



# **Gelati monastery complex**

**Report on the urgent monitoring mission implemented  
on February 7, 2024**

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## Introduction

Nestled near the historic city of Kutaisi in Georgia, the Gelati Monastery stands as a testament to the rich cultural and architectural heritage of the region. Its roots trace back to the 12th century when King David IV of Georgia, also known as David the Builder, founded this spiritual haven. The monastery, with its stunning blend of medieval Georgian architecture, intricate frescoes, and serene surroundings, has become a symbol of spiritual devotion and artistic achievement.

The Gelati Monastery's historical significance extends beyond its role as a religious institution. It served as a center of education and enlightenment during the Georgian Golden Age, attracting scholars, theologians, and philosophers from everywhere. The monastery's Academy, established by King David IV, played a pivotal role in the development of Georgian literature and sciences, earning it a place of honor in the annals of cultural history.

In 1994, the international community recognized the exceptional value of Gelati Monastery by inscribing it on the UNESCO World Heritage List. This acknowledgment underscores its universal importance and commitment to preserving a site that encapsulates centuries of Georgian history and cultural achievements. The monastery's inclusion on this prestigious list reflects its outstanding architectural and artistic contributions, as well as its role as a spiritual and educational beacon.

Gelati Monastery stands as a bridge between the past and the present, connecting generations through its profound historical importance, architectural grandeur, and spiritual significance. As a UNESCO World Heritage Site, it continues to inspire awe and reverence, inviting visitors to delve into the rich tapestry of Georgian culture and history that unfolds within its ancient walls.

### The Background information:

The comprehensive conservation programme implemented 2009 -2019 on the Gelati Monastery WH property, unfortunately was not successful. The failure of the recently installed tiled roofs on the Church of Virgin was revealed in early 2020 and has resulted in damage to the wall paintings and mosaics inside the church, which has a negative impact on the Outstanding Universal Value (OUV) of the Property.

Within the urgent safeguarding measures, the dedicated actions to temporarily cover of the roofs of the Church of Virgin and St George, to avoid the further risk of water infiltration have been implemented. While, the solution which should ensure the appropriate roofing while the safeguarding interventions are possible, was not found.

Therefore, the World Heritage Committee, strongly urged the State Party to provide a more workable solution to covering over the Church of the Virgin in a manner that allows for conservation activities to take place uninterruptedly without risk of moisture ingress.



In respond to a strong need on the arrangement of a new temporary roofing for further detailed study of the state of building, the source of damages, as well as for going forward in elaboration and implementation the respectful conservation activities, the project documentation on the arrangement of the new temporary roofing over the Church of Virgin, has been elaborated and submitted to the World Heritage Center for reviewing by the Advisory Bodies in November, 2023.

### **The urgent monitoring mission reasons:**

On February 5th and 6<sup>th</sup>, 2024, Western Georgia and in particular the region of Imereti where the Gelati monastery is located, was hit by a big storm, state of emergency was declared. The damage caused by the storm not only affected buildings and infrastructure but also human lives.

The national weather station located inside the monastery detected wind speeds of over 110 km/h with peaks of 115 km/h. With prevailing south/west direction. In addition to the wind, the storm was also characterized by heavy rain. The combination of intense winds and rain caused damage across the region. So far, the immediate monitoring working mission was arranged on February 7, 2024, to check the possible impacts of the storm to the Gelati monastery complex.

### **The immediate monitoring mission findings: water infiltration into the churches**

As a result of the immediate monitoring mission of 7<sup>th</sup> February, 2024, it was revealed, that the all walls of the facades of the churches of Virgin and St George were completely wet. Due to the combination of the strong wind and a heavy rain, and a large amount of water ended up on the walls, causing infiltration inside.



Photo: 7 January 2024



Photo: 7 January 2024

In certain instances, identifying infiltration points is straightforward, while in others, it becomes challenging due to the limitations of inspecting the roof, given that the roof is shielded by protective layers composed of corrugated sheet metal. We can deduce potential paths that water may take, but we cannot assert them with absolute certainty.

Water infiltrated into the main church of Virgin and into the church of St. George. Both churches are covered by temporary roofs arranged in recent years. The temporary roofs are made of corrugated sheet metal and rests directly on the ceramic glazed tiles.

Three primary infiltration points were identified within the Church of the Virgin:

- The water infiltration is clearly identified from all 3 windows on the west façade of the main temple. While the southernmost one is the most impacted



Photo: 7 January 2024





It should be underlined, that the frames of the wooden windows on the west façade are deteriorated and have small cracks in the recess. The joining of window frames with wall is also lightly deteriorated, from which the water infiltration had a place. In addition, the windows have upper shutters for ventilation, contributing to the entry of water during a strong storm.

Photo: 7 January 2024

- Another water infiltrations were identified in the narthex. Specifically, above the main doors of the church.



