of references is provided at the end. The work includes illustrative materials consisting of drawing, picture, and photos. The volume of the research is 275480 characters, with 55 illustrative materials.

MAIN CONTENT OF DISSERTATION

In the Introduction, the relevance of the topic is substantiated. The objective and task of the research, its chronological and geographical boundaries are determined. The theoretical and methodological bases used are considered. This part of the research provides information about its scientific novelty, practical significance, approbation, structure and volume.

Charter I. Chapter, entitled the “Development conditions of settlement processes and architecture in the Girdiman River basin, consists of three paragraphs.

1.1. The first paragraph, entitled “Written sources and review of historical processes, focuses on historical events in the Girdiman River basin.

The first information about the monuments studied in the Girdiman River basin can be found in the work History of Albania by the Albanian historian Movses Kaghankatvatsi, who lived in the 7th century. This work highlights interesting and important information, such as the construction of the Girdiman fortress and the construction of the Girdiman temple by the great ruler and commander Javanshir on the territory of the fortress.

The Arab invasion of Azerbaijan since the 8th century and its inclusion into the Caliphate is reflected in the works of Arab historians and geographers.

A number of monuments located in the basin are mentioned in the

Arab and Persian sources of the 9th and 13th centuries - in the works by Al-Baladhuri, Ibn Khordadbeh, Al-Masudi, Al-Istakhri, Ibn Haukal, Al-Muqaddasi, Al-Idrisi, in works by an unknown author, such as Hudud al-Alam, Ajaib ad-Dunya, and in the works of local authors, Feleki Shirvani. This is information mainly about the settlement of Lahij, the fortress of Girdiman, the town of Mehravan, and the town of Sadun. Although much of this information is superficial, it is a valuable record confirming the existence of the settlements and castles mentioned at the time.

In subsequent periods, the names of monuments were restricted by changing the geography of sources giving information about monuments in the Girdiman River basin. Thus, the Arabic sources are replaced by European authors (Johann Schiltberger - 14th Century, Adam O'Leary - 1637, Jan Struys - 1670), and only the name of the settlement of Lahij appears in these sources.

Information on settlements in the basin and a number of social, economic, demographic and military issues related to them dates back to the Tsarist Russia. Since the annexation of the territories of Azerbaijan to the empire, the research used information contained in the acts, reports and other documents compiled by state and public institutions.

Thus, historical processes taking place within the basin, information on settlements have been investigated and systematized in connection with written sources.

1.2. State of study of the topic. The research of individual monuments located in the Girdiman River basin started in the mid-20th century. The study of monuments found in this area is local in nature and has not been investigated systematically.

The research of historical and architectural monuments located in the Girdiman River basin can be divided into three stages: the period of Tsarist Russia (until 1917s), the period of Soviet Power (1920-1991), the period of the independent Republic of Azerbaijan (1991 - to the present days).

Prior to 1917, research was carried out on the individual initiative by the educated intelligentsia of the time and was mainly ethnographic and descriptive in nature.

The first scholarly architectural article about Lahij, an urban planning monument included within the geographical boundaries

of the dissertation, was written in 1964. This is an article about the planning structure and architecture of Lagic in co-authorship with L.Bretanitsky, L.Mamikonov and U.Revazov.

Dissertation by M. Mammadbayli should be noted as a broader work dedicated to the settlement of Lahij, which is an excellent example of medieval urban planning and architecture. In his dissertation, defended in 1979, questions of urban planning and architecture of Lahij, its problems of restoration and regeneration for the first time have been studied in more detail.

Most research works about the settlements located in the Girdiman River basin are ethnographic in nature. In this sense, studies by H.Guliev, A.Mustafayev, A.Alizadeh, and M.Suleymanov are of great importance. The names of historians F.L.Osmanov, G.J.Jabiyev, and F.S.Khalilov, who made a special contribution to the study of monuments in the Girdiman River basin, stand out. Many of the monuments they discovered and investigated in these places are valuable for the study of Azerbaijani history and culture.

As can be seen, from an architectural point of view, only the research papers on the settlement of Lahij are still available.

1.3. The third paragraph examines the natural and geographic features of the Girdiman River basin and their impact on settlement processes. The Girdiman River is one of the 88 km long mountain rivers located on the territory of the Republic of Azerbaijan and directed to south from the slopes of the Greater Caucasus to the Kur River.

The Girdiman River basin has been convenient area for settlement since ancient times due its rich natural resources. The plains in the south, the hot dry climate and harsh mountainous terrain in the north, and the abundance of precipitation caused intensive migration from lowland to highland, from highland to lowland, according to natural conditions. This later led to settlements in the middle zone, which is particularly suitable for sedentary life, i.e., in the area of the Hajihatamli, Ivanovka, Gushenje, Nuydi and Sangalan Plateaus. The findings revealed in the territory of the village of Tirjan in Ismailli district point to the fact that these areas have been inhabited since the first half of the 1st millennium BC. Since the beginning of our era, the area of population settlement in the Girdiman areas has changed drastically. Thus, starting from the 3rd-5th centuries,

new settlements were formed in the foothills from the Haftaran valley to the north¹.

The most common feature that unites the majority of existing or fossil settlements located in the basin are their water-related properties. This factor is observed both along the lower desert-steppe course of the river, as well as in the middle and high mountain basins. Settlements formed in the process of populating in the basin were formed as "valley" and "slope" in accordance with the natural-climatic and landscape conditions. Valley settlements are usually located in areas with pleasant and temperate climate generated by mountain rivers. Slope settlements are located at the mountainside, close to a source of water (river, spring, pond, etc.) which considered an important factor². Such settlements include those of Haftasiyab, Ahan, Goydan, Mudru, Namazgah, Gandov, Kokhnadahar, Tirjan, Garagaya, Lahij and others.

