



Figure 1: The restoration plaque unveiled by Michael J. Harker at the closing ceremony in October 2024.

Seismic Strengthening and Restoration of Lo Gekar

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

Final Project Report, 2021–2024

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December 28, 2024

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Summary

Tracing its history back to the establishment of monastic Buddhism in the Himalayas in the 8th century, Lo Gekar (glo dge dkar short for glo bo dge dkar)¹ is one of the most significant sites of cultural and religious heritage in Mustang, Nepal. Known locally also by the name “Gar Gönpa”, it is a major structural complex surrounded by numerous chörten spread on a fertile slope with several natural springs. The temple is located at an altitude of 3930 meters on the south (right) bank of the Marang River, a tributary to the Kali Gandaki, in Upper Mustang.² It sits at the head of the valley that houses the villages of Marang and Tsarang, the latter being one of the largest villages in Mustang and a key settlement in the history of the Kingdom of Lo.

The restoration of Lo Gekar monastery was nominally a three-year project, but work extended into the fourth year for final adaptations.³ The first year was dedicated to planning, the architectural restoration was undertaken in the second and third years, and the interior improvements were completed in the fourth year. With this work, the architecture of the monument is not only secured, but it is made much more earthquake resistant. All the interior spaces are now covered by a roof and the drainage systems have been improved considerably. Further, the caretaker now stays in a refurbished mansion that keeps much warmer in winter.

Inside the main temple, lighting has been improved, and minor repairs were undertaken. Further, through moving two sets of ancient stone panels into dedicated rooms, the Arhat Temple and the Avalokiteśvara Temple, these have become accessible to pilgrims and visitors. The temple rooms on the upper floor further were furnished with explanatory texts. These are based on research undertaken by Christian Luczanits during the project, which greatly clarified the history of the monument’s decoration and its ties to the royal house of Upper Mustang.

This report provides a brief account of that history of the temple as far as it can be reconstructed from the evidence at the site. It then presents the restoration measures

¹ Throughout the project we used the spelling Lo Gekhar for the monastery, but as the foundation story cited below makes clear, it should rather be Lo Gekar, the spelling adopted in this final report.

² The exact location of Lo Gekar is 29°07'28.7"N 83°53'19.7"E. The complex is owned and maintained by the village of Marang.

³ The temple was previously by The American Himalayan Foundation (AHF; <http://www.himalayan-foundation.org>) under the leadership of John Sanday. This work included the cleaning and consolidation of the murals and images in the sanctum.

undertaken by spatial units of the monument, demonstrating the changes made during the restoration.

Brief History of Lo Gekar

By Christian Luczanits

Reading the murals and stone panel inscriptions on site together with other art historical and historical evidence spread throughout the region, the history of the monument has become surprisingly clear during this restoration project. The evidence on site not only provides approximate dates for most of the decoration phases preserved today, but also about the artists and religious protagonists active at the site and their royal supporters.

The site has been documented as part of a research project on Tibetan Buddhist Monastery Collections Today.⁴ A first campaign in 2014 focused on the stone panels in the main temples of the complex, but only 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, including those of the so-called Chenrézik Lhakhang (Avalokiteśvara Temple) made it possible to establish 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. However, while the succession of the different phases is clear, some of the key dates remain hypothetical so far.

The Foundation

The establishment of the temple of Lo Gekar is considered contemporaneous with the first monastery of Tibet, Samyé, which was founded in the late 8th century. The original temple's establishment is recorded in the *Pema Katang* (*pad+ma bka' thang*), a text containing the biography of Padmasambhava, the teacher credited with taming of local deities across the Himalayas. The text was discovered by the treasure revealer Orgyen Lingpa (o rgyan gling pa; b. 1323). The relevant account is found in canto 62, recording the completion of Samyé Monastery, and is translated as follows (with explanatory additions in square brackets):

“At Lobo [= Mustang], the place which is as if a rakṣasī [a demoness] were lying on her back, place on her heart a monastery with nine floors, a stupa on her navel,

⁴ This project began in 2012 and continued through yearly visits since.

another small and black one on her head, and one hundred and eight on her four limbs! In Malgro is the naga king called Shines in Malgro [= mal gro gzi can]. He has great influence in Tibet; I will establish for him a naga treasure; I want his life philtre [= srog chu - life water].

And the Guru came along into Malgro. Keeping his promise, shaking the depths, giving solid explanations, and having given treasure and a place of worship for the nagas, he received the life philtre. However, no oath bound the mind of the nagas, so to keep them silent, he erected at Lobo the monastery of White Virtue [= dge dkar, Gekar]."⁵

Accordingly, Lo Gekar is this monastery of White Virtue (dge dkar), and the surrounding chörten and springs are part of the holy site. Further, the date of the discovery of the text by Orgyen Lingpa also provides a *terminus ante quem* for a first major Buddhist construction at the site.

The Monument

The main sanctum of the monument with its exceptionally thick walls and unusual interior is undoubtedly ancient and may well have carried once a tower-like structure. These walls also embed what is probably the oldest image at the site, a stone relief worshipped as representation of the Goddess Tārā, even though Avalokiteśvara is a more likely identification (Figure 2).

⁵ Yeshe Tsogyel (Ye shes mtsho rgyal). 1978. *The Life and Liberation of Padmasambhava (Padma Bka'i Thang)*. Dharma Publishing: 385.



Figure 2: Stone image of Avalokiteśvara, worshipped as Tārā, embedded into the wall of the temple's sanctum.



Figure 3: The main image of Padmasambhava in the temple's sanctum.

The monument as it stands today predominantly dates from the last decades of the 16th century onwards, a restoration of the complex being recorded at that time.⁶ Architecturally, there are three distinct structures to the complex, the actual temple (*lha khang* or *gtsug lag khang*; painted red), the religious mansion directly adjacent to and integral part of it (*pho brag*; the white part of the main structure), and an adjacent U-shaped complex along the central axis of the temple that since 2022 has been replaced by concrete structures.⁷

The roughly east facing temple itself has four distinct structural units, a two storied sanctum housing the main images, the Guru Lhakhang (*gu ru lha khang*), an Assembly Hall in front of it, a Protector's Chapel to the right of the Assembly Hall, a Gönkhang (*dgon khang*), and a roofed entry area (see Figure 4). The temple's sanctum houses an image of Padmasambhava flanked by two consorts as its main image (Figure 3). This central triad

⁶ Jackson, David P. 1984. *The Mollas of Mustang: Historical, Religious and Oratorical Traditions of the Nepalese-Tibetan Borderland*. Library of Tibetan Works & Archives, 149, places a restoration in the reign of Aham Döndrup Dorjé (ahaM don grub rdo rje; dates?).

⁷ The U-shaped space architecture in front of the temple was only completed in the 1990ies. The 2022 work in this area has been initiated by the local government headed by Raju Bista of Ghami, and is undertaken without the consent of the villagers caring for the monument. A letter written in 2021 by the villagers to the Department of Archaeology, Government of Nepal, to protect the site remained without consequence.

and other images flanking them are today separated from the rest of the room by a recently added altar screen.⁸ The sanctum is also the only room with an extensive ancient mural program.

The structure in front of the sanctum has been built at a later stage and is not directly in the axis of the temple's core. In part this is due to the Protector's Chapel along its right side. The Assembly Hall has modern murals, but most of its walls are covered by stone relief panels in wooden frames dedicated to different themes, among them the eighty-four Mahāsiddhas, diverse groups of Buddhas, the twenty-one manifestations of Tārā, and repeated depictions of Vajrasattva. While they have been repainted recently, the reliefs are considerably older.

Panels of this type also form the main decoration of three more temples, the most important of which is the room immediately above the Guru Lhakhang and part of it, the Upper Sanctum (see Figure 5). There, the panels show Padmasambhava and his twenty-five disciples as well as the 108 wrathful and peaceful deities of the *bardo* (the intermediate state between death and rebirth). While located above the sanctum, this temple can only be reached through the mansion, which contained two more sacred rooms with stone relief panels. In the Avalokiteśvara Temple each of the panels depicts a form of Avalokiteśvara, while panels showing Śākyamuni and the Sixteen Arhats were part of a protective chapel that was also used for meditative retreats. During the restoration, the panels in these two rooms have been relocated to dedicated chapels above the Assembly Hall (Rooms U04 and U05 on Figure 5).

⁸ Such screens have been inserted in many monuments to protect the main images, but they also introduce a distance between the worshipper and worshipped. More recently, thus, there is a trend to remove them again, and to find other, less prominent ways to protect the images.

