

THE RESTORATION OF
THE GILDED PINNACLE OF SOUTH TALEJU TEMPLE
AT THE PATAN ROYAL PALACE COMPLEX – A UNESCO WORLD HERITAGE SITE

PROJECT APPLICATION | OCTOBER 2013
SUBMITTED TO THE SUMITOMO FOUNDATION



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cover: **South Taleju's Golden Pinnacle** | March 2013
The center image shows the damaged condition of the temple's pinnacle. On the left is a rendering of the damaged existing conditions, on the right is a rendering of the pinnacle after the proposed restoration work is carried out.

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Aerial view of Patan Darbar from the south | 2006

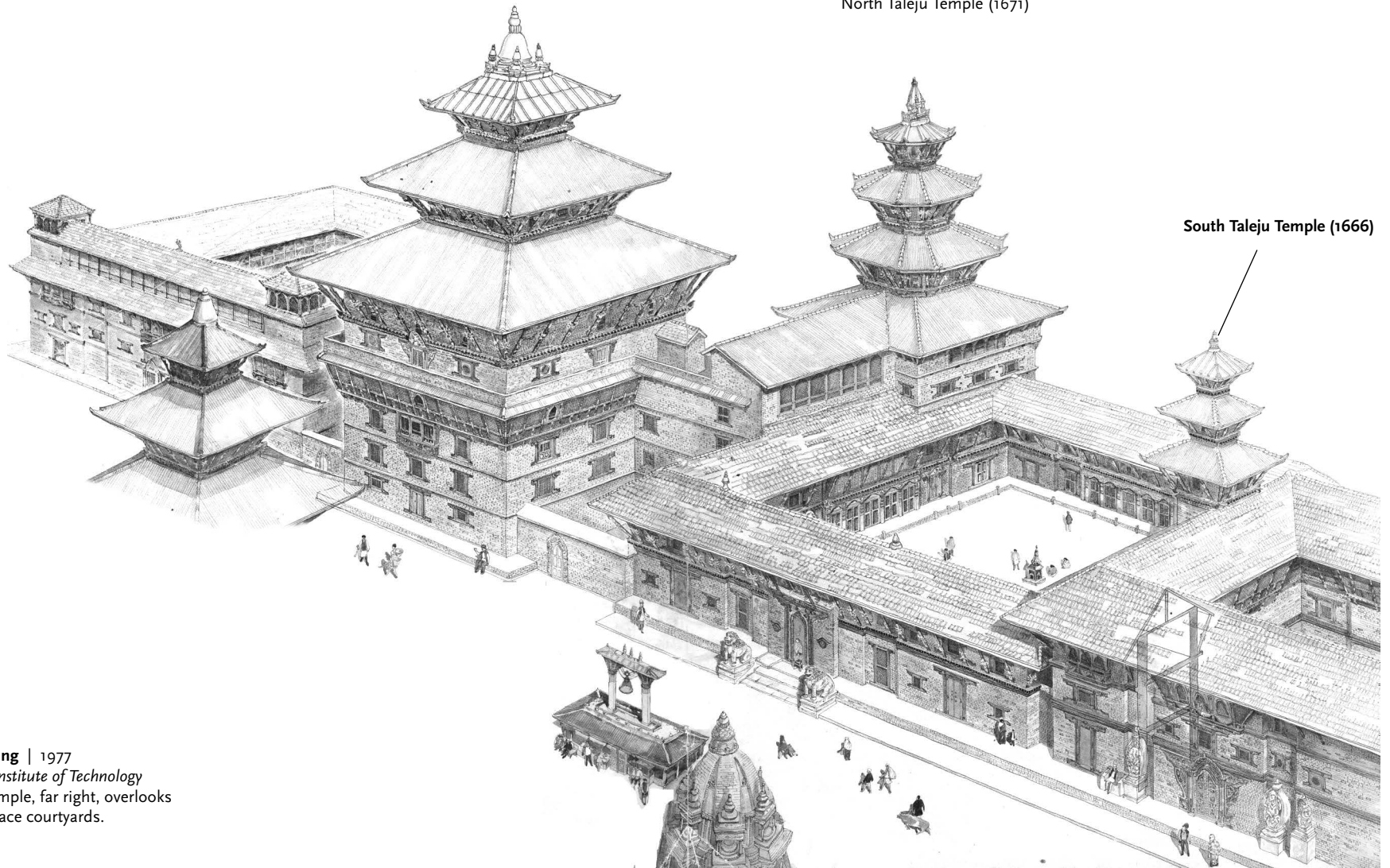
The South Taleju Temple is located at the heart of the palace complex adjoining Patan Darbar Square, a field of temples dating from the Malla period. Unlike the temples on the square that are situated on accessible ground-level platforms, the palace temples tower above the roofscape. In typical fashion, the three temples of the Royal Palace Complex have a gilded copper roof crowned with a miniature temple.



