



THE RESTORATION OF
THE MUL CHOWK GOLDEN DOORWAY ENSEMBLE
AT THE PATAN ROYAL PALACE COMPLEX – A UNESCO WORLD HERITAGE SITE

PROJECT APPLICATION | OCTOBER 2011

SUBMITTED TO

THE EMBASSY OF THE FEDERAL REPUBLIC OF GERMANY, KATHMANDU, NEPAL



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Frontal view of the Mul Chowk Golden Doorway Ensemble | Sep 19, 2011
Facing the courtyard façade of Mul Chowk's south wing, Yamuna flanks the doorway and tympanum to the right, while Ganga stands on the left.



EXECUTIVE SUMMARY

The Kathmandu Valley Preservation Trust is applying for funding for a one-year project which offers the opportunity for the Trust and the German government to continue their successful collaboration, established over many years, to save the magnificent architectural and artistic heritage of the Kathmandu Valley for all. KVPT requests funding from the German government for the restoration of the Mul Chowk Golden Doorway Ensemble, an artistically outstanding sculptural group which serves as the aesthetic centerpiece of the Patan Royal Palace Complex. Located in the south wing of Mul Chowk, the “main courtyard” of the palace, the golden doorway ensemble marks the entryway to the Taleju Shrine and is a jewel of medieval craftsmanship executed to the highest standards.

The ensemble consists of three primary components:

- 1 The Golden Doorway: a copper-clad gilded door
- 2 The Tympanum: a gilded tympanum atop the doorway
- 3 The Doorway Goddess Sculptures: two gilded life-size sculptures of the river deities Ganga and Yamuna positioned on either side of the door

The artistry of this sculptural ensemble is found in the immaculate carvings and in the repoussé gilding techniques. The art of repoussé in the subcontinent is thought to have reached its heights in the workshops of Patan, in the very lanes adjacent to the courtyard in which this magnificent doorway sits. The Golden Doorway

is considered one of the finest examples of the Patan school of metalwork, deserving of preservation for future generations of worshippers and visitors alike.

The exquisite sculptural grouping and the fine gilding work of the ensemble is a testament to its historic and ongoing religious importance. The ensemble composes the entryway for the Taleju Shrine, which houses the image of the Taleju Bhavani deity and only opens its doors to worshipers once a year during the Dashain festival. The deity housed within is the tutelary goddess of the kings of Patan, and worshipers to this very day continue to make animal sacrifices to the goddess during this holy time. However, over centuries of ritual use and after a lack of regular maintenance, the ensemble has fallen into a state of disrepair and has been the subject of looting and vandalism.

This ensemble is a great attraction for both local and international visitors to the palace, and its religious and cultural significance has continued to flourish. The entire ensemble is now in desperate need of extensive restoration before its damages become irreversible. The restoration of this important sculptural group will be a major contribution to the ongoing work to restore the entire Patan Palace Complex, bringing the Doorway back to its former glory and ensuring its continued significance to Nepal’s artistic traditions.





HISTORY & ARTISTIC SIGNIFICANCE

The history of the Golden Doorway follows the tradition of Nepalese architecture in which succeeding generations contribute additional layers or elements to an already existing architectural monument as a votive offering. These contributions range from such actions as the rebuilding of a deteriorated wall, the application of new paint, or the addition of a new sculpture, and serve as acts of merit that guarantee salvation or enlightenment. For instance, the doorway's gilt repoussé sheeting is an addition over the original wood carved door, which is still intact underneath. This continual layering makes precise dating for the sculptural ensemble difficult.

The original timber carved doorway and the two goddesses are believed to have been created either by King Srinivas Malla (reigned 1661-1684 AD) when he expanded the Mul Chowk, or during the reign of his successor Yoganarendra (1684-1705 AD), two of the great builders of the Malla dynasty. The Patan goddesses are not dated by inscription, however similar portrayals of Ganga and Yamuna are found in the palace courtyards at Bhaktapur and Kathmandu and are

dated by inscription to 1641 and 1703 respectively. It is believed that the Patan Mul Chowk goddesses date from the same time period.

The gilt copper embellishments of the door and tympanum can be dated by inscription as an offering by King Riddhinarasingh Malla (reigned 1715-1717 AD). The doorway inscription, located on the underside of the lintel, reads: "Anyone who takes or destroys this will go to hell". Unfortunately, looters obviously did not heed this ominous warning, as twelve sculptural elements of the tympanum are now missing, and are believed to have been stolen sometime after 1968.

The Golden Doorway ensemble is a superb example of the dynamic, "living" nature of traditional Nepalese architecture as the later 18th century additions to the original architecture have become integral components of the shrine.

Mul Chowk during the Dashain festival's Asta Matrika dance | 1996

The statue of Ganga can be seen in the background surrounded by onlookers, during this traditional dance which marks the ninth day of Dashain. Here the dancers are celebrating the victory of the goddess Durga over the buffalo demon Mahisasur. The men and boys dancing are dressed as the mother earth goddess, and are believed to be temporarily possessed with the goddess' powers.

Photograph by Thomas L. Kelly





Mul Chowk
The Golden Doorway ensemble is located in the south wing of the Patan Palace Complex's Mul Chowk, Nepali for "main courtyard".

Taleju Temple
The Golden Doorway marks the entryway to this three-tiered temple, and is located just beneath it here.

Aerial view of the Patan Royal Palace
Complex | July 2005



THE PATAN ROYAL PALACE PROGRAM

The Patan Royal Palace Complex restoration is the Trust's largest and most ambitious program of works to date. The Palace Complex (comprised of Patan Darbar Square on the west side of the palace, with its numerous historic temples and shrines, and the Patan Royal Palace Complex with the Bhandarkhal garden to the east) is among South Asia's finest, most extensive, and most architecturally intact historic urban ensembles. Its global significance has been recognized by its listing in 1979 as one of the seven Kathmandu Valley UNESCO World Heritage Sites and its inclusion on the 2006 World Monuments Fund Watch List of the 100 Most Endangered Sites.

