



საქართველოს კულტურის,
სპორტისა და ახალგაზრდობის
სამინისტრო

Ministry of Culture,
Sport and Youth
of Georgia

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28/02/2022

Mr Lazare Eloundou Assomo
Director
World Heritage Centre
UNESCO
7, Place de Fontenoy
75352 Paris 07 SP, France

Subject: **State of conservation report for the World Heritage Property 'Gelati Monastery'**

Dear Mr Eloundou Assomo,

I am writing to report on the actions taken by the State Party in response to the World Heritage Committee decision 44 COM 7B.47 within a new deadline kindly agreed by you upon exceptional basis.

The report is structured in line with the template provided at Annex 13 of the *Operational Guidelines* of the World Heritage Convention. The relevant sections of the Committee decision are typed in italics for ease of reference. The Annexes of the report is available at: shorturl.at/knxAC

Thank you very much for your understanding regarding the challenges the State Party faced in submitting the state of conservation report for the World Heritage property 'Gelati Monastery' by the 1 February 2022 deadline.

Kind regards,

Karlo (Kaha) Sikharulidze
First Deputy Minister



STATE OF CONSERVATION REPORT BY THE STATE PARTY

(in compliance with Paragraph 169 of the *Operational Guidelines*)

Gelati Monastery (Georgia) (C 710bis)

1. Executive Summary of the report

This report addresses the issues raised by the World Heritage Committee in its Decision 44 COM 7B.47 concerning Gelati Monastery adopted at its 44th session held between 16 and 31 July 2021 in Fuzhou, China/online. This report explains the processes in place to ensure that the Outstanding Universal Value, authenticity and integrity of the property are sustained. It outlines the State Party's actions following the urgent installation of a temporary roof over the Church of the Nativity of the Virgin (the Main Church), inside Gelati Monastery, blocking further infiltration of rainwater into the superstructures of the monument.

The report describes the State Party's steps taken towards the development of the appropriate conservation strategies, to solve problems related to water infiltration and improve the state of conservation of the property. In particular, it outlines the activities undertaken in the framework of Phase 1 of the Agreement between LEPL National Agency for Cultural Heritage Preservation of Georgia and ReStruere LTD, the spin-off of Florence University, the latter kindly suggested by the World Heritage Centre.

The report also outlines the State Party's actions regarding the improvement of the condition of the wall paintings of the Main Church, by the involvement of the mural painting restorers of the Giovanni Secco Suardo Association, upon a suggestion of Professor Ugo Tonietti, the President of ReStruere LTD having already collaborated in other delicate and significant projects with the Association. Overall, this report outlines the outcomes of five international missions carried out at the property between June and November 2021, arranged and financed by the State Party. The reports of all the missions are enclosed and referenced where applicable.

2. Response to the Decision of the World Heritage Committee

Decision: 44 COM 7B.47

The World Heritage Committee,

1. *Having examined Document WHC/21/44.COM/7B,*
2. *Recalling Decisions 41 COM 7A.20 and 41 COM 8B.31, adopted at its 41st session (Krakow, 2017),*
3. *Notes the unfortunate failure of the new roof of the Church of the Virgin and the continuing degradation through moisture ingress in St George's Church which is leading to decay of stonework, mosaics and wall paintings;*

In response to this note, the State Party would like to explain that mosaics don't exist in St. George's Church. In addition to this, the decay of mosaics have not been detected in the Main Church.

4. *Welcomes the State Party's action to install a temporary roof over the Church of the Virgin, and its monitoring and reporting of the damage to the stonework, wall-paintings and mosaics in the churches of the property, and requests the State Party to urgently:*
 - a) *Provide a more workable solution to covering over both the Church of the Virgin and St George's Church in a manner that allows for conservation activities to take place uninterruptedly without risk of moisture ingress, and submit this to the World Heritage Centre for review by the Advisory Bodies before implementation,*

In parallel with the completion of the urgent installation of the temporary roof over both the Main Church and St. George's Church in March 2021 that is preventing water infiltration into the Churches, the State Party continued working on the provision of a suitable solution for covering both the Main Church and St George's Church in a manner that will allow conservation work to be carried out in a safe condition, without a threat of the penetration of humidity. In doing so, the State Party has organized urgent and significant investigations over the last eight months. In particular, from the 22nd to the 29th of June 2021, the Mission carried out by the representatives of the ReStruere LTD, Professor Ugo Tonietti and Sara Stefanini, a team of the Department of Architecture of Florence University, with a great deal of experience in safeguarding monumental heritage, recommended by the World Heritage Centre, assessed the reasons for the water infiltration occurred in 2020 and provided the initial recommendations to improve the state of conservation of the property.