Degutale Temple (1661)

North Taleju Temple (1671)

South Taleju Temple (1666)

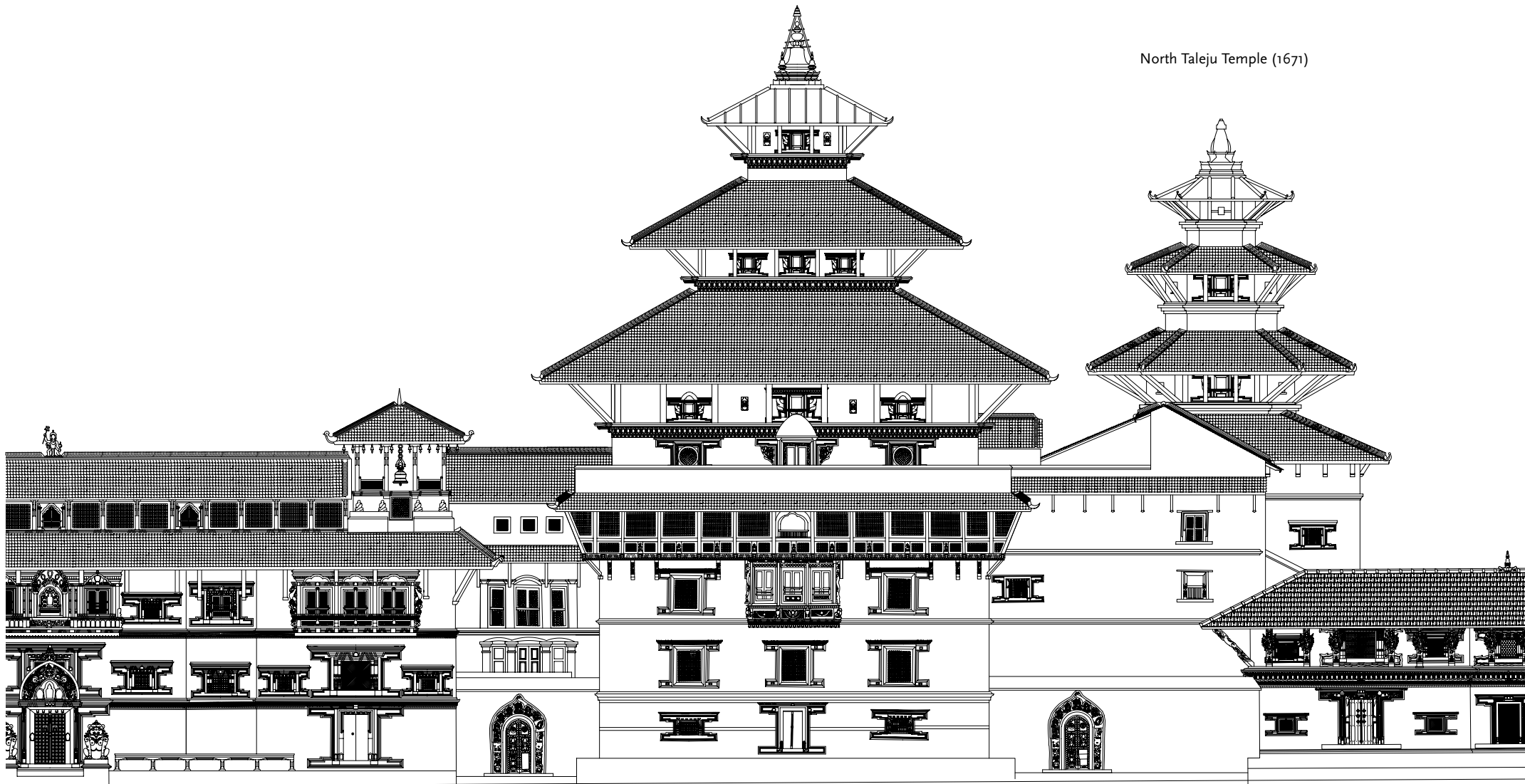


Patan Darbar axonometric drawing | 1977
Survey and rendering by Nippon Institute of Technology
The triple-tiered South Taleju Temple, far right, overlooks the Mulcok and Sundari Cok palace courtyards.



Degutale Temple (1661)

North Taleju Temple (1671)



