The issues of the archaeological complex conservation in Armenia and Nagorno-Karabakh

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Abstract. The article discusses the results of practical and preventive measures for the preservation and conservation of the historical environment of architectural and archaeological complexes undertaken by us in recent years during the excavations of Tigranakert in Nagorno-Karabakh. It is important to note that the conservation of complexes is considered as an important part of the research process of the monument. The article describes the strategic directions and methods of conservation and restoration of objects, which are formed in accordance with the theory of protection of monuments and the principles established by the international charters on conservation and restoration of monuments. The presented materials and recommendations can be useful in preserving the historical and architectural heritage of the Republic of Armenia and Nagorno-Karabakh.

Introduction
Man’s activity has brought and will bring about the formation of different archaeological sites. The Armenian Highland is rich in ancient settlements. Ancient sites and monuments of different epochs which were lost or conserved by nature for thousands of years have been excavated, investigated and brought to light during the last 130 years. The preservation of these sites is more difficult. The preservation of historical-architectural heritage is becoming more and more threatened. This threatens are various: destructive influence of nature, lack of different means of reinforcement and reconstruction, utilization of the territories on which these monuments or complexes are located and so on. Nowadays it is the demand of the time to return the historic-architectural environment to the public and to make heritage part of our everyday life for the preservation of our patrimony being so varied is regarded as an ultimate goal from the very moment the investigation of the monument starts, as its role in the development of territories is becoming more and more important. The existence of monuments revealed by excavations on the territory of Armenian and Nagorno Kharabakh (Artsakh) Republics during this last decade being of great scientific importance has also become a serious issue when preservation of architectural remains, utilization and reanimation of the environment are concerned. Ancient monuments and settlements are mostly in the open air and are exposed to destruction and vanishing.

Our participation in excavations of Tigranakert in Artsakh enables us to conduct preventive
preservation measures along with field investigation and to form a methodology to sustain them and to find new utilization for archaeolog-architectural heritage as well. We suggest that this experience be used in case of other Armenian archaeological sites (Shengavit, Erebuni, Teishebaini, Artashat, Dvin).

The settlement of Tigranakert in Artsakh was founded and named after Tigran the Great. The town is located in the Askeran region of Nagorno-Karabakh Republic (Artsakh) on the lower current of the Khachenaget River to the south of the river on the one of the comparatively low heights of the slopes of Vankasar Mountain and in the depression nearby the slope in the vicinity of the Royal Springs. The existence of water springs played crucial role for the selection of this particular location, due to this resource the issue of water supply of the city was solved. The place of the settlement was defined and archaeological excavations have already been held for 15 years. The territory of Tigranakert in Artsakh is about 70 hectares. The main construction of the town became visible during excavations: there is Fortified area with its citadel, Central area, Antique area, antique and early Christian graveyards.

The total excavated area up to 5.0 hectares [1,2].

Being in the open air these monuments are exposed to atmospheric influence, mainly downpours which destroy and deteriorate the walls (this is visible in places where the water penetrates into gaps of stones washing out the lime based mortar resulting in disjoining of the stones and thus deteriorating them. Vegetation also causes damage as its roots shoot through the gaps.

The condition of early Christian monuments especially churches and the grave on the territory of Tigranakert of Artsakh is even worse. Today the Great Church is in the pit of about 800m² and 40m deep which in its turn has become a basin for surface waters (especially rain). In fact the building is in an artificial basin where not only atmospheric but also subsoil waters are accumulated. High humidity of the region has brought about salt accumulation the traces of which are noticed on the stylobates of the church, walls (on the inner surface of the southern wall) and on the lime-based mortar. The subsoil waters raised salt compounds which have crystallized on the surface threatening to eat away the stones. Outer and inner drainage work greatly contributes to the preservation of the monument. The necessary condition to preserve archaeological sites is to obtain all the possible information and fix them.

Approaches and recommendations emphasized at conventions on Protection of European Architectural Heritage and on Preservation of Archaeological Heritage are of great importance for solving many problems concerning preservation of the monuments and historic-architectural environment in the Republic of Armenia and particularly of Nagorno-Kharabakh (Artsakh). It has been stated that the preservation of our heritage without participation of public is impossible and educational measures should be taken to form and develop opinion about values of heritage. The surrounding and the inside of these monuments and complexes should be well organized, investigations should be encouraged with the object to reveal all those factors which cause deterioration and destruction of the historical environment [3].

City preservation zone is its whole territory in which:

a. Historical drawing, environment and panorama is preserved.

b. The installation of kiosks and billboards which are not directly related to the monuments are forbidden.

c. The activities which are not directly related to the preservation and renovation of the monuments and archeological site are strongly forbidden including agriculture.

Construction settlement zone is near the city preservation zone. It defines such regulation which promote the and enlarge the visual perception of the city. According to those regulations all the constructions which are nor coherent with the historical environment and therefore are unacceptable are being uninstalled.

Archeological zone of the city includes necropolis, which is located on the way from Stepanakert to Mardakert, the opposite side of Tigranakert. This territory includes the cultural parts which have not
been excavated yet. This zone is also a preservation zone, which means that in order to start construction work archeological study should be held on.

