



KAGESWAR MAHADEV TEMPLE

KATHMANDU DARBAR INITIATIVE

A JOINT PROJECT OF

**HMG DEPARTMENT OF ARCHAEOLOGY,
KATHMANDU METROPOLITAN CITY
AND**

KATHMANDU VALLEY PRESERVATION TRUST

FINAL REPORT

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The Kathmandu Valley Preservation Trust is proud to announce the successful completion of the restoration of **Kageswar Mahadev Temple**, one of the many projects of the “Kathmandu Darbar Initiative” on November 2005. On behalf of the Trust, we would like to thank all our generous supporters.

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Kathmandu Valley Preservation Trust (KVPT)

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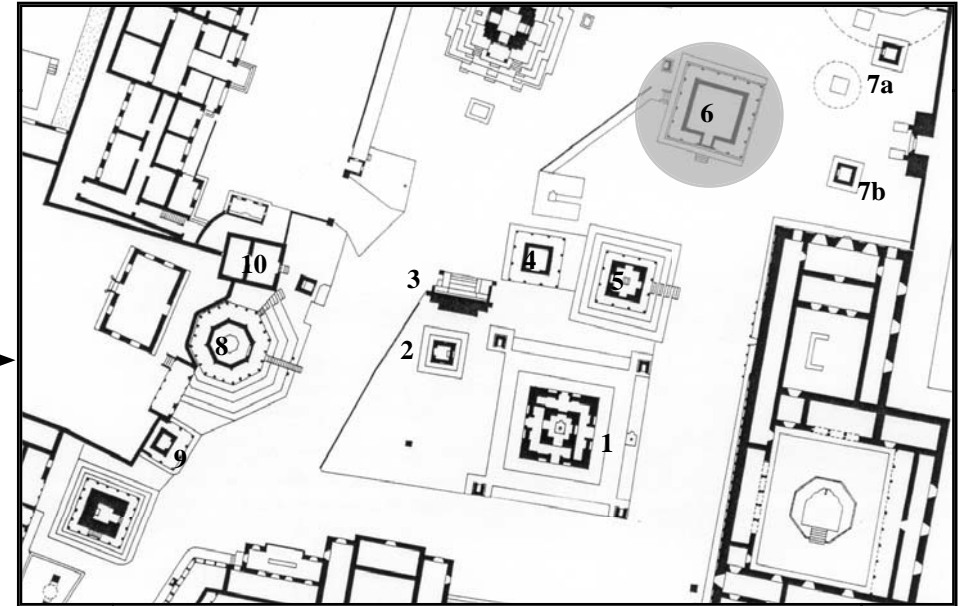
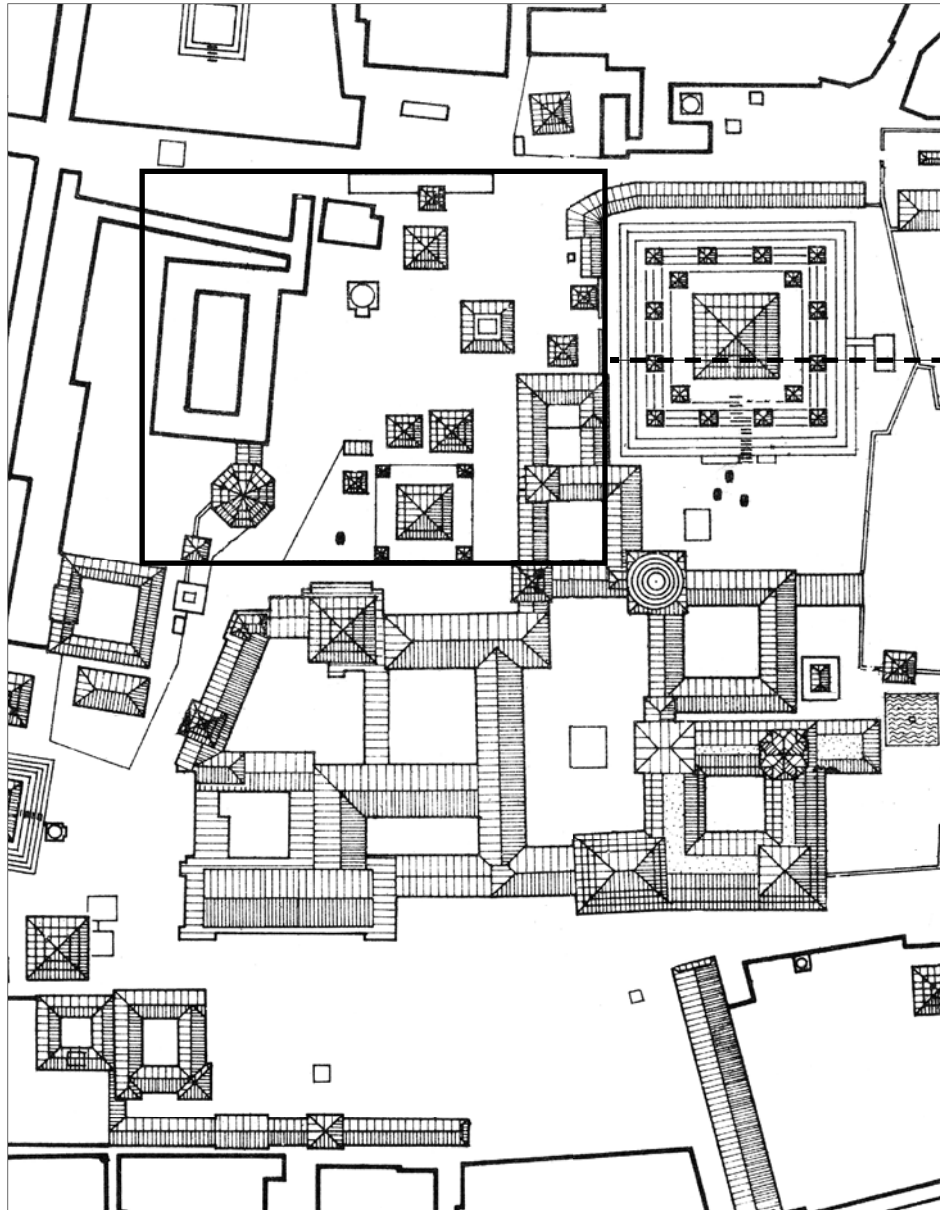
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Kathmandu Darbar World Heritage Site



