



1. Removal of old floor inside the Upper Sanctum of Lo Gekhar in early April 2022.

Seismic Strengthening and Restoration of Lo Gekhar

U.S. Ambassadors Fund for Cultural Preservation, Award No. SNP40020GR0042

Project Report, Second Year, Third Quarter – April to June 2022

Compiled by Sonam Dorjee Gurung and Christian Luczanits

Norbusum Foundation (NGO)

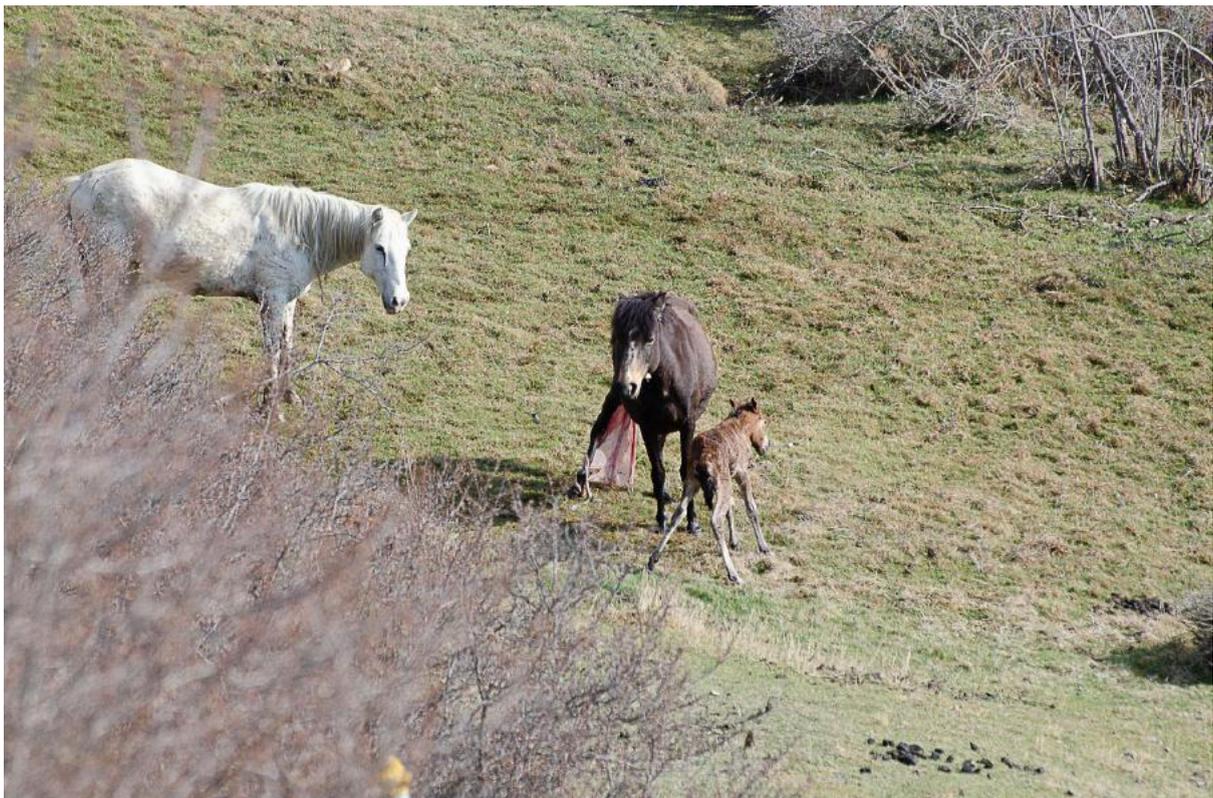
Himali Hotel, Jharkot, Ward no. 1, Baragung Muktichhetra 33107
Mustang District, Gandaki Pradesh, Nepal

Kunjon Thakuri
Chairman

April 27, 2022

Report Overview

In April 2022, the actual restoration of the monument of Lo Gekhar began and is ongoing since. The team arrived at Lo Gekhar on April 7, and Work started on site when an auspicious day had been determined: 10 April. The auspiciousness of the day was confirmed by the birth of a horse on the grounds of Lo Gekhar on the morning of April 10 (Figure 2).



2. A horse born on the ground of Lo Gekhar on April 10.

The team consisting of Kunzom Thakuri, John Harrison and Christian Luczanits arrived at Lo Gekhar on the evening of April 7. Sonam Dorjee Gurung arrived just before the work started. The first day was then used to assess the condition on site, discuss the restoration work, and to arrange a village meeting that evening to inform about the project and recruit local labour (Figures 3 and 4). While there was broad interest in the project only six villagers volunteered the next day to work on the project.

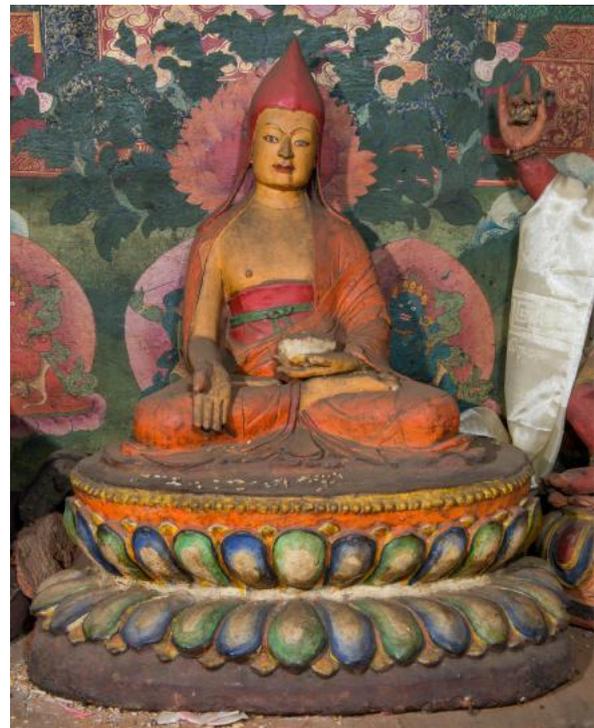
In the first months the work was accompanied by research on the history of the monument resulting from the full documentation of the stone panels as well as the architectural observations by John Harrison. This report summarises both this research as well as the work undertaken in different parts of the building until the end of June 2022.



3. John Harrison being introduced at the village meeting.
4. Conversation with the local carpenter during the village meeting.

Art Historical Research

The survey of the Sanctum's murals in August 2021 and the full documentation of the stone panels of all upper temples in April 2022 resulted in a framework for a fairly clear picture about the history of the monument as it is preserved today. Thereby the period between the third quarter of the 17th century to the third quarter of the 18th century appear to have been most active. Much of the preserved decoration can be attributed to different building phases within this period. While the succession of the different phases is clear, some of the key dates remain hypothetical so far.



5. Left: portrait of the Nyingma School master Ngadak Püntso Rigdzin (mnga' bdag phun tshogs rig 'dzin, 1592-1656)
6. Right: Guru Padmasambha, the pandita form of Padmasambhava among his eight manifestations.