Historical factors also played an important role in the settlement processes of the Girdiman River basin. This feature is more prominent in the foothills and mountainous basin areas of the river. A series of magnificent fortifications, cities and forts built by the Sassanids in the 5th and 6th centuries to defend the northern borders of the empire against invasions, and the deployment of armed groups from tribes displaced from the various provinces left traces on the settlement system of basin as well.

Arab incursions which started in the 7th century to Albania did not pass through these territories either. Traces of tribes brought from the southern regions of the Caliphate are still observed in the Girdiman River basin.

Demographic changes had occurred in the basin since the territory of Azerbaijan became part of the Russian Empire. Migration from mountain villages to the foothills and plains was increasing. In our opinion, a significant reason that affected these processes was the relocation of the provincial center from Shamakhi to Baku in 1859.

Charter II. Chapter entitled "Types and classification of historical and architectural monuments found in the Girdiman River

1 G.J.Jabiyev, History and historical geography of Girdiman. Baku, Elm-Tehsil, 2015. p. 70

2 A.N.Mustafayev. Material culture of Shirvan. Baku: Elm, 1977, p. 24

basin” consists of three paragraphs. The chapter examines the architectural monuments located in the basin area. Their geographical location, history of construction, architectural and planning, volumetric and spatial structure, and the current state are investigated.

2.1. The first paragraph, entitled "Features of the monuments in the basin area and their typological affiliation", consists of 5 sections. These include urban and residential monuments, defense structures, places of worship, memorial structures and civic buildings.

2.1.1. The section "Urban planning and historical monuments" considers the settlement of Lahij, the remains of the Sadun settlement, and Mehravan, a fortress settlement. The study of these historic settlements located in the Girdiman River basin was conducted within the framework of the historical settlement system and in connection with the topographic features of the area.

The most prominent and interesting monument of the Girdiman River basin, **the settlement of Lahij**, which has the status of a monument of world significance, is one of the most beautiful examples of medieval Azerbaijani urban art, as well as a center of crafts. Architectural studies of several unexplored and unregistered monuments located on the territory of the settlement of Lahij, which has the status of a Historical and Cultural Reserve, are also included in the relevant clauses of this paragraph.

Based on the research conducted and the current situation, it is safe to say that Lahij has a unique historical and cultural value. Preservation of the original planning structure, streets, neighborhoods, architectural and spatial solution of the building, the completeness and uniqueness of the historic and architectural environment are important factors in urban structure of the settlement. Today, Lahij, an urban-type settlement, is described in medieval sources as a small town.

There are ruins in the territory of Ismayilli district, to the left of the Shamakhi-Lahij road, in an area called **Sadun**. It should be noted that Sadun, mentioned by Falaki Shirvani as a medieval city in Azerbaijan and mentioned in the work of the 10th century Arab historian Masudi, was considered as one of the unknown urban settlements before this research. Even famous Orientalists V.F. Minorsky, N.V.Khanikov, and S.B.Ashurbeyli tried to determine the location of this place in their works.

However, within the scope of this research work, the remains of this monument were discovered by the author and its initial features were presented with graphic materials.

There is an ancient settlement near the village of Bayimly in Aghsu district, on the left bank of the Girdiman River, which inhabitants call "Torpaggala". According to Prof. G.Jabiyev, who conducted research on the territory of the monument, this monument is **the remains of the city of Mehravan**, built by Mehran, the founder of the Mehrani dynasty. The discovery of the fortified city of Mehravan, surrounded by a fortress wall and a water moat around its perimeter, can be seen as an enrichment of Azerbaijani architecture and urban planning with an important monument, the location of which had been unknown until recent years.

2.1.2. In the second paragraph, **entitled "Defensive structures"** two fortresses, Girdiman and Haram, are studied for the first time. Although two monuments, "40 otag" (40 rooms) and "Buzkhana" (Ice house) (Sulut village) are not included within the boundaries of the dissertation, the materials relating to them are presented on this topic for the first time, as they are related to the monuments studied in terms of historical and architectural style.

Information about the **Girdiman Fortress** can be found in the "History of Albania" by Moisey from Kalankatuk, the Arabic-language speaking authors Al-Balazuri, Ibn Khordadbeh, Masudi, the Persian source "Hudud al-Alam", and by the local author Falaki Shirvani.

Girdiman Fortress was an important castle-dwelling of the Girdiman Kingship, which existed from the end of the 6th century to the middle of the 7th century.

The remains of the wall of the entrance to the fortress remained on the road leading from the settlement of Lahij. There are several towers on the walls. Rock stones and gaja as adhesive solution were used in masonry work. In many existing fortresses the defensive walls were built continuously, while in the Girdiman Fortress they consisted of barriers located in various areas. Because of the large area (about 200 hectares) the walls were built in vulnerable areas, and skillfully used natural barriers - valleys, rocky areas. Although the fortress was similar to mountain forts in terms of its typology, it was a complex defense system that protected the borders of the Mehranids Girdiman kingship in the

early periods in terms of its breadth and the extensive defensive functions it carried.

The first information about the **Haram Fortress**, which is located in the territory of Ismayilli district and has an area of 4.3 hectares, can be taken as notes in the work "Hudud al-Alam" by an anonymous author, which is considered one of the written sources of the 10th century. The Haram Fortress was built in a hard-to-reach area with natural protection. The layout of the fortress walls is built on the relief of the terrain and resembles the shape of a leaf. On the territory there are fragments of the castle walls, the remains of the fortress, two partially survived underground structures (in our opinion, the prison), the remains of the underground hidden road. Rock and river stones as well as gaja, as in the Girdiman Fortress, were used in masonry work. Considering the architectural and planning structure of the Haram Fortress and the terrain where it is located, it was determined that it belongs to the group of mountain fortresses.