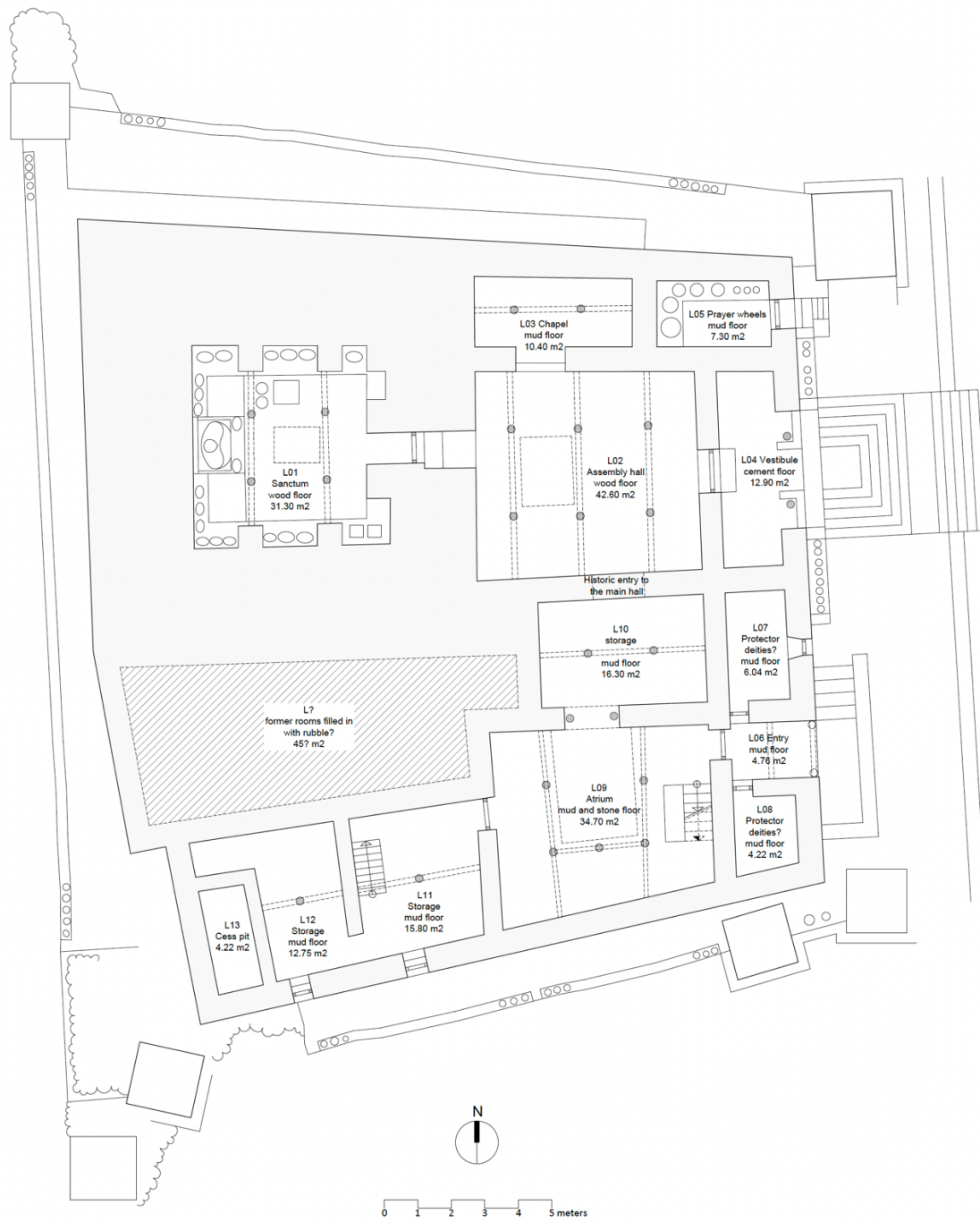


Figure 4: Lower Floor, updated plan 2021 by Thomas Schrom.



Figure 5: Upper Floor, updated plan 2021 by Thomas Schrom.

The Murals

The sanctum is the only space covered with ancient murals. These murals are not the original ones, but represent a secondary layer. An earlier layer is visible underneath, especially at the top of the back wall of the sanctum, but there is no clue what was depicted then.

The murals have been cleaned and restored by the AHF project mentioned above, but their iconography, organization and meaning remained unstudied. While large sections of the murals have been photographed, proper documentation of all painted surfaces has been made impossible by the window screens introduced throughout the room in recent years. While these protect the murals in the niches from visitors as well as the soot of butter lamps, they also make them less visible. Of course, the murals on the projections between the niches and in the entrance-area are still exposed.



Figure 6: The wrathful Buddha Heruka on the main wall of the Sanctum of Lo Gekar.

In terms of iconography the walls of the sanctum are almost completely covered by wrathful protectors in the colors of the five esoteric Buddhas and thus representing their families. Thereby each deity holds the attribute that characterizes the respective family in the right hand and a noose and an axe with curved blade in the left. Large depictions of the

five protectors are distributed across the sanctum by direction. In the following these serve to introduce the five protectors.

Two of the five protectors flank Padmasambhava on the main wall, the west wall, and represent the center and the eastern direction. Of these the deity to the left of the Guru is blue (Figure 6) and the one to the right is white, and both brandish a vajra in the raised right hand. Likely, the blue one represents the center and the white one, for which a wheel would be the expected attribute, the east. In the middle niches of the other walls the main protectors are red and holding a lotus on the north wall, green and holding a sword on the east wall, and yellow and holding a jewel on a lotus on the south wall. In other words, these main deities are not attributed by direction, but in a hierarchy left before right read from the back wall to the entry wall. Further, these five main deities are complemented by a blue horse-headed deity brandishing a sword and a blue deity holding vajra and bell in the smaller niches to the sides of the main wall. The latter deity is the only one that does not have noose and axe as secondary attributes.

As said, the remaining wall space is covered with repeated representations of the five main deities, repeating their iconography with some minor variations. Further, the composition is presided over by Buddha Amitābha, a small image of which is represented right above the head of Padmasambhava. Finally, the entrance is flanked by four agitated, female, animal-headed gate keepers.

Today, this assembly of deities is identified as representing the Kabgyé (bka' brgyad, translatable as Eight Teachings).⁹ However, there are only seven deities and not eight, the representation of Hayagrīva is outside the five main directional protectors, and the Kabgyé deities are more complex than the ones represented at Lo Gekar. To date, I have not yet succeeded in finding a source describing this representation and thus can only provide tentative names for the main deities. Referencing the five Buddha families, the five main deities are best interpreted as representing as wrathful Buddhas and thus Heruka deities. They can accordingly be named after those families: Buddha Heruka, Vajra Heruka, Ratna Heruka, Padma Heruka and Karma Heruka. These are complemented by Black Hayagrīva and Vajrapāṇi represented in the niches flanking the main wall. Functionally they are

⁹ On the Kabgyé and their importance in history see the recent studies by Trautz (Trautz, Nicholas. 2019. "The Legacy of the Eight Teachings: Revelation, Ritual, and Enlightened Violence in Classical Tibet. A Literary History of the *Bka' Brgyad Bde Gshegs 'Dus Pa* Revelation of Mnga' Bdag Nyang Ral Nyi Ma Od Zer." diss., University of Virginia; and Trautz, Nicholas. 2020. "Curating a Treasure: The *Bka'brgyad Bde Gshegs' Dus Pa* in the Development of Rnying Ma Tradition." *Revue d'Etudes Tibétaines* 55: 495–521).

protective in nature and may refer to rebirth, but their exact symbolism remains speculative until a source is identified (Figure 1 Figure 7).

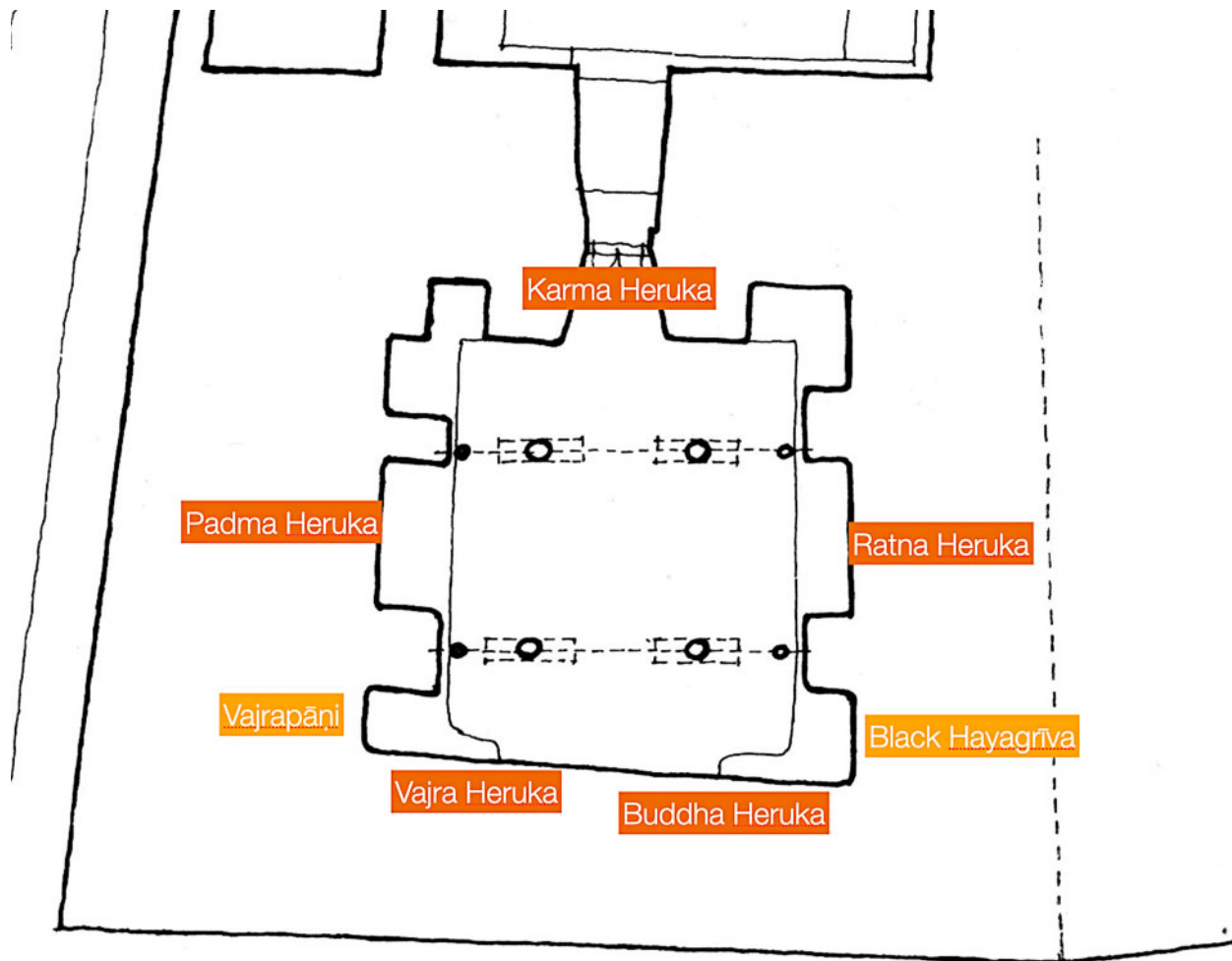


Figure 7: The main deities of the murals arranged by the direction they are facing.

