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Preserving the Past: A Heritage Survey of St. Nikita Church

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Abstract

Heritage buildings represent significant part of the tangible heritage in Republic of North Macedonia. Byzantine churches (9th – 14th century) are among the most numerous and well-preserved medieval monuments of great cultural and historical significance.

Vulnerability of heritage buildings relates to their long-term exposure to different human, technological, and natural factors, and it's even more pronounced in seismic-prone regions like North Macedonia. In such regions, timely interventions are crucial to safeguard these buildings. In that context, heritage surveys, which can provide understanding of the historical context, physical condition, and significance of the building, are the essential first step in any preservation strategy.

This paper presents the investigation conducted on St. Nikita church, which was selected as a representative Byzantine monument. The church was built in the 14th century and belongs to the group of domed cross-in-square plans. Investigation of the church involved: archival research, review of the available documentation, building surveys (visual and drone inspections), and recording. This integrated methodology provided insight into the historical context of the building, its current condition, and significance, which is crucial for developing future preservation strategies that consider both material and semantic aspects.

Key words: Byzantine heritage, St. Nikita church, heritage survey, historical documentation, visual inspections, preservation strategies

Introduction

The Republic of North Macedonia has a rich and diverse cultural heritage, both tangible and intangible. A significant part of the country's tangible heritage consists of different types of buildings, created over the centuries. As a reflection of the cultural, historical, and social values, these buildings have great importance for today's societies, providing invaluable insight into our past and evolution; as such, it's essential to be preserved for the present and future generations (Stanton-Geddes & Soz, 2017).

Heritage buildings are vulnerable to the adverse impacts of human, climatic, and natural factors. In seismic-prone regions, like North Macedonia, their vulnerability is even more pronounced (Feilden, 2003). In such regions, the condition of the buildings needs to be carefully considered (Grujoska-Kuneska & Shendova, 2024).

Heritage surveys are the essential first step in each preservation strategy related to historical buildings. These surveys involve several steps: background research, field survey, documenting, significance assessment, and recommendations for further activities (AMS surveys, 2024). This information is critical for monitoring changes over time and developing future preservation strategies.

Byzantine churches, which date back from 9th to 14th century, are among the most numerous and preserved medieval monuments in North Macedonia - with over 50 preserved churches, located in several regions of the country. These buildings vary in their typology and appear in several characteristic concepts: basilica, conch, cross-in-square and small single-nave structures (Gavrilovic et al., 2004; Grujoska-Kuneska, 2024).

St. Nikita church, near Skopje, is a typical late Byzantine monument that bears the features of the many Byzantine churches in North Macedonia (Grujoska-Kuneska, 2024) and therefore is selected as a representative monument for the current survey. The investigation campaign involved several steps: archival research, review of the monument's documentation, building surveys, recordings, and recommendations.

General Aspects of St. Nikita Church

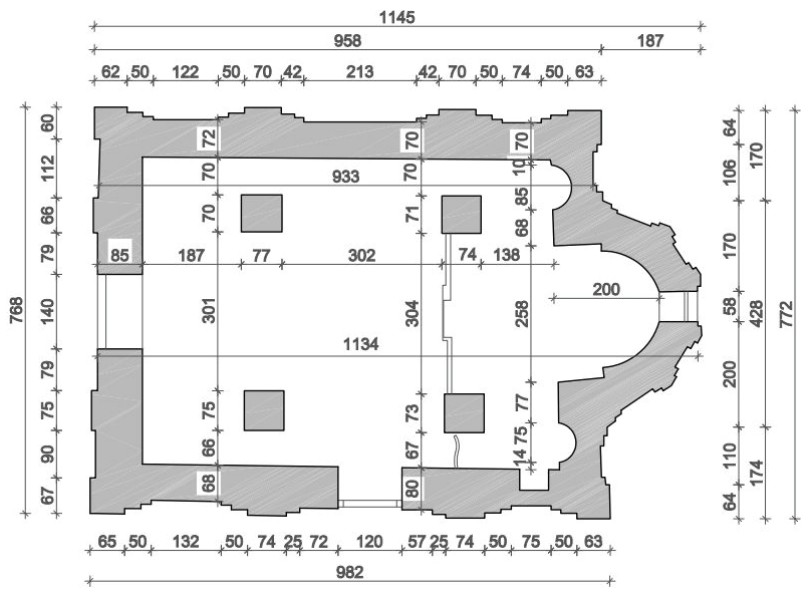
St. Nikita church is a Byzantine monument built in 14th century. It is part of a monastery complex located on the western slopes of Skopska Crna Gora, 15 km north-west from the city of Skopje (North Macedonia) in the village of Banjani,

(Markovic, 2015). The church is situated in natural environment, which provides some level of protection in terms of pollution, urbanization, traffic vibrations, etc.