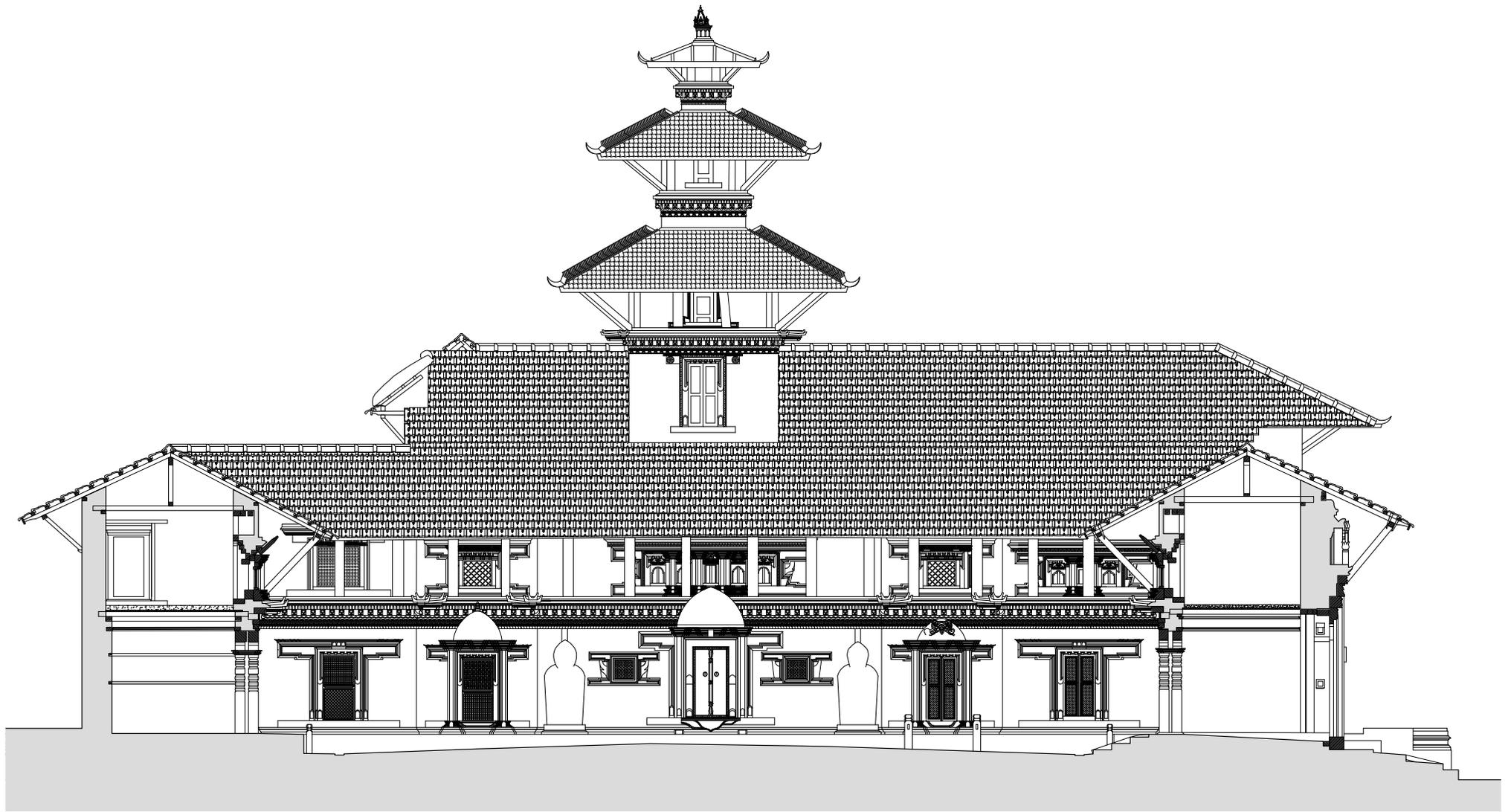
The program to restore the Palace Complex was launched in 2006 by a fundraising lunch hosted by HRH Prince Charles. The work is structured in three phases encompassing eleven monuments. Emergency stabilization and study began in 2006 and work is now well underway on six of the monuments with two to be completed this year. The entire program of works is on track to be completed by 2015. Once complete the entire royal palace site will be open to the public in a way it has never been before, and thus symbolically

returned to the Nepali people under the stewardship of the Nepal government.

The importance of the historic preservation work undertaken in the Kathmandu Valley in the past three decades by KVPT and other bodies has been recognized by Harvard University. The Harvard Francis Loeb Library has offered to create a permanent Nepal Architecture Archive to be a repository for the architectural drawings and documentation of the preservation work undertaken in the area.

Leading Nepal architectural preservation expert Niels Gutschow, has promised to donate all of his documentation to this new archive, much of which details work done on shared KVPT and German government restorations. The entire project history of the Patan Royal Palace conservation program will be documented and stored in the Nepal Architecture Archive. The creation of the archive will allow future students of historic preservation to study the working documents of what is perhaps one of the world's most unique and internationally collaborative preservation sites.





Elevation Drawing of Mul Chowk's south façade | Sep, 2011

(Not to scale)

Drawing by Anil Basukala



PROPOSED RESTORATION PLAN

A restoration plan has been devised by the Trust under the expert guidance of metal conservator Dr. Martina Griesser-Stermscheg, an assistant professor in the Conservation Department of the University of Applied Arts, Vienna. Dr. Griesser completed a detailed assessment of the ensemble and devised a recommended plan of action for its restoration in September of 2011, which was sponsored by the University of Vienna.

The Kathmandu Valley Preservation Trust's philosophy is that the history of a monument should be celebrated and exhibited, rather than obscured and falsified during the preservation process. Therefore the restoration objective of this proposed project is not to bring the Golden Doorway ensemble back to a perfect condition, but to repair those damages that will cause further deterioration, and to restore certain missing elements that are central to the ensemble's cultural and religious significance.

For example, the Ganga and Yamuna statues function as religious objects, and the natural wear of the gilding is evidence of their religious importance, which has continued throughout the centuries. To completely re-gild the entire corpus of the statues would not only be financially imprudent, but would obscure the statues' history of devotional function. However, taking into account Nepal's tradition of periodically re-creating and contributing new elements to religious shrines, it will be acceptable, if not even mandatory, to repair and re-gild severely damaged elements.