Keshav Narayan Cok (1728)
PATAN MUSEUM

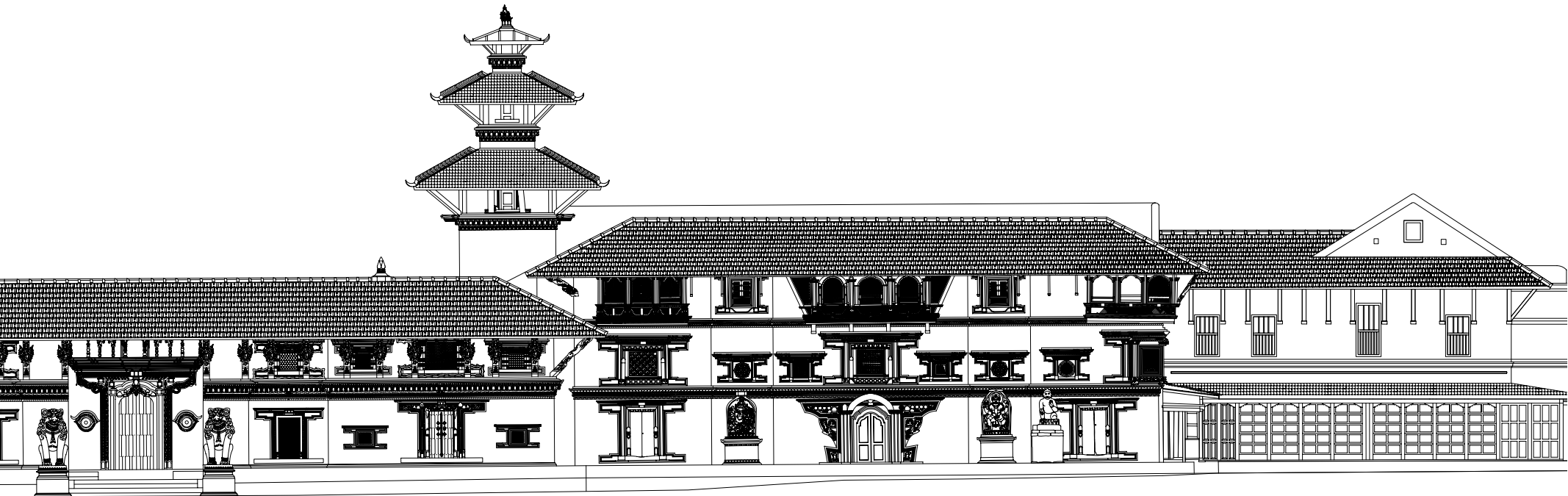
Stone Gate Courtyard (North)

Stone Gate Courtyard (South)



Patan Darbar West Elevation | 2012
The South Taleju Temple is a companion to the larger North Taleju Temple and the imposing Degutale Temple (far left). All three temples were severely damaged by the great earthquake of 1934.

South Taleju Temple (1666)



Mulcok Palace (1666)

Sundari Cok Palace (1634)

Court Building (1820)





South Taleju Temple (1666)



Rato Machendranath chariot procession | May 2013

The heights of temples on the square were regulated so as not to exceed the height of this venerable chariot representing the Machendranath deity. The Taleju temples attached to the palace were an exception to this rule, probably due to the importance of the Taleju deity. The palace quadrangle in the front covered by plastic tarpaulins is currently also under restoration by the Trust.





The gilded pinnacles of the Patan Palace Complex | May 2011
The gilded pinnacles glow in the afternoon sun after a monsoon storm. Even from this distance the leaning orientation of South Taleju's pinnacle (on the far right) can be seen here.



South Taleju as seen from Mulcok courtyard | May 2013
The South Taleju temple towers above the roof of the Mulcok palace courtyard. The two goddess statues were restored and re-gilded with funds from the Sumitomo Foundation in 2011.





Comparative views of temple pinnacles
clockwise from top, left:

Degu Taleju Temple, Patan Palace | 2013
Degu Taleju, the largest of Patan Palace's three rooftop temples, features a traditional pinnacle in the shape of a bell.



Malla Agamchen, Kathmandu Darbar Square | 2013
This pinnacle is modelled after a *sikhara* temple, but is in better condition than the pinnacle of South Taleju.



South Taleju Temple, Patan Palace | 2013
The pinnacle proposed for restoration is severely damaged, as is exhibited here by the displaced columns and the pinnacle's leaning orientation.

North Taleju Temple, Patan Palace | 2013
The gilded pinnacle of North Taleju, situated on the northeast corner of Patan Palace's Mulcok courtyard, is also sculpted in the *sikhara* fashion.





South Taleju Pinnacle view from the south | March 2013
This view shows the pinnacle's poor condition. Much of the gilding has worn off and separation of copper sheets can be observed.



South Taleju Pinnacle view from the southwest | October 2013
This sketch shows the displaced corner column and the splitting between the sculpture's upper half and lower half.



INTRODUCTION

The South Taleju Temple (1666) is one of the primary rooftop temples of the Patan Royal Palace Complex. The Patan Palace was built by the ruling Malla kings in the 17th century and the entire complex of ornately carved courtyard buildings, soaring rooftop temples, resthouses and stone-carved stepwells is one of the exemplary achievements of Newar architecture.

The South Taleju Temple continues to this day to be used for religious and ritual purposes which are overseen by a local resident priest. Over the Dashain festival, Nepal's most celebrated holiday, the South Taleju Temple houses the deity of Taleju. As a result, the South Taleju Temple is the hub of Dashain ritual activities in Patan each year.

As is typical of all tiered temples throughout the Kathmandu Valley, the Patan Palace's rooftop temples are crowned with gilded pinnacles. The pinnacle of South Taleju is particularly significant as it is sculpted in the shape of a temple built in the *sikhara* style. This sculptural pinnacle, made in the traditional metal repoussé technique has been damaged after numerous small earthquakes, exposure to the elements, and years of neglect, and is threatened by collapse. It is therefore in urgent need of professional restoration.

KVPT requests funding from the Sumitomo Foundation for the extensive cleaning, structural rehabilitation and repair of the gilded pinnacle and third tier rooftop. The goal of this restoration is to return this distinctive feature of Patan Darbar's temple-dotted skyline back to its original beauty.