The mural paintings in the sanctum have been discussed in an earlier report in terms of their iconography. The original murals must have been done in the third quarter of the 17th century at the latest. At that time also a set of papier mâché sculptures of exceptional quality have been added to the sanctum, one of them depicting a portrait of the Nyingma School master Ngadak Püntsok Rigdzin (*mnga' bdag phun tshogs rig 'dzin*, 1592-1656) who visited Mustang in 1651 (Figures 5 and 6). This portrait is distinctive enough that it could be linked to an inscribed depiction of the same teacher in a private house in Tsarang. The inscription on that image not only identifies the teacher, but also makes clear that his appreciation is closely tied to his royal heritage.

In the meantime we know of four images of this teacher in Mustang, presumably all made in relation to the royal house. They appear to be the oldest portraits of this important teacher preserved, who was one of the four Buddhist teachers that revealed the hidden land of Sikkim and thus converted this region into a Buddhist kingdom there. He also founded Tashiding Monastery there. Both the quality of the Lo Gekhar portrait and the importance of the portrait made it an ideal selection among 108 objects to represent Himalayan art for an education project by the Rubin Museum of Art, New York, for which Christian Luczanits wrote the appended entry (see appendix one).

It may well be that Ngadak Püntsok Rigdzin's visit gave the impetus for restoring the monastery with new paintings and sculptures, but this could equally have been started independently shortly before his arrival. As neither the two teacher depictions in the murals nor the source of their iconographic program could be identified so far, the exact date of the beginning of the revival remains an open question.



7. Documentation of the inscribed Avalokiteśvara stone panels.
8. A group of panels collected after documentation showing their different sizes.

Avalokiteśvara Stone Panels

Another set of key information is provided by the inscribed stone panels depicting different forms of the Bodhisattva Avalokiteśvara and collected in the temple named after him. The movement of this temple enabled the complete documentation of these panels on April 23-24 (Figures 7 and 8).

From the stone panels it can be concluded that Queen Nyida Gyelmo must have died in 1681, thirty years after the visit of Ngadak Püntsock Rigdzin to Mustang. In the following year a so-called *mani dungchur* (*mani dung phyur*), the recitation of the *mani*-mantra—*ōṃ maṇi padme hūṃ*—for 100 million times within the same calendar year, and a stone relief panel were completed in the queen's memory. This inscribed panel marks the beginning of forty years of almost uninterrupted performances of this ritual sponsored by or in commemoration of local noble family members associated with the royal house, and each of them commemorated in an inscribed stone panel.

Following the documentation each Avalokiteśvara stone panel has been studied in the form illustrated below and placed within an overall chronology. Most of the donors can be identified and are from or closely associated with the royal house. The last inscribed panel is on display in the assembly on the ground floor and dates to 1717/18.

In the following the first panel is presented in detail as an example for the study of the stone panels undertaken in April 2022.

Exemplary Stone Panel



9. Panel of Śaḍakṣara Lokeśvara commemorating the completion of a *mani dunchur* in memory of queen Nyida Gyelmo in 1682/83.

Śaḍakṣara Lokeśvara

Large thin panel with shallow carving
72 x 55.5 x 2 cm;
Photos D8360-62; D9510-18.

The inscription records the *mani* recitation in commemoration of Nyida Gyelmo, the Ladakhi wife of the Mustang king, in 1682/83 (56th year). The fifth line of this inscription refers to the carver Pandar Gyelpo.

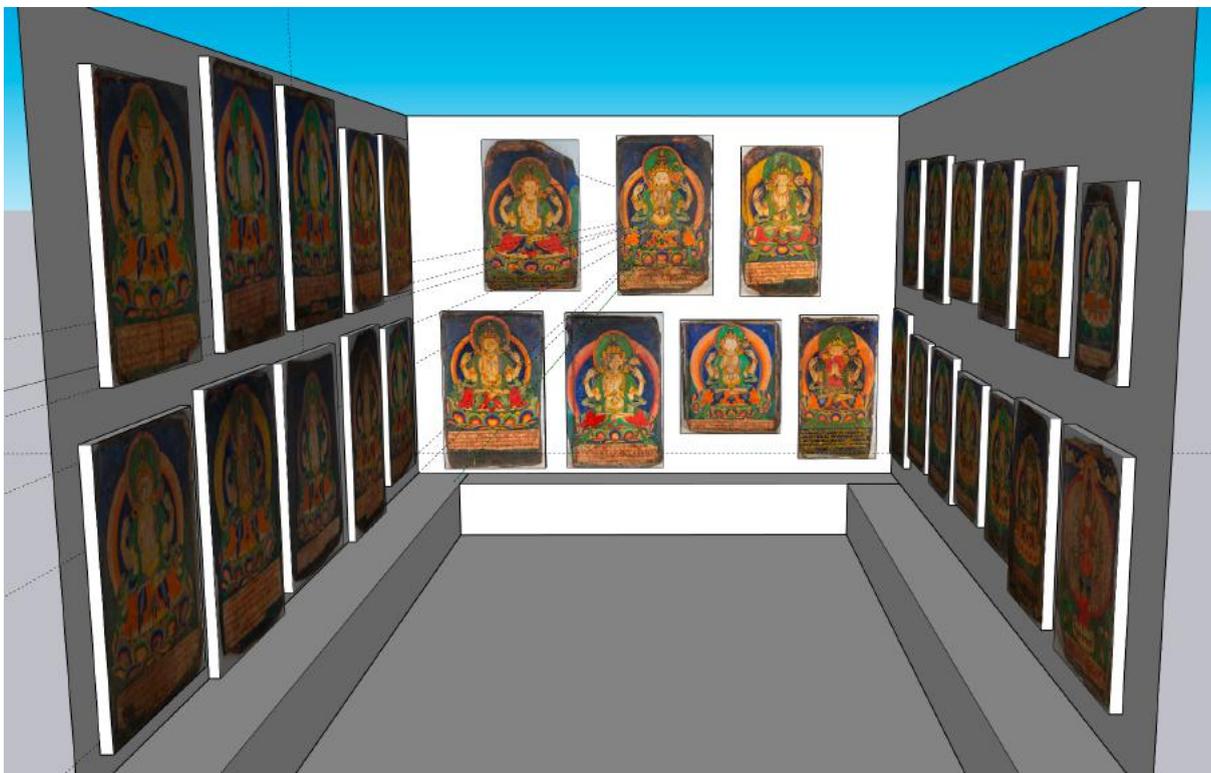
This panel documents several important facts not known from other sources:

- Queen Nyida Gyelmo must have died in 1681.
- The regular performance of the *mani* recitations commemorated by inscribed stone panels was initiated by her as final wish.
- The panel also mentions the carver, the artist Pandar Gyelpo, who in another panel is said to come from Zurkang village, near Dhi.

Tibetan Text:

panels are deeper carved and of a greater variety of iconography. Comparing this development with other panel groups preserved at the side will permit establishing an approximate date for those as well. This has not yet been done as the current focus is on providing the designs for the new frames of the panels that have been moved and fully documented.