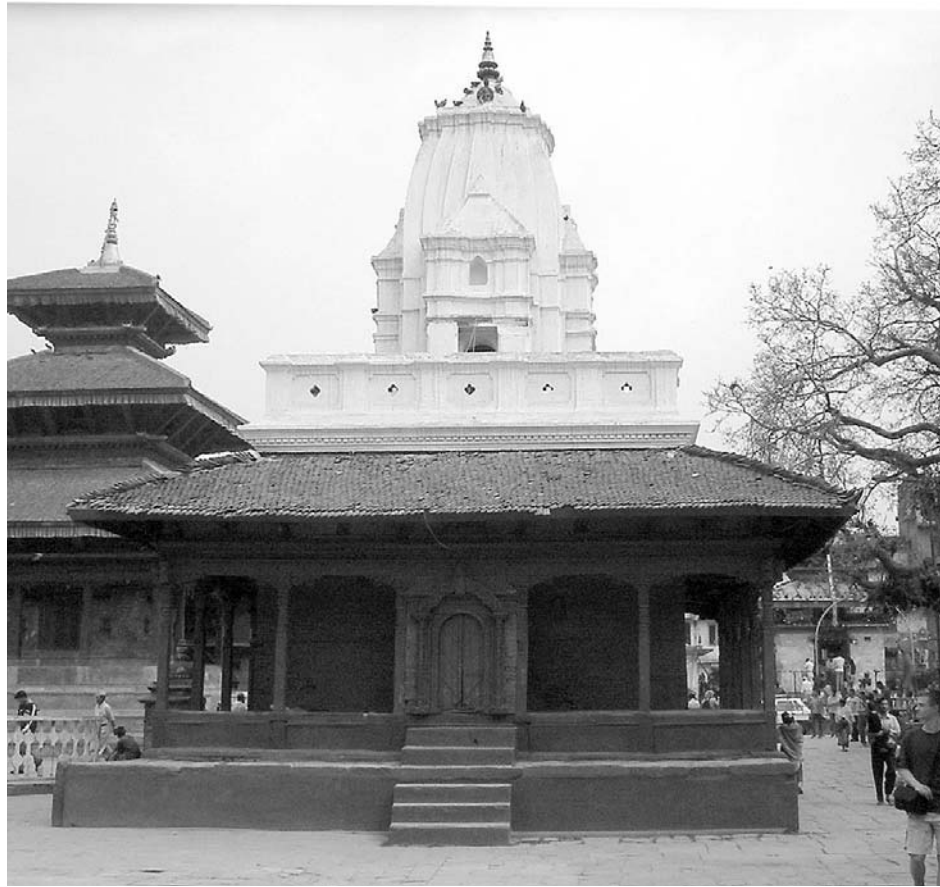
Kathmandu Darbar Initiative

- 1. Jagannath Temple (1563)
Planning and research completed, 2001 and restoration in progress, 2005
- 4. Indrapur Temple (1674)
Restoration completed, 2002
- 5. Narayan Temple (16th c.)
Restoration completed, 2003
- 3. Kal Bhairav
Research and documentation completed, 2003 and restoration completed, 2005.
- 6. Kageswar Mahadev Temple (1711)**
Restoration completed, 2005.

- 2. Laxmi Narayan Temple (17th c.)
Documentation completed, 2004 and funding received for restoration
- 7a. Mahadev Temple I (17th c.)
Documentation completed, 2002 and funding received for restoration
- 7b. Mahadev Temple II (17th c.)
Documentation completed, 2002 and funding received for restoration
- 8. Bansagopal Temple (1649)
Documentation completed, 2002
- 9. Saraswati Temple (16th c.)
Documentation completed, 2002
- 10. Drum House (19th c.)
Documentation complete, 2002

Target Projects

left: Kathmandu Darbar Square Area, one of the seven UNESCO World Heritage Sites of the Valley.
above: Site Plan showing all the focus temples in the Kathmandu Darbar World Heritage Site, which are part of the Kathmandu Darbar Initiative.



above: The temple stood in a dilapidated state with much of its roof structure disintegrating. The moisture penetration through poorly done joinery in the roof had completely deteriorating its members. Seepage of annual monsoon rains had resulted in corrosion of brick work in the ground level. Kageswar Mahadev Temple as it stood in 2003. *Photo by: Raju Roka, KVPT, March 2003.*



above right: Kageswar Mahadev Temple on completion, November 2005. The roof structure was completely refurbished, the masonry work at the ground floor level was replaced, new damp proofing material introduced to check the undesired seepage of rainwater from the terrace level and steel members incorporated to further strengthen the structure. *Photo by: Raju Roka, KVPT, November 2005.*



INTRODUCTION

Kageswar Mahadev Temple is of prime importance in forming the historic ensemble of Kathmandu Darbar World Heritage Site. Originally built during the era of Malla kings (1200-1768 AD), the temple retains only some of its historical materials and fabric.

It was most likely to be Newari style temple originally, which was later restored with a *shikhara* dome on the upper level. The temple, with juxtaposition of *shikhara* on arcaded pagoda base, is a fine example of hybrid temple design, which emerged during the Rana Period (1846-1951 AD). Only two temples of similar forms exist at the vicinity of the Hanuman Dhoka Royal Square, other one being an unconventional stone temple dedicated to Vishnu, located west of Degutale Temple. This type of temple form evolved from the Mughal influence in art and architecture, very much prevalent during the period.