The statues will be gently and thoroughly cleaned, removing the thick layers of grime, and allowing the original gilding, where still intact, to show through. After the metal conservator performed a gentle cleaning regimen on a small test area of the Ganga statue, a lovely natural patina was discovered and the original gilding was able to

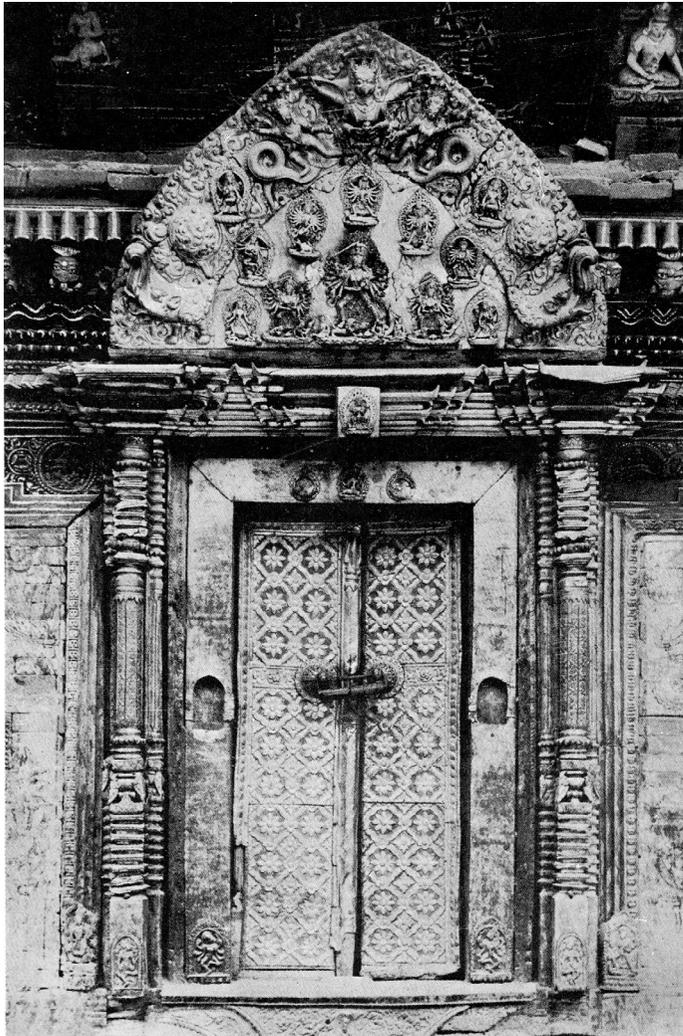
shine through more vibrantly, therefore re-gilding is not necessary in these areas.

The Trust proposes the following restoration approach:

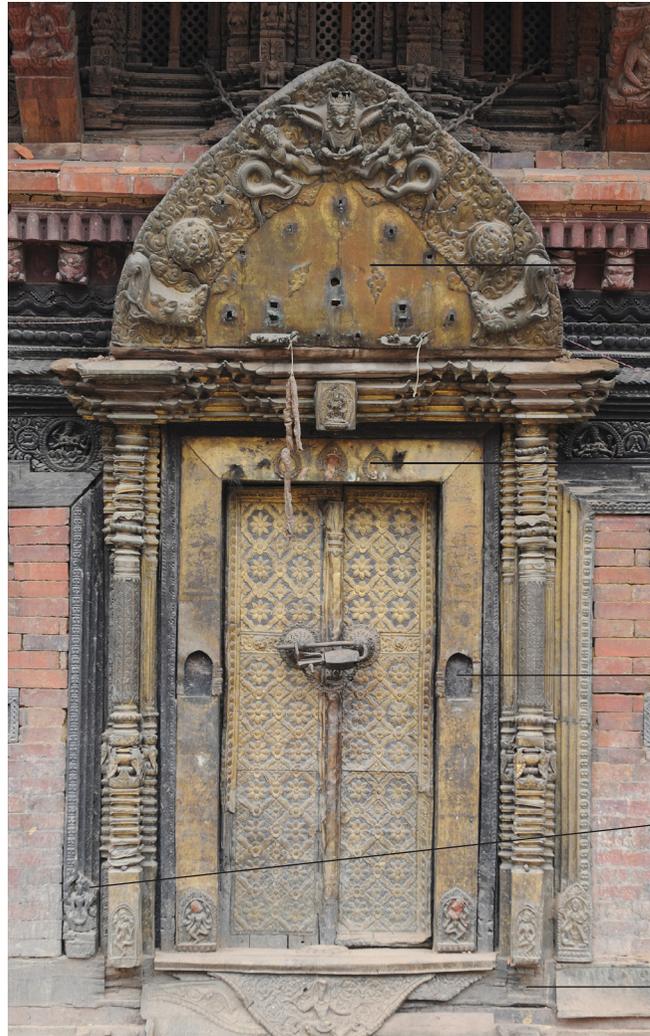
- To thoroughly clean all surfaces of the doorway, statues and tympanum
- To repair the dents, cracks, and other bodily damages to the goddess statues
- To re-finish and re-gild severely damaged areas
- To apply a protective coating where needed in order to prevent further deterioration
- In some cases, to replicate key missing elements that have been lost, such as the goddess' shawls, crowns, and attributes, as well as newly fabricating the small sculptures of the tympanum

The stolen sculptural elements from the tympanum pose a complex question of differing conservation philosophies. In a Western context, these sculptures most likely would not be replaced, as they are not important from a conservationist's standpoint, and in the West the preservation of a monument as it is found, even if in a ruined state, is desirable. However in Nepal, where this ensemble is still actively worshiped, the need to have the sculptural deities present is vitally important, if not absolutely mandatory. Therefore, in accordance with Nepalese tradition, it is appropriate to re-make and install gilded replicas of the missing sculptural elements of the tympanum. This also presents a challenging aesthetic issue, as the newly gilded elements will be incongruent with the worn, heavily patina-ed original elements. The Trust and local craftsmen will collaborate to devise a technique to create a matching patina. The sculptural elements will be rendered based on existing photographic documentation, and will be designed in such a way that they are removable and their installation can be reversed.





The Golden Doorway | approx. 1966 – 1972
 Photo by N.R. Banerjee, Archaeological advisor to His Majesty's Government. Published in "Nepalese Architecture", (1980), Delhi.



The Golden Doorway | Sep 19, 2011
 This image illustrates how many details, particularly the small statues of the tympanum, are now missing.

Missing small sculptures from the tympanum
 All sculptural deities were stolen sometime after the late 1960s, as documented by Dr. Slusser's photographs.