As planned, the stone panels of the Avalokiteśvara temple will be moved to a new room around the courtyard. In the course of the restoration, this room has been furnished with a skylight and a new display has been planned that will show the panels in the succession of their making and with the basic historical information provided. The following screenshot shows the panels in their distribution, which will be slightly altered before the wooden parts of the frame are added (Figure 10).



10. Distribution of the stone panels of the Avalokiteśvara Temple in the new location.

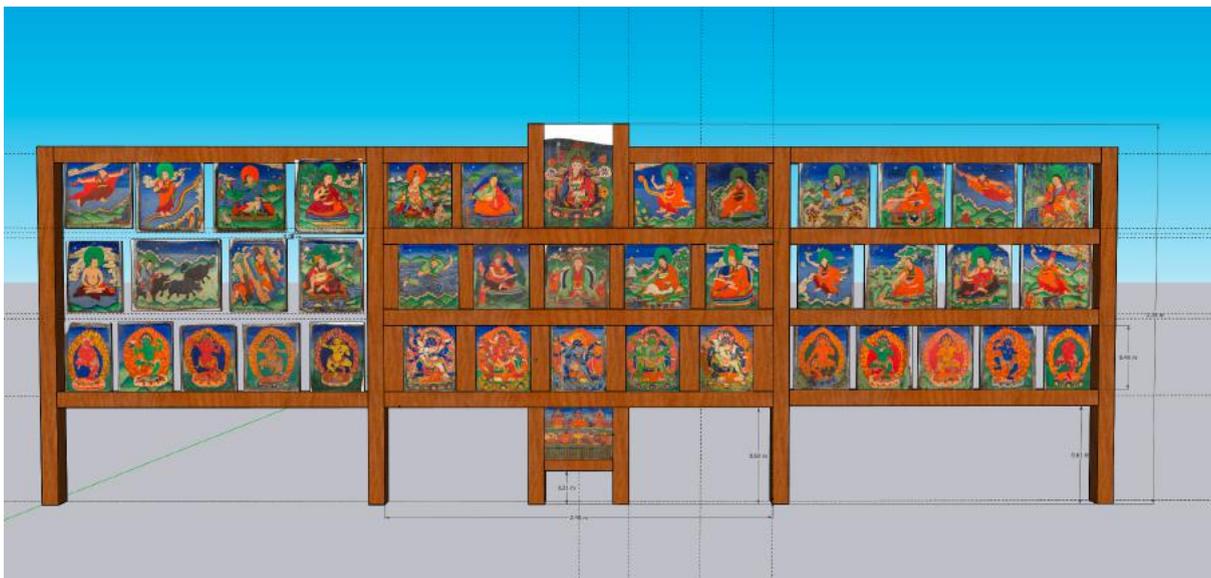
Essentially, the panels will be displayed on the back wall of an altar like case with large openings. The back will be made of thick plywood panels, strong enough to support the stone panels held by iron clamps. An open construction is necessary due to the great variation in panel sizes, and the shrine-like case (not drawn yet) emphasises the special religious efficacy of these panels. Incidentally, the new temple is located right above the room with prayer wheels, which are filled with the same mantra the panels are dedicated to (see the new plans below).

Upper Sanctum

Shortly after the beginning of the work in the upper sanctum (see below), the caretaker decided that the 108 stone panels covering three walls there should be removed during

the restoration, which enabled their full documentation. It also meant that their rather fragile frames were damaged during the dismantling and accordingly new frames had to be planned.

The frames used throughout the monument are rather solid constructions that were created face down on the floor, and then put upright when the panels were already placed within them and fastened in place from the back. Accordingly, panels were at times cut to fit the more regular frames, which affected many of the Avalokiteśvara panels negatively. While the panels in the other rooms are more regular the frames still had to be adjusted to accommodate the slight diversions in size. This method risks that some of the panels are exposed to severe pressure, and indeed several panels had broken in the past or are broken today, most notably the main panels of the main and left side walls of the upper sanctum. Of the former the upper part featuring Buddha Amitābha could be recovered and will be reattached. Accordingly new frames needed to be planned that allow a placement of the panels from the front and have the necessary flexibility to accommodate the variations in sizes (Figure 11).



11. Plan for the new frame for the main wall of the Upper Sanctum, preserving the documented display of the panels but enabling the panels to be added once the frame is constructed.

The new frames are conceived in a way that the stone panels can be added to the frame after their construction, and that their respective height can be adjusted as needed through individual supports within the frame. Its horizontal elements consist of three layers, the middle ones thinner to form a base for the panel below and enable placing the panel above. The panels thus can be mounted by inserting them into the upper gap and then lowering them into the lower gap onto their prefabricated individual support. The gap between the panels will then be masked on the front side only, as is the case in the middle part of Figure 6. The white section above the main panel accounts for the fragment found that needs to be re-attached to the top of this panel.

Arhat Temple

The same construction will be used for the new space displaying the panels of Śākyamuni flanked by the 16 arhats. These panels also have been removed from their original space, which was not suitable to display them in their original composition. Thus in this case work focused on reconstructing the original display of these panels and fitting that into the new space. In this case the differences in size of the first panels and their direction towards the central Buddha enabled the reconstruction of their original display (Figure 12).



12. Partial reconstruction of the original display of the arhat panels to enable the planning of the frame.

While only partially reconstructed so far, it is clear that the panels followed a common arrangement and that the new frame can be planned similar to the ones in the upper sanctum with four uprights supporting the horizontal bases for the panels. The length of the wall does not allow for the four great kings to be displayed on the same level as the arhats, they will thus be placed underneath at the sides of the walls.

Further Changes

As a working hypothesis, it is assumed that all stone panels have been created at the same time as the Avalokiteśvara panels. It may well be that the three carvers of Zurkang were instrumental in this, as most of them follow the flat relief mode.

By the mid 18th century another restoration phase is documented by the painted textiles repairing damages to the original murals. Each of these features a small representation of Katok Rikdzin Tsewang Norbu (*kaḥ thog rig 'dzin tshe dbang nor bu*; 1698–1755), the portrait of which is found again in many places in Mustang. Incidentally,