2.1.3. In the section "Memorial Buildings", - the tomb of Sheikh Amir Ahmad, "Girmizi gunbez" (Red Dome), "Agh gunbez" (White Dome) tombs, and the Pirabilgasim tomb were investigated.

The tomb of Sheikh Amir Ahmad is located in the cemetery of the village of Mustafali in Aghsu district and was built in 1722. The main masonry material used in the construction of the tomb is limestone, the current condition is unsatisfactory. A distinctive feature of such tombs is that the body of the tomb is built in the form of a two-stage prism, and the second stage is in the form of an octagonal pyramidal lid.

Tombs called "**Girmizi gunbez**" (Red Dome), "**Agh gunbez**" (White Dome) are located in the village of Garagoyunlu, Aghsu district. The walls of "Girmizi gunbez" tomb are made of red baked bricks. Both outer and inner wall surfaces are made of simple masonry without protrusions or embellishments. The octagonal prism-shaped body is simple and devoid of decorations, and the lid construction is completed by an octagonal pyramid.

The walls of "**Agh gunbez**" are made of white limestone. With an open composition, the octagonal body prism consists of two parts. Unlike other tombs, the facade of this building is designed with rich architectural and decorative elements. In the architectural solution of the "Agh gunbez"

tomb there is a synthesis of Western architectural elements with the traditions of the Shirvan-Absheron architectural school. The inscription on it mentions that it was built in 1327 hijra (1909).

Pirabilgasim tomb is located in the cemetery of the village of Pirabilgasim, Ismaili district. According to the stone inscription on it, the tomb was built in 1655-1656. The lid of the tomb, which has an octagonal prism-shaped body, consists of a dome in the form of a parabola and upward elongated shape. A dome of this shape is not found in other tombs.

The tomb has an underground vault chamber and is connected to the upper chamber by an hollow provided in the floor. Such a constructive structure has not been found in the Shirvan tombs since the 16th century.

All memorial monuments located in the Girdiman River basin and considered in this research belong to the group with a single-chamber, closed composition, octagonal prismatic volume according to layout-volume structure (based on the classification system by Prof. R. Amanzadeh). In addition to reflecting the traditions of the Shirvan-Absheron school, the architectural solution of the tombs reveals its peculiarities in the bulk and cover solution of the tomb of Sheikh Amir Ahmed, the dome structure of the Pirabilgasim tomb and in the presence of an underground chamber.

2.1.4. In the fourth section entitled Religious buildings, 6 mosque structures were investigated in the basin area. Five of them are located in the settlement of Lahij, and one monument - Bilal Efendi Mosque is located near the village of Padar in Aghsu district.

The Bilal Efendi Mosque is a structure located on a former caravan road. Unlike the Lahij mosques, the walls of the Bilal Efendi mosque are built of baked brick. The pilaster elements in the façade wall are worked in harmony with the arched window apertures, which enhances the stiffness of the wall as well as increasing its artistic and aesthetic effect. According to its typological affiliation, this mosque is classified as a religious structure with a single-hall and veranda. From a structural point of view, the wall refers to the column-beam system.

The mosques studied in the Lahij settlement are located in the neighborhood squares and serve as the main dominant element of these

squares. Architectural and constructive, and urban features of **Zevaro mosque**, **Badavan mosque**, **Agholu mosque**, **Yukhari (Upper) mosque** located in Rahimlilar square of Aragird site, and **Ashaghi (Lower) Haji Abbas mosques** were investigated. Summarizing the planning structure and volumetric-spatial solution of these religious structures, it can be noted that in the territory of Lahij settlement these cult constructions consist of a single hall and a mezzanine floor with a special entrance for women. These buildings with open verandas with columns along the facade belong to the type of cult buildings with a simple composition (according to the system proposed by Prof. R. Amanzadeh).

2.1.5. In the section “Civic structures” the dwelling houses, craft workshops and hamams (bathhouses) are investigated. Most of these structures are located in Lahij settlement, and some are in other areas of the basin.

Within the scope of the research, numerous residential houses, which by their architectural-planning, volumetric-spatial and artistic features can be regarded as architectural monuments are studied, and all of them are located in the territory of the settlement of Lahij. Of these structures, the three-story house of **Haji Gurban** and the two-story house of **Meshadi Nasur** consist of rooms built according to the plan solution in a single row around the courtyard. It is classified as an O-shaped internal structure (according to classification system by M. Mammadbayli). In front of the rooms there is a veranda directed to the yard. Haji Gurban's house has even characteristics of caravanserai according to its plan and structure.

The houses belonged to **Hajiagha Sultanov**, **Haji Gahraman**, **Haji Ashur** were also two-storied and referred to the typological group with a two-tier linear composition for the layout of their rooms. The distinctive feature of both houses is the development of shabaka (network) construction, complex profiled coating beams, railings on the outer wall of long summer rooms at the level of the second floor facing the yard of these houses. At present, these elements of the network remain in Hajiagha Sultanov's and Haji Ashur's houses.

Although **Mashadi Bakhish's house**, one of the most interesting unexplored buildings, has a simple layout, the elements used in its façade

make it worth defending as one of the rare buildings. In comparison to other houses in Lahij, the column headers and railings used in the veranda, in addition to their functionality, play an important role in the artistic and aesthetic solution of the house. In terms of planning, the house belongs to the single-row rectilinear typological group.

The two-storey **houses of the Badam Ashraf gizi, Manafov Muhammad**, are located in front of the rooms with an open veranda with a column and handrail along the entire facade. Vertical zoning features of Lahij houses is also observed in this house. The house is L-shaped according to the structure, and belongs to the typological group of rooms arranged in one row.