View from the south | Heinrich Seemann, 1965
The South Taleju Temple is seen here with a corrugated tin roof cover on the first and second levels. South taleju is flanked by Degutale Temple (left) and the North Taleju Temple (right) with the Langtang range in the background.



View from the south | March 2013
The South Taleju temple is seen here with the North Taleju temple in the background. The lower roof has been rebuilt with traditional terracotta roof tiles (*jinghati*) since the photo at left was taken.



HISTORY & ARTISTIC SIGNIFICANCE

The South Taleju Temple is one of the finest examples of a well-proportioned, triple-tiered brick and timber temple of the Malla period (1200-1769 CE). It is one of three remaining tiered temples within the Patan Palace Complex. Unlike the temples throughout the adjacent Patan Darbar Square that are situated on ground-level platforms, all three of these temples are built atop of courtyard palaces and tower above Patan's roofscape. The "floating" rooftop design of these temples is unique to Newar architecture.

During the great earthquake of 1934, all palace temples were severely damaged and only three were restored: Degutale Temple, Taleju Temple, and South Taleju Temple. These temples are dedicated to the Goddess Taleju, the tutelary deity of the Malla kings. Royal temples to this lineage deity of the Malla kings were erected in all three Darbar Squares of the Kathmandu Valley. It was under the patronage of the Malla kings that the craftsmanship of the Kathmandu Valley flourished, making Patan's Taleju temples a historic and artistic testament to the five and a half century rule of the Mallas.

The South Taleju Temple was built atop the south wing of Mulcok palace and consecrated by King Srinivasmalla in 1666. Although the smallest of the three surviving Taleju temples, the South Taleju temple nonetheless occupies a prominent position and is equal in both religious and artistic significance to the larger Taleju temples. South Taleju features unusual, exquisite, carved timber struts representing tantric deities such as bhairabs and matrikas.

In Newar architecture, the uppermost roofs of all tiered temples are covered with gilded metal sheets and crowned with a gilded copper pinnacle (gajura). The rafters of the temple's uppermost roof are joined to a central timber post (baymvah or galathan). This central post provides the crucial support structure for the pinnacle. The central post starts at the upper level brick core and extends through the roof all the way into the pinnacle.





Krishna Mandir in Patan Darbar Square | Photo by Niels Gutshow, August 31, 2008
The Krishna Mandir is the Valley's most venerated sikhara style temple. This photograph shows the temple's juxtaposition between the tiered temples of Pata's Darbar Square. Taken from the steps of the Patan Palace Complex looking westward.



STYLE ANALYSIS

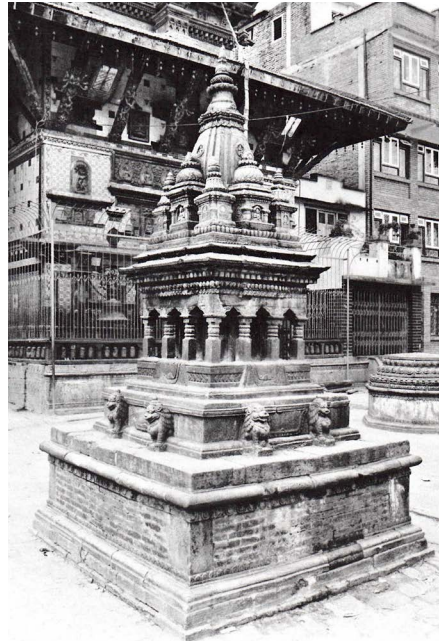
The South Taleju temple represents two of the Kathmandu Valley’s major architectural styles. The main temple itself is built in the typical three-tiered so-called *pagoda* style with wide overhanging roofs of diminishing size, and the pinnacle is a miniature *sikhara* style temple. The *sikhara* style represents a major building type on the subcontinent, and first found its way to Nepal in the 5th century with the construction of the Mahabuddha temple in Patan, believed to be the earliest *sikhara* temple built in the region. This temple was based on the prototype of the Mahabodhi temple in Bodh Gaya, India. The most venerated

sikhara temple of the Kathmandu Valley is Patan Darbar Square’s own Krishna Temple, which is situated just across the square from South Taleju temple. As architectural historian Niels Gutshcow writes in his comprehensive volumes on Newar architecture, the “trend to juxtapose mini and monumental structures is a major source of fascination in the Kathmandu Valley, everywhere apparent.” The instance of the South Taleju Temple featuring a mini *sikhara* temple as its crowning ornament is a perfect example of this unique architectural practice, making the pinnacle all the more important in the context of Nepali architecture.