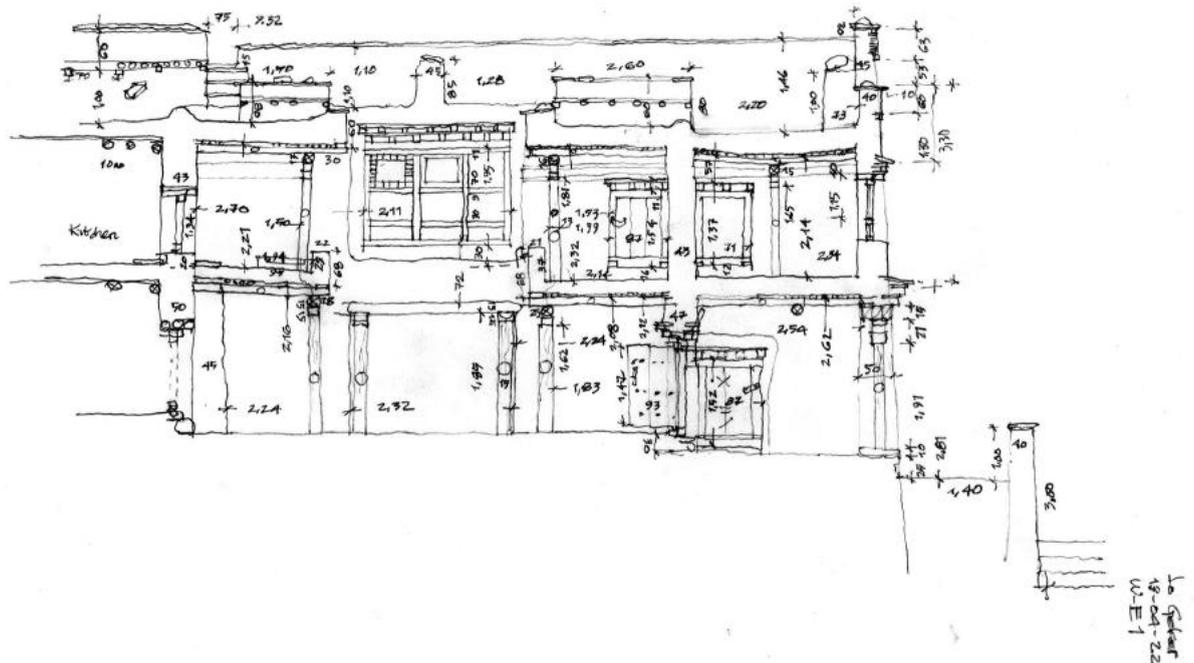
a recently published document of October 4, 1783 from Upper Mustang clarifies that this work was undertaken by the artist family of Pön Sritar (*dpon sri thar*).¹

The same artist was also responsible for the last restoration of the main images of the temple, a statement that can also be confirmed by a stylistic comparison to other sculptures from the palaces of Ghami and Tsarang attributed to him.

Architectural Research

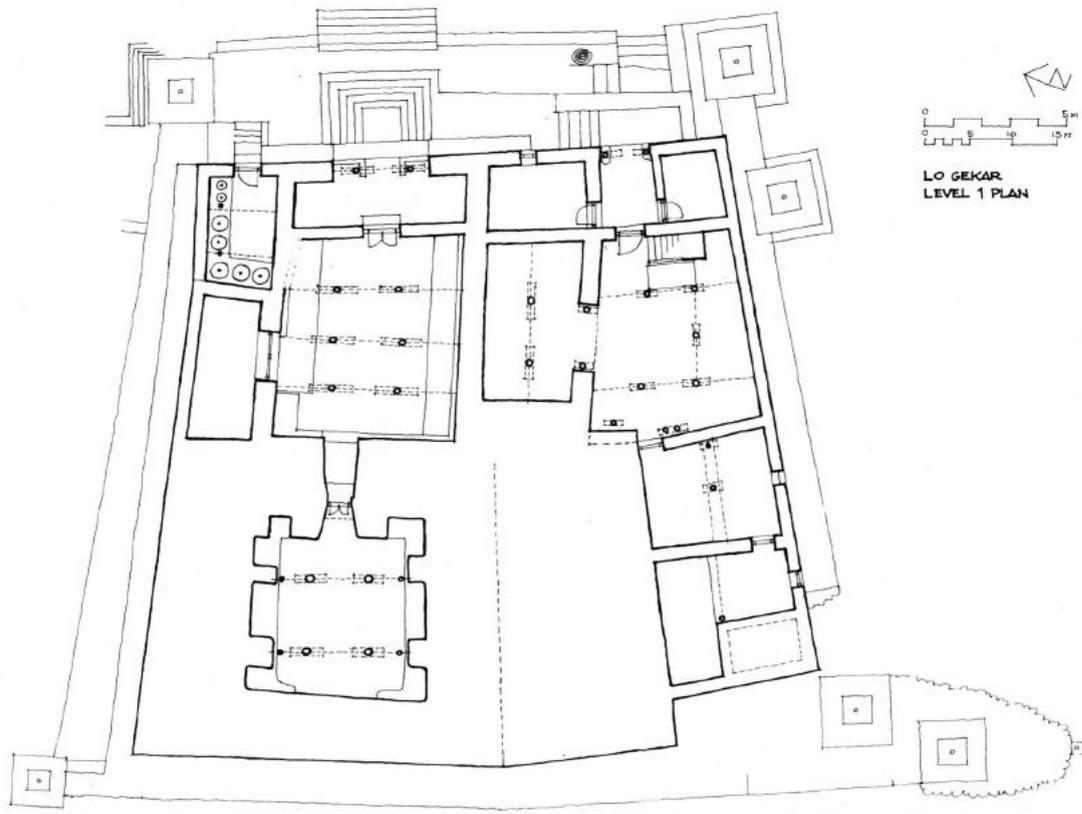
In addition to guiding and supervising the construction work from April 7 to May 20, John Harrison made a detailed measured survey of the building complex in order to produce revised floor plans for upper and lower floors, and five sections drawn through the building. These plans would supersede his 1996 plans, made in a short two-day visit, which had been digitised for the 2021 application report prepared by Thomas Schrom.

The new floor plans are presented below, including one west-east section. The remaining sections will follow when completed.