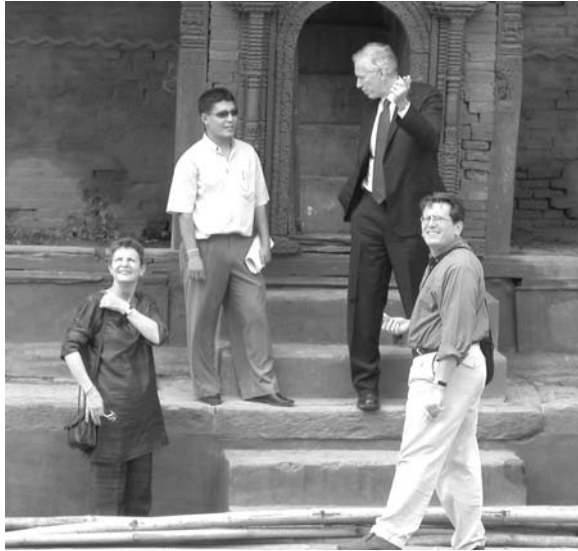
The design of the temple was altered after it was severely damaged in the 1934 earthquake. This has been mentioned in the book titled “Nepal ko Mahabhukampa” by Bramha SJB Rana and is also evident from one of the historical photographs in same book. But *shikhara* crown was already introduced before the 1934 earthquake. This can be confirmed with historic photographs we have of the temple (refer to chapter “ Historical Background, pg. no. 6”). Like in case of many temples in the valley repaired hastily after the earthquake, many of its details were altered and roof structure was constructed haphazardly. Even the pattern in the parapet walls and the design of the *shikhara* were modified during the process.

When we started our documentation in 2003, much of the structure was in dilapidated state. Over a period of time, moisture penetration through the poorly done joinery in the roof had completely deteriorated the timber members and were in urgent need of repair. In addition to this, the seepage had resulted in corrosion of brick work in the lower level, thus weakening the whole structure. An ill-built staircase to reach the upper floor had probably blocked the passage into the inner sanctum of the temple.

With its proposal to restore to temple, focusing mainly on refurbishment of roof structure, the Trust was able to receive funds from US Ambassador’s Fund for Cultural Preservation 2004 for the restoration, as a part of “Kathmandu Darbar Initiative”.



above: Some of the significant features of the main door had either damaged or were lost. These were replicated and incorporated with the existing during restoration.
Photo by: Lumanti Joshi, KVPT, April 2003.



PROJECT FRAMEWORK AND FUNDING

Kathmandu Valley, with its rich cultural heritage boasts a concentration and quality of architectural monuments and townscapes in its relatively tiny domain. Unfortunately, due to the ever multiplying development pressures, many of these monuments are either encroached, many remains in dilapidated state or many already lost. Even the city's historic Squares are not spared. In addition to this, these threatened monuments far outpace the available resources.

For the past thirteen years, Kathmandu Valley Preservation Trust has been working to safeguard these extraordinary and threatened architectural heritage of the Valley. The Trust has rescued more than two dozen significant in this period. Continuing this legacy, it initiated the project “Kathmandu Darbar Initiative (KDI)” in the year 2000. It was an ambitious endeavor aiming to restore prominent temple structures standing at the entrance of Hanuman Dhoka Royal Palace. Many of the significant temples in the Square were in dilapidated state and were in urgent need of restoration strategies prior to the project.

The original project encompassed three key temples at the heart of the Square namely 1. **Indrapur Temple** (restoration completed in 2002), 2. **Narayan Temple** (restoration completed in 2004) and **Jagannath Temple** (restoration work ongoing), which were funded by World Monument's Fund USA, under auspices of the Robert W. Wilson Challenge for Conserving our Heritage Grant and additional support from German Development Service (DED). In addition to this, the Nepalese corporate houses which includes Soaltee Hotel LTD, Surya Enterprises, Surya Tobacco Co, Nepal Lever Ltd, Nepal Investment Bank and Standard Chartered Bank Nepal, joined the rally initiated by the Trust to conserve our heritage. Additional Donors also emerged to support the Trust in its endeavor, principal sponsor being the US Ambassador's Fund for Cultural Preservation. The dedicated support from international as well as national donors has allowed KVPT to conserve another half a dozen structures in the Square, making this the most ambitious private restoration project ever undertaken in the country.