Kerbalai Pasha's two-storey house, which has an interesting layout and design solution, refers to the U-shaped typological group consisting of two symmetrical parts. This is one of the rare dwelling houses in the settlement because of the two-tiered layout of the rooms and with the the solution to provide access to them through a central corridor.

Hamams (bathhouses). In the Girdiman River basin, bath structures belonging to the group of civil constructions are mainly located in the territory of the Lahij settlement, and the remains of one bath house were found in the area called "Shahrgah" in the territory of the Kurdamir region.

Haji Abbas Hammam, which remained intact and still operates today, has a different architectural solution than the other bathhouses of Lahij. The monument, which is known by the inscription on it, was built in 1315 Hijra (1897) and consists of an above-ground rest room, chaykhana (a teahouse), and an underground bathhouse. The design of the roof of the bathhouse has been solved with six domes and has similar features to those of the Absheron and Sheki bathhouses. The classification of the compositional solution of the bathhouse building proposed by Professor R. Amanzadeh refers mainly to the typological group of multi-chamber bathhouses built on one axis.

Haji Jahanbakhish (built in 1869), **Haji Nurmammad** and **Seyid Ashraf Agha** (19th C) hammams in the Lahij settlement, have a simple layout and underground spatial volume, covered by an arched structure. Due to its typological affiliation, these bathhouses have a one-hall layout and spatial design, and structurally solved by a system of arched roof

system. The uniqueness of Seyyid Ashraf Agha Hammam lies in its treatment purpose. Thus, this bathhouse was built on a source of sulphuric water and was used until 1914.

The hammam complex found as a result of archaeological excavations near the village of Arabgubali in the Kurdamir region, which is included in the Girdiman River basin, is also of interest for its treatment purpose. The hammam complex discovered by the Aghsu archaeological expedition in 2009-2010 differs from other bath monuments by its interesting layout and sanitary facilities.

According to professor G.J.Jabiyev, who supervised the excavations, this building was a bath-recreational complex and was built in the 12th and first half of the 13th centuries.

The monument belongs to the multi-chamber bathhouses according to the classification system. The covering of rooms was arched structures.

The workshops are an interesting typological group of buildings typical of the Lahij settlement. From past centuries to the present day, the inhabitants of the settlement, engaged in various crafts, especially copper and blacksmithing, created these types of buildings to carry out their activities. In this respect, the surviving **copper workshops of Haji Gulu and Baladayi**, which are still in use today, are of interest.

Existing workshops in Lahij can be divided into two groups: freestanding workshops and workshops located on the first floor of residential buildings. The aforementioned workshops are freestanding single-hall buildings and have a column-beam structure due to their wide span.

2.2. In the paragraph "Construction technology and design features" is indicated that the construction technology of the various architectural monuments located in the basin area, mainly belongs to the Shirvan-Absheron school of architecture. However, the characteristics inherent in this school are not the same everywhere in the territory. The natural conditions of the area, the variety of natural building materials, and under other conditions, monuments with different characteristics can be found in different parts of the Shirvan-Absheron region.

The construction materials used to summarize the characteristics of construction experience and technology in the study area were reviewed. Since the eastern regions of Shirvan are richer in limestone, the use of this

stone in the construction of monuments in these areas was more common. Limestone was used in the construction of the tombs of Pirabilgasim, Sheikh Amir Ahmad, Agh Gunbez, and Khazra located in the Girdiman River basin.

River stone is more common as a masonry material in the monuments of the basin area. The most sophisticated examples of buildings made of this material can be found in the territory of the settlement of Lahij and surrounding areas. In the lower reaches of the basin, especially in the buildings constructed in the Aghsu and Kurdamir districts, baked and raw bricks were mainly used.

Because of the high seismic zone, most of the buildings in the upper Girdiman River basin, including Lahij, wooden bands (stool), which are considered unique anti-seismic structures from ancient times to the present day. Wooden bands set horizontally in the wall masonry by using water-resistant wood materials increase the stability of the wall during an earthquake. The use of clay material is also widespread in the buildings in the basin area. Clay was used as material for wall masonry (fence, brick) as well as for decoration (glazed tile, alebaster, gilaby (clay type), plaster) and as an adhesive solution.

2.3. Artistic and aesthetic features. Along with the spatial-planning and technical features of the architectural school of Shirvan-Abshehon, the artistic and aesthetic features also unite the buildings of this area. Characteristic features of this school like simplicity and monumentality, volumetric proportions and laconic forms turn the weight of the stone material into an artistic tool. Interesting light and shade effects perform a shape-forming function on the clean surface of the masonry.

Due to architectural and decorative elements of buildings on the artistic and aesthetic features can be divided into two groups: surface-decorated structural elements: such as walls, railings, beams, door and window patterns, networks, etc.; the second group includes decorative elements with an ornamental function: for example, wainscots, panes, stone inscriptions on buildings, wall decorations, and reliefs.

Use of products made by craftsmen of Lahij settlement engaged in craftsmanship can be noted as a characteristic feature for the mountainous areas of the basin. The craftsmen of the Lahij and Ahan, known for their

copper and blacksmithing arts, produced and decorated various household items, as well as door and window networks, catch, doorbell, handle, etc. Artists working in the field of stone carving, using the properties of both limestone and river stone, created beautiful patterns in the design of various buildings.

The use of wooden materials in construction was widespread in the study area of the basin. Craftsmen engaged in the processing of wood materials for construction were mainly engaged in the preparation of doors, windows, columns, railing, networks, and cover beams. Depending on the type of building and customer requirements, the wooden elements were also decorated in different forms and methods.

Charter III. The chapter entitled "Historical and architectural monuments in the modern tourism system of the region" consists of three paragraphs. This chapter examines the protection and restoration of historic settlements and monuments located in the basin area, and emphasizes the problems of their use. At the same time, noting the tourism potential of the basin, attention is paid to the location and the possibilities of use of monuments in the area.