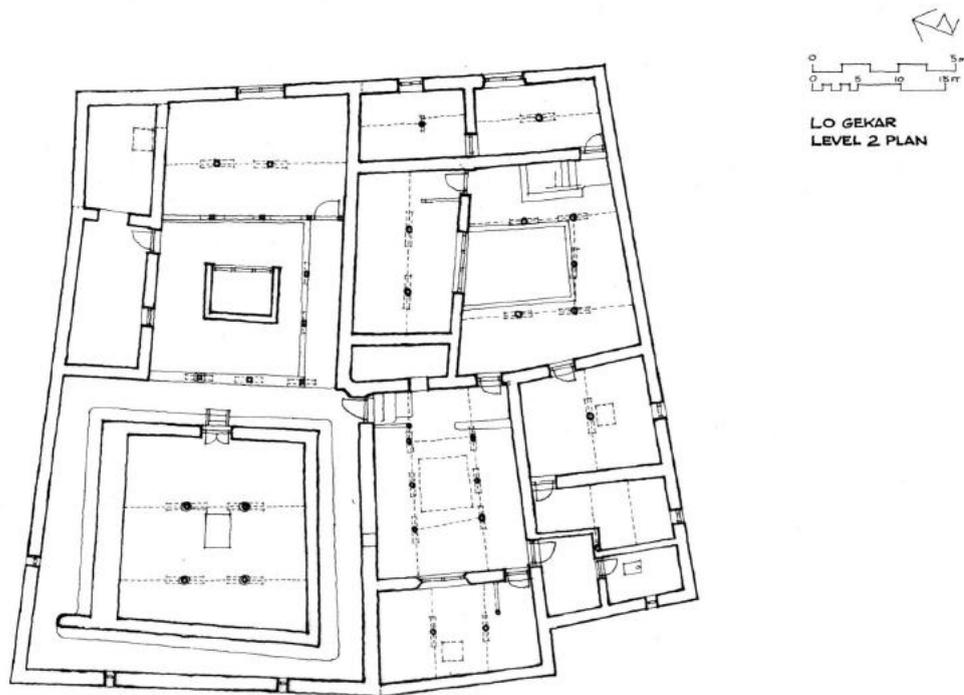


13. Example for the detailed measured survey for the plans and cross-sections.

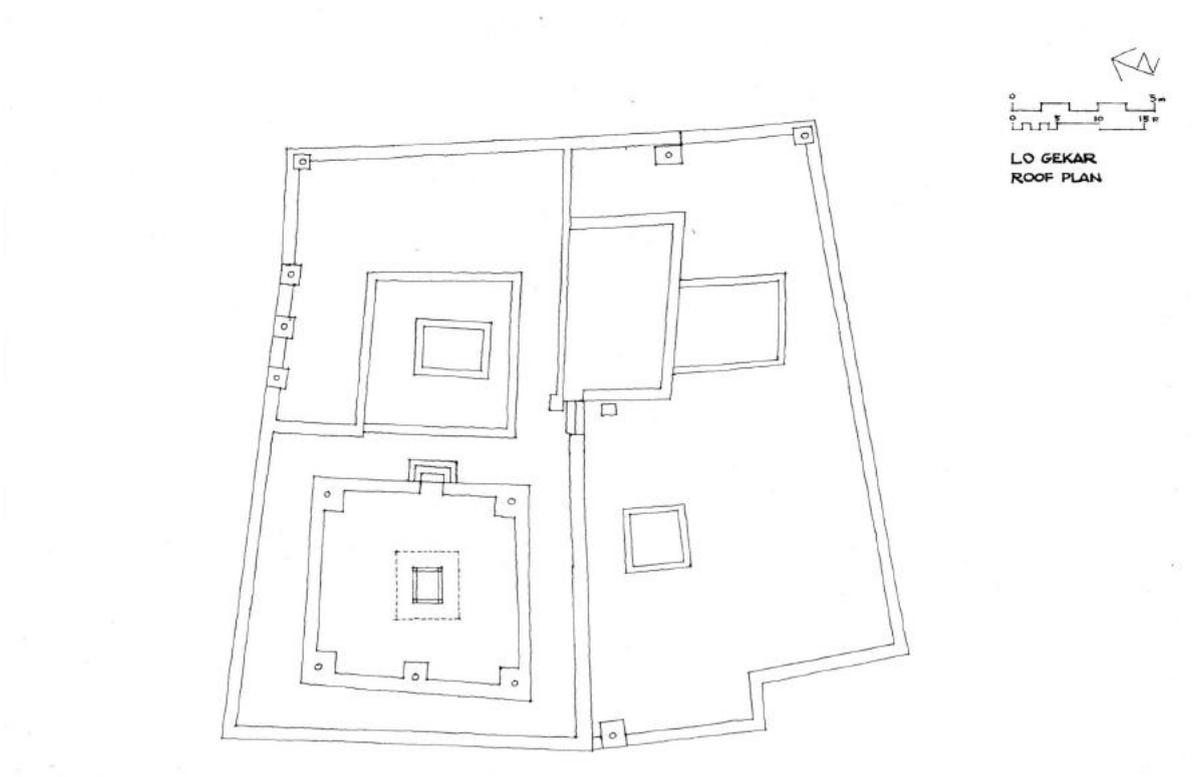
¹ Schuh, Dieter. "Herrscherurkunden der Könige von Nord-Mustang (Glo Smon-thang)." *Zentralasiatische Studien* 48, no. 3 (2020): 349–504.



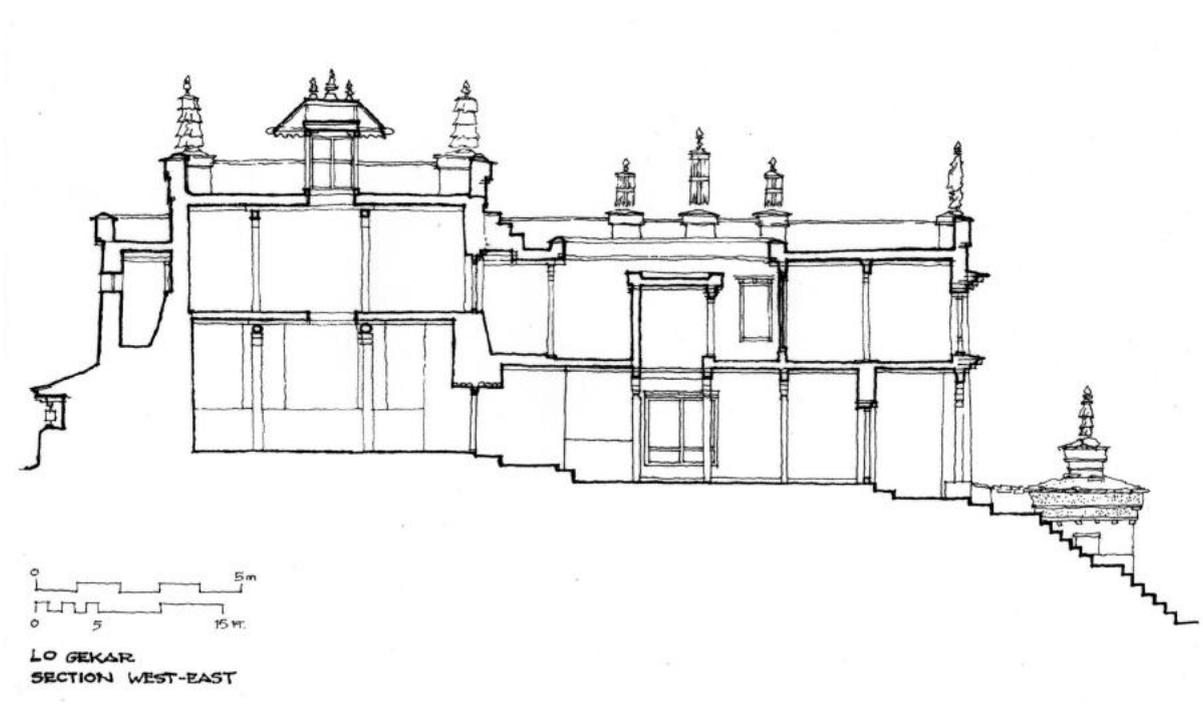
14. New ground plan of the lower level.



15. New ground plan of the upper level.



16. New plan of the roof level.



17. New west-east section of the temple.

Conservation Measures

As stated above, the actual restoration work on the temple structure began in April. The following section accounts for the purchase of the materials and then presents the works undertaken by the structural unit that was worked on at the same time. Work began with the upper sanctum and the courtyard in front of it. At the same time, the new panel rooms were prepared for their new function. Then the roof of the entire temple was redone before moving on to the caretaker's quarters.