The original murals are expertly painted with fine shading and an abundant use of gold paint for the jewelry, hair, and the textile patterns. Also, the lotus cushions on which the main deities stand are decorated blossoms painted in gold. Further noteworthy are the thick rims of lively flames framing the main images, and the expertly drawn offerings to the five senses underneath the main images. These details are likely the work of the master artist leading the workshop.

Nevertheless, the original paintings are difficult to date precisely. Two teacher representations above the two main deities on the main wall are not inscribed and thus do not provide any definitive clue regarding their making. It can nevertheless be considered

certain that they belong to a major renovation in the 17th century, which at first glance appears early for the murals.



Figure 8: Original and restored mural sections, the restored section on canvas and glued to the wall with a small portrait of Katok Rindzin in the centre.

Figure 9: Portrait of Katok Rindzin Tsewang Norbu (kaḥ thog rig 'dzin tshe dbang nor bu; 1698–1755) on one of the canvases with repainted deities.

However, in the mid-18th century the murals have been restored keeping the same iconographic program, and this restoration was undertaken under the auspices of Katok Rindzin Tsewang Norbu (kaḥ thog rig 'dzin tshe dbang nor bu; 1698–1755). This further adds to the impact of this teacher's visit to Mustang.

In this restoration the deities were painted on canvas attached to the wall, and on each patch a small portrait of Katok Rindzin has been added in the top center. This restoration is found throughout the sanctum in the lower parts of the walls, indicating considerable problems with moisture in the walls affecting the original paintings.

Stylistically the new paintings are somewhat simpler in the details and the deities are slightly more corpulent. Also, the landscape details and clouds between them are missing. The glue-soaked canvas also reflects more, making the restored sections more difficult to photograph than the original murals.

Thus, the original murals can be attributed to a master of the 17th century the name of which will hopefully be revealed in future research. For those of the restoration we do have the artist's name, as will be seen below.

Papier Mâché Sculpture

Presumably at the time the new murals were done 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 Rindzin (*mnga' bdag phun tshogs rig 'dzin*, 1592-1656) who visited Mustang in 1651 (Figure 10). 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.



Figure 10: Portrait of the Nyingma School master Ngadak Püntsok Rindzin (*mnga' bdag phun tshogs rig 'dzin*, 1592-1656).



Figure 11: Guru Padmasambhava, the pandita form of Padmasambhava among his eight manifestations.

In the meantime, we know of one more image 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 Gekar 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.¹⁰

It may well be that Ngadak Püntso Rindzin'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.

Avalokiteśvara Panels



Figure 12: The earliest of the inscribed stone with Ṣaḍakṣara Lokeśvara commemorating the completion of a mani dunchur in memory of queen Nyida Gyelmo in 1682/83. Left photograph showing it within previous frame and the right one when documented in full; large thin panel with shallow carving; 72 x 55.5 x 2 cm.

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

¹⁰ Luczanits, Christian. "Papier-Mâché Sculpture and the Nyingma School at the Periphery. Portrait of Ngadak Puntsok Rigdzin Lo Gekar, Mustang, Nepal, mid-17th century." *Himalayan Art in 108 Objects* (2023): no. 70, 304–307, <https://projecthimalayanart.rubinmuseum.org/essays/portrait-of-ngadak-puntsok-rigdzin/>.

movement of this temple enabled the complete documentation of these panels. Remarkably, each of these stone relief panels featuring a form of the Bodhisattva Avalokiteśvara commemorates the completion of 100 million recitations of the deity's mantra. They always provide a date, the year in which the recitations were completed, often a person in whose memory the recitations were done, and occasionally the carver of the relief.

From the stone panels it can be concluded that Queen Nyida Gyelmo must have died in 1681, thirty years after the visit of Ngadak Püntso Rindzin 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 (Figure 12). Its inscription is presented here as an example:

Tibetan Text:

༄ | ན་མོ་ལོ་གི་ཤུ་རྩ་ཡུ། འཕགས་མཚན་དམ་པ་སྤྱན་རས་གཟིགས་དབང་ལ། ལུས་པས་བྱས་འཚལ་བདག་
སྤྱུ་བས་སྤྱུ་བ་མཆོ། ལུས་མཚན་ཉི་ལྔ་ལྔ་མའི་དགོངས་ཚུགས་བྱེད། མ་ཤི་དུང་འཕྱར་རྒྱ་པོ་བྱི་ལོ་
སྤྱུ་བས་པའི་རྩམ་དཀར་དགེ་ཚུགས་གང་ཡོད་དེས། ལུས་མཚན་གང་དེའི་དགོངས་པ་རབ་ཚུགས་ཤིང་། བ་མར་
ལྷར་བའི་འགོ་བ་མ་ལུས་ཀྱན། རྩམ་མཁུན་ཚུགས་པའི་སངས་རྒྱས་ལྷར་ཐོབ་ཤོག། མཁྱེ་ལམ་
འབྱར་བཞོད་པན་དར་རྒྱལ་པོ་ཏེ།

Transliteration:

@/_/_na mo lo ki shwa ra ya//_ 'phags mchog dam pa spyan ras gzigs dbang la//_gus pas
phyag 'tshal bdag sogs skyabs su mchi//_yum mchog nyi zla rgyal mo'i dgongs rdzogs
phyir//_ma Ni dung 'phyur chu pho khyi lo la sgrubs pa'i rnam dkar dge tshogs gang yod
des//_yum mchog gang de'i dgongs pa rab rdzogs shing //_pha mar gyur ba'i 'gro ba ma
lus kun//_rnam mkhyen rdzogs pa'i sangs rgyas myur thob shog//_mang+ga lam
'bur bkod phan dar rgyal po he

Draft Translation:

Worship to Lokeshvara. We are taking refuge to and respectfully bow to the most exalted, excellent Avalokiteśvara. To fulfil the intentions of the highest mother Nyida Gyelmo, [the recitation of] hundred million (dung phyur) mani were accomplished (sgrub pa) in the water-male-dog year (1682/83). Whatever very white merit was assembled [through this recitation] may the intentions of this highest mother thoroughly be fulfilled and may all beings who have become parents without remainder swiftly attain the omniscience of a

Buddha. Auspiciousness.

Relief design by Pandar Gyelpo.

The inscription records several important facts not known from other sources, namely that Queen Nyida Gyelmo must have died in 1681; that the regular performance of the *mani* recitations commemorated by inscribed stone panels was initiated by her as final wish, and that the panel was carved by Pandar Gyelpo, who in another panel is said to come from Zurkang village, near Dhi.

This inscribed panel marks the beginning of forty years of almost uninterrupted performances of this ritual, each of these commemorated by an inscribed stone panel. Most of the donors mentioned in the inscriptions can be identified and are from or closely associated with the royal house. The last inscribed panel is on display in the Assembly Hall on the ground floor and dates to 1717/18.

Another important personage documented in the Avalokiteśvara panels is the Drukpa teacher Mipam Püntsoḱ Shéráp (*mi pham phun tshogs shes rab*) who must have lived at Lo Gekar for a considerable period around 1700 and died in 1711, as the 1712/13 panel is dedicated in his memory. Depictions of him have been found in Lo Gekar and at many monasteries in Mustang, and some printing blocks used for a manuscript of his teachings are in the Choede Monastery Museum.

The stone carvers are only mentioned on the earlier panels, and they may all come from the same Zurkang workshop. While the carving on these earlier panels is relatively flat, later panels are deeper carved and of a greater variety of iconography. However, comparing this development with the other groups of stone panels is not conclusive to provide approximate dates for the latter (see below).

As such, these stone panels are an invaluable source of historical. The inscriptions translated so far confirm what has already been proposed by other data but provide unprecedented precision. From these texts it is clear that the site flourished from the middle of the 17th century and the earlier assumption that the stone reliefs most likely date to the second half of this century can be confirmed.

Since the Avalokiteśvara panels were produced in different years each of the Avalokiteśvara stone panels has a different size and format. While some are small, slim and light, others were too large, thick and heavy to be photographed upright. This also meant that to accommodate them within a wooden frame they partially had to be mutilated at their edges. Accordingly, a different mounting was chosen for them and the new Avalokiteśvara temple was designed as open shrine. The back was 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) emphasizes 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 plans above).



Figure 13: Planning the distribution of the stone panels of the Avalokiteśvara Temple in the new location.

Figure 14: The stone panels mounted in the new Avalokiteśvara Temple as planned with the rows on the back altered to keep the rhythm between the upper and lower panels. The ledge of the shrine is used to display short labels dating each of the panels.

Stone Panels of the 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. While these panels are more regular their 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 was 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 15).