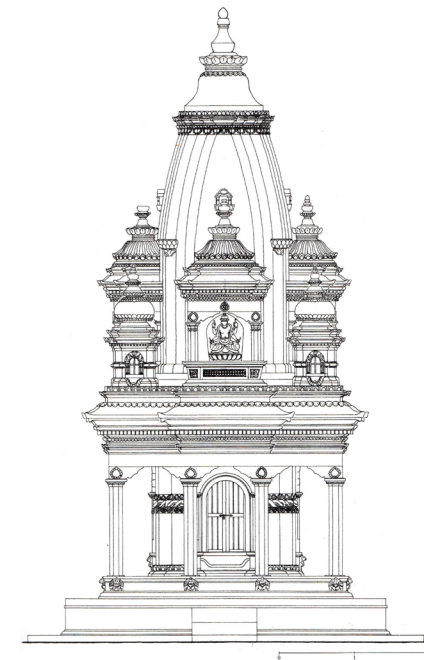
Umamahesvara Temple, Nugah Square, Patan
Photo by Stanislav Kimek, August 8 1992

Two *sikhara* temples frame the entrance to Patan at Nugah Square. The east elevation of one of these temples, Umamahesvara, is depicted here. The style of this particular temple is very similar to the temple sculpture of South Taleju’s pinnacle.



Miniature *sikhara* temple at Bubaha in Patan
Photo by Niels Gutschow, 1997

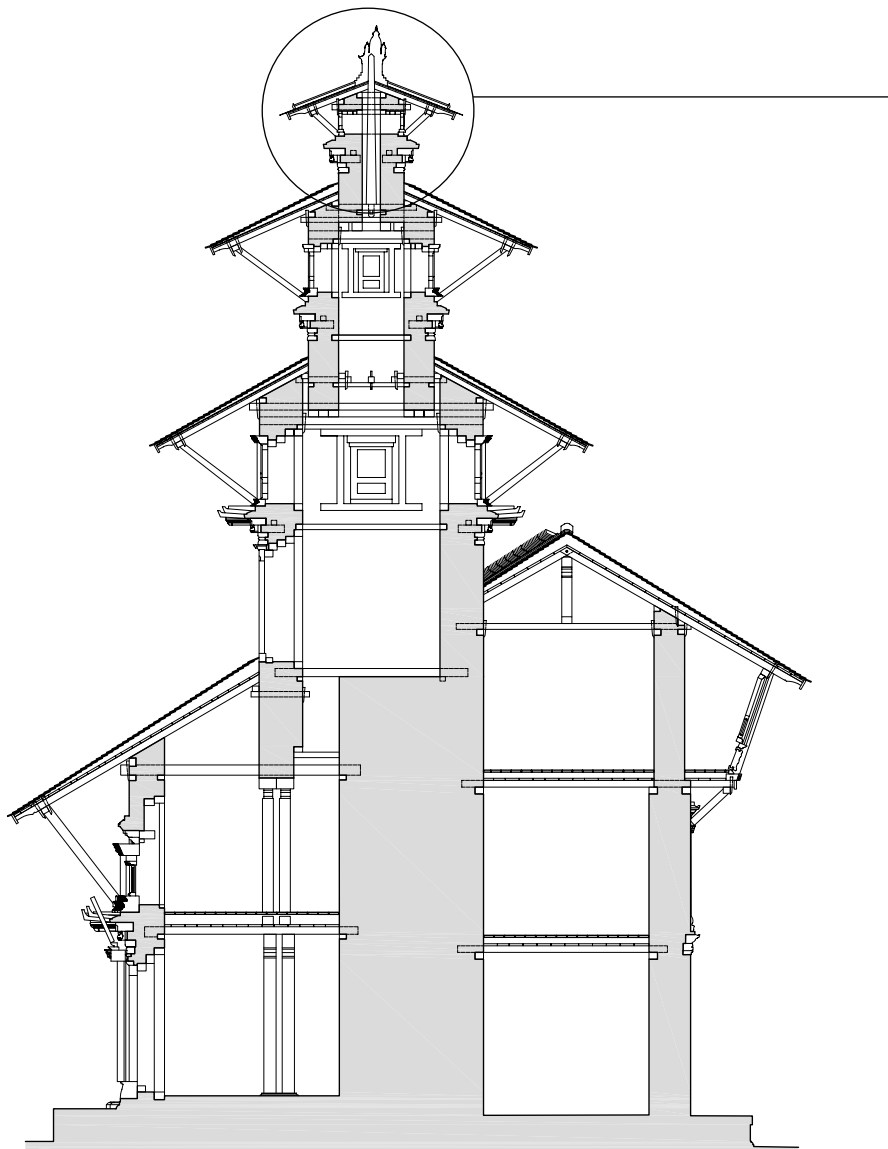
This miniature *sikhara* temple sits just in front of a larger traditional tiered temple in Bubaha at Patan.



Balagopala temple at Vala in Patan
G. Joshi, 1993

This drawing of the east elevation of Balagopala temple in Patan gives a detailed rendering of a typical *sikhara* style temple.





The copper sheeting has lost the majority of its gilding and has split in places along the joints, causing water infiltration into the timber structure below.

The repoussé metal eave board cladding is worn and damaged in places.

The brick walls, seen here between the second and third tiers, support the temple's central timber post. Many of the bricks have been dislodged after minor tremors and no longer properly support the central post on which the pinnacle rests.



The dome of the gilded temple is leaning northward, indicating that South Taleju's central post is likely damaged.

The upper half of the temple has split from the lower half along the cornice.

Two of the supporting columns are lost and the southwest corner column has slipped off its base. The column's displacement has contributed to the leaning of the pinnacle.