From a typological aspect, this church belongs to the group of cross-in-square plans, which is the most numerous typology in the country (Grujoska-Kuneska, 2024). In the interior, there are two main and clearly defined areas: the central naos and altar area. The four columns divide the interior space into nine areas, of which the central one is the biggest and has nearly a square shape. The altar area (on the east side) is defined by the semi-circular apse and two blind niches (Markovic, 2015). The dimensions of the church are presented in fig. 1.

Figure 1

Floor plan of St. Nikita church



Source: (Grujoska-Kuneska, 2024)

The church is built from traditional materials: local stones (mainly limestone and sandstone), bricks, and lime mortar. The structural system consists of a massive peripheral wall with a thickness of nearly 85cm and four interior columns. The central area is surmounted by the dome, and the rest of the building's roofs are barrel vaults. In addition to this main system, there is a system of wooden ties (in the upper interior parts) and wooden beams (inside walls) which contribute to the structural integrity of the building and its seismic performance (Gavrilovic et al., 2004).

Historical Evolution of the Church

Very few data has been preserved from the period of its foundation and the oldest historical period of the church. According to written documents (charters), the church dates from the beginning of the 14th century, when King Milutin (1282-1321) rebuilt this church on the basis of an older demolished building from the 11th or 12th century, dedicated to the same saint (Markovic, 2015).

Historical documentation for the church (in modest scale) was found in the National Conservation Center - Skopje in the form of written texts (reports, decisions, brief texts, and letters), technical documentation (project proposals, copies of cadastral plans, property lists), and photo documentation (inventory cards, photographs). Additional historical information was provided from the materials owned by IZIIS (Institute of Earthquake Engineering and Engineering Seismology) - project "Conservation and seismic strengthening of Byzantine churches in Macedonia" and some other publications – books.

The review of historical records for the building helped to understand its history and provided insight into different historical stages and changes over time, table 1.

Table 1

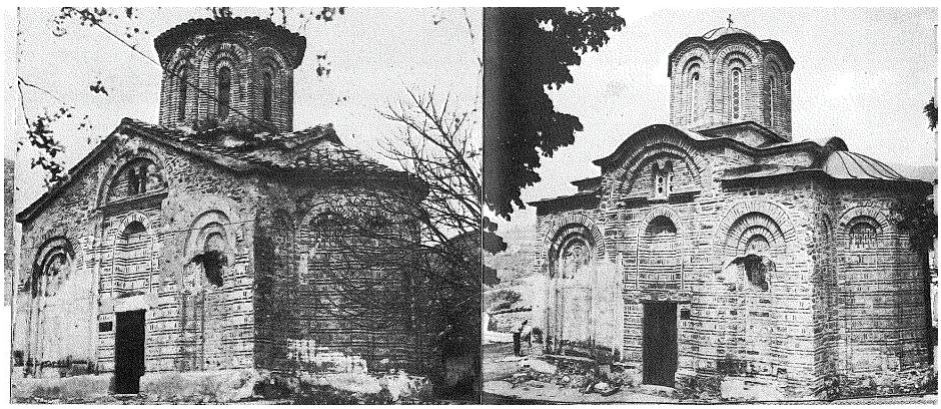
Review of historical changes on St. Nikita church

1307	Period of construction of the church
Ottoman period	Addition in form of small single nave structure on the south side of the church (demolished in 1928)
XIX century	Reconstruction activities on the dome of the church; Addition of a closed porch along the south and west side (demolished in 1928)
1963 (Skopje earthquake)	Damages in the interior of the church in form of cracks and detachments of the frescoes
1964 -	Vibrations produced by the nearby mining processes
1967	Conservation activities on the frescoes in the interior
1968	Conservation activities on the architecture
1978-80	Extensive intervention on the roof parts: reconstruction of the roof and replacement of the roof tiles with a lead sheet, fig. 2

Source: (Markovic, 2015; NI Conservation Center - Skopje, 1978; NI Conservation Center - Skopje, 1980)

Figure 2

St. Nikita church, before (left) and after (right) the roof reconstruction



Source: (RZZSK & Kocishki, 1983)

Field Surveys

Field survey involved visual inspections on the exterior and interior of the church and drone inspections of the rooftop. This enabled the mapping of certain visible irregularities and the assessment of the condition of building materials and architectural features. Additionally, some photographs were taken in order to document some changes noticed during the inspections.