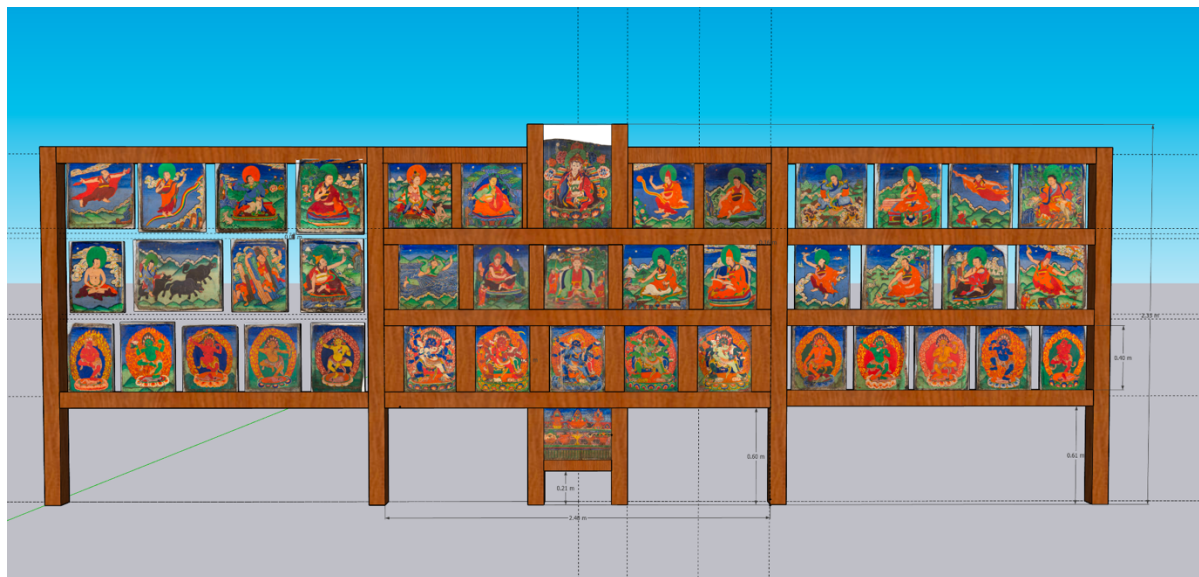


Figure 15: Plan for the new frame for the main wall of the Upper Sanctum, preserving the documented display of the panels but enabling the panels to be added once the frame is constructed.

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 15. 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 frame construction as for the panels in the Upper Sanctum was used for the new space displaying the panels of Śākyamuni flanked by the sixteen arhats (room U04 in Figure 5). These panels were removed from their original space in the caretaker's quarters as the room there needed to be restored. The transfer also enabled a reconstruction of the original composition.

Thus, in this case art historical work focused on reconstructing the original display of these panels and on fitting the composition into the new space. Thereby the differences in size of the central panels as well as of some arhat panels along with the directional positioning of the arhats towards the central Buddha confirmed that the original positioning of the arhats followed a standard arrangement of this topic. The comparable size of the panels of the

four great kings with those of the lower row of arhats further indicates that these were originally represented to the sides of the lower row of arhat panels (Figure 16).

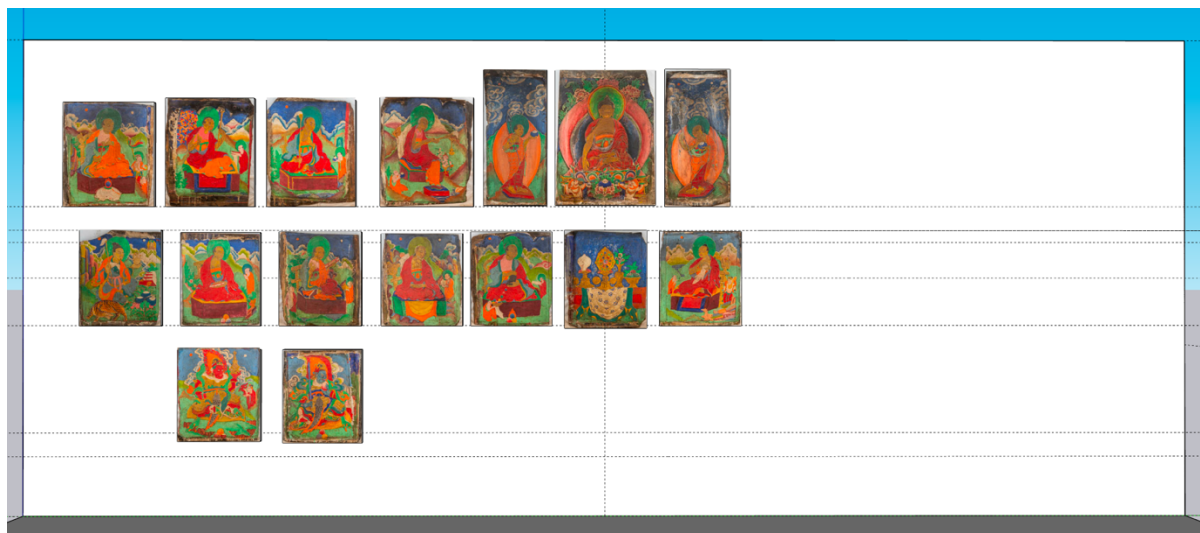


Figure 16: Partial reconstruction of the original display of the arhat panels to enable the planning of the frame.

The partial reconstruction of the original composition also made clear 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.



Figure 17: The panels in their new frame towards the end of the restoration in 2023.

Chronology of the Stone Panels

From the stylistic difference between the stone panel groups, it is clear that they have not been created at the same time. In fact, there are considerable differences between each of the groups and it is at this stage impossible to sort out their absolute chronology with any certainty. As a working hypothesis, it is now assumed that those of the Upper Sanctum are earlier than those in the Assembly Hall. And among the latter those depicting the Mahāsiddha are probably earlier than those depicting the Buddhas and goddesses, and the repeated depictions of Vajrasattva. This relative chronology assumes a diminishing in artistic quality, but this hypothesis is not necessarily correct. In other words, more clues need to be established to enable a more secure relative chronology between the different panel groups. In terms of timeframe, it is still most likely that the panels date between the end of the 17th and the end of the 18th centuries.

Artist dpon Sitar (sri thar)

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 Rindzin 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 Pön Sritar (*dpon sri thar*).¹¹

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. In particular, the faces of the Padmasambhava at Ghami and that of Lo Gekar are closely comparable.

¹¹ Schuh, Dieter. "Herrscherurkunden der Könige von Nord-Mustang (Glo Smon-thang)." *Zentralasiatische Studien* 48, no. 3 (2020): 349–504.



Figure 18: Face of the sculpture of Padmasambhava made by Pön Sritar for the Ghami Palace.



Figure 19: Face of the sculpture of Padmasambhava in Lo Gekar with similar physical features.

Much of the artistic decoration of Lo Gekar thus stems from the middle of the 17th century to the middle of the 18th century. A few objects may precede this period and a few others postdate it, but major changes after the 18th century mostly concern the architecture and the placement and framing of the stone panels.

In fact, the architecture of the monument has been altered many times, and it is largely impossible to distinguish different phases of the works undertaken. The changes include a shift of the main entrance from the caretaker's side to the front, the extension in front of the Assembly Hall including today's porch and the paintings there and in the lantern which are not discussed in this report.

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 to produce revised floor plans for upper and lower floors, and five sections drawn through the building documenting the temple before the restoration. These plans supersede his 1996 plans,



made in a short two-day visit, which have been digitized for the 2021 application report prepared by Thomas Schrom (these plans are presented above for the room numbering).

Further architectural research by John Harrison is ongoing and will be part of the publication that is currently being produced and represents the final step of this project.

Restoration of the Main Temple

Since the foundations of the temple were stable and there was no immediate need to restore the lower floor of the temple its architecture remained unchanged. Towards the end of the project smaller improvements were requested and have been implemented. These are shortly summarized after describing the works on the upper floor of the temple.

Upper Sanctum (U01)

In April 2022 building work started on the upper floor of the Guru Lhakhang. This room is numbered U01 in Figure 5 and called the Upper Sanctum in this report. First, the mud layer was removed to investigate the supporting timber structure that formed the ceiling of the inner temple sanctum below. During this work, it became clear that this layer is very thick and 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 108 stone panels were documented individually.

The principal sculpture of Padmasambhava and all the sculptures in the sanctum, and the carved slate panels in the adjoining Dukhang on the ground floor, needed to be covered with polythene sheets to protect them during the work on the floor above. Once the mud floor was completely removed along with the layer of round wooden sticks traditionally placed on the joists the structural issues of this room became apparent.



Figure 20: The Upper Sanctum before restoration in April 2022.



Figure 21: The Upper Sanctum with the mud floor removed. Note the uneven spacing of the joists and the precarious bases of the beams. The panelling underneath the joists are the false ceiling of the lower sanctum.

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, above the main images, remained. 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 joists were found to be extremely uneven in form and dimensions, and some had been replaced by squared ones during repairs in 2004. So, it was decided to leave the recent lower ceiling boards in place. To even the gaps between the joists, it was necessary to add several new ones.

Then a secondary timber floor structure was built up to avoid excessive weight on the original structure. Further, it turned out that the four columns supporting the roof stood on clay and the wooden sticks underneath, representing an obvious structural risk. Rather than replacing them with longer ones, it was decided to support their base by square frames around the foot of the columns. To enable this, the round sticks were carefully trimmed with a hand grinder where necessary. The square frames were then built and filled with mud and aggregate mortar.



Figure 22: The wooden frames to support the bases of the pillars.



Figure 23: The timber structure to support the new flooring.

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 the new square frames around the foot of the pillars. All the square joints of the new frames were prepared in the woodworking 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 to it as a seismic measure. Then 1-inch-thick pine wood floor panels were screwed on top to form the actual floor.



Figure 24: Plywood panels were screwed to the wooden framework to improve seismic stability.



Figure 25: Then the actual flooring of the room was screwed to the panels.