A timber stepped platform covered in metal sheeting supports the temple. The metal sheeting is deteriorated and worn, and as a result, the interior timber pieces are likely also decayed.



PRESENT CONDITIONS

The South Taleju Temple's uppermost third tier roof and crowning pinnacle are in urgent need of repairs after years of neglect, exposure to the elements, and numerous minor earthquakes. South Taleju's sikhara temple pinnacle is precariously leaning and is missing a number of key elements. The gilded metal cover roof is damaged, causing water leakage and threatening the structural integrity of the temple.

Brickwork

The interior brick core of South Taleju Temple extends through to the third tier roof level. A central timber post, known locally as the *baymvah* or *galathan*, runs up through the interior of this brick core and extends into the pinnacle, providing the structure over which the gilded copper pieces are fit. The brick fabric of the uppermost level exhibits numerous cracks and many bricks have been dislodged. Frequent seismic movements, in combination with the poor mud mortar in which the bricks are laid, have led to the overall weakening of the brick fabric at the uppermost level. Furthermore, the upper layers of this brick core need to be rebuilt because they are not properly supporting the central timber post, as is indicated by the leaning pinnacle.

Timber structure

Close inspection of the third tier roof level has shown that most of the bearing timber members are affected by wet rot and that many timber joints have become loose. It is also assumed that the timber central bearing post is severely damaged. The timber planking of the third tier roof exhibits water stains indicating that the roof is leaking.

Metal roofing

In many areas, joints between the metal sheets have opened up allowing water leakage into the timber substructure. This water penetration has caused the timber planking below to rot. Furthermore, the copper sheeting on the roof level has lost the majority of its gilding due to its exposure to corrosive pigeon droppings.

The raised ridges on the roof, known as *nagol*, are a common feature of metal rooftops in

Newar architecture. These raised ridges are constructed by fitting copper sheeting over timber pieces. The majority of these interior timber pieces have been deteriorated due to water infiltration.

The repoussé metal eaves board cladding, which is decorated with a chased floral motif, is significantly worn and is bent and loose in places.

The Sculptural Pinnacle

The metal components of the sculptural sikhara temple pinnacle are deformed and loose, and the entire temple is precariously leaning.

Platform

The sikhara temple sculpture sits on a timber-stepped platform covered in metal sheeting. The metal sheeting is deteriorated and worn, and as a result, the interior timber pieces are also weakened.

Columns

Two of the temple's supporting columns have been lost and the south-western corner column has slipped significantly. This column's displacement has contributed to the split of the temple's upper half from the lower.

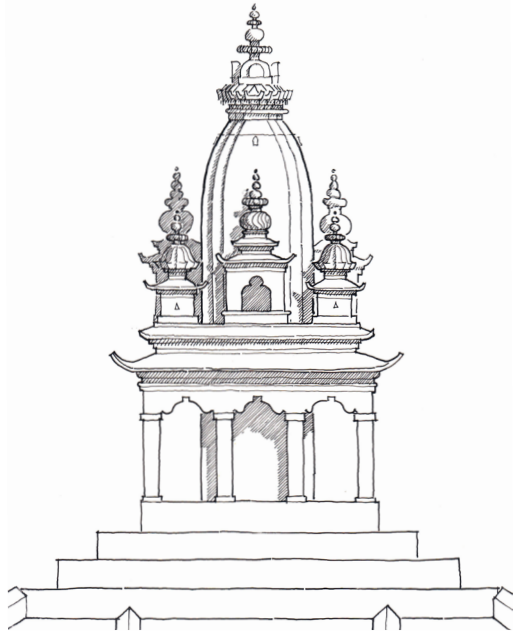
Inner core

The solid inner core of the temple sculpture consists of gilded copper sheeting fit over the central timber post. This metal sheeting is also damaged, causing additional water leakage thus further deteriorating the temple's core.

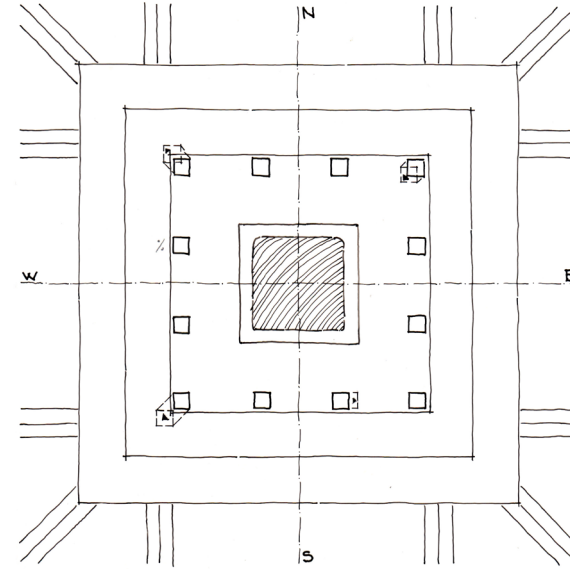
Dome and archways

The dome and surrounding archways have separated from their base along the cornice. The dome of the gilded temple is leaning northward, indicating that South Taleju's central post is damaged.





Proposed restoration | October 2013
 This sketch demonstrates how the pinnacle will appear after the proposed restoration program. Note the rectified central dome, the replacement of all columns, and the repair of the split along the pinnacle's cornice.