Missing deities from top door frame
 The three deities originally placed on the top of the door frame, and depicted in the historic photograph on the left, are now missing.

Empty niches in doorjamb
 The niches present in each doorjamb might have once housed deities. It is impossible to know who these deities were as there is no existing documentation.

Guardian god missing repoussé covering
 This guardian god on the far left outer door molding is missing its copper repoussé covering, which all four other guardian gods still retain.

Missing pillar base | Sep, 2011
 The obvious gap between the abrupt end of the pillar and the ground level indicates that the original base of the pillar is now missing. The base was likely a lion, as lions are typically used throughout the valley.



EXISTING CONDITIONS AND PROPOSED RESTORATION ACTIVITIES

THE GOLDEN DOORWAY: EXISTING CONDITIONS

The principal doorway to the Taleju temple is a spectacular gilt façade ensemble. The doorway, in a typical Newar configuration, consists of semi-attached pillars flanking the doorway, and multiple rippling bands of moldings. The doorway itself consists of two timber door blades, covered with three separate chased metal coverings. The metal sheeting is designed with rosettes, and is partially gilded. The lower reliefs of the door are black in color, and therefore may be of secondary importance. It is possible that this black surface is some sort of coating, intentionally applied for protective purposes. The gilding on the doorway and surrounding door jamb has been significantly dirtied and has accrued a thick, dark patina. This patina is not only an effect of the elements and deterioration over time, but is also a result of the Dashain festival animal sacrifices, during which blood is spread onto the lower door, surrounding brick walls, and threshold of the entryway to the shrine.

In both doorjambes on either side of the door there are small niches which once housed small sculptural renditions of deities, as can be seen in this historic photograph circa 1966–1972 (opposite page). These sculptures are now missing, and the deities that were once housed in these niches cannot be clearly identified in the existing historic photographic documentation. Also missing from the doorway are the three sculptural pieces that are shown sitting above the door. It is fortunate that the original doorway and sculptures are relatively well documented with historical photographs so that restorative work can be confidently undertaken.

The traditional metal crafts originally used to create the gilt sculptures are still alive in the Kathmandu Valley, having been passed along the

generations. Most importantly to the Trust, the careful repair and constitution of the lost fragments and figures of the doorway is an opportunity to support the living crafts tradition in Patan. The proposed restoration provides a tangible social and economic benefit to the local community, and by employing traditional craftsmen on the carving and gilding projects KVPT helps to keep these skills alive.

THE GOLDEN DOORWAY: PROPOSED RESTORATION

1. **Structural Repair and Replacement:** mechanical repairing and rectifying of the damaged moldings, including the fabrication of missing pieces.
2. **Dry Cleaning:** cleaning with soft brushes and compressed air. Mud can be gently removed with wooden spatulas.
3. **Wet Cleaning:** cleaning with potable water and soft sponges, followed by immediate drying with soft towels in order to avoid stains. Final drying in the sun.
4. **Protective Coating:** Applying a protective coating of micro-crystalline wax to protect against pigeon droppings and accumulated residues. This coating will only be applied if its maintenance can be ensured, and a thorough plan for the coating's care will be devised.
5. **Replacing Missing Deities:** Replicas of the lost deities will be made using historic evidence from the photos, and then fire gilded. The new replacements will be installed above the door frame.





Existing condition of doorjamb | Sep 21, 2011
The doorjamb in its existing condition. Here the thick patina of grime, dust, and animal blood from sacrifices can be observed.



Doorjamb after dry cleaning | Sep 22, 2011
The doorjamb after the first stage of cleaning. In this stage of “dry” cleaning, soft brushes and compressed air was used.



Doorjamb after wet cleaning | Sep 22, 2011
The doorjamb after the second stage of “wet” cleaning. Here potable water was applied with soft sponges. The water was then immediately dried with soft towels in order to avoid staining.



Doorjamb after application of protective coating
Here, a protective coating of micro-crystalline wax was applied to protect against pigeon droppings and accumulated residues. This wax not only protects against further deterioration, but also brings out the shine of the original gilding.

Successive stages of cleaning | September 2011

Pictured above are details of the Golden Doorway’s left doorjamb as it underwent three successive stages of cleaning. KVPT’s visiting consultant used this area to test out a proper conservation treatment. This labor intensive process of carefully removing unwanted materials and grime without damaging the fragile surface will be an important part of planned on-the-job training for Nepali conservators.





Detail of the doorjamb and pillar | Sep 21, 2011

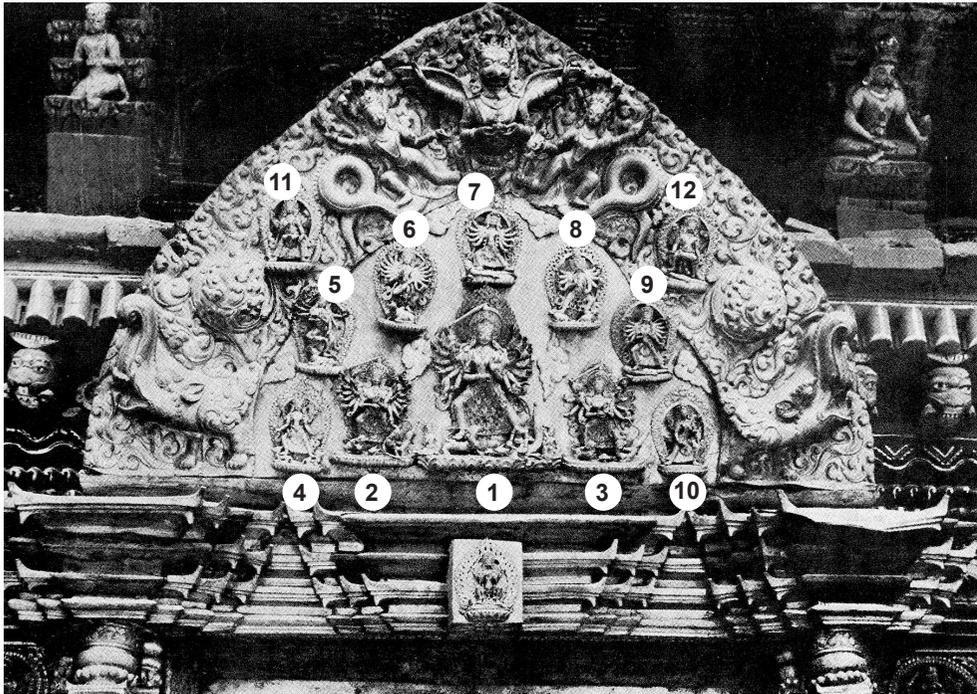
The intricate craftsmanship of the three-dimensional pillar moldings, and the fine chasing and detailing work is seen here. The different conditions of surviving gilding can also be observed in this image.