In July and August 2022, all temple spaces on the upper level, including the Upper Sanctum, were plastered. This work was done by an experienced craftsman from Lo Monthang using plaster clay sourced from his home area. In preparation for the plastering, the walls had to be scratched, and uneven and loose areas had to be patched. Then plaster was applied to all areas and smoothed.

The painting of the walls has been carried out with the same materials as were used previously in those rooms. Thus, natural mineral colors were used to paint the walls in

most rooms. These had to be sourced from several places in Upper Mustang. The white, yellow, blue, and orange colors could all be sourced from the Lo Manthang area, while the maroon used extensively in monasteries needed to be sourced from the Dhye village. Accordingly, a jeep was hired for a day to go to the Dhye village to request the village head to collect the red colored stone from the mine which is about two and half hour's jeep ride from Lo Gekar. A ritual seeking approval by burning incense and prayers was conducted at the chalk mine before the ground was dug.

Once sourced, these natural colors need to be hand-ground, sieved, and soaked in water before application. All the colors—red, yellow, white, and blue—were soaked in water and mixed with a water-soluble glue. The maroon color was further boiled with sugar and then sieved again on a muslin cloth before application. Temple spaces, like the Guru Lhakhang were painted with the usual border motifs, namely a cloth valance at the top and multicolored stripes marking the bottom of the main area.



Figure 26: The Upper Sanctum with its new flooring completed.



Figure 27: The Upper Sanctum after the new paintings have been applied.

Reframing the stone panels took longer than expected, as no skilled carpenters were available for this work that felt able to convert the planned frames into reality. Such carpenters were only found in Winter 2022/23 in Kathmandu at the suggestion of one of the members of the Norbusm board, Tsewang Gigme Bista, who used their services for his hotel. The carpenters also prosed to use hard Salwood for the frames which was purchased accordingly. The carpenters reached the site late spring 2023 and first helped with other works before getting to the frames.

The new frames holding the stone panels, thus, were only completed in In July 2023. They were then sanded, and shellac polish was applied. The grooves were cut deep enough to insert the panels easily by lifting and releasing. In contrast to the earlier mounting, the panels now rest in the frames without taking pressure from any side to avoid any further

damage to them. In future, these panels can be easily taken out or put back into their frames for cleaning and maintenance.



Figure 28: The Upper Sanctum after the construction of the new frames for the stone panels.



Figure 29: The Upper Sanctum with most of the stone panels on the main wall installed.

At this phase the masking of the gaps between the stone panels was not completed. This happened during only during the final works in 2024. As the wood used for that was slightly brighter than the Salwood used for the frames, its color had to be adjusted through paint.



Figure 30: The Upper Sanctum with the masking of the gaps between the stone panels applied.



Figure 31: The Upper Sanctum in July 2024.

Courtyard (U03)

Shortly after the Upper Sanctum, work also commenced on the courtyard immediately in front of it. While the project considered covering the entire courtyard with a transparent roof in the second phase, its floor was completely restored to make it waterproof for all eventualities. As in the sanctum itself, in the courtyard, the mud floor was completely removed and the original joists and recent ceiling boards of the Dukhang were exposed.



Figure 32: Removing of the mud floor in the courtyard.



Figure 33: The courtyard with the mud removed.

The thin plastic waterproofing membrane, fitted in 2004, was removed. New ceiling boards were then fitted and screwed above the joists. 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. 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 mud mortar mixed with chopped straws and the floor was laid with flat stones to form the new topmost layer of the floor (Figures 37–39). The drainage pipe was carefully inspected by temporarily removing a few floorboards in the guest room in front of the courtyard to make sure it was not clogged.



Figure 34: Planking on the original joists in the courtyard.



Figure 35: Adding a second wooden frame to bring the new floor to the original level.

In 2023, Thomas Schrom proposed a design for a lightweight skylight covering the courtyard. The adobe parapet around the courtyard were removed and a main supporting frame was built of pine wood. Round poplar joists sourced from Sakre were then

connected to the square frame to provide support for the rafters and the corrugated fiber sheets. Rectangular rafters were then screwed onto the poplar joists and then completed with the fiber sheets. Pine boards were installed over the frames on the internal side while waterproof plyboards were used for the exterior surface. Similarly, bitumen sheets were extended on the plywood surface as a waterproofing measure and for the durability of the exterior wooden surfaces from natural wear.



Figure 36: Waterproof plywood was attached to the wooden frame.



Figure 37: The plywood was then topped with a bitumen layer.

Finally, a stone pavement was installed in the exposed parts of the courtyard. The previous mud floor was impassable after rain but the new Arhat and Avalokiteśvara temples need to always be accessible.



Figure 38: Paving the courtyard with stone. The door in the back leads to the new Arhat and Avalokiteśvara temples.

Figure 39: The completed stone pavement.

The roof of the lantern in the courtyard was redone to protect the murals underneath when the entire courtyard was exposed. The mud layer was completely removed, and new ceiling boards were installed over the existing joists. Waterproof plywood was then screwed over the ceiling board and then bitumen membrane was applied over the entire lantern roof. The former adobe parapet wall was lowered in height to reduce the weight it put on the walls rebuilt to retain the original look.



Figure 40: The lantern roof before restoration.

Figure 41: The lantern with the clay removed from the roof.



Figure 42: The lantern with the new roof and the lower parapet.



Figure 43: The parapet of the lantern finished.

Panel Rooms (U04 & U05)

Already at the planning stage it was decided in a meeting with the villagers to move the stone panels of the Avalokiteśvara Temple and a protector's room from the caretaker's side of the building to the rooms on the north side of the courtyard. In their new location the Arhats are occupying the room above the Gönkhang (the protectors' chapel) and the Avalokiteśvara panels resting above the prayer wheel room. These rooms were originally added as retreat rooms but were more recently used as storage and battery rooms. These are rooms U04 for the Arhat panels and the shrine of three protector deities, and room U05 for the Avalokiteśvara panels.

To enable their usage as temple rooms, the entrance between the two rooms had to be widened and reinforced with round joists. This happened in April 2022. For these rooms, it was 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. Then floorboards were screwed over the prepared frames. A new skylight was built over the roof of the corner room (U05) which had no natural light source.



Figure 44: View at the expended door between the two panel rooms, the Avalokiteśvara chapel in the back.



Figure 45: View of the restored room after flooring and plastering, a skylight lighting the back room.

Late in June 2022, the plastering of the Temple rooms started. As a first step, the walls were prepared to hold the new plaster. The walls were scrapped to create a rough adhesive surface for the new fine plaster. Then the actual plastering happened in July. For the plaster a particular variety of clay that was extensively used for fine plaster works at to be brought from Upper Mustang, and the work was done by a local plaster expert from Lo Manthang. The plaster mortar was prepared with clay, saw dust and cow dung.

In the front room, the panels depicting the sixteen arhats were installed (Figure 17), while the corner room was made the new Avalokiteśvara Temple (Figure 14). For the Arhat panels the same framing system was used as in the Guru Lhakhang, once their original arrangement had been reconstructed by Christian Luczanits (Figure 15). Once the room was set up the caretaker also moved the shrine with the protective deities from into this room. The new shrine thus contains the same deities as the original room, even though their combination is rather unusual (see following figures).

The year 2024, was used to improve and enhance the work done in the previous years, also for the Arhat panel frames the gaps between the slates were masked. The pieces were fabricated in the field office in Jharkot and then installed later at the site. The masking pieces were prepared out of pine wood and then shellac polish was applied to create uniformity in the entire wooden frames.



Figure 46: The Arhat panels in their original frames in one of the front rooms of the caretaker's quarter that also houses a shrine of protective deities.



Figure 47: The Arhat panels in the new frame after restoration. The caretaker also moved the shrine with the three protective deities into this room.

The solution for the Avalokiteśvara panels needed to be different as here the panels are of different sizes. This fact also resulted in many of them being damaged in the past to fit them in the previously used frames. Instead, Christian Luczanits proposed to mount them with iron clamps on sturdy plywood support forming a shrine-like environment. This also enabled to display of these panels in their historical succession from the left side of the entrance to the room clockwise (Figure 13).

Accordingly, the carpenters constructed this support structure using a double layer of waterproof plywood supported by vertical rafters. The structure further was attached to the floor and beams to increase its sturdiness. Once constructed, the surface was sanded, and several layers of shellac polish were applied.



Figure 48: Construction of the double plywood shrine to hold the Avalokiteśvara stone panels.

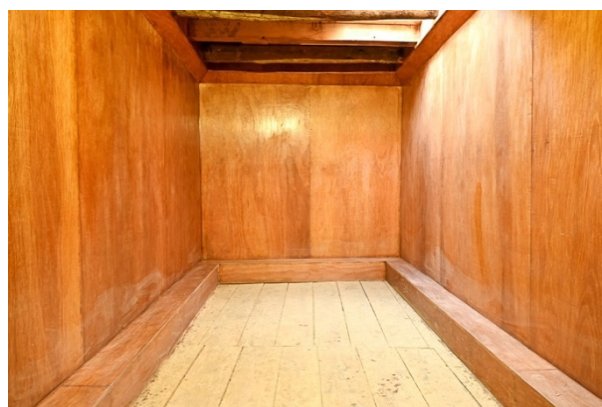


Figure 49: The new Avalokiteśvara Chapel after sanding and polishing ready for the stone panels to be mounted.

Strong iron clamps of custom width according to the varying thickness of the panels were prepared in Kathmandu. Two of these clamps support the stone panels from the bottom

and hold their weight, while another one placed in the top area secures it in place. Again, there is no pressure on the panel beyond their weight. The panels were mounted in this way in June 2023 (Figure 14), and Christian Luczanits supplied labels for each of them.

In 2024 glass pieces were cut into desired sizes in Kathmandu and transported to Lo Gekar to hold the labels for the Avalokiteśvara panels in place and protect them.