In the diagnostic process, the Mission carried out an analysis of "The Rehabilitation Project of Gelati Monastery Complex" elaborated in 2008 and five important sondages on some pitches of the Main Church to better understand the techniques employed during the reconstruction of the roof from 2016 to 2019. During the sondages, samples were taken from the mortars (tile filling mortar, bedding mortar under the tiles and from the connection with a wall, between the tiles and the wall, the material used for the recomposition of voids in the stones) and from insulating material arranged in place with the last roof reconstruction. Many other samples were collected in various spots of the Main Church or provided by the Georgian team involved, including the different types and ages of stone samples. All these activities and related preliminary considerations have been included in the "Report on the Mission and Preliminary Suggestion on the Reasons for the Water Infiltration and the Initial Recommendations for the Protection from Water Infiltration" (Annex 1).

ICOMOS in its Technical Review, prepared in February 2022, agrees with the methodology presented in the aforementioned report for investigating the causes of water infiltration in the

superstructures, walls and wall paintings in the Main Church, as well as the remarks and first conclusions of the ReStruere LTD on the causes of the infiltration (see Annex 2: ICOMOS Technical Review on “Report on the mission, the preliminary suggestions on the reasons for water infiltration and the initial recommendations for protection from water infiltration”).

The investigation revealed nine typologies of a new under-roofing filling implemented in the pitches of the Main Church. All the pitches of St. George’s Church are arranged based on one solution among the nine typologies employed in the Main Church. According to the investigation, the Church of St. George presents similar problems to those of the Main Church, although less serious regarding the situation with roofing. Thus, the final solution on the covering of the Main Church is also extendable to St. George’s Church.



Sondage R1

In December 2021, ISPC-Cnr¹ and ReStruere LTD delivered the results of the tests on materials (see Annex 3: “Test on material samples taken on-site. Scientific report explaining the results of the tests”). In the meantime, the Georgian team, operating under the supervision of ReStruere LTD, carried out further investigations and sondages on some pitches of the Main Church (see Annex 4: “Technical Report with Photo and Graphic Documentation Regarding the New Sondages”). Following the sondages on the pitches and the results of the tests on the materials, the reason for the infiltrations became clear. The external covering of glazed tiles supported by an under-roof filling composed of various materials through a thick layer of lime mortar favoured the water infiltration. The adopted strategy of filling the under-roofs, the material of the glazed tiles, the building techniques employed and the shape of the new roofing system are inappropriate and insufficient for protecting the property.

Meanwhile, the State Party has accepted the suggestion of ReStruere LTD made in its first report (Annex 1) concerning the involvement of a microclimate consultancy team in close collaboration with other teams, and organised a mission of Architect and microclimate specialist Alessandro Massari at Gelati Monastery, from 06 to 12 November 2021. The result of analysis contained in the report on “Investigations on the structural hygrometric and micro-environmental state aimed at safeguarding the internal wall paintings” (Annex 5) suggested that any attempt to boost the drying process of wall paintings from the interior, must be avoided to prevent further damages. The outcomes of the microclimate team’s investigation imposed an urgent and immediate need for the opening of some portions of the pitches placed on the West arm to facilitate the evaporation of the humidity that is currently saturating the walls and the vaults of the West part of the Main Church.

¹ Istituto di Scienze del Patrimonio Culturale - Consiglio Nazionale delle Ricerche - Italian Research Institute with a Division dedicated to the Sciences for Cultural Heritage.

Upon reception of the report of the microclimate consultancy team, on 27 January 2022, the State Party organized a hybrid meeting with the ReStruare LTD, microclimate consultancy team, mural painting restorers of the Giovanni Secco Suardo Association and Georgian experts who are involved in the safeguarding of Gelati Monastery, and discussed future steps that need to be taken urgently for the designing provisional covering for the West arm to eliminate moisture and start conservation activities inside the Main Church (Annex 6: The Protocol of the Hybrid Meeting). Following the decision taken on the hybrid meeting, ReStruare LTD, Georgian Architects and constructors are currently working on the solution for a light, temporary structure able to cover the West arm during the evaporation process.