Detail of lintel, cornice, and inscription | Sep 21, 2011

Here the inscription by King Riddhinarasingh Malla beneath the cornice can be seen. It reads "Anyone who steals or takes this will go to hell." On the top door frame, the missing deities, as well as bits of buffalo hair placed there after the recent Dashain festival sacrifices, are seen in detail.





Intact tympanum | approx. 1966 – 1972

This historic photograph taken by N.R. Banerjee shows that the tympanum was still be intact in the 1960s. Here all of the sculptural elements affixed to the inner tympanum, as well as the two small deities affixed to the outer tympanum, can be seen.



Detail of inner tympanum | 1968

Fortunately for KVPT's restoration efforts, his photo by the eminent scholar Mary Slusser shows the figures in sufficient detail to be identified. Due to the high quality of the photo, the deities can be identified and will be replicated and fire gilded to the highest achievable standards.



THE TYMPANUM: EXISTING CONDITIONS

The tympanum atop the entryway to the Taleju shrine is in poor condition, and has been the target of many looting efforts. All twelve caste bronze sculptures have unfortunately been lost, and were most likely stolen. The tympanum sheeting is composed of chased repoussé copper, which was then gilded and affixed to a timber core. The small attached deities were originally made using the “lost wax” process, and were then attached to the tympanum by way of rivets. Unfortunately, this method of securing the sculptures to the tympanum made stealing the figures relatively easy. As with the other components of the ensemble, the tympanum exhibits the same thick patina atop the original gilt layer.

THE TYMPANUM: PROPOSED RESTORATION ACTIVITIES

1. **Removal:** Careful removal of the tympanum so that it may be worked on more thoroughly and with greater ease.
2. **Dry Cleaning:** Cleaning with soft brushes and compressed air. Mud can be gently removed with wooden spatulas.
3. **Wet Cleaning:** Cleaning with potable water and soft sponges, followed by immediate drying with soft towels in order to avoid stains. Final drying in the sun.
4. **Replacing Missing Sculptural Elements:** Gilded replicas of the missing sculptural elements of the tympanum will be made and installed. These sculptures are crucial aspect to bringing the ensemble back to its original significance.
5. **Protective Coating:** Applying a protective coating of micro-crystalline wax, to protect against pigeon droppings and accumulated residues. This coating will only be applied if its maintenance can be ensured, and a thorough plan for the coating’s care will be devised.



Damaged crown

Ganga's crown is entirely missing. A replica modeled on Yamuna's crown remnants will be made.

Damaged shawl

Pieces of Ganga's shawl are missing.

Worn gilding

Ganga's gilding has been entirely worn off on these large patches on her forearms. This is a result of centuries of religious worshippers devotionally touching Ganga on her extended arms.

Dents in Ganga's right leg

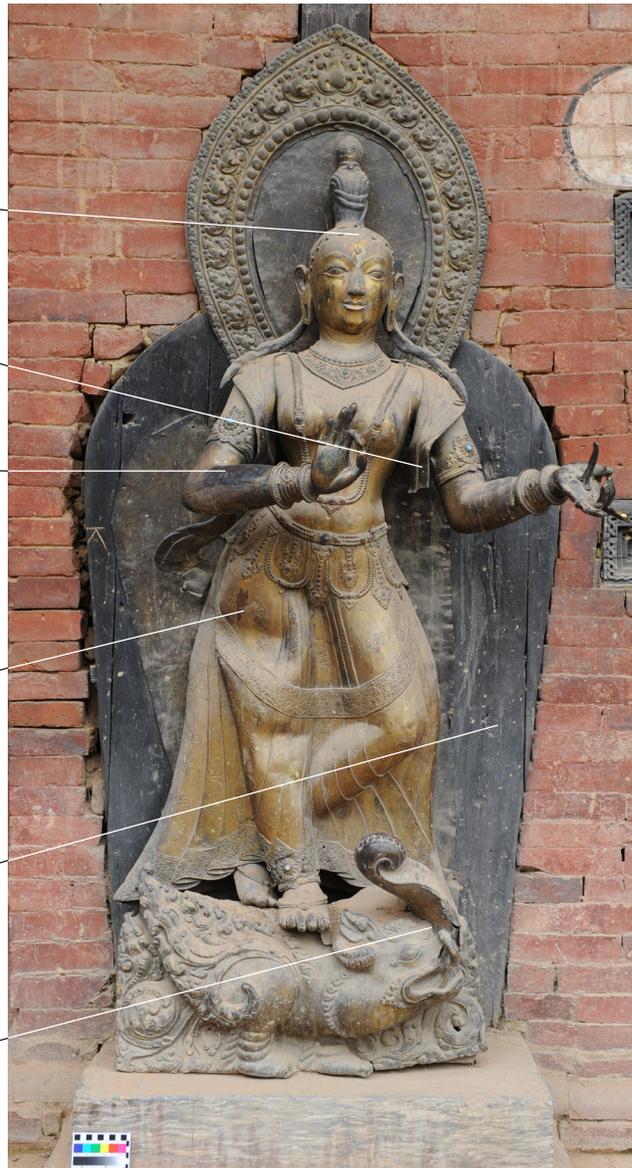
The thigh on Ganga's standing right leg has been significantly dented. This cannot be repaired in-situ, but must be hammered out from behind after the statue is removed.

Missing metal covering

The timber backing behind both statues is missing its original metal sheeting, and can be seen here still intact around both goddess' heads.