This is the second time that the Trust has received the US Ambassador's Fund for a restoration project. Previously, it received the award to restore Kal Bhairav shrine in the historic Square, where the restoration is now complete. The restoration of **Kageswar Mahadev Temple** was made only possible from

above: The American Ambassador to Nepal. H. E. James F. Moriarty (*top right*) inspecting the temple prior to the initiation of the restoration.

Photo: Raju Roka, KVPT, June 2004.



generous support of U.S. Ambassador's Fund for Cultural Preservation 2004.

The project was undertaken in a framework which included both public outreach activities and critical training of the manpower in the project management, public relations, preservation advocacy and the state of the art conservation technology. Given the country's location in high risk seismic zone, the development of sensitive and effective strengthening measures for retrofitting of the structure was also a vital component of the project. The project was implemented under the full direction and continuous monitoring of the core personals of the Trust with collaboration with the Department of Archaeology, the Kathmandu Metropolitan City and a steering committee which included community and the government representatives.

HISTORICAL BACKGROUND

Though we could not find any stone inscription or any written evidence regarding its establishment in the temple itself, Kageswar Mahadev Temple has been mentioned in quite a few historical texts and manuscripts available. It is among the last temples of note to be constructed in the square. It was built by Queen Bhuvan Lakshmi, the widow of King Bhupalendra Malla in 1711 AD in memory of deceased her husband.¹ There existed a tradition of royal patrons in the past to donate temples and monuments in commemoration of their deceased loved ones and also in occasion of some religious festivals. This is still continued today.

According to an unpublished manuscript, in 1711 AD the Queen Bhuvan Lakshmi commissioned a Shiva Linga to be made of *astadhātu* (combining 8 metals namely gold, silver, copper, tin, iron, lead, quick silver and zinc), established it in the temple in the Darbar Square and endowed it with land for its maintenance. A *guthi* was set up by the Queen to perform an annual worship in the temple. The Shiva Linga is now placed in the sanctum in the upper level. Thus, the temple was long known as Bhuvana-lakshmeswar Mahadev after its donor. As in case many temples of royal donations, the significance of the Bhuvanalakshmeswar Mahadev gradually diminished, so did its religious importance.²

¹ Gautam Vajra Vajracharya, "Hanumandhoka Rajdarbar" ,published 1977, pg no. 81 and Mary S. Slusser, " The Nepal Mandala, published 1968, pg no 195

² Gautam Vajra Vajracharya, Hanuman Dhoka Rajdarbar, published 1977, pg no. 40.