Figure 50: The labels in the Chenrézik Lhakhang are now protected by glass.



Figure 51: Detail showing the glass cover for the printed descriptive labels.

Sanctum and Assembly Hall (L01 & L02)

Besides assessment, research and cleaning little work was done on the two main rooms on the temples ground floor. However, on the request of the caretaker the floor of the sanctum was replaced and the lighting was improved as part of the electrical works undertaken for the entire structure.

The wooden floor in the main shrine which looked acceptable from the surface was rotten and eaten by woodworms from the bottom and needed replacement. Moreover, the purlins were also rotten, and wormholes were observed (Figure 52). A few of the boards around the entry could be reused while the rest were completely replaced (Figure 53). Wood glue was used at the joints to prevent warping and then nailed to the purlins (Figure 54). The installed floorboards were sanded, and two coats of linseed oil were applied to finish off the pine board floor (Figure 55). This work was done in August 2023.



Figure 52: The dismantling of the wooden floor in the sanctum revealed rotten areas.



Figure 53: Dismantling of the wooden floor of the sanctum's entry area.



Figure 54: The previous floor of the sanctum removed.

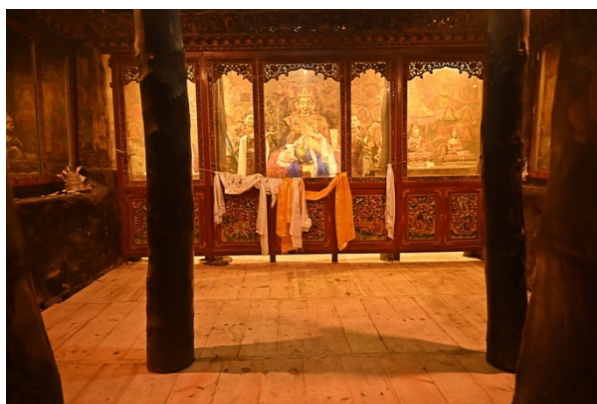


Figure 55: The new floor of the sanctum installed a week later.

In 2024 the battery backup installed in the previous year was upgraded with additional batteries and high voltage inverter to supply power to the entire temple and the caretaker's residence. The bright flood lights installed in the previous years were replaced with warm spotlights to improve the ambience of the rooms.

The main statue of Guru Rinpoche in the main shrine was lit with five spotlights placed at angles to minimize shadows. The white light bulbs in the offering area were also removed and replaced by spotlights. Similarly, the sculptures of the eight manifestations of Guru Rinpoche along the main and side walls of the main shrine were also lit by spotlights. Then existing white PVC wire casings were removed and replaced with black double insulated PVC cables. Further, the white power switches were also replaced with darker ones to make the less conspicuous.



Figure 56: The main sculpture of Guru Rinpoche and other statues in the main shrine lit with the new spotlights.



Figure 57: Local tantric practitioners (ngakpa) preparing for the annual Trenda Tsechu (? tshes bcu) under the newly installed warm spotlights in the Assembly Hall.

In the Assembly Hall, the former bright flood lights and white light bulbs were removed completely. Then, the entire lighting was replaced with new spotlights. Along the sides two spotlights were placed jointly, one to light the stone panels along the walls and the second pointing downwards as reading light for the tantric practitioners (*ngakpa - sngags pa*) and monks during the many religious rituals observed at Lo Gekar.

The extension of the project into the year 2024, was used to enhance the aesthetics in the temple and the surrounding. The long stretch of cracks in the Assembly Hall were fixed. To achieve this task, a skilled plaster expert, Tashi Angyal Gurung Lo Manthang, was hired. Then these fixed surfaces were painted to imitate the former one. The lower part of the walls below the mural which had holes and cracks were also fixed by the expert plaster man. An even surface was then prepared to apply a new paint layer.



Figure 58: A major crack underneath the stone panels filled and prepared for retouching.



Figure 59: The same area as in Figure 58 after retouching and painting.

Protector's Chapel (L03)

The Gönkhang, the protector deities' room located to the right of the Assembly Hall, underwent a comprehensive cleaning and the walls were given a fresh whitewash. Years of soot accumulation marred the walls, and the mud floor was riddled with rat holes. All soot and spider webs were cleared away, and the walls were coated with a chalk wash. To address the rat holes, the mud floor was compacted with aggregates and mud mortar, while the area in front of the room where the caretaker offers butter lamps was finished with flagstones. The remaining floor was plastered with mud mortar.

During the floor plastering, it became evident that oil and butter residue from years of butter lamp offerings had formed a waterproof barrier on the surface, preventing the mud plaster from adhering properly. The project's 2024 extension also targeted enhancements to the Gönkhang to address this. The foreman installed flat stones on the entire floors with mud mortar, and the walls were repainted while decorative banners were added. Lighting was also installed in the protector's chapel.



Figure 60: View of the Gönkhang before restoration.



Figure 61: View of the Gönkhang after flooring and painting of the walls and with lighting installed.

Temple Roofs

The entire roof of the temple was modified to ensure it was waterproof by applying a bituminous waterproof membrane and creating a significant slope towards the new drainage spouts. The existing mud layer on the roofs was removed until reaching the previously installed plastic sheet layer. Wooden frames were then installed, ensuring that the waterproof plywood laid on them sloped towards the drainage spouts. Further, the plywood was covered by a bitumen membrane using bituminous paint and a blow torch, adding a second layer of water proofing. Finally, the roof was finished with a layer of local

clay mixed with fine clay sourced from Kagbeni, and the mud layer was compacted using a wooden tamper.



Figure 62: The temple roof before restoration in April 2022.



Figure 63: The temple roof at the end of the restoration in September 2022.



Figure 64: Constructing sloping wooden frames and installing the waterproof plywood sheets on them in May 2022.



Figure 65: Applying bitumen sheets above the plywood layer in late May 2022.

The former painted tin roof covering the lantern above the sanctum was replaced with thick copper sheets in the end of September 2023. The tin sheets built over the wooden frames were dismantled completely. The top of the wooden frame was reinforced with the addition of a new board and the rest of the former frame was kept original.

Several rolls of copper sheets were brought from Kathmandu. Custom pieces were cut and assembled to the frame using screws. The entire fabrication of the copper roof was done by a skilled craftsman from Helambu who has been working in restoration and reconstruction projects at Muktinath temple.



Figure 66: The previous tin sheet lantern room painted in yellow.



Figure 67: The current copper sheet lantern roof.

Roofing the Courtyard

Despite the work in the previous year in making the floor of the courtyard above the Assembly Hall as waterproof and usable under adverse weather conditions, the small existing drainage pipe could not be expanded due to the Kanjur Lhakhang being built over it. Accordingly, the drainage of this area still represented a risk, and it was decided to cover the entire courtyard with a wooden framework holding transparent sheets. Thomas Schrom proposed a design for such a lightweight skylight covering the courtyard, which was constructed this quarter.

Accordingly, the adobe parapets around the courtyard were dismantled and a main supporting frame was built of wood above the existing timber structure. Round poplar beams were purchased from Sakre and were connected to the square frame to provide the support for the rafters and the fiber sheets (Figure 68). Rectangular rafters were then screwed onto the poplar beams (Figure 69), and the corrugated fiber sheets were screwed to the rafters to complete the skylight (Figure 70). Pine boards were installed over the prepared frames on the internal side while waterproof plyboards were used for the exterior surface. Similarly, bitumen sheets were extended on the ply board surface as a

waterproofing measure and also for the durability of the exterior wooden surfaces from natural wear and tear.



Figure 68: The construction of the frame for the roofing of the courtyard.



Figure 69: The finished frame for the courtyard roof.



Figure 70: The roofing of the courtyard largely completed.



Figure 71: The interior of the roofed courtyard in July 2024 with the Arhat and Avalokiteśvara chapels entered through the door visible on the left side.

Restoration of the Caretaker's Quarter

All along the south of the temple is the caretaker's residence including two areas with lanterns, a kitchen and several rooms for receiving guests and temporary stays. As the study of this area made clear, it was built in many different phases and continuously altered, resulting in a patchwork of structures with different roof heights. The area was not subject to any recent restoration and the most poorly preserved parts of its wooden structure were on the ground floor. For the room numbering used below, please refer to the ground plans of the lower (Figure 4) and upper (Figure 5) floors.

The restoration of this area aimed at completely replacing the wooden framework within the structure and rebuilding its roof at a consistent height. Walls were only taken down and reconstructed when they turned out to be unstable.

This work began in the second half of June 2022 with the removal of the roofs. To ensure the safety of the workers, the dismantling process was organized into two phases: the first phase involved the east side, which included the entrance area and the rooms above it, the two storied atrium and the VIP guest room, while the second phase focused on the west side where the kitchen and its storage, another guest room, the former Avalokiteśvara temple, and a toilet are located. This approach allowed for a secure passage for workers transporting brushwood, joists, and other debris to the west side of the mansion. A chute was constructed with the scaffolding on the southern side of the quarters to facilitate the disposal of broken mud bricks and the mud roof. Additionally, a scaffolding ladder was set up on the west side to ensure safe movement for the workers. Scaffolding props were utilized to support the weakened beams below.

During the removal of the roof layer down to the joists, a two-foot-thick mud layer was uncovered, which had accumulated over the years to prevent seepage. This layer significantly increased the weight on the walls and main beams, causing some mud bricks beneath the main beams to become compressed and develop cracks. The cracks were evident due to the absence of wall plates under the beams and the joists. Once this layer was exposed, it was entirely removed to allow access to the floor beneath, which was also taken out as necessary for reconstruction.



Figure 72: Removing the roof above the VIP room with the original joists exposed.