3.1. The paragraph entitled "Problems of protection, preservation and restoration of historical and architectural monuments in the Girdiman River basin" states that the monuments located in the Girdiman River basin differ from each other in their current state. Some of them were relatively intact, for example, tombs in the villages of Garagoyunlu and Pirabilgasim, others were subjected to great destruction, Girdiman Fortress, Haram Fortress, Sheikh Amir Ahmed Tomb, Haji Seyid Ashraf Agha Hammam. Some of them are almost in ruins – for example, Sadun and Mehravan settlements, a treatment bathhouse found as a result of excavations in the Kurdamir region.

The settlement of Lahij is a State Historical and Cultural Reserve of the Republic of Azerbaijan with an inventory number 14 in the list of immovable property of historical and cultural monuments of world significance. The most important task for the protection of the historical settlement of Lahij is to develop its general plan, regeneration and reconstruction projects.

Most of the architectural monuments in the Girdiman River basin have been subjected to great destruction, some of them exist in a state of

ruin. Examples of this are the remains of Sadun and Mehravan settlements. Large-scale research work should be carried out on the territory of these monuments and various conservation measures should be taken. The most important issue is the state registration of these monuments and their inclusion in the archaeological heritage list.

One of the urgent tasks is to prepare a preservation plan for the Girdiman fortress. The important historical and cultural significance of the monument requires its museumification and popularization.

Among the architecturally unexplored monuments in the basin are the tombs of Sheikh Amir Ahmad, Agh Gunbez, Girmizi Gunbez, and Pirabilgasim. The drawings first drawn up in this research can be used to plan future preservation projects for these monuments.

Unregistered and unexplored monuments include the Haram Fortress, the remains of the Sadun settlement, and the remains of a treatment bathhouse near the Lahij settlement. As a result of the research work, it is proposed to organize scientific expeditions for registration and large-scale study of these monuments by relevant state bodies.

An urgent task is the registration and restoration of houses that can be considered valuable monuments of architecture on the territory of the settlement of Lahij, which are deemed to be public buildings.

The underground hall of the treatment bathhouse of Haji Seyid Ashraf Agha is intact. The perfect masonry of the arched covering of the room has brought this monument to this day. It is proposed to include the monument in the Reserve zone of Lahij. At the same time, in our view, its preservation and museumification will be useful.

It seems that the monuments in the Girdiman River basin have remained neglected to this day, taking into account the period of indefinite exploitation. It is important to register and protect these monuments, carry out preservation and restoration work and use them purposefully.

3.2. The paragraph entitled "Tourism potential of historical and architectural monuments in the Girdiman River basin: objectives and prospects" investigates the potential of important historical and architectural monuments for tourism within the established historical settlement system of the basin. It is advisable to combine architectural monuments located in the upper areas of the basin around

the famous Lahij settlement in the field of tourism. It can be noted as important tasks to protect the unique urban and architectural appearance of the settlement, its historical and ethnographic environment, to develop traditional folk arts and to revive lost arts, to create modern services and infrastructure oriented to tourism.

The historical and architectural value of the fortress Girdiman, its geographical location foreground the question of its use in the field of tourism. Creating the infrastructure for this monument is considered an urgent task. Another monument in the nearby area - the Haram fortress can be considered one of the important monuments for tourism. The geographical connection makes it logical that the route from the settlement of Lahij to the fortress of Girdiman then passes through the fortress of Haram.

As a newly discovered monument, the remains of the Sadun settlement are also located in an interesting tourism area. The area has been a place where only shepherds walk, not familiar to tourists to this day.

The importance of monuments, Babadagh Peak, a beautiful and interesting natural monument and shrine around the Lahij-Sadun road, and "Yanar dagh" near the village of Haftasiyab for tourism is not small.

The treatment bathhouse of Haji Seyid Ashraf Aga Hammam can become an attractive object for tourists both in terms of its charming nature and the possibility of using it for therapeutic purposes.

As for architectural monuments of touristic significance in the middle and lower basin of the Girdiman River, as mentioned in the previous chapter, these are mainly memorials in these areas. They are used as shrines. It is proposed to systematically use these tombs for pilgrimage tourism, familiarity with the monuments of architecture and cognitive tourism, as well as to organize special routes in this direction.

3.3. The paragraph entitled "Historical and architectural monuments of the Girdiman River basin - in a single tourist system" provides description of three new tourist routes In order to solve this problem within the framework of the studied topic, it is proposed to organize additional local routes and their approximate scheme to connect historical architectural monuments in Girdiman River basin and other places of interest in tourism in a single system:

Baku – Shamakhi – Pirgulu-Sadun settlement – Lahij settlement – Girdiman fortress – Basgal settlement – Gabala tourist route;

The second route, starting from Shamakhi, the settlement of Basgal – village of Sulut – Buzkhana – Girkhotag – Haram Fortress – Girdiman Fortress – settlement of Lahij - ends in city of Gabala.

The third route includes city of Gabala – settlement of Lahij – settlement of Sadun – settlement of Varna – Babadagh peak. On these routes, tourists are offered to get acquainted with historical cities, historical places and architectural monuments, to see interesting and beautiful corners of nature, to get in touch with ethnographic culture, to get acquainted with the handicrafts and work process of local people's artists, to taste different local samples of our national cuisine.

It would be appropriate to use the opportunities of Mehravan settlement-fortress, which is of historical and architectural importance, to combine monuments located in the southern part of the basin on a single tourist route. It would be useful to combine Garagoyunlu tombs, monuments of Sheikh Amir Ahmed tomb in a single route and use them in the field of cultural and introductory tourism by turning the Mehravan monument into an attractive tourist dominant object. This route can lay the foundation for the development of tourism in the lower reaches of the river.

The main conclusions of the research.