Purchase of Material

Most of the materials were purchased in late March and reached Lo Gekhar by the first week of April. It had been decided that the upgraded roof covering on the temple and the rebuilt caretaker's accommodation would be a waterproof bitumen-polymer membrane laid on marine grade plywood.

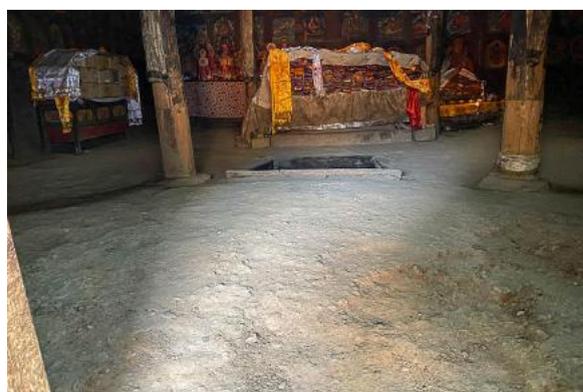
Major purchases were joists, floor boards, ceiling boards, marine grade plywood, Sika waterproof bitumen membrane, scaffolding items, various construction tools, safety gears, first aid kits, food rations and kitchen items for the workers. Besides these items that had to be procured from Kathmandu or Pokhara, clay was sourced locally. Regardless, purchases often include expenses for labour and transport costs beyond those for the actual materials. The clay used on top of the bitumen membrane on the roofs was first dug by an excavator and transported by tractor. The clay for plaster and various other colored clay were procured from Lo Möntang.

Upper Sanctum

Building work started on the first floor Guru Lhakhang, called the Upper Sanctum in this report to differentiate the two floors of the temple (Figures 18 and 19). First the mud layer was removed, in order to investigate the supporting timber structure which formed the ceiling of the inner temple sanctum below (Figures 1, 22, 23).



18. The Upper Sanctum before restoration with its mud floor.



19. The uneven mud floor inside the Upper Sanctum before restoration.

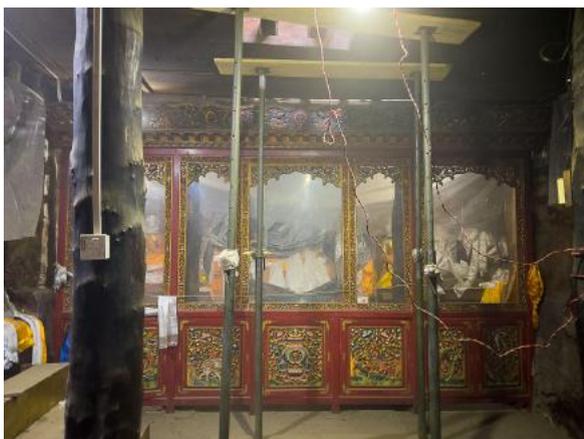
In the course of this work it became clear that all mud on the floor needed to be excavated. Thus, the carved stone slate panels and their supporting wooden framework covering the main and side walls had to be removed. Accordingly, they were carefully dismantled and all the 108 stone panels were documented one by one (Figures 20, 21).



20. Documentation of the stone panels in the back courtyard of the caretaker's quarters.

21. Shvanamukha, one of the eight *tramen* goddesses among the wrathful deities of the intermediate state.

The principal Guru Lhakhang figure and all the sculptures in the sanctum, and the carved slate panels in the adjoining Dukhang on the ground floor, were covered with polythene sheeting for protection during the work on the floor above (Figures 22, 23).



22. As it was unavoidable that dust reached the lower sanctum, its images were protected with plastic sheets.

23. Also the stone panels in the Assembly Hall were covered by plastic sheets.

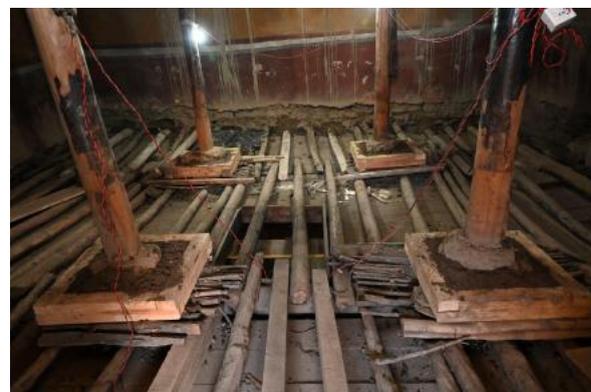
Once the mud floor was completely removed along with the round wooden sticks traditionally placed on the joists the structural issues of this room became apparent. The mud layer turned out to be very thick, resulting in considerable weight on the joists and beams underneath. The joists were not only bent, but in some areas there were

wide gaps between them. Some of these gaps have been filled by the earlier restoration from below, but others, in particular above the main images, remained.



24. The Upper Sanctum with the mud floor partially removed revealing the wooden sticks underneath.
25. Removal of the mud floor revealing the joists and the wide gaps between some of them.

It had been hoped that the recent ceiling boards fitted by the village in the sanctum to prevent dust dropping through could be removed to reveal the original (?) beams, and then lay new ceiling boards above the beams. However, the existing beams were found to be extremely uneven in form and dimensions, and some had been replaced by squared beams during repairs in 2004 (Figure 26). So it was decided to leave the recent lower ceiling boards in place. To even the gaps between the beams, it was necessary to add several new ones (Figure 27). Then a secondary timber floor structure was built up to avoid excessive weight on the original beam structure.



26. The four columns on their fragile supports.
27. Wooden frames were built around the foot of the pillars and filled with mud.

Further, it turned out that the four columns supporting the roof actually stood on clay and the wooden sticks underneath, representing an obvious structural risk (Figure 26). Rather than replacing them by longer ones it was decided to support their base by square frames around the foot of the columns. To enable these, the sticks were carefully trimmed with a hand grinder where necessary. The square frames were then built and filled with mud and aggregate mortar (Figure 27).

A new wooden timber frame made of 4 x 5 inch members needed to be constructed on top of the old ones to support the new floor and also the new square frames around the foot of the pillars (Figure 28). All the square joints of the new frames were prepared

in the wood working facility and then installed with screws to avoid damage to the murals in the main sanctum underneath. The new timber frame supported ½ inch plywood sheeting screwed down as a seismic measure (Figure 29).



28. The new wooden frame being installed above the old joists.



29. The plywood panels installed on top of the new frame for seismic protection.

Then 1 inch thick pine wood floor panels were screwed on top to form the actual floor (Figure 30, 31).



30. The wooden floor was installed above the plywood layer.



31. The room of the upper sanctum with the new floor.

In the course of this work, a carpenters' workshop was set up to the west (back) of the temple with electric power or a diesel generator for planning and circular saw. Further, a scaffolding was erected at the west side to form a chute for removal of earth from the roofs.

The plastering of the wall and the reinstallation of the stone panels in the room are still to be done.

Courtyard

Shortly after the Upper Sanctum, work also commenced on the courtyard immediately in front of it (Figure 32). While the project is considering covering the entire courtyard with a transparent roof in a second phase, its floor was completely restored to make it waterproof for all eventualities.