Photo: 17 December 2024

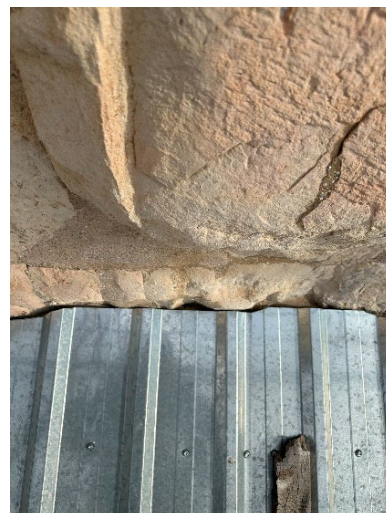


Photo: 13 December 2024

The connection between the main body of church and the narthex presents inherent vulnerability. It lacks a unified structure with main body, rendering it particularly fragile during rainfall that saturates the wall. The connection between the wall and corrugated sheet metal features holes of various sizes spanning its entire length, as we can see on the photos above.

The underside of the narthex roof comprises two types of structures: one made of pumice blocks and the other consisting of wooden beams. Upon careful inspection of the accessible portion, significant amounts of water were discovered. It is important to note that no damp stains were observed inside the narthex beneath the wooden structure; rather, the infiltrations were found beneath the pumice block structure.



- Infiltrations were discovered along the northern wall of the southern wing. It is impossible to understand and fix the particular point/s of water infiltration in this part of the structure, due to that it is covered by metal protective roofing.



Photo: 7 January 2024

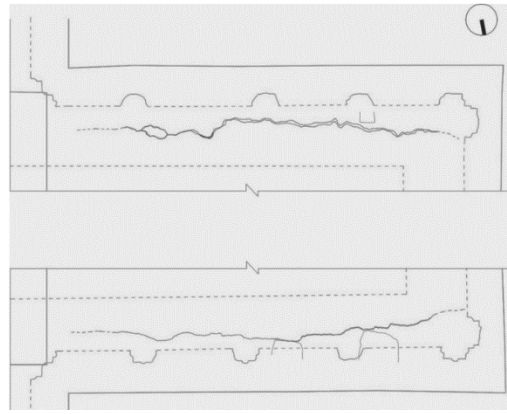
From the inside the infiltration point is located at a height of 15 meters and coincides with the existing crack detected and documented in the Mission Report of June, 9, 2022, elaborated by Ugo Tonietti. The crack certainly favored the water to reach the interior in such a short time.



Photo: 7 January 2024



Photo: 2022



Plan of the course of the longitudinal cracks of the South (top) and North (bottom) wall, (drawing by Architect Lasha Shartava, 2022)

The crack is currently covered by a lime mortar pad which supports the temporary ventilated roof, we have no opportunity to inspect. the depth of the crack and the infiltration point on the internal wall are very similar. For this reason, we can consider, that the water path was facilitated by the crack.



Investigation under the temporary roof revealed water infiltrations, as depicted in the photo. The change in color of the pumice grain indicates dampness, particularly near the lime mortar pad. It is evident that the temporary roof failed to withstand the magnitude of the storm, resulting in water infiltration into the interior.

One primary infiltration point was identified within the Church of St George:

- In the church of St George, water infiltration is evident only from the window of the dome drum. The south-west window, particularly exposed to wind and rain, facilitated the infiltration. The wooden windows are not of high quality. One of the two appears to have been previously replaced and fixed with foam.





Photo: 7 January 2024



Photo: 7 January 2024

In the past, these windows were bricked up, as seen in the church of Virgin, to protect against storms of this nature. Since the temporary roof resembles the one on the church of Virgin, where the junction between the sheet metal and stone permitted infiltration, we



can infer that here, too, there may be additional infiltrations not visible on the surface inside.

Brief conclusion:

The monitoring of February, 7<sup>th</sup>, 2024, reveals that the structures of the monuments of the Gelati Monastery are still vulnerable against the heavy environmental impacts. Due to the existed temporary metal roofing, it is impossible to deeply investigate the causes of infiltration in many of the cases. Therefore, the timely arrangement of the new temporary covering, that will allow to study the conservation issues, is highly urgent. It should ensure the overall protection of the whole structure (of the walls and roofing as well) of the main temple from the further possible environmental impacts, taking into consideration the geomorphology of the terrain of the Gelati Monastery and the specific weather conditions in the area, frequently characterizing by strong storms.

The protection for the dome drum windows can be constructed using transparent materials such as plexiglass from the outside, allowing light to enter the church while utilizing the window frame for attachment.

The issue concerning the joint between the temporary roof sheets and the stone walls must be addressed promptly in both churches. The challenge arises from the irregularity of the masonry. Soft materials like lead can be utilized to conform to the irregular shape, or alternatively, the shapes can be scanned using a 3D laser and 3D printed details with a counter shape, ensuring maximum protection of the buildings.

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