At the end of the comprehensive study, the following main results were obtained and suggestions were put forward in the dissertation:

1. Based on historical facts of formation of ancient settlements around water basins and analyzing the settlement system of Girdiman River basin, it was determined that the main factor in creation of settlements in the territory was water supply. Most of the settlements are located in areas close to the river or its tributaries.

2. Starting from the high mountainous areas of the basin to the South - Shirvan plain and the Kur River coast, the landscape, natural and climatic conditions had a great influence on settlement processes. This diversity has led to the creation of both residential and architectural types and the richness of construction technology. The settlements first appeared in flat areas, and later gradually changed to mountainous areas due to military conflicts and external raids in the foothills, in later periods,

that is, from ancient times.

3. It was determined in the research process that valley and slope settlement types were formed as a result of historical settlement processes in Girdiman River basin. According to layout structure, settlements are characterized as cluster (dense) and scattered planned types. It turned out that the mountain settlements are more compact in area, while the foothills and plains have a larger scattered area.

4. As a result, it was determined that the natural landscape boundaries of the Girdiman River basin, chosen for the subject, are more optimal for systematic study of the monuments located here, and only such an approach allows complex study of the natural-climatic, historical-landscape, socio-economic and cultural characteristics of the territory.

5. According to the types of monuments in the Girdiman River basin, they are grouped as follows: urban-settlement monuments; defense buildings; religious buildings; memorial buildings; civil buildings and structures; Types of monuments studied are classified as follows in terms of form and function: defense buildings have the characteristics of mountain castles. Religious buildings - mosques belong to a single-hall, column-composition typological group, and memorial buildings belonging to a single-chamber group, with closed and open composition, are octagonal prism-shaped tombs.

6. The residential houses studied in Lahij settlement are single-row, double-row and mixed-row according to the planning solution, and consist of L - shaped, U - shaped and O - shaped with closed-perimeter for the compositional structure. Craftsmen's workshops are classified as freestanding one-room civic buildings with wide doorway. Bathhouse monuments are divided into single-chamber, arched covering and multi-chamber bath structures.

7. On the basis of the research, it was determined that the monuments explored in the Girdiman River basin carry the traditions of Shirvan-Absheron architectural school in terms of construction techniques and constructive features. Since the traditional feature is that the foothills and mountainous areas of the basin are located in a zone of high seismicity, the use of wooden bands (stool) in the walls of the buildings is observed here, performing the function of anti-seismic structures.

8. The peculiarity was also manifested in the artistic solution of the studied historical and architectural monuments of the basin area. The artistry is noticeable both in the creation of form, in the proportions and harmony of the volumetric structure of buildings, as well as in the decorative design. The inscriptions on the walls of the monuments can be seen as fine examples of the art of stone carving. In the artistic solution of the monuments of architecture with artistic and aesthetic design, wooden structures and elements (network, column caps, railings, beam profiles) can be considered valuable examples of our material heritage, and it is recommended to preserve these features in the restoration and reconstruction projects.

9. As a result, it is proposed to carry out the following works on the existing state of monuments: preservation works (Sadun, Mehravan, Girdiman, Haram settlements, therapeutic bathhouses in the Shahargah area, Seyid Ashraf Agha Hammam), restoration works (tombs and bathhouses in the Lahij settlement, workshops), reconstruction works (residential houses), regeneration works and development of a master plan (Lahij settlement).

10. It is recommended to register the monuments involved in the research for the first time in the basin. In connection with their protection, it is expedient to include monuments located near the territory of Lahij State Historical Reserve (Sadun, Girdiman Fortress, the remains of Seyid Ashraf Agha Hammam) in the Reserve. It is proposed to raise the issue of preparing a plan of action for the protection of other monuments (tombs, Mehravan settlement-fortress) before the state authorities, first of all, to create protective zones around these monuments.

11. As a result, it was determined that the Girdiman River basin is one of the most favorable areas for tourism with its rich nature and colorful landscape. At the same time, an important factor that increases the attractiveness of the area for the tourism industry is the presence of historical and architectural monuments. It is proposed to organize three new tourist routes, taking into account the geography of the monuments.

The following articles covering the main content of the dissertation have been published:

1. Orta əsr şəhərlərinin formalaşmasında ticarət yollarının rolu. AzİMU-nun mətbəəsi. AzİMU–nun Elmi əsərləri N 1. Bakı-1996. s.15-17
2. Girdiman abidələri. Elmi-populyar kitab. “Bestrack” mətbəəsi. Bakı-2014. 114 s.
3. Girdimançay hövzəsində kurort zonalarının yaradılmasında tarixi-memarlıq abidələrinin istifadə problemləri. Azərbaycan Respublikası Təhsil Nazirliyi. Beynəlxalq elmi-praktiki Konfransının materialları. Bakı-2016. S. 147-153.
4. Проблемы сохранения архитектурного наследия Лагича. “Memar Nəşriyyat Evi” MMC. Azərbaycan Memarlar İttifaqının “Memar” jurnalı N12. Bakı-2016, s. 122-129.
5. İsmayılı rayonu tarixi-memarlıq abidələri. “Memar Nəşriyyat Evi” MMC. Azərbaycan Memarlar İttifaqının “Memar” jurnalı N20. Bakı-2018, s. 74-77.
6. Ağsu rayonu ərazisində yerləşən iki abidə haqqında ilk memarlıq araşdırmaları. AzİMU-nun mətbəəsi. AzİMU-nun Elmi əsərləri N 2. Bakı-2018, s. 21-25.
7. Girdiman çayı hövzəsinin xatirə abidələri. “Avropa” nəşriyyatı. ŞÖBMA. Toplu N2. Bakı-2018, s. 78-87.
8. Пути сохранения архитектурного наследия бассейна реки Гирдиманчай. Издательство «Грамота». Научный журнал «Манускрипт» 2019. Том 12. Выпуск 1. г.Тамбов, с.155-161.
9. Girdiman çayı hövzəsi memarlıq abidələrinin inşaat və konstruktiv xüsusiyyətləri. “Avropa” nəşriyyatı. ŞÖBMA. Toplu N1. Bakı-2019, s. 76-84.
10. Şirvan hökmdarlarının yay iqamətgahı – “Qırxotaq”. “Memar Nəşriyyat Evi” MMC. Azərbaycan Memarlar İttifaqının “Memar” jurnalı N22. Bakı-2019, s. 126-131.
11. Типология и проблемы сохранения историко-архитектурных памятников бассейна реки Гирдыман в Азербайджане. Сборник материалов Международной