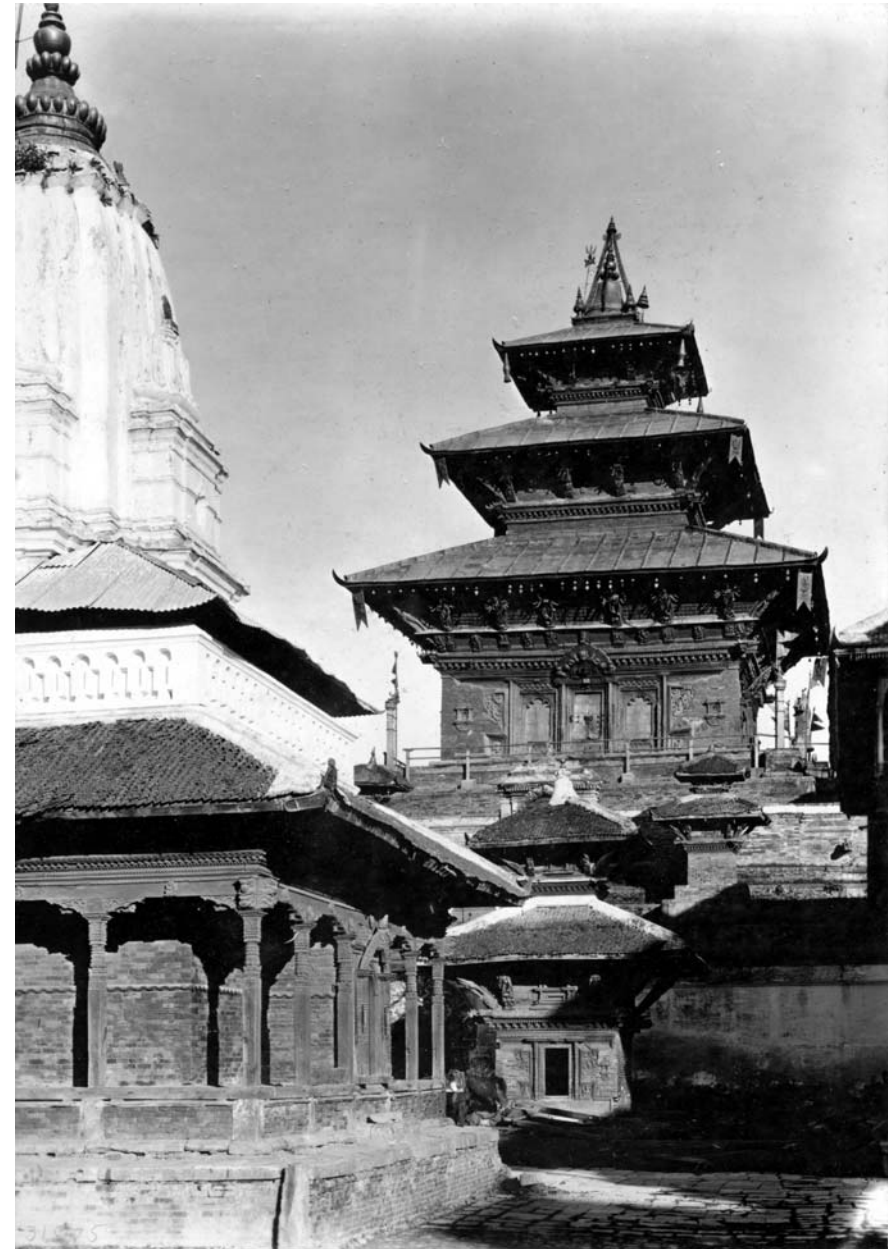


above: The principal idol, a Shiva Linga made of *asta dhātu* is housed in the upper level sanctum. It was commissioned by Queen Bhuvan Lakshmi in 1711 A.D in memory of her husband and was established in the shrine amongst great festive setting. Huge puja was organized to mark the occasion. Photo by: Badri Juwal, KVPT, June 2004.



above: A historical view of the Kageswar Mahadev Temple (*in background, extreme right*) circa 1920 A.D. Note the voluminous shape of the *shikhara* as compared to present structure. Its configuration was most probably altered after the damage caused during the 1934 earthquake. The corrugated sheet roof over the terrace too, was eliminated. *Photo courtesy: Manju Rana.*

right: The temple (*in foreground*) with Taleju Bhawani Temple as backdrop. This snapshot of the shrine is from the same time period, just before the 1934 earthquake. *Photo courtesy: Manju Rana.*





The structure got its present name, Kageswar Mahadev, after it became a substitute for a distant religious place Kageswar Tirtha, located east of Kathmandu Valley. People come here to pay their respect annually, on the day of Bhadra Kagasthmi in September/October.

“Nepal Mandala” by Mary S. Slusser and “Hanuman Dhoka Rajdarbar” by Gautam Vajra Vajracharya state that originally a Newar- style temple, Kageswar was restored with a dome after an earthquake, a very unfortunate architectural marriage. The arcade base of the structure is probably the remains of the original pagoda structure. However, we do not have sufficient documentary evidence to support this. Even the historical photographs pre 1934 earthquake show Kageswar with *shikhara* on the top with slightly different configuration than the existing one. The pre 1934 *shikhara* was more voluminous with different design of the parapet wall, which was later altered.