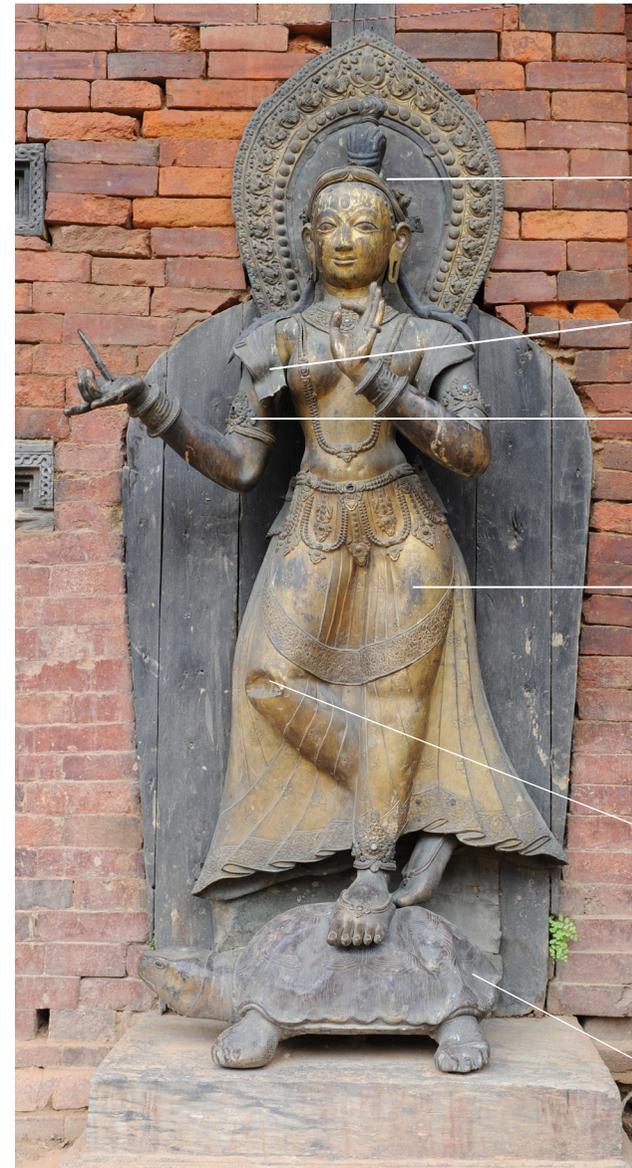
Damages to the makara

The makara's trunk is bent entirely backwards, while the body suffers from severe dents and resultant cracking.



Ganga atop of her makara | Sep, 2011

The severe deformation to Ganga's right leg, and the missing elements are immediately noticeable.



Damaged crown

Yamuna's crown is missing it's central component, of which there is a remnant.

Damaged shawl

Pieces of Yamuna's shawl are missing.

Missing stone

The turquoise stone on Yamuna's left arm band, is missing on her right.

Worn gilding

The gilding has been entirely worn off on these rather large patches on both of Yamuna's thighs. This is a result of centuries of religious worshippers devotionally touching Yamuna in these areas.

Dents in Yamuna's right leg

Yamuna's bent right leg has a severe dent, which cannot be repaired in-situ, but must be hammered out from behind after the statue is removed

Dents in the turtle's shell

The severe dents to the turtle's shell

Yamuna atop of her turtle | Sep, 2011

The large dent in Yamuna's bent right leg, and her damaged shawl and crown can be easily seen here. The overall loss of gilding is also very apparent.



GANGA: EXISTING CONDITIONS

The statue of the goddess Ganga, which stands on the left side of the doorway atop her customary vehicle of the makara, suffers from severe deformations, dents, and cracks, and is missing many components as a result of periodic looting. The statue is composed of an assembly of multiple pieces, each created by a variety of different artistic methods: some components are gilt repoussé and chased copper sheets, and others are cast in the traditional “lost wax” process. The corpus itself consists of hammered pieces and copper sheets, which are mechanically joined together using interlocking joinery, and soldering. The hands, feet, ears, and jewelry components are bronze casted, chased, and gilded, and then fit onto the corpus of the statue.

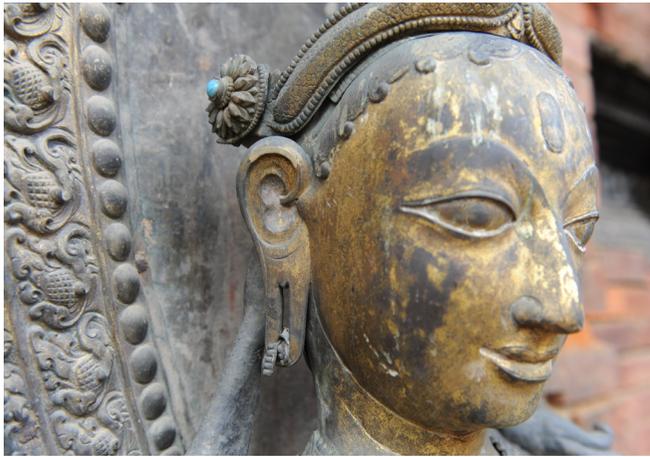
The entire figure is anchored to a nimbus-shaped timber structure, which stands behind the statue and functions as both a support system and an aesthetic halo surrounding the goddess. The statue is anchored by two hand-forged, square metal anchors at the shoulder blade and hip, which secure the figure to the timber nimbus. This timber backing was originally entirely covered with sheet metal, however many of these pieces are now missing. The Ganga sculpture is also missing several of her characteristic traits: the crown, the shawl, and the two attributes the deity customarily holds in each hand: her mirror and her incense. There are also several unused mounting holes present in the sheet metal, and it is evident that another component was once secured to these. These holes are present on the foot of the goddess’s right leg, and on the tops of both of her shoulders, but it is unclear precisely what component is missing. The sculptures of Ganga

in the chowks of Bhaktapur and Kathmandu serve as authentic historic sources of comparison for determining what the Patan Mul Chowk rendition of Ganga originally held and wore, from these sources we can make a confident assessment of which elements are now missing.

The surface of the statue is in relatively good condition due to the ideal location of the ensemble in the courtyard; because of its position under the wide roof overhang, the entire ensemble is never exposed to direct sunlight and is protected from rainfall. However, the statue presents a distinct “petting” patina on the thighs and forearms, where the gilding has been entirely worn down as a result of people devotionally touching the sculptures, and in most depressed areas of the statue a thick patina of grime obscures the gilding. There is also minor local corrosion caused by pigeon droppings.