- научно-практической конференции. Алматы: МОК, 2020, с.159-165.
12. Проблемы сохранения архитектурно-градостроительного наследия исторического поселка Лагич в Азербайджане. Издательство МИСИ – МГСУ. Научно-технический журнал по строительству и архитектуре «Вестник МГСУ», Том 16. Выпуск 4. 2021. С.403-412.

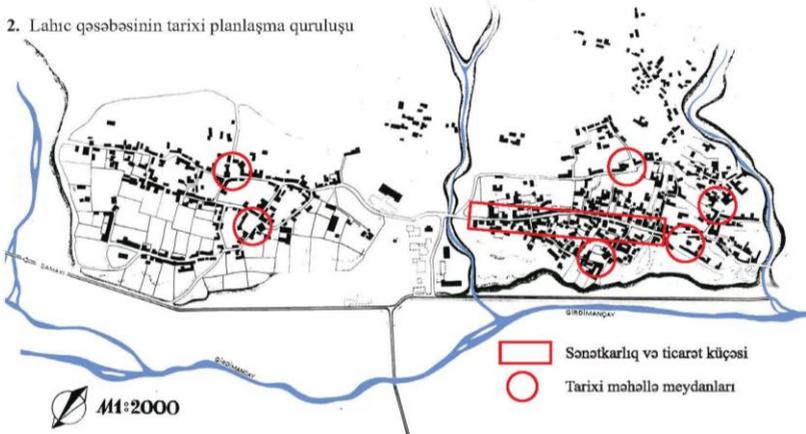
Historical layout and landscape structure of the settlement of Lahij

3.1. Girdiman çayı hövzəsi tarixi-memariq abidələrinin mühafizə, konservasiya və bərpa problemləri.

1. Lahic qəsəbəsinin amfiteatr quruluşunun mühafizəsi



2. Lahic qəsəbəsinin tarixi planlaşma quruluşu



3. Sənətkarlıq və ticarət küçəsindən görünüş



4. Zəvərə məhəllə meydanının görünüşü



Lahic qəsəbəsinin regenerasiyası üzrə tövsiyyə edilən təhlillər

ŞƏKİL 46

Territory of Mehravan fortress and restoration drawing (Restoration drawing by M.Nurmammadov and topoplan by Dr. Nicu Cristi)

2.1.Hövzə ərazisindəki abidələrin tipləri; (Mehravan şəhər-qalası. Ağsu rayonu, Bəyimli kəndi)

1



1. Mehravan şəhərinin bərpa rəsmi. Müəllif M.N.Nurmammadov.

2



3



4



1. Mehravan məskən-qalasının bərpa rəsmi.

2. Mehravan məskən-qalasının yerləşdiyi ərazinin situasiya planı

("Google Earth" əsasında);

3. Mehravan məskən-qalasının ərazisinin səmən görünüşü ("Google Earth" əsasında);

4. Ərazinin topoqrafik planı;

5. Sahəni əhatə edən torpaq valının cənubdan görünüşü;

6. Qazıntı sahəsindən görünüş;

7. Məskən sahəsində tikili qalıqları;

5



6



7



2.1.1 Şəhərsalma və məskən abidələri

Remains of the walls of the entrance to the Girdiman fortress and restoration drawing (by author) (by author)

2.1.Hövzə ərazisindəki abidələrin tipləri; (Girdiman qalası (Niyal qalası))



2. Girişin A və B divarlarının şərq tərəfdən görünüşü;



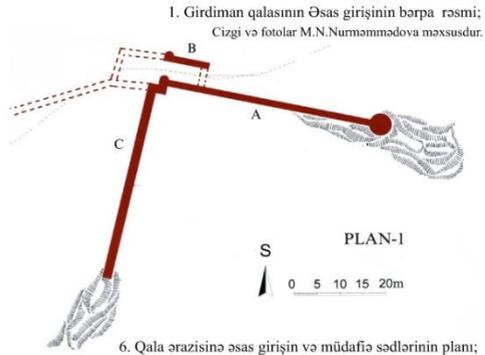
3. Girişin A divarının cənub tərəfdən görünüşü;



4. Girişin B divarının qərb tərəfdən görünüşü;



5. Girişin A divarının qalıqları;



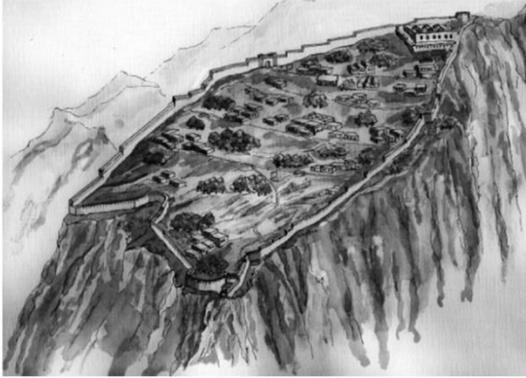
1. Girdiman qalasının Əsas girişinin bərpə rəsmi;
Çizgi və fotolar M.N.Nurməmmədova məxsusdur.