At the same time, the State Party shares the conclusions drawn up as a result of the international missions regarding the need for changing the current ineffective covering system. Therefore, to define the design of a new and effective roofing system, the State Party, having ensured that further infiltration of rainwater is blocked by the temporary roofing according to the laboratory assessments (Annex 5), continues the research and studies that will enable the adoption of the technical solution suitable for the needs of Gelati Monastery to be justified on the grounds of historical implications and architectural suggestions. This activity is the core of Phase 2 of the Agreement between LEPL National Agency for Cultural Heritage Preservation of Georgia and ReStruere LTD, the spin-off of Florence University.

b) Develop a costed conservation programme for the property, including monitoring, research and implementation of conservation work to wall-paintings, mosaics and stonework of the two churches, and submit this to the World Heritage Centre for review by the Advisory Bodies;

The State Party, having acknowledged the need for developing a costed conservation programme for the property, including monitoring, research and implementation of conservation work to wall-paintings and stonework of the Main Church and St. George's Church, from June to November 2021, arranged three international Supervision Missions to assess and monitor the state of conservation of the mural paintings and stonework of the Main Church inside Gelati Monastery as well as to provide emergency stabilization intervention for the consolidation of the pictorial film, caused by the crystallization of soluble salts. Please kindly note that mosaics don't exist in St. George's Church.

Between 22 and 28 June 2021, the **First Exploratory Mission** for monitoring and diagnostic studies of the wall paintings of the Main Church was conducted by Italian restorers Marco Pulieri and Vincenzo Centanni, the well-known wall painting conservators associated with the Giovanni Secco Suardo Association, the partner organization of the ReStruere LTD, the Florence University spin-off. The Mission, together with a group of Georgian conservation-restoration technicians, assessed the condition of the wall paintings, identified their degradation types and critically unstable areas. In addition to accurate observation of the state of deterioration of the pictorial film, various samples of materials were taken for laboratory analyzes to obtain an initial characterization of the constituent elements (masonry, plasters, colors, etc.) of the wall paintings and to identify the agents affecting their state of conservation. It also defined the intervention types and methodology and implemented the tests of emergency temporary stabilization interventions, including the color re-adhesion tests and consolidation tests of plaster detachments, as well as tests of removal of superficial saline efflorescence and a first extraction of the salts detected on the most external layers of the plasters (see Annex 7: "Report on the State of Conservation of the Gelati Monastery World Heritage Property, Georgia. Mission of 22 – 28 June 2021" by conservation specialists of wall paintings: Marco Pulieri, Vincenzo Centanni).

In its Technical Review, prepared in February 2022, on the aforementioned Mission report, ICOMOS agrees with the recommendations of the wall-painting conservators developed during

the First Exploratory Mission, which has been further implemented by the State Party in the framework of the Second Emergency and Third Supervision Missions of the conservation team (see Annex 8: ICOMOS Technical Review on “Mission report on the state of conservation of the mural paintings of Gelati Monastery”).