Inspections of the Exterior

The lowest zone of the church is in the form of a base upon which the church rises, made from roughly hew stones. This is a remnant from an older building. The facades of the church are playful with niches and arches, fig. 3. The northern, eastern, and southern facades are designed in a similar manner: alternating layers of dressed stone and brick and vertically placed bricks at the joints, i.e., "opus cloisonné" technique, with minor modifications. The eastern facade is emphasized by a five-sided apse and decorated with bricks in different patterns. Western facade differs from the others, it is made of a combination of roughly hew stone and bricks in irregular arrangement (Grujoska-Kuneska, 2024).

Figure 3

St. Nikita church, south-east facade (left), east facade (middle), west facade (right)



Source: (Grujoska-Kuneska, 2024)

Visual inspections on the facades enabled to map certain irregularities such as: porosity of the limestone and carbonization of the lime mortar; presence of capillary moisture in the lower zone of the northern and western walls; presence of lichens on all facades, fig. 4. However, general condition of the facades is considered as relatively good and preserved, without significant degradation or damage of the materials that could pose further threat to the monument (Grujoska-Kuneska, 2024).

Figure 4

Surface irregularities on the facades of St. Nikita church: porosity on limestone (left), presence of moisture (middle), presence of lichens (right)



The use of a drone provided information for some unreachable areas that were difficult to access during visual inspections, such as the rooftop of the church, without the risk of damaging the material. During these inspections, photographs with high resolution were attained (Fig. 5), presenting the church within its surroundings from an aerial perspective. This gave the opportunity to look into the roof's covering, and it was observed that the sheet (cover material) is in good condition, except for a small part of the dome, where some cracks were noticed, probably due to unprofessional fixing of the joints (Grujoska-Kuneska, 2024).

Figure 5

Drone photographs showing aerial perspective of the church and minor damage on the dome covering (right)



Inspections of the Interior

Interior surfaces of the church are completely plastered and covered with frescoes, preserved on a large scale; therefore, the condition of the structure materials cannot be investigated. This frescoes belong to three different periods: 14th century, 15th and 19th century, (Markovic, 2015). In some zones - lower zones of the walls and columns and partly in the vaults, the frescoes are missing and only plastered surfaces are visible, fig. 6.

Figure 6

St. Nikita church - interior



During these visual inspections, fine cracks were observed in some upper zones of the walls and vaults. The most pronounced is the old crack on the western wall, located above the door, which needs additional investigation. Also, it was observed that one of the wooden ties (the one that connects the altar area and the north-east column) is discontinued, which can be considered as more serious damage since this element contributes to the overall seismic performance of the building, Fig. 7 (Grujoska-Kuneska, 2024).

Figure 7

Damage in the upper zones of the church, micro cracks (left and middle), discontinuity of a wooden tie (right)



Source: (Grujoska-Kuneska, 2024)

Semantic Aspects – Values of the Church

As a Byzantine monument from the 14th century, the church of St. Nikita represents a witness to the Byzantine culture – the traditions, rituals, beliefs, and socio-cultural conditions of that society, which contributes to the *cultural and historical value* of the monument. The monument's *historical value* is additionally created over time. *Authenticity* of the church is expressed through its original forms, materials, and techniques, which also contribute to its *architectural value*. The original frescoes (from the 14th century) are preserved on a large scale, and those are a testimony to the rich artistic Byzantine life and represent the last work of the famous painters Michael and Eutychios, which makes the church a valuable and precious creation of high artistic value. The *economic value* of the church is closely related to the potential for tourism development; the church is part of the tourist guide for the city of Skopje, and as a heritage building, it attracts numerous visitors. The church is still used as a place for occasional social gatherings (christenings, weddings, etc.), and the location itself is often used as a picnic spot, which highlights the *social value* of the monument (Grujoska-Kuneska, 2024)

Conclusion

Heritage buildings play an important role in today's societies, acting like tangible links to our past. These buildings have persisted for many years and have been affected by different natural and technological hazards, which increase their vulnerability. Timely interventions are crucial to safeguard these buildings, especially in seismic-prone regions like North Macedonia. In that context, heritage surveys play a significant role in any preservation strategy. Heritage survey on St. Nikita church involved: archival research, review of buildings' documentation, field surveys, and recording.

In a historical context, the church has undergone some changes over time in the form of additions, reconstructions, and conservation activities. The church has also suffered some damage in the Skopje earthquake in 1963, but its condition was improved with the following conservation activities. These past interventions haven't significantly affected the originality of the building in terms of materials, forms, and structure; hence, the building has kept its authenticity at a high level. In addition to the authenticity, this building possesses many other values - cultural, historical, architectural, artistic, etc.

Visual inspections enabled the mapping and documenting of some visible surface irregularities and pointed out some zones that need additional investigation. From this inspection, it was concluded that surface materials are in relatively good condition and preserved, but additional investigations are necessary to evaluate any potential hidden threats. This type of information helps to monitor changes over time and can be used as a valuable starting point for future preservation strategies.

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