Figure 73: The roof of the entire front section removed completely.

The reconstruction followed the original floor plans. To alleviate stress, the main beams were supported with wall plates to distribute the weight horizontally across the walls. Additionally, the cracked rammed earth walls were reinforced with the insertion of

horizontal plates, and the damaged mud bricks were replaced with new ones. When damaged, the old round joists on the ground floor were substituted with salvaged joists from the upper floor. The construction was further strengthened by reducing the gaps between the joists with additional round joists.

Main Entry (L06)

The entrance to the caretaker's residence required reinforcement to support the superstructure above. The walls beneath the main beam exhibited significant stress cracks, which were addressed by adding slates and replacing the damaged sections with new mud brick walls.

The door to the storage area on the left was straightened and reinforced from the inside to accommodate the visitor's toilet. The original door was preserved to maintain its historical appearance. To enhance accessibility for visitors and pilgrims, the vertical columns of the entry door were replaced with longer ones, increasing the door's height. Other components of the door were retained and restored.

Lastly, the floor of the entrance area was leveled, and a flat stone pavement was installed for easier maintenance, with the paving completed in September 2022.



Figure 74: The entrance to the caretaker's quarter before restoration.



Figure 75: The entrance to the caretaker's quarter during restoration. Note the difference in floor level.

Visitor's Toilet (L08)

The room to the left of the entrance, previously utilized by the caretaker for storage, has been transformed into a visitor toilet. Access to this room is now through the atrium, with the original door left intact to preserve the entry's historical appearance.

The floor was levelled, and stone soling was completed before a mesh of iron rods was installed. The floor was then finished with a concrete plaster. Additionally, the lower sections of the walls were covered with rough plaster, supported by chicken mesh to ensure proper adhesion.

By May 2023, the drainage systems for the bathrooms and their tiling were finalized. The drainage pipes for the attached bathroom and the visitor toilets on the ground floor of the caretaker's mansion were linked to a cesspit constructed in 2022, while the drainage for the old toilet connects to an existing cesspit on the south side. All three toilets have been tiled, with chicken mesh applied to the mud wall surfaces before plastering to create a durable base for the tiles.

Plumbing for the toilets and bathroom was completed in 2023, with water pipes installed internally along the walls to reduce the risk of freezing during winter. The exposed pipes facilitate easy maintenance in the future. The installation of sanitary and other bathroom fittings was also completed by September 2023.

All three toilets were connected to the water supply, with a direct line established from the caretaker's former reserve tank located on the west side at a higher elevation than the temple. The pipeline from the reserve tank was connected using PVC pipes, while the internal plumbing was completed with PPR pipes and fittings. The internal pipes are clamped and exposed along the walls, allowing for convenient maintenance without the need for invasive work in the future.

Storage Room (L07)

The room located on the right side of the entrance was previously used for storage of firewood and cow dung will continue to serve this purpose. The old damaged round joists in this room have been replaced with more well-preserved ones obtained from salvage. Additionally, the main beam has been strengthened with wall plates, the walls have been plastered, and a layer of mineral paint has been added. This room will remain designated for storage in the future as well.

Atrium (L09)

The entire wooden structure of the atrium was dismantled and reconstructed with new wooden joists. The height of the lower floor atrium was initially too low, prompting a decision to lower its floor level to match that of the entrance area. This required the removal of the stone pavement and excavation of the floor to that level, revealing accumulated animal waste from its previous use as a horse shed for local pilgrims and visitors.



Figure 76: Deconstructing the atrium to ground floor level.



Figure 77: Reconstruction of the timber structure in the atrium after lowering its floor level.

The deteriorated columns and capitals were replaced with sturdier salvaged ones, while new round main beams were installed. The flooring was revamped with flat stones sourced from Marpha. Additionally, the old staircase was taken out to eliminate the narrow passage to the VIP room on the upper floor. A new staircase with a wooden rail was then constructed from the main entryway leading up to the upper floor kitchen.



Figure 78: Reconstructing the timber structure of the atrium on the lower floor.



Figure 79: Reconstructing the timber structure of the atrium on roof level.



Figure 80: Ground floor of the atrium with the new stone pavement used as a storage during restoration.



Figure 81: Ground floor of the atrium with the new stairs installed.



Figure 82: The lower floor of the atrium in summer 2024, the storage L10 in the back underneath the colourful window panels of the VIP room.



Figure 83: The upper floor of the atrium in summer 2024.

Storage (L10)

Previously, this room located beneath the VIP room, was utilized by the caretaker to store firewood. However, it was transformed into a lobby for pilgrims and visitors, as well as a sleeping area for local pilgrims during various religious events held at the monastery. Stress cracks were found in the wall below the main beam, which was addressed by reinforcing the wall with stone slates. The worn-out columns and capitals were swapped out for new ones. Additionally, the joists, originally spaced far apart, were reconfigured with the installation of multiple new joists, resulting in a more compact arrangement.

This room is also used to display posters commemorating the restoration.



Figure 84: The storage room to the side of the atrium after restoration.



Figure 85: The storage room is also used to hang posters commemorating the restoration.

Visitor's Kitchen (L11)

This room to the back of the atrium was previously designated as storage and rarely utilized. During the restoration it has undergone a major transformation, as it is repurposed as a kitchen for pilgrims and visitors.

Upon closer examination of the architecture, it was discovered that this room contained a hollow space underneath. To address this, the hollow space was filled with rubble to create a sturdy floor, and the wooden components such as joists and round sticks were removed. Additionally, the floor level of the room was lowered to increase the ceiling height and align it with the adjacent atrium.

To enhance the structural integrity of the room, the columns, beams, and joists were replaced with locally sourced new ones. The walls received necessary repairs, and the floor was paved with flat stones to facilitate easy maintenance. Moreover, an existing small opening on the east side was upgraded to a proper window, allowing natural light to brighten the space.



Figure 86: Room L11 used as a storage before restoration.



Figure 87: Room L11 after restoration, during which it was also used as storage.

Kitchen Storage (L12)

The room designated as storage (L12) in the initial proposal has now been repurposed to function as storage for the visitor's kitchen. Like the kitchen area itself, there was originally an underlying space beneath this room that was opened and filled. A partition wall was erected in this lower area to evenly distribute lateral pressure.

A new stone wall was necessary to provide support for one of the toilet walls located on the floor above. Previously, this wall was solely resting on the joists, placing significant strain on them. To alleviate this pressure, the decision was made to install a new stone wall.

Furthermore, the existing small window opening was replaced with a larger one to allow more natural light to filter into the room.

Visitor Room with Attached Bathroom (U07 & U08)

In the upper floors, most of the wooden members were replaced due to their poor condition. Instead of the original round joists square ones were used. Further, on the upper floor, too, the room height was increased in most cases, now to bring the ceiling levels of all rooms to the same height.

Of these two rooms above the main entrance U07 formerly housed the shrine for protective deities and the stone panels depicting the sixteen arhats. U08 served to access U07 and was also used by the caretaker as his bedroom. With the arhat panels and the shrine moved, U07 was expanded and repurposed as a guest room, while U08 was converted into an attached bathroom that can also be used for guests in the nearby VIP room (U10). The repurposing of these rooms also necessitated the shift of the entrance from the corner of the atrium to a place near the entrance to the VIP room.

The area of the bathroom was walled, and a new entrance created. For the bathroom a small vent was constructed to allow for natural light and to provide sufficient ventilation. A square frame was constructed on the floor and then filled with clay before covering it with floorboards.



Figure 88: The new guestroom with attached bathroom during restoration.



Figure 89: The new guest room in July 2024, the door in the back leading to the attached bathroom.

Upper Atrium (U09)

On the upper floor, the mud-brick parapets around the atrium were removed, as they added immense weight resting on the beam and joists underneath. All the old columns, beams, and joists were replaced with new square ones. Finally, the opening of the atrium was covered by a lantern supported by a wooden frame.



Figure 90: Two views of the attached bathroom in July 2024.

VIP Room (U10)

In the room that has mainly been used to accommodate VIP guests—hence its name—the damaged round beam and the joists were completely replaced with square ones, while the carved and painted columns and capitals were reused. The door was replaced with a larger one. As usual, a frame was constructed to support the floorboards and filled with clay. The clay was leveled and then floorboards were installed to complete the floor. The painting of this room was retained and repaired at the end of the restoration; the window was newly painted.



Figure 91: The new timber structure for the ceiling of the VIP room.



Figure 92: Installing the floor boards in the VIP room.



Figure 93: The window of the VIP room prior to restoration.



Figure 94: The window of the VIP room after repainting.

Caretaker's Kitchen (U12)

The dismantling of the roofs on the caretaker's kitchen was undertaken after the front section was completed. The original beam, column, and joists were not reusable and needed to be replaced by new ones. Accordingly, the wooden structure was redone with

new square beams and joists. A new window with two panels replaces the damaged old one. The mud floor has also been replaced with a wooden floor which was installed on a frame filled with clay.

Storage Room (U13)

The storage room next to the caretaker's kitchen has also been completely redone. The cracked walls were repaired, and some parts of the wall were completely rebuilt with new mud bricks. The mud floor was also replaced by a wooden one.

Back Guest Room (U14)

This more spacious room is frequently used to accommodate local pilgrims and tourists for dining as well as accommodation. Also, during our restoration work, the room was being used as a dormitory for visitors as well as some of our workers.

Due to their weight, the raised mud brick platforms along the walls on which the mattresses were placed were removed. The old columns, beams, and joists have been replaced with new square ones. The walls on the entry side, which did not reach up to the ceiling level, were increased in height with mud bricks, and an entrance was built in the middle of the wall. These walls now support beams and joists.