The statue of Ganga is perched atop the goddess’ traditional vehicle, the “makara”, a mythical water creature. The makara is composed of copper repoussé and chased sheets, which are nailed onto a timber core. The back side of this inner timber core is partially exposed, and is now missing its original metal coverings. The makara stands on a stepped stone base of schist, which serves as the platform for both the goddess and the makara. The trunk of the makara has been severely contorted: normally held up at an angle, the trunk has been completely bent backwards and now lies parallel against the creature’s body. The ridge of the makara’s back has also been severely dented, and it is likely that the impact that created this dent subsequently caused cracks in the surrounding metal sheet.





Yamuna's crown & jewelry | Sep 2, 2011

Yamuna's crown is pictured here, still intact, unlike Ganga's below. The turquoise stone is the only remaining crown ornament on the two statues and will serve as an example for replicating the missing three. A remnant of Yamuna's earring is also present here, and remains nowhere else.



Detail of Yamuna's right leg | Sep 2, 2011

The severe dent pictured above cannot be repaired in-situ and mandates removal of the statue, and gently hammering the dent out from behind. A crack in Yamuna's calf, measuring four centimeters, is also seen here.



Yamuna's turtle | Sep 2, 2011

The badly deformed turtle will also require disassembly and re-shaping of the copper body. Renewed gilding will be considered for the body of the turtle.



Ganga's missing crown & jewelry | Sep 2, 2011

Ganga will be restored with the same crown as Yamuna, as well as with the same jewelry, including earrings in both ears and the crown ornaments.



Detail of Ganga's right leg | Sep 2, 2011

Ganga's extensively damaged thigh is pictured above. Rectifying the severe damage, including a significant crack, will also require re-surfacing and re-gilding of the affected areas.



Ganga's makara | Sep 2, 2011

The trunk of the makara has been completely bent backwards. Once held up at an angle, the trunk now lies flat against the makara's body. There are also damages to the body of the makara, requiring disassembly and hammering out of deformities. Renewed gilding will also be considered for the body of the makara.

YAMUNA & THE TURTLE: EXISTING CONDITIONS

The river goddess Yamuna stands atop her customary vehicle, a chased repoussé turtle. Yamuna flanks the right side of the doorway and is in similar condition as the Ganga statue. The statue was built using the same compositional structure of gilt repoussé and chased copper sheets joined together and fixed with clamps to a timber aura-shaped backing. As is the case with Ganga, Yamuna is also missing the metal covering of this wooden backing. The Yamuna is also missing several key elements: the shawl, the attributes held in both hands, and several pieces of jewelry, including the precious stone embedded in her belt buckle, and the stone of her left upper arm. While Ganga is missing her crown, Yamuna still has the left side of her crown intact, but it is missing the central top piece where there is a remnant of a diadem, as well as the precious stone that was once embedded in the right side of the crown. Both of Yamuna's lower arms have large dents, and her right knee and shin are severely deformed. Yamuna also exhibits the same "petting" patina on the gilding of her thighs and forearms which was observed on Ganga, demonstrating that both goddesses share the same religious significance, and are both the subjects of devotional worship.

Unlike Ganga's makara, the turtle does not have a wooden core to which copper pieces are fixed, but is a closed hollow structure. The turtle is severely deformed, with large dents on its shell and feet.

YAMUNA & GANGA: PROPOSED RESTORATION

1. **Dry Cleaning:** Cleaning with soft brushes and compressed air. Mud can be gently removed with wooden spatulas.
2. **Disassembly:** Complete removal and dismemberment of the statues and their accompanying vehicles by pulling out the nails and rivets.
3. **Wet Cleaning:** Cleaning with potable water and drying with soft towels in order to avoid stains. Final drying in the sun.

4. **Cold Shaping:** Tapping out of the dents and deformations with leather or rubber hammers. Mechanically pushing out of the metal using metal clamps and pieces of timber. This should be performed by a close cooperation between the local coppersmith under the instruction and supervision of a professional conservator. There will be absolutely no heating of the metal. If the metal is heated, the metal's consistency will change, leading to local corrosion caused by tension. In addition, by heating the object, the original surface and patina would be lost.
5. **Re-enforcement:** The shape of the trunk of the makara, for example, can be re-enforced by adding metal sheeting inside and attaching the sheeting to the trunk with rivets. Absolutely no soldering on outside surfaces will be allowed.
6. **Closing of cracks:** Filling of cracks will be done using an epoxy resin with a layer of metal sheet underneath. The resin could then be tinted with copper pigment to better match the surrounding area.
7. **Replacement of Missing Elements:** Replicas of the missing pieces, such as the goddesses' crown, shawl, and precious stones, will be made and installed in their original positions.
8. **Acetone Cleaning:** Cleaning and de-greasing of all surfaces with acetone to remove all fats and oils.
9. **Second Mechanical Cleaning:** Mechanical cleaning of the accumulated grime down to the original layer of gilding, better exposing the gilding, using scrapers made of bone and custom made timber scrapers and ceramic knives.
10. **Protective Coating:** Applying a protective coating of micro-crystalline wax, to protect against pigeon droppings and accumulated residues. This coating will only be applied if its maintenance can be ensured, and a thorough plan for the coating's care has been devised.
11. **Reassembly:** Reassembling the statues using custom-made rivets.



Cost estimate for the restoration of the Golden Doorway Ensemble at Patan Palace

	cost in Nepali Rupies	cost in €
Golden Door		
Structural repair of the door's timber elements (frames and lintels) and conservation of timber against pests	75,000	
Surface conservation and re-gilding of damaged copper repoussé elements	440,000	
Remove and repair all repoussé door sheeting and moldings, and replace missing and damaged parts (e.g. inner door frame molding)	420,000	
Restore threshold repoussé sheeting and match missing parts	85,000	
Tympanum		
Removal of tympanum sheeting and repair of timber core	20,000	
Fabrication of the 12 small statues based on historic photographs	360,000	
Gilding of 12 statues	480,000	
Statues of Ganga and Yamuna		
Structural repair of brick wall and bearing timber structure behind statues	60,000	
Complete disassembly and rectification of all damages to the statues of Yamuna and Ganga including surface conservation and partial re-gilding	600,000	
Repair and surface conservation of the makara	85,000	
Repair and surface conservation of the turtle	85,000	
Replacement of background gilded copper sheeting	150,000	
Fabrication and repair of crowns including 3 ornaments	160,000	
Replacement of 5 semi precious stones	25,000	
Replacement of missing attributes	200,000	
Repair and make new parts of statues' shawls	40,000	
Replicate two timber carved lions sitting below door pillars and make repoussé coverings	180,000	
Fabricate one repoussé guardian god on left side of door matching wood carving beneath	35,000	
General cost		
Research publication including printing	150,000	
Construction management and supervision	250,000	
	exchange rate 1€ = NRs. 105	
	3,900,000	€ 37,142.86
Historic preservation specialist (architect) 16 man/days @ € 400		€ 6,400.00
Metal conservator (international specialist) 24 man/days @ € 400		€ 9,600.00
Total requested		€ 53,142.86
Secured support from KVPT		
Office management and overheads, utilities, documentation, and site supervision	500,000	€ 4,761.90
Student partnership program (Department of the University of Applied Arts, Vienna)		€ 12,000.00
KVPT supplied funding		€ 16,761.90
Total project cost		€ 69,904.76