Floor plan | October 2013
 The floor plan of the South Taleju pinnacle. The columns which are missing or displaced have been marked. These columns will be re-made or repaired and placed in their proper position.

The primary objective of the proposed restoration is to safeguard the temple's upper roof level and pinnacle from future earthquake damage, structurally rehabilitate the brick and timber components, and restore and rectify the leaning pinnacle. This will require the careful disassembly of most of the temple's upper level, which will be thoroughly restored and rebuilt where necessary.

Brickwork

The brick fabric of South Taleju Temple's third level tier will be extensively repaired. In order to conduct this repair work, scaffolding will be erected around the entire temple. Damaged, dislodged and cracked bricks will be replaced with traditional *dacci apa* brick, which will be re-laid in an appropriate traditional mud mortar to better support South Taleju's central

timber post. Furthermore, the new brick walls will be anchored to the central timber post via stainless steel straps in order to ensure that shifting and displacement does not occur during future seismic movements.

Timber structure

The extent of the damage to the timber components can only be fully determined once the top level has been partly disassembled. The findings will guide the repair program and only at that time can decisions be made whether timber pieces can be repaired or will have to be replaced. As has already been determined, the damaged timber roof planking will be replaced with new timber planking and a layer of marine grade ply board for added strengthening against earthquakes.



PROPOSED RESTORATION: PROJECT OUTLINE

Metal roofing

Splits and cracks will be closed by soldering the metal pieces together, thus properly sealing the roof. It is likely that some sections of the copper are corroded beyond repair and will require replacement sheets. All roof ridges, which are crucial to seal the gaps between the copper roofing sheets, will be completely refurbished and if necessary replaced with newly fabricated replicas. The interior timber pieces will most likely require complete replacement. The gilded copper sheeting will then be properly cleaned in order to better expose the remaining original gilding work. The metal repoussé eaves board cladding will be carefully cleaned and deformed pieces re-shaped or replaced as necessary.

The Sculptural Pinnacle

The metal components of the sculptural sikhara temple pinnacle will be extensively cleaned and soldered together in those areas where they have separated. The entire pinnacle will be rectified so that it stands on its original vertical axis.

Platform

The copper sheeting of the timber-stepped platform will be repaired in those areas where it is deteriorated and worn. The new and repaired metal sheeting will be properly joined together over these timber pieces to prevent future water penetration into the timber interior.

Columns

The gilded copper coverings of the temple's columns will be repaired. The two missing columns will be replaced with newly fabricated pieces. The displaced south-western corner

column will be placed in its proper position and securely fastened to its base. Any interior timber pieces will be inspected for their structural integrity and replaced if necessary.

Inner core

The copper sheeting fitted over the central post will likewise be repaired and re-attached to the newly repaired timber post in order to more adequately protect it.

Dome and archways

The dome and surrounding archways, which have separated from the temple's cornice, will be repaired and soldered. The dome's leaning position will be corrected by the repair and proper rectification of the central post. The copper repoussé work will also be thoroughly cleaned.

The entire project will be coordinated, overseen and managed with local expertise by the Kathmandu Valley Preservation Trust. The partnership model by which KVPT works to nurture local craftsmen is unique and has proven to be very successful. KVPT provides the academic and historical research to guide the restoration designs, which are then executed to the highest artistic standards by the best local craftsmen available. In Nepal the historic artisanship and techniques that were originally used to create the pinnacle of South Taleju temple survive to this day, and these same methods will be used to restore it back to its original condition.



Bahadur Shah Wing
(restoration ongoing)

Keshav Narayan Cok
PATAN MUSEUM

Stone Gates
(completed)

North Taleju
Temple
(completed)

Mulcok
(completed)

Yantaju Shrine
(completed)

Golden Doorway
(completed)