The large skylight has been reduced in size to retain more indoor heat during winter days. It has been built on a mud brick parapet with wooden frames and transparent poly sheets.

The mud floor was replaced by a wooden one. To enable this, channels had to be dug into the mud floor to accommodate the wooden frames. The gaps were compacted well before finishing the floor with floorboards.



Figure 95: The back guest room before restoration.



Figure 96: The beck guest room after architectural restoration.



Figure 97: View of the back guest room after dismantling the roof. Note the new walls in the foreground.



Figure 98: The back guest room during reconstruction.



Figure 99: The back guest room after repainting the window connecting it to the former Avalokiteśvara chapel.



Figure 100: The back guest room with tourists in July 2024.

Retreat Room (U15)

Behind the back guest room, and connected to it through a door and a large painted window, is the room that originally housed the Avalokiteśvara stone panels. This room used to receive little daylight from an inadequately constructed skylight made of mud bricks and covered with a chicken mesh along with pieces of corrugated fiber sheets. Since the panels of this room have been relocated to a room on the temple side, this room now serves as a retreat room.

The west side of the wall had cracks at several sections, some of which were see-through. These cracked sections were demolished and rebuilt with new mud bricks and reinforced with horizontal wooden plates. The damaged round beams, joists, and columns were completely replaced with new square ones. A new skylight replaced the old one, and now enough natural light can enter the room. Again, the skylight was constructed as a square wooden frame covered by a transparent sheet.

The mud floor was leveled, and channels were dug to accommodate the wooden frames to which the floorboards were nailed. Similarly, the low door was replaced by a new larger one for safe and convenient access for visitors and the caretaker.



Figure 101: The former Avalokiteśvara chapel behind the back guest room.



Figure 102: The same room after restoration used as a temporary storage for the stone panels of the upper sanctum.

Toilet (U17)

The two doors leading to the toilet were replaced with new larger ones. The old concrete floor was demolished to inspect the joists underneath and to accommodate the drainage pipes. Some of the joists were rotten and needed to be replaced with new ones. New ceiling boards were installed on the joists and then the floor was remade in concrete with iron rod reinforcements underneath. The waste pipe was installed on the concrete connecting the old waste pipe from the cess pit.

The toilet is equipped with tiles on walls and floors with water taps. The entry area to the toilet has been equipped with hand wash sink.



Figure 103: The toilet before and after restoration.

Passage to Temple Courtyard

The passage leading to the temple courtyard has also been redone with flat stone pavement on the mud floor. The steps were also repaired with wide flat stones. Likewise, for safe and convenient mobility, the low door was also replaced with by a higher one.



Figure 104: The passage to the temple courtyard before restoration in June 2022.



Figure 105: The passage to the temple courtyard after restoration in July 2024, the door to the right leads to the roof.

Roof Access

The roof is now accessed through a small room located between the passage and the VIP room through a steep flight of stairs.



Figure 106: Roof access opening during construction.



Figure 107: Roof access with its opening covered by a corrugated sheet skylight that can be opened.

Roof

Mostly importantly, the restoration enabled the replacement of the roof of the entire mansion in a uniform format mirroring that of the temple. The construction of this roof is the same as the one above the temple, a wooden frame constructed at an angle supports a plywood and bitumen layer and is covered by clay. Two spouts drain this roof on the south side. All skylights are framed in wood and covered with transparent sheets. Originally flat sheets were used for the cover, but they warped within a year and needed to be replaced by corrugated ones.



Figure 108: The roof of the caretaker's mansion before the restoration, the east section in the foreground.



Figure 109: The roof of the east section of the caretaker's mansion after reconstruction.

Works Around the Temple

The restoration of the temple was accompanied by various works around the temple.

Northern Mani Wheels

Continuous lines of mani wheels surround the temple structure on three sides, with stupas at the four corners. The structure holding the mani wheels along the north wall was in poor condition. Thus, a group of workers were employed to restore this section.

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 water from the roof. Further, there were indications that occasionally humidity reached the murals inside the sanctum on this side of the wall, leading to damages. Therefore, it was decided to restore this part in its entirety.

In the first step, it was made sure that the stones of the upper layer were placed correctly, and mud plaster covered the areas in between the stones. The supporting wall was also consolidated. Then the entire superstructure of the prayer wheels was taken off, the prayer wheel construction pushed back into an upright position, and its 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. Finally, the area behind the prayer wheels was newly plastered.

Special attention was paid to those areas that receive the water from the roof via its drainage spouts. These were covered with additional superimposed stone panels forming a stepped construction. Finally, the wall was repainted with the traditional colors.



Figure 110: Beginning of the restoration of the mani wheel wall on the north side in April 2022.



Figure 111: The mani wheel wall on the north side after the restoration in May 2022.

During the restoration period, it became clear that the traditional stone roofing reconstructed on the north side of the temple in the first year of the project was not watertight enough to protect the mani wheels for a longer period. Further, it was observed that weeds had grown on the mani wheel roofs that were repaired in 2022.

Therefore, it was decided to cover all mani wheels around the temple by the flat stones acquired in Kathmandu. The new roofing with thin flat stones projecting the edges will make sure that the rainwater will drop to the ground without running over the wooden purlins and the wooden frames supporting the mani wheels. They also enable an overlap that prevents the mud on the roofs from eroding during rainfall. Likewise, the plastic sheets used as a waterproof layer did not help much to stop water penetrating from the edges to the walls underneath.



Figure 112: The roof of the mani wheel wall towards the end of the initial restoration in May 2022.



Figure 113: The same roof section of the mani wheel wall after laying stone panels in October 2023.

Restoration of Prayer Wheels

A set of eight prayer wheels from the caretaker's former atrium had been stored since 2022 after they were dismantled to restore the caretaker's residence. Later after the internal works had been completed, the same prayer wheels could not be restored at the former location due to the construction of the staircase in a different spot and an installation at another place would not allow the turning of the wheels clockwise as is done traditionally. Further, this space is being used for groups now and installing the prayer wheels there would not be appropriate.

A picture published by David Snellgrove documents the existence of a set of prayer wheels at a location in the back of the temple that more recently only had mani stones. Thus, after consultation with the caretaker it was decided that these prayer wheels are to be installed in this position, where the previous mani wall platform could still be observed. Accordingly, a supporting wall was constructed over the existing platform, and the prayer wheels were installed in two compartments. They now complete the row of prayer wheels along the back of the temple. The mani stones (maldangs) last located in this place were moved further west on a flat land and arranged to imitate a stupa as requested by the caretaker.



Figure 114: Uncovering the existing platform to build encasing for the prayer wheels.



Figure 115: Constructing the new encasing.



Figure 116: The mani wheels installed in place.

Figure 117: View of the west wall after the installation of the restored mani wheels.

Circumambulatory Path

In mid-September 2023, Thomas Schrom visited the project site and provided recommendations for using the existing flagstones to even out the circumambulation path, as the existing path was uneven and low in some places. Thomas Schrom prepared a drawing for the new pavement and provided instructions to achieve an even path.

Accordingly, the old flagstones were all dismantled and the ground was leveled, which involved plenty of digging. A stone masonry wall was constructed along the ends to reinforce the flagstones which rested on it. The gap was then filled with stones to provide a sturdy platform for the flagstones. This also prevented the installed flagstones from moving outward in the future at the same time sinking during the wet seasons. The areas where the water from the drainage spout hit, were installed using cement mortar and the grouting was also done using the same to keep the flagstones intact.



Figure 118: Work on the circumambulation path on the west side.



Figure 119: Work on the circumambulation path around mani stones in the northwest corner of the temple.



Figure 120: Improving the circumambulation path on the north side.

Figure 121: The newly constructed circumambulation path on the north side.

In 2024, the entire stretch of mani walls around the temple was decorated with paint.

New Drainage Spouts

When completing the roofs in the year 2022, PVC pipes were used to ensure their drainage. However, it was widely felt that it would be better to improve these spouts with more solidly anchored ones. Thus, in June 2023 Thomas Schrom designed spouts that could be anchored more securely and fitted the structure and its technology better.

Hence, all four spouts; two on the temple side and two on the caretaker's mansion side were replaced. The skilled carpenters from Kathmandu constructed the new wooden drainage spouts according to the plans using pine boards. The inner surface was covered with galvanized metal sheets for durability. An opening was bored into the adobe parapet below the purlins and the spouts were inserted. The spouts were then nailed onto underlying joists to hold them in place. Then Bitumen membrane was extended over the spouts' surface and on the sides. The wooden spouts were sanded, and black paint was applied. A final coat of linseed was applied to provide a waterproof layer.



Figure 122: A new drainage spout ready for installation.



Figure 123: Installation of a new spout on the south side.



Figure 124: Testing the water flow of the freshly installed spout.

Figure 125: The south side with two newly installed spouts.

Lighting

The entire lighting of the temple and the caretaker's residence were improved during the project. The entire facility has been equipped with a battery backup that is charged two ways, electricity and solar. The cluttered wires were replaced in the temple while a completely new wiring was installed in the caretaker's side. To minimize the occurrence of fire hazard due to short circuit, a miniature circuit breaker (MCB) was added in every rooms.

Later in year 2024, the bright flood lights in the main shrine, Assembly Hall and both Upper Guru Lhakhang and Chénrezik panel rooms, were enhanced by replacing the old bulbs with warm spotlights. Likewise, the bright PVC housing for wires were replaced with black double insulated PVC cables.



Figure 126: The Assembly hall and the sanctum with the new lighting installed.



Figure 127: The area in front of the temple at the end of the restoration.



Figure 128: The back of the after the restoration, the red part being the temple, the white part the caretaker's quarter.



Book

John Harrison and Christian Luczanits are still working on the book publication that will conclude this project. An account of the restoration will also be included.