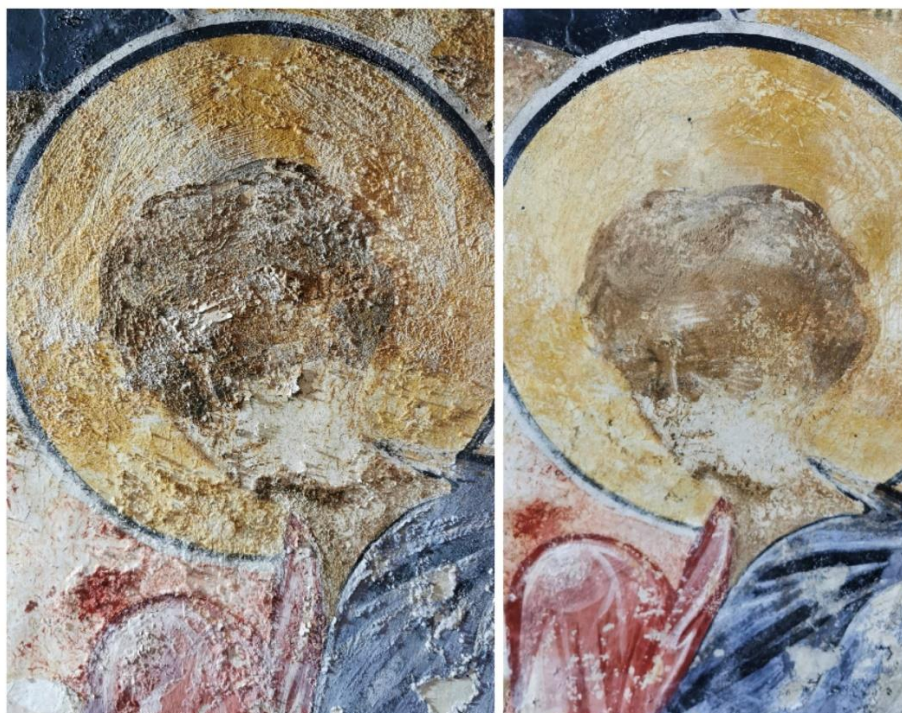


Before consolidation

After consolidation

Between 16 and 21 September 2021, the State Party organized the **Second Emergency Mission**, led by the Italian conservator-restorer Vincenzo Centanni with the involvement of the group of Georgian conservator-restorers to monitor the state of conservation of the wall paintings in the Main Church and to compare it with what was previously detected in June 2021. Following the monitoring, the restorers provided immediate consolidation of the layers of plaster and the pictorial film, according to previously verified methodology, in all points, where a danger of imminent fall of the portions of the painted plaster and the pictorial film was exposed (see Annex 9: “Article on the emergency conservation-restoration intervention of the Frescoes of the Church of the Nativity Gelati Monastery” by Vincenzo Centanni, Marco Pulieri).

From 05 to 12 November 2021, the State Party arranged the **Third Supervision Mission** led by the restorer Marco Pulieri to monitor the state of conservation of the pictorial film by comparing it with that found in the two previous interventions. Following the monitoring, the adopted methodology proved to be perfectly suitable for the degraded situation. Thus, for the safety of every critical point of the pictorial cycle of the West arm, the Mission launched a color and capillary plaster consolidation campaign that was completed at the beginning of December by the team of Georgian restorers under the supervision of the Giovanni Secco Suardo Association. The Missions also served as a capacity-building activity for the Georgian restorers involved in the restoration process undertaken by the international experts concerning the methodology developed and materials to be used in the conservation intervention.



Before consolidation

After consolidation

At the moment, the stability and safety of the entire surface of the wall paintings of the West arm is secured (see Annex 10: “Report on the State of Conservation of the Gelati Monastery World Heritage Property, Georgia. Mission of 05-12 November 2021” by conservation specialist of wall paintings: Marco Pulieri).

However, as mentioned above, according to the results of the studies, surveys and monitoring of the internal and external environmental situation of the property undertaken by the microclimate consultancy team, it became clear that there is an urgent need for the opening of the pitches of the West arm in order to let the evaporation of the moisture, impregnating the structures of the Main Church, since the permanence of humidity can compromise the work that has been undertaken by the restorers.

Therefore, the State Party with a close collaboration between the construction, conservation and microclimate consultancy teams aims to continue monitoring the wall paintings, in particular, during the work that will be carried out on the roof of the West arm of the Main Church while installing a new temporary cover by 30 March 2022, enabling the removal of the glazed tiles for the elimination of the moisture from the masonry.

The conservation team of the *Giovani Secco Suardo* Association will monitor the condition of the wall paintings during the removal of the tiles and the effects of the drying process of the masonry. The conservators proceed to secure and consolidate any parts of the pictorial film or plaster in case of a danger of detachment phenomena is observed, following the intervention on the roof. In this period, all diagnostic investigations will be carried out to complete those already undertaken during the aforementioned Missions, for drawing up the executive project for the complete restoration of the pictorial cycle in the West arm of the Church.

In addition to this, the State Party has already started putting in place measures in relation to all the recommendations drawn up in the report of Architect Alessandro Massari in his “Investigations on the structural hygrometric and micro-environmental state aimed at safeguarding the internal wall paintings” (Annex 5).

5. Also requests the State Party to:

a) Continue its efforts to develop monitoring indicators for monitoring the state of conservation of the attributes that convey the Outstanding Universal Value of the property,

Defining the monitoring indicators for examining the state of conservation of the attributes that convey the Outstanding Universal Value of Gelati Monastery and implementing the monitoring system is in progress.

Having acknowledged the need for the monitoring system for microclimate control, in December 2020, the State Party began a monitoring project, which guidelines are described in the document “Monitoring of Environmental Conditions of Gelati Monastery Complex” (see Annex 11).

In total, 18 sensors are installed at the property for controlling the microclimate:

Internal sensor: main space of the Church of Nativity of the Virgin - 7 sensors. Chapel - 4 sensors, gates - 2 sensors and narthex - 1 sensor.

Internal sensor: St. George’s Church, at altar floor - 1 sensor, and the central space - 2 sensors.

Outdoor sensor: south of the Monastery complex, open balcony of the cells - 1 sensor.

In addition to this, the State party takes into consideration the recommendations concerning the microclimate monitoring system given by the microclimate expert’s team following the Mission at Gelati Monastery between 06 and 12 November 2021. In particular, a sensor for measuring wind direction and intensity in the area of the property will be installed by 14 March 2022.