The preservation zone of Tigranakert is called to preserve the natural landscape, natural water sources of mountains and to renovate the panorama of the historical residence.

Activities which are needed for the abovementioned statements:

a. All the constructions which are misleading the historical landscape should be destroyed (such as buildings which have been constructed in the Soviet period and during the Karabakh war were hardly damaged),

b. All the new constructions which are not disturbing the historical and natural landscape should be allowed,

c. The greenery which is natural to Tigranakert of Artsakh (such as fig trees, pomegranate trees) should be preserved,

d. During the reinforcement and preservation of the excavated parts of the city, also promoting the tourism in the city, renovate the territory. Moreover, to create observation decks and pedestrian paths without damaging the historical landscape [4].

The practice of reconstruction is as varied as the monuments themselves. The choice of their methods depends on a number of factors: the technical condition of the monument the cause and form of destruction, the previous reconstruction, the condition of landscape, the organization of reconstruction and so on.

The architectural reconstruction is a sort of creative work. The choice of methods should correspond to the norms based on thorough investigation. Final conclusion should not be given by one person’s opinion but by wider range of professionals. It should be confirmed by state authorities responsible for preservation of monuments based on the opinion of Scientific-methodological Council. Contemporary restoration methods are archaeological which give wider opportunities to preserve both monuments and their environment. Venice Charter extends the principles of reconstruction to a) reinforcement, b) partial or fragmental reconstruction, c) total reconstruction. The implementation of one of them has one objective-to ensure the preservation and long lifespan of the monument. These are which make the differential elements of the composition holistic. In future during reinforcement work it is suggested that the surface of walls be smoothed covering them with waterproof mortar. It is also important that at the end of excavation season ramps should be made to drain the rainwater and preserve the monument.

For reinforcement of mudbrick in sites we suggest preservative technologies and temporal reinforcing measures [5]. First of all the ability for preservation and implementation should be considered in advance of excavations. Preventive approaches are especially relevant in archaeological context to reinforce the earthen architecture. This approach has been used since 1980 by specialist who first undertook a through investigation and analyzes of the surrounding of the site and the features of its destruction. For those parts which are still being excavated traditional methods of coating are tested and found applicable. The excavations over and reinforced, monuments and sites should be covered with protective roofs or shelters. Preventive preservation on measures (protective coating, drainage, partial reconstruction and so on) which enable to stop destructive processes and sustain the remains are also applicable. The approach which considers temporal character of excavations, preliminary preservation and implementation reflects the goal which intends to better organize work at sites in order to manage the heritage intact from the holistic point of view.

The analysis of the architecture of the Tigranakertus to

- define the environment and landscape preservation zones separating the territory of the town as a historic-architectural preserve,
- conduct complex maintenance to preserve the environment and monuments, improve the territory and make it suitable for general and scientific tourism, build a museum [6],
- provide drenage and temporary protective system,
• present proposals for the best preserved monuments such as one nave Great Church Tigranakert Church of Vankasar an early Christian graveyard for reinforcement, partial reconstruction, rebuilding and reerection of the stelas as well as give a virtual picture of Tigranakert of Artsakh [7],
• verify that the processes of public availability of this historic-architectural territory being diverse are regarded as the final goal from the very beginning of investigations. in case the monument proves to possess high artistic values its preservation and implementation processes will be conducted smoothly as the role of the development of the environment heritage is be coming more and more important.

Summary
To investigate the environment and architectural complexes of Tigranakert of Artsakh a number of strategic measures are suggested. These suggestions can be beneficial in the Armenian context (Erebuni, Karmir Blur, Shengavit, Aratashen, Dvin, Metsamor) as well.
1. The benefit of interdisciplinary cooperation before excavations, reinforcement and implementation: cooperative work of archaeologists, restorers, archaeologist-architects, workers is benefitial to define as early as possible the long-run utilization of the archaeological site taking into consideration interests of the public and all participants. This kind of cooperation may enable to reveal the balance which is necessary while excavations and reinforcement are being carried out at the same time so as not to damage ar at least use, methods suitable for the protection of the constructions.
2. Correspondence of the principles of preventive reinforcement and methods: the investigation of deteriorative factors and thorough examination of the environment enables to form effective and least harmful technologies and methods to save the original building material. This is the preferable approach of all international Charters and normathic case of least interference in the preservation of the heritage.
3. The importance of forming respectful utilization of the monument: the capability to preserve and utilize the site should be considered before any excavation is undertaken. For already excavated remains besides protective shelters which are already covering some parts other preventive technologies should be used (protective layers, outer and inner drainage systems, partial reconstruction, temporal protective measures) which will enable to step all destructive processes and preserve the remains.

The implementation of methods and complex work introduced for preservation of the monuments and their environment of Tigranakert of Artsakh are to preserve the landscape intact, to present them to the public at their best, to popularize them and to reanimate this historic-architectural environment. This approach is also acceptable for other historical monuments of the Republic of Armenia.

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