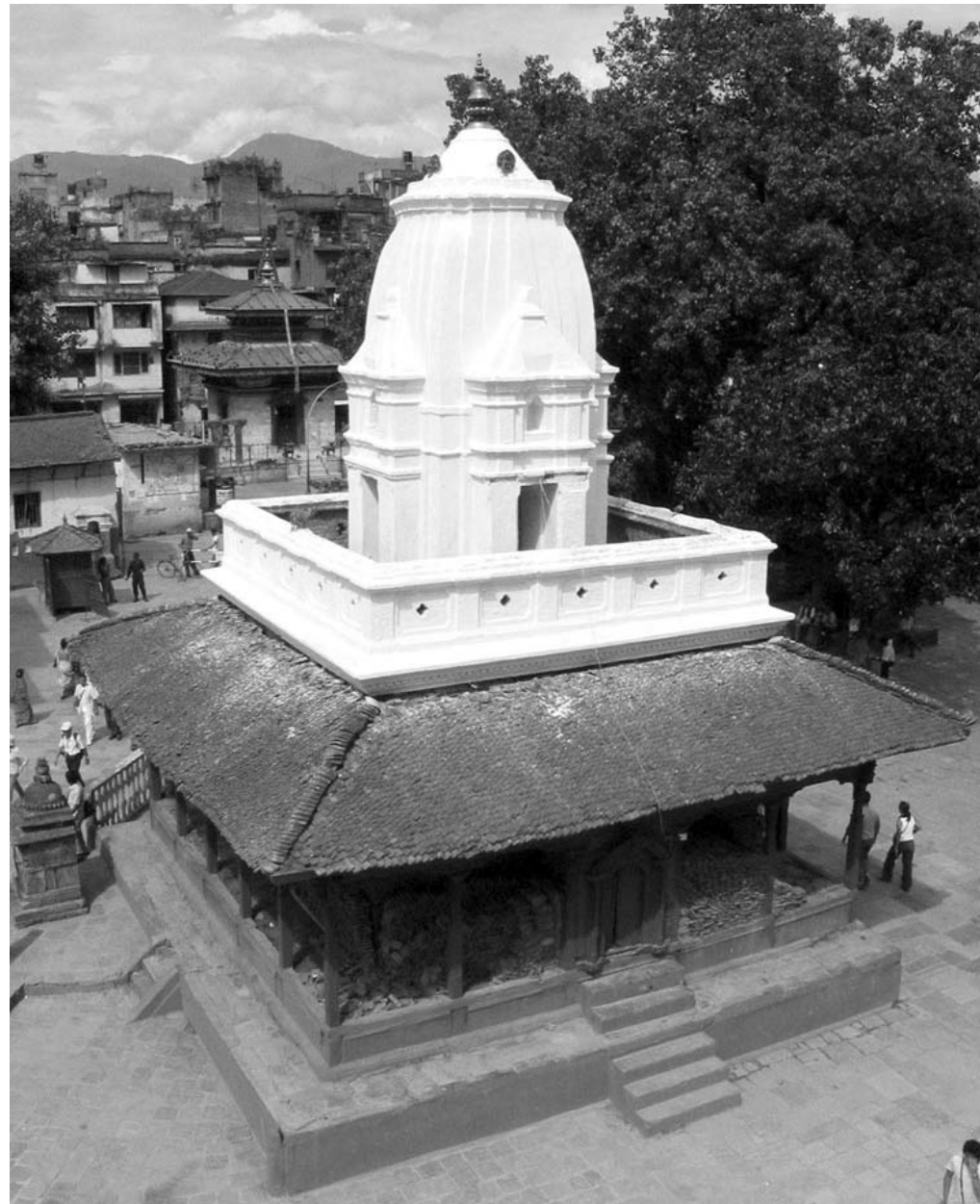
As already mentioned, the principal deity of the temple, the Shiva Linga is located at the upper level and only a narrow staircase leads to it, with no opening in the lower level. It is rather unique for square pagoda temple structure to have main iconic figure in the upper level. Usually in Newari temples, the ground floor sanctum houses the deity. Like wise, the columned arcade suggest a pagoda temple. Nepal has a history of encountering an earthquake every 100 years, the most devastating one occurred in 1934 AD, which damaged many of the historic monuments in the valley³. Analyzing all the evidence, we can hypothetically say that the top portion of the pagoda temple constructed by Bhuvan Lakshmi was destroyed by an earthquake (most probably in the 1823 AD) and reconstructed with a *shikhara* tower.