32. North side of the courtyard with the panel rooms before restoration.

33. Removal of the courtyard floor.

34. The same area with the new ceiling boards applied and before the installation of the frame.

As in the sanctum itself, in the courtyard the mud floor was completely removed (Figure 33) and the original joists and recent ceiling boards of the Dukhang were exposed. The thin plastic waterproofing membrane, fitted in 2004, was removed. New ceiling boards were then fitted and screwed above the joists (Figure 34). To reach the original drainage level, a timber frame needed to be installed around the lantern (Figures 35, 36). The frame itself already has the necessary inclination towards the drainage spout on the east side.



35. Installation of the ceiling boards above the joists.

36. Frame construction above the ceiling boards to support the new floor.

Plywood was then screwed over the prepared frame. It was then covered with a Sika waterproof membrane using bituminous paint and a blowtorch. Finally, the membrane was covered with a mud mortar mixed with chopped straws and the floor was laid with flat stones to form the new top most layer of the floor (Figures 37–39). The drainage pipe was carefully inspected by temporarily removing a few floor boards in the guest room in front of the courtyard to make sure it is not clogged.



37. The area in front of the lantern during a rainy day before restoration.
38. The area in front of the lantern after the installation of the new floor with mud being laid on the waterproof bitumen membrane.
39. The area in front of the lantern with the new stone floor being installed.

North Mani Wall

Continuous lines of *mani* wheels surround the building on three sides, with stupas at the four corners. The *mani* at the north was in poor condition (Figures 40, 41). As carpenters were not immediately available in April, work on the temple rooms progressed slowly initially. Thus, a group of the workers were employed to restore the northern *mani* along the main temple.



40. The north side *mani* wall with grass growing on it in September 2021.
41. The same wall in early April 2022 before the restoration.

There is a two layered construction with mani stones and prayer wheels running along the entire wall, which was covered with mud and grass. The prayer wheels have been pushed outwards by the weight of the construction, and parts were damaged by the exposure to the waterflow from the roof. Further, there are indications that occasionally humidity reaches the murals inside the sanctum on this side of the wall, damaging the murals on this side. Therefore it was decided to restore this part in entirety.



42. The upper layer of the wall was cleaned and repaired.

43. The lower part of the wall was reset and a new roof was constructed.

In a first step it was made sure that the stones of the upper layer are placed correctly, and mud plaster covers the areas in between the stones (Figure 42). The supporting wall was also consolidated. Then the entire superstructure of the prayer wheels was taken off, the prayer wheel construction pushed back in an upright position, and the roof was newly laid. Wooden sections supporting the roofing were replaced and a plastic sheet was introduced underneath the mud layer to protect the wooden construction underneath (Figure 43). Finally the area behind the prayer wheels was newly plastered.



44. The wall behind the prayer wheels before restoration.

45. Replastering the wall behind the prayer wheels.

Special attention was paid to those areas that receive the water from the roof via their drainage spouts. These were covered with additional superimposed stone panels forming a stepped construction (Figure 46). Finally, the wall was repainted with the traditional colours (Figure 47).



46. Additional stone panels installed to receive the water flow from the roof.

47. The restored north side of the temple in early May.

Panel Rooms

Already at the planning stage, it has been decided together with the villagers that the two panel rooms, the Avalokiteśvara Temple and the panels in the Protector's room, will be moved to the rooms on the north side of the courtyard. These have been added to the structure as retreat rooms, but were used as storage and battery rooms more recently. These are rooms U04 and U05 on the conservation plan made by Thomas Schrom and presented in a previous report.



48. Dismantling the original door between the two panel rooms to widen it and bring its threshold to floor level.

49. The widened entrance.

To enable their usage as temple rooms, the entrance between the two rooms had to be widened and reinforced with round joists (Figures 48, 49). This happened in April. For these rooms, it was decided that it is not necessary to remove the floor in its entirety, as it was relatively thin and the construction underneath, in the protectors' chapel and the room with the payer wheels, was stable. Thus, only a few inches of mud were removed before the frame for the new wooden floor was installed. To accommodate the joists of the frame, trenches were dug into the remaining mud floor (Figures 50, 51, 52).



50. The frame for the new wooden floor being installed in the room that will feature the arhat panels.

51. The same room with the new wooden floor completed.

Then floorboards were screwed over the prepared frames. A new skylight has been built over the roof of the corner room (U05) which had no natural light source.



52. Both panel rooms with their new wooden floors.

53. Refining the plaster between the two panel rooms.

In the front room, the panels depicting the sixteen arhats will be installed (see Figure 12), while the corner room will be made the new Avalokiteśvara Temple (see Figure 10).

Lantern

Also the lantern roof had to be redone to make sure that there is no further damage to the murals it contains. Accordingly, the old roof was taken off until the joists, a plywood layer was added above a frame and the roof was rebuilt to its original appearance (Figures 54–57).



54. Removing the old roof from the large lantern in the centre of the courtyard.



55. The layer of joists revealed after the removal of the mud.



56. Installing the plywood layer above the frame and base of the parapets.



57. The lantern after restoration and before the application of plaster.

Pavement around Upper Sanctum

In late May and early June, a stone pavement was added around the Upper Sanctum, its circumambulatory path. For these rectangular cut stone panels sourced from Gobang, Lower Mustang, were used (Figures 58, 59).



58. The stone panel pavement being installed in front of the Upper Sanctum.



59. The stone panel pavement completed in front of the Upper Sanctum.

The idea of using stone panels for all walkways visitors will use resulted from discussions on site. First it was deemed a good solution for the weather-exposed parts

of the courtyard, as the mud there often got too soft to walk on prior to the restoration, which would have hampered the accessibility of the panel rooms. Then, it was considered a good solution to mark the public pathway leading to the Upper Sanctum more broadly, and covering the circumambulatory path completed that concept.

Roof Around Courtyard and Sanctum

Once the new panel rooms were largely restored, the roof around the courtyard was restored. A new skylight needed to be opened up above the Avalokiteśvara Temple to provide a natural light source to the room underneath (Figures 60, 61).



60. A new skylight has been opened up above the Avalokiteśvara Temple.

61. The base for the new skylight projecting the roof around it.

To reduce weight, the top layer of mud was removed. The 2004 plastic sheeting was removed and rotten wooden joists were replaced as needed (Figures 62, 63). Some of the earth layer was retained to support the slope towards the drainage points.



62. Beginning of the removal of the mud from the old roof.

63. Replacement of rotten joists atop the panel rooms.

Then frames were prepared sloping toward the drainage spout on the north side (Figure 64, 66). The work was begun on the east side and gradually moved west towards the back of the temple. Once the frame was constructed plywood boards were screwed to this frame (Figure 65) and the Sika waterproof membrane was applied to its flat surface (Figure 67). Finally a thin mud layer was applied to the top (Figures 68, 69).