PROJECT BUDGET AND TIME FRAME

The Trust requests € 53,142.00 from the German Foreign Ministry for the complete restoration of the Golden Doorway Ensemble. The money sought under this proposal will cover all material fees and actual project implementation costs, as well as the services of international consultants and conservation specialists in order to guarantee that the highest international conservation standards are met in the project's execution.

The Kathmandu Valley Preservation Trust will cover all organizational and operational costs and office expenses through its own fundraising efforts. As has been successfully demonstrated in the past, KVPT's relationship with foreign universities can allow the Trust to develop a student program for the Golden Doorway project.

Such a program could allow PhD students to carry out their research on the ensemble, and lend their conservation expertise to local staff. Such student collaborations have often contributed their own funding.

The restoration of the Golden Doorway Ensemble can be achieved in a relatively short time frame, as it is a discreet endeavor that can be completed within ten months. The attraction of this specific project is that it is not reliant on other restoration works for its initiation, progress or completion. Once funding is granted, the raw materials and manpower can be easily secured by the Trust's program director, Dr. Rohit Ranjitkar.





Mul Chowk masonry work | May 20, 2011
Repairs being made by a KVPT trained mason on the southwest corner of Mul Chowk.



Documentation of Mul Chowk roof struts | Apr 16, 2011
Workers are putting in place a 17th century strut to be photographed for record-keeping before restoration work is commenced.



KVPT Female Staff Members | May 20, 2011
The majority of semi-skilled workers on the construction site are women, who have quickly learned the necessary skills to deal with fragile and precious historical artifacts.



KVPT WORKING METHOD & RESTORATION MANAGEMENT

The partnership model by which KVPT works to nurture local craftsmen is unique and has been very successful. The Trust provides the academic and historical research to locate all relevant historic documentation, and to guide the restoration designs, which are then executed to the highest artistic standards by the craftsmen. It is thrilling that these historical techniques still survive in Nepal, and that local craftsmen will restore the ensemble using the very methods that created it hundreds of years ago.

The Trust has a history of successful collaboration with international academic institutions, which has resulted in significant technological achievements in solving the delicate problems inherent in restoration and preservation work. The Golden Doorway Ensemble restoration poses its own challenges of how to sensitively reconstitute a damaged monument with missing details. Satisfying both the high expectations of Western conservators and the need to respect the local religious tradition of renewed votive offerings, the Trust has succeeded in bridging the different approaches to achieve the highest quality of conservation.

The entire project to restore the Golden Doorway will be coordinated, overseen and managed by local expertise. Over the past twenty year's KVPT has put together a world-class architectural

team headed by chief program architect Dr. Rohit Ranjitkar. KVPT has used a private sector model which has allowed for the long term apprenticeships of Nepalese professionals, resulting in the creation of South Asia's leading team of conservation experts. The involvement of an internationally experienced metal conservator will ensure that solutions are tailor made for the ensemble, and these findings will be documented for use by future scholars and restoration teams.

Work is reviewed by an international body of experts who volunteer for the Trust including:

- Dr. Eduard Sekler, Professor Emeritus Harvard University
- Dr. Niels Gutschow, South Asia Institute, University of Heidelberg
- Elizabeth Newman, Preservation Architect, KVPT
- Thomas Schrom, Project Consultant, Patan Museum
- Erich Theophile, Executive Director, KVPT





KVPT Female Staff Members | May 20, 2011

The female workers of the Trust are specially trained in conservation treatment, including careful cleaning techniques, stone treatment, and mortar mixing. The women are seated here in the southeast corner of Sundari Chowk.



KVPT ACHIEVEMENTS & PROJECTS

The Kathmandu Valley Preservation Trust is the only international not-for-profit exclusively dedicated to safeguarding the extraordinary and threatened architectural heritage of Nepal. The Trust, notably Nepal's first private sector team in the conservation area, was founded in 1991 in response to the UNESCO International Campaign for Safeguarding of the Kathmandu Valley. The Trust's mission is to identify and help save endangered monuments in the Kathmandu Valley, and it can now claim twenty years of achievement in this field, saving over fifty monuments including temples, rest-houses, monasteries and historic houses. From the outset the Trust has been inspired by, and to a certain extent modeled on, the German aid projects at Pujari Math and the great success of the German Bhaktapur Development Project.

KVPT & GERMAN GOVERNMENT COLLABORATIVE WORKS

KVPT has collaborated with the German government and been supported by its aid over many years. A successful working relationship has blossomed between the Trust and various German development and aid projects in the Kathmandu Valley, the fruits of which are seen in the many buildings and monuments restored by these joint efforts. A free exchange of ideas and expertise has

flourished which has helped identify the best ways of achieving KVPT and the German government's shared goal of preserving the Valley's magnificent historic cityscapes for future generations.

The following projects are the result of the successful collaboration between KVPT and the German government over the course of the last twenty years:

Patan Program – support of Patukva Agam by GTZ (1991–1992)

The Restoration of Chhusya Baha Monastery – support of German Foreign Ministry in Nepal (2001–2002)

Kathmandu Darbar Initiative – color research performed by Heike Pfund supported by DED (2001)

The Restoration of Itum Baha Monastery – support of German Foreign Ministry in Nepal(2002–2004)

The Restoration of Tusha Hiti and Bhandarkhal Tank - support of German Foreign Ministry in Nepal. The most significant collaboration to date, as the major donor to the restoration of Patan's water architecture (2008–2010)





KATHMANDU VALLEY PRESERVATION TRUST