6. Qala ərazisinə əsas girişin və müdafiə sədlərinin planı;

Müdafiə tikililəri

Remains of Haram Fortress and restoration drawing (by author)

2.1.Hövzə ərazisindəki abidələrin tipləri; (Haramqala (İsmayıl rayonu))

1  2 

3 

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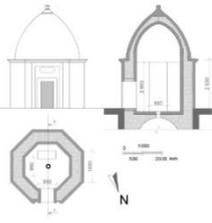
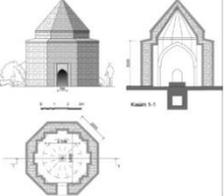
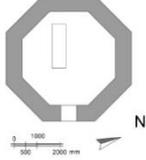
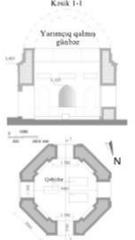
6  7 

1. Haram qalasının bərpa rəsmi;
2. Qala ərazisinin ən yüksək hissəsində bürçün qalıqları;
3. Qala divarlarının şərq istiqamətində qalıqları;
4. Qala yerləşdiyi ərazinin topoqrafik planı ;
5. Haram qalasının yerləşdiyi ərazinin şərqdən görünüşü;
6. Haram çayı məcrasından qala ərazisinin görünüşü;
7. Qalanın yerləşdiyi ərazinin şərq qayalıqları;

Fotolar, cizgilər və rəsm M.N.Nurməmmədova məxsusdur

Müəfifə tikililəri

Memorials and their classification

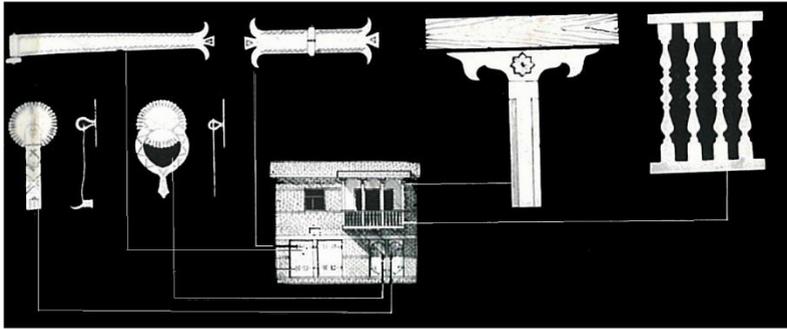
Girdiman çayı hövzəsinin xatirə abidələrinin təsnifat cədvəli					
	Abidənin görünüşü	Planlaşma həlli	Adı və xüsusiyyətləri	Yerləşdiyi ərazi	Tikilmə tarixi
1			Səkkizgüşəli, parabola günbəzli Pirəbilqasım türbəsi	Pirəbilqasım kəndi, İsmayıllı rayonu	1655-1656-cı illərdə
2			Səkkizgüşəli, piramida günbəzli türbə	Mustafalı kəndi, Ağsu rayonu	1722-ci il [26, s.25].
3			Səkkizgüşəli, kürəvi günbəzli türbə	Qaraqoyunlu kəndi, Ağsu rayonu [5. s.16].	1869-1870-cü illər
4			Səkkizgüşəli, örtüksüz türbə	Qaraqoyunlu kəndi, Ağsu rayonu [5. s.16].	1909-cu il

Artistic and aesthetic features of the monuments in the Girdiman River basin

2.3. Bədii-estetik xüsusiyyətlər



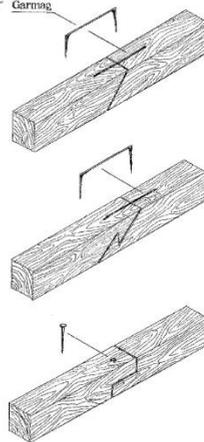
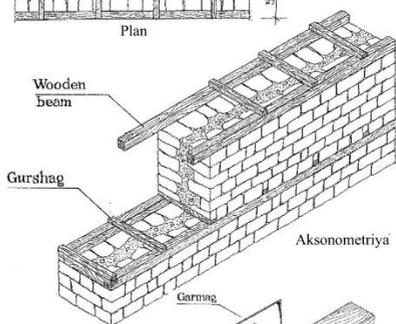
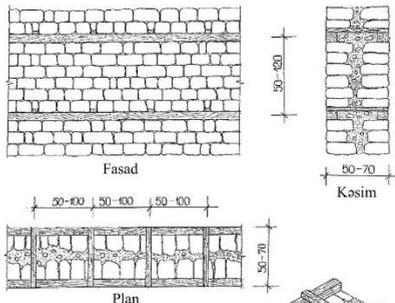
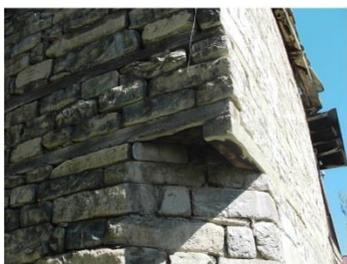
Girdiman çayı hövzəsinin tikililərində işlənmiş müxtəlif dekorativ və konstruktiv elementlər;
(Çizgilər və fotolar M.N.Nurməmmədova məxsusudur)



Hövzə abidələrində rast gəlinən müxtəlif konstruktiv və bədii üsullar

Traditional antiseismic wood band constructions in Lahij monuments

2.2. İnşaat texnikası və konstruktiv xüsusiyyətlər



Kötül birləşmələrinin tipləri

(Cizgilər və fotolar M.N.Nurmammədova məxsusdur)

Hövze tikililərində istifadə olunan antiseysmik kötül konstruksiyaları

The defense will be held on "24" September 2021 at 11:00 at the meeting of Dissertation Council FD 2.29 operating at Azerbaijan University of Architecture and Construction.

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