The elaboration of the indicators for monitoring the Outstanding Universal Value of the property will continue in collaboration with the supervisory and consultancy teams involved in safeguarding Gelati Monastery along Phases 2 and 3.

b) Extend the tri-dimensional structural monitoring to St George’s Church and other important structures at the property as well,

The National Agency for Cultural Heritage Preservation of Georgia has recently purchased 3D Faro Focus Laser Scanner designed for indoor and outdoor measurements, which will be delivered by the supplier to the Agency by 26 March 2022 according to the purchase agreement. Therefore, tri-dimensional structural measuring and monitoring will be put in place to periodically examine the stability of all the important structures at the property as soon as the purchase is delivered.

c) Provide a report on the activities of the World Heritage Protection Council of Georgia in relation to the Committee’s request for a coordinating committee for this property in its next report on the state of conservation of this property;

The World Heritage Protection Council of Georgia at LEPL National Agency for Cultural Heritage Preservation was reformed by the order N02/9 of 17 February 2022 of the Director-General for the National Agency. The reformed Council is composed of Architects, Architect-restorers, mural-painting specialists, archaeologists, art historians, a constructor and an urbanist. The Council reviews the process and current activities related to the safeguarding project of Gelati Monastery and issues recommendations.

6. Further requests the State Party to review and update the Management Plan for the property and submit this to the World Heritage Centre for review by the Advisory

Bodies, and establish a Management Committee for its implementation, additionally, reiterates its request to the State Party to consider putting in place a mechanism that will allow the Management Plan, or part of it, to have status in planning processes;

The State Party acknowledges the need for reviewing and updating the Management Plan of Gelati Monastery. The State Party takes note of the request for adopting a mechanism for the Management Plan, or part of it, to have status in planning processes, and considers its implementation following the review of the Plan.

7. Calls for an increased mobilization of the international community to provide more financial and technical support to the State Party, including through a request to the World Heritage Fund “Conservation & Management” International Assistance, to implement the short- and medium-term measures to improve the state of conservation of the property;

The State Party welcomes with the appreciation the World Heritage Committee’s call for an increased mobilization of the international community to provide more financial and technical support to Georgia for the improvement of the state of conservation of Gelati Monastery.

8. Finally requests the State Party to submit to the World Heritage Centre, by 1 February 2022, an updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 45th session.

This report is submitted on 28 February 2022 as kindly agreed by the Director of the World Heritage Centre in response to the State Party’s request for the extension of the deadline for the submission of the report on the state of conservation of the World Heritage property ‘Gelati Monastery’ to 28 February 2022.

3. Other current conservation issues identified by the State(s) Party(ies) which may have an impact on the property’s Outstanding Universal Value

Other current conservation issues which may affect the Outstanding Universal Value of Gelati Monastery have not been identified by the State Party for the time being.

4. In conformity with Paragraph 172 of the Operational Guidelines, describe any potential major restorations, alterations and/or new construction(s) intended within the property, the buffer zone(s) and/or corridors or other areas, where such developments may affect the Outstanding Universal Value of the property, including authenticity and integrity.

Following the investigations carried out at Gelati Monastery described above, the State Party intends to remove 60 % of the existing roof from the West arm in order to activate the evaporation process. Therefore, the State Party is urgently implementing a light structure by 30 March 2022 capable of protecting the two pitches of the arm from meteoric actions in the period necessary for the evaporation (few months).

In the meantime, the teams of experts are working on identifying a steel structure that could be useful to implement the conclusive changes of the covering as soon as the dehumidification process is completed and the identification of the new roofing system is resolved. Since there is a need for a structure that could be built in a short period of time (by September 2022), the State Party is examining the possibility to create a structure reliable and capable of covering the portion of the Main Church including the West arm and the pitches connected in the same strip of the Main Church. This structure could subsequently be

moved and used to allow the works on the other parts of the Main Church (in succession).

In any case and in light of the emergency the State Party is forced to face, the State Party will inform the World Heritage Centre on what the team of experts will be able to identify as a possible solution suitable for protecting the property.

5. Public access to the state of conservation report

The State Party request that the report should not be uploaded on the World Heritage Centre's State of Conservation Information System until 10 April 2022, since the relevant State authorities are currently planning the preparatory process for the work to be implemented, as described in this report, and follow the appropriate time-lines in order to have different stakeholders and the public opinion duly informed. Publishing this report until 10 April 2022 will interfere in the State Party's communication and organizational work. The State Party therefore gives its consent to upload the report as of 10 April 2022 only.

6. Signature of the Authority

Karlo (Kaha) Sikharulidze

First Deputy Minister

The Ministry of Culture, Sport and Youth of Georgia