

Gönpa Gang, Mustang, Nepal

Condition assessment and emergency stabilization
of wall paintings

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Summary

The paintings in the temple were assessed for their condition to propose a comprehensive conservation plan.

The paintings decorating the walls of the ground and first floor of the shrine, and the entrance hall were found to be in the most precarious condition. In general, the paintings in the temple were affected by various deterioration problems such as detachment and losses of plaster and paint layers, flaking paint layers, salt efflorescence, non-original deposits, and darkened surface coatings.

Stabilization of wall paintings and removal of render layers around the purlins and beams of the entrance wall was done to assist architectural conservation interventions.

Inscription on paper pasted on wall were documented by visible and infra-red imaging. Some detached areas of inscribed paper were refixed to the wall as well.

Documentation and Condition Assessment

The paintings were first investigated by visual examination followed by photo documentation to accurately record the extent and condition of the paintings. Photographs of the wall paintings were captured with flashes as high-resolution JPEG and RAW images using reflected and raking light to bring out details of the colours, texture, and features of the paintings. Infrared imaging was done to easily make out the inscriptions inscribed and pasted on the walls of the entrance hall. It was found that the inscriptions on the left portion of the entrance wall was covered with black paint and could not be revealed by imaging. Various forms of deterioration exhibited by the painted surfaces were noted, on examining the paintings in detail, and were documented in detail to demonstrate the deterioration problems.

Images of the walls were captured in multiple frames with about 60% overlap of capture areas. These were then merged with photogrammetry software Agisoft Metashape. This process was important to not only accurately stitch the photographs but also to create images of the whole wall. The stitching with photogrammetry was useful especially in the areas where it was not possible to image the whole wall either due to the large area of the wall or due to insufficient space in front of the walls such as the painted walls around the shrine.

Conservation interventions

The removal of ceiling and the entrance beams during the architectural conservation interventions demanded stabilization of wall paintings around the beams before their removal.

The paintings were secured to the stable render or stone support with cotton gauzes and menthol in order prevent their loss due to vibration caused while removing the ceiling beams. In the top portion (above the entrance door) of the west wall of the entrance hall, the gauzes were secured to the stable stone support with Fevicol SH whereas menthol was used to adhere the gauzes to the paint layer. This was done due to the limited amount of menthol available for the purpose.

Unpainted render layers near the members of the capital in the entrance hall were carefully detached to help the removal of the capital without loss to the paintings.

Manuscripts were pasted on the east and west walls of the entrance hall were found to have been delaminated in some places and these were re-adhered to the wall with gluten-free starch paste.

A few fragments of wall paintings in the entrance hall got detached from the top portion of the west wall during the process of removal of the wooden panels in the roof. These fragments were packed and stored in the temporary store of the project.

Assistance was also provided to Mr. Thomas Schrom, the conservation architect, to prevent damages to the wall paintings during the architectural conservation interventions.



Fig 1. Images merged by photogrammetry, Shrine, ground floor, west wall



Fig 2. Photography model of paintings in the first floor of assembly hall.



Fig 3. Highly damaged paintings in the first floor of the shrine, north wall. Images merged by photogrammetry.



Fig 4. Detachment and flaking of paint layer. North wall of the shrine, first floor.



Fig 5. Discoloured varnish. West wall of the shrine, ground floor.



Fig 6. Dust and dirt depositoin on the painted surface due to leaking roof.



Fig 7 Manuscript pasted on the east wall of entrance hall.