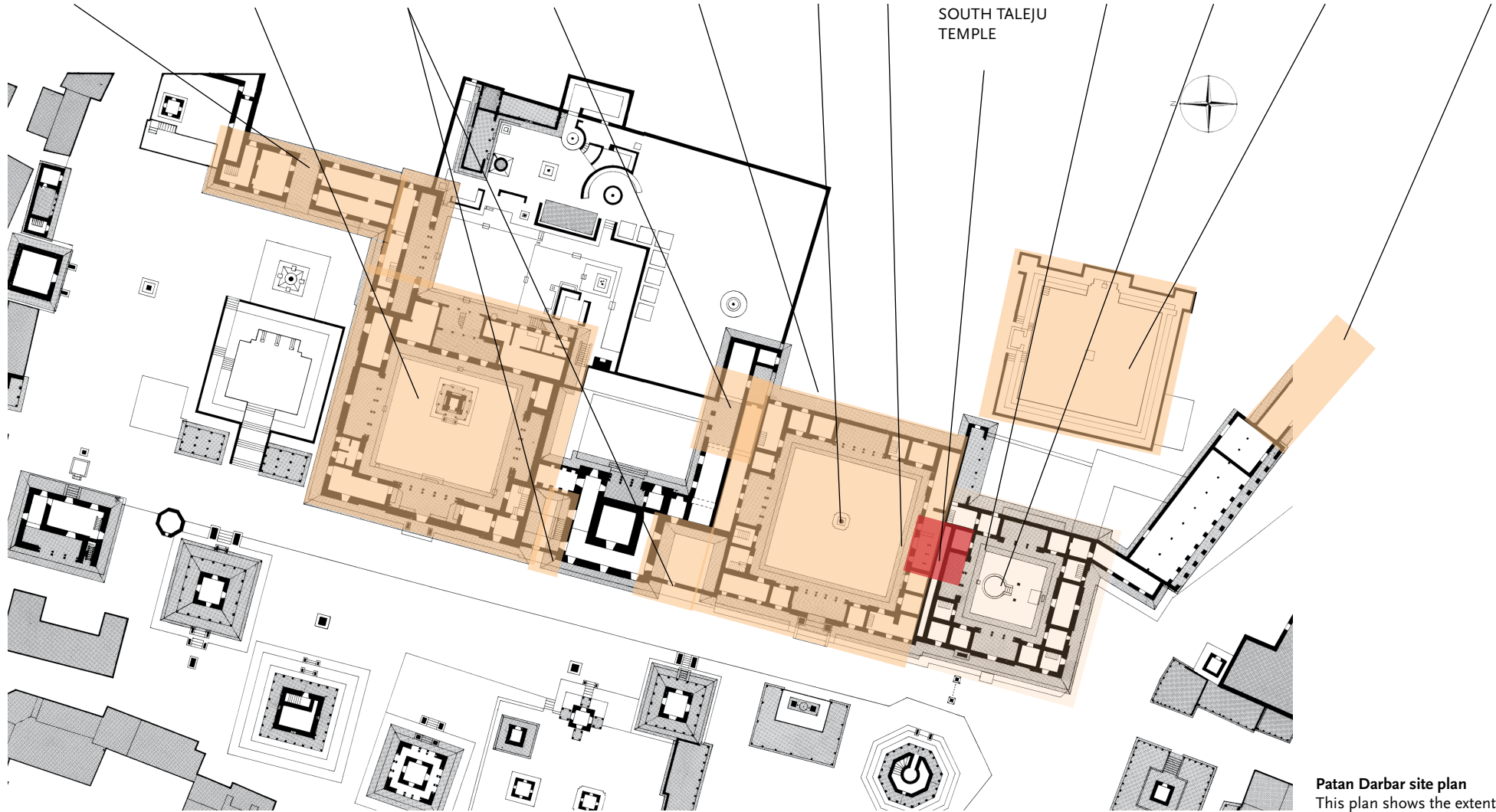
Sundari Cok
(restoration ongoing)

Tusha Hiti
(completed)

Bhandarkhal Tank
(completed)

Kot Pati
(completed)

SOUTH TALEJU
TEMPLE



Patan Darbar site plan
This plan shows the extent of completed and ongoing restoration projects by KVPT in the Patan Royal Palace Complex.



KVPT ACHIEVEMENTS & PROJECTS

The Kathmandu Valley Preservation Trust (KVPT) is the only international non-profit organization exclusively dedicated to safeguarding the extraordinary and threatened architectural heritage of Nepal. KVPT was founded in 1991 in response to the UNESCO International Campaign for Safeguarding of the Kathmandu Valley. Over the past two decades, the Trust has identified and helped save over 50 historic buildings including temples, rest houses, monasteries, homes, and step-wells.

KVPT collaborates with community groups, local and international specialists, educational institutions, and the Government of Nepal, Department of Archaeology. Restoration and conservation operations have initiated key research and training programs, and the KVPT office in Patan Darbar Square has become a resource center and clearinghouse for information about architecture and urbanism in Nepal.

The Trust's current project, the Restoration of the Patan Royal Palace Complex, is the organization's largest and most ambitious program of works to date. Launched in 2006 by a fundraising event hosted by Prince Charles, the restoration program is structured in three phases encompassing eleven monuments.

Crucial documentation on the buildings and restoration work on the distinctive architectural and sculptural features of the Patan Royal Palace Complex has been made possible thanks to funding from the Sumitomo Foundation. The Historic Structure Report, partially funded by a grant from the Sumitomo Foundation in 2009, documents existing conditions and includes archaeological surveys, documentation drawings and restoration designs for the two major courtyard buildings of the Complex. Additional projects that the Sumitomo Foundation has funded include the restoration of the Mul Cok Golden Doorway Ensemble, ornately adorned repousse sculptures of the goddesses Ganga and Jamuna; the restoration of the Mul Cok Stone Lions, impressive stone sculptures which flank the entryway into the Palace's main courtyard; and the restoration and conservation of Sundari Cok's Ivory window, an exquisite piece of ivory carving.

Thanks to the critical support received from the Sumitomo Foundation and other donors, KVPT is now nearing the successful completion of the Patan Royal Palace Restoration Project. Once complete, the entire royal palace site will be open to the public and thus returned to the Nepali people under the stewardship of a sustainable management model. Locals and visitors alike can now enjoy the restored Palace Complex, an integral part of Nepal's historical and cultural heritage.