64. Construction of the wooden frame along the east part of the roof.



65. Installation of the plywood boards in the east part of the roof.



66. Construction of the frames around the courtyard and the sanctum.



67. The same areas with the plywood installed and the added bitumen sheet in the foreground.



68. Application of mud on top of the new roof above the panel rooms.



69. Application of the final mud layer in the space around the sanctum.

Roof Above Sanctum

Also the roof above the sanctum was completely replaced and a plywood layer added for seismic strengthening and waterproofing. Again a part of the top layer of mud on the roof was partially removed. Then, frames were prepared sloping toward the drainage spout on the northeastern corner (Figures 70, 71, 72).



70. Removal of mud on the roof on top of the sanctum.

71. Installation of the outer rims of the new frames.

Plywood boards were then screwed over the frames to form a smooth sloping surface (Figure 73). On top of these the Sika waterproof membrane was applied. To protect the waterproofing layer and conform to the original appearance, the final layer is a bit more than an inch of clay covering the entire roof (Figures 74, 75). This clay was sourced from Kagbeni and is being compacted to form a waterproof layer in itself.



72. Construction of the frames at an angle for optimal drainage.

73. Installation of the plywood boards by screwing them on the frames.



74. Application of the waterproof membrane on top of the plywood.

75. Application of the final compacted clay layer on top of the roof.

Plaster in the Temple Rooms

Late in June the plastering of the Temple rooms started. We began work in the panel rooms and then moved on to the Upper Sanctum. As a first step, the walls have to be prepared to hold the new plaster, which is documented in the images below (Figures 76, 77). The actual plastering happened in July and thus is not documented here.



76. Workers preparing the walls of the panel rooms for holding the new plaster.

77. The wall that will feature the stone panels of the sixteen arhats prepared for the plaster.

Caretaker's Quarters

In the second half of June, the restoration work on the caretaker's quarters started with taking the roof off (Figures 78, 79). For the safety of the workers, the dismantling was planned in two phases; firstly, the east side with the VIP room, the atrium and the deity rooms and secondly the kitchen, the former Avalokiteśvara temple and the toilet. This also provided a safe passage for the workers while moving back and forth with brushwood, joists and other debris that was moved to the west side of the mansion.



78. The mud roof over the east side of the caretaker's quarter was removed starting with the VIP room.

79. The removal of the roof exposed the joist constructions stemming from different periods.

A slide was built on the southern side of the quarter out of scaffolding to discard the broken mud bricks and the mud roof. Similarly, a scaffolding ladder was erected on the west side for the safe mobility of the workers (Figures 80, 81). The purchased props

were used to support the weak beams underneath to keep the structure from falling while the workers worked on the roofs.



80. A scaffolding ladder installed for the safe mobility of the workers.

81. Storage of reusable material at the back of the temple.

While digging the roof layer until the joists, it exposed the two feet thick mud layer that had been piled on the roof over the years to prevent seepage. This layer has added a tremendous amount of weight to the walls and the main beams. The mud bricks below some of the main beams had been squashed and cracks had developed.

Once exposed the entire roof layer was removed to make way for the floor underneath, which also was removed as much as needed for reconstruction (Figures 82, 83).



82. The atrium area with the roofs and middle floor almost entirely removed.

83. View on the room underneath the VIP room, once its floor was removed.

The reconstruction will floor the plans as proposed. To reduce stress, the main beams will be supported with wall plates to distribute the weight horizontally over the walls. Also, the rammed earth walls with cracks will be reinforced with installation of horizontal plates. The squashed mud bricks will be replaced by new ones.

Evaluation

Overall, work proceeded slower than expected and it also turned out to be more complex. As is common with restoration projects of this type, the actual needs have to be reassessed as the work is going on. In our case, the poor state of the floor in the

Upper Sanctum was a surprise, redoing the courtyard floor needed to be reconceived on site, and no materials have been planned for the new floors of the panel rooms. Accordingly, much of the wood which was purchased for the entire restoration was diminishing fast during the work on the temple, as larger surfaces than planned had to be covered with plywood and bitumen sheets.

Stone panelling was not planned from the outset, but resulted from the on site discussion as the best option. The broader thinking behind these decisions was, that in the case of the temple structure the restoration needs to account for all eventualities that came to mind. For example, even if we cover the courtyard in next year's campaign, the floor of the courtyard itself needs to be sufficiently restored to avoid water seepage in case that roof gets damaged.

Consequently, the used materials need to be replaced in this quarter to enable finishing the restoration of the caretaker's quarters. This includes wood, the bitumen sheets and the plywood boards, some of which will also be used for the new stone panel frames.

Getting locally sourced material in the right quality also presented a challenge. Surprisingly there is little agreement locally what the best clay deposits to seal the roof are, those likening the so called *markalak* clay used in Ladakh only available in Lower Mustang. Sourcing the shrub needed to resort the parapet wall around the sanctum also turned out to be challenging.

Getting and retaining suitable workers turned out to be an issue from the outset. Following the meeting with the villagers at the outset of the work, only six villagers volunteered to work on the project, and only one of them is good enough to take a leading role. Four lowland Nepalis employed at the outset left after three weeks due to a conflict between them. Now lowland workers are supplied by a third party on a contract basis as needed.

Carpenters turned out to be an issue as well, as the local carpenters were largely busy and those available not very skilled. In particular, except for one none of them had experience with restoring an old building, and they needed to be trained to be able to construct the timber frames to hold the sloping floors and roofs.

Other delays were caused by rituals performed on site as per religious schedule. Especially if these were larger, work had to be suspended partially not to interrupt their performance. Early in the project, H.H. Khunthrup Rinpoche visited the site for a personal visit and ritual, and is said to have offered to finance a wheel flanked by a pair of deer in bronze to be placed on the roof of the temple. For the time being, this additional feature has not been planned into the restoration work as the size and appearance of them still needs to be clarified.

With June, the common road blockages due to monsoon rains began, making timely transport of material a matter of luck.

Going Forward

It is clear by now, that the restoration of the caretaker's quarters will take the entire current quarter, that is until the end of September. Further, the reinstallation of the stone panels needs to be organised and a suitable carpenter found. This work may go into the third year of the project, but it is important to finish their redisplay soon. In September the new lighting will be discussed with an electrician on site to plan the installation next year.

The study of the murals, sculptures and stone panels at Lo Gekhar, presented above only in rough outlines, closely ties the monument to the royal house of Upper Mustang. The works also provide links to many other artworks preserved in the region and a dynamic religious context in which sectarian distinctions are negligible. Already now it is clear that these works and the monument of Lo Gekhar deserve a detailed study, preferably a book publication that brings all the information on the site, including the restoration together.

The progress of the restoration can be followed through the images uploaded on our website (<https://www.norbusum.org/documentation1.html>) and occasional Facebook posts (<https://www.facebook.com/norbusumfoundation>). Making the images accessible with captions turned out to be more complicated and labour intensive than expected, we are thus looking into new solutions.

Attached Documents

- Text on Ngadak Püntsok Rigdzin (*mnga' bdag phun tshogs rig 'dzin*, 1592–1656) - last proofs