CONSERVATION ISSUES AND STRATEGIES

Preliminary measures

The termite infested and poorly fitted structural members had given in to the annual monsoon, not only allowing the roof to disintegrate slowly but also making it irreparable. As in the case of most of the traditional buildings in the valley, without proper barrier, moisture infiltration into the fabric affected the venerable timber details, where process of disintegration is set off.

³ In 1823 A.D (1880 B.S), seventeen shocks of earthquake was felt in one day and night. Again in 1833 A.D (1890 B.S), an earthquake was felt towards the evening and another at 12 in the night. Four shocks were felt in all and fourth was so violent that many buildings and temples fell down in three cities of the valley. In Kathmandu, Patan and Bhatgaon 643,824 & 2747 houses were damaged respectively. (Daniel Wright, “History of Nepal with an Introductory Sketch of the Country and People of Nepal”, pg no. 267-269)



right: The temple as seen from the top level of Narayan Temple, located south of Kageswar Mahadev. Note the freshly white washed shikhara structure, which was done in the occasion of Dashain, a Hindu festival celebrated in the months of September/October. Each of the temples in the Darbar Square gets beautified during the festival.
Photo by: Raju Roka, KVPT, September 2004.



The idea of small scale intervention to prevent further damage to the fabric was initially prioritized. Emergency roof cover as activity was undertaken in June, 2004. A tarpaulin was installed to cover the damaged roof to protect it from further penetration of monsoon rains. Installation of this emergency measure coincided with the US Ambassador, His Excellency James F. Moriarty's visit to the site to view the progress of the projects.

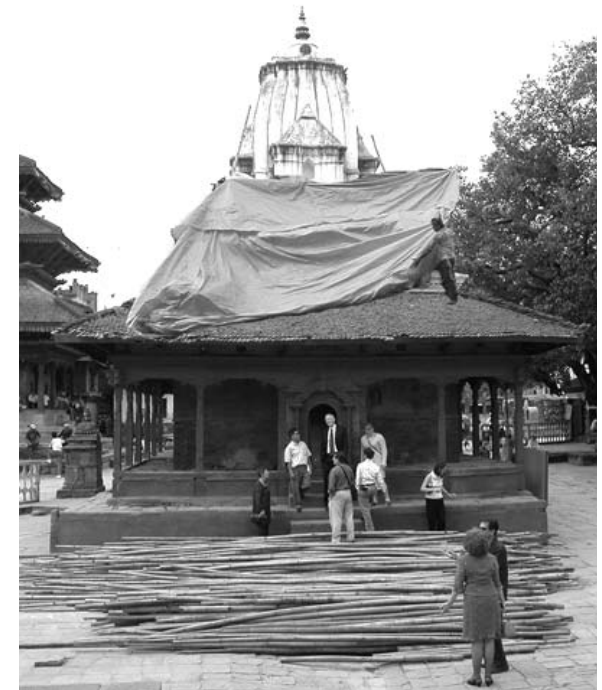
Restoration Design Question: In which state of history should the temple be restored to?

Like many temple structures in the Valley, the original features and configuration of Kageswar Mahadev Temple were dramatically altered after an event of earthquake. In our previous projects under the “Kathmandu Darbar Initiative”, for example, Indrapur and Kal Bhairav, restoring the structure to their original configuration had been the principal objective. In both, the structures were restored as they stood prior to the 1934 earthquake. This was made possible since we had well documented historical photographs of the structures.

But, though there has been some references made of the original pagoda structure (according to “Hanuman Dhoka Rajdarbar”, Gautam Vajra Vajracharya, published in 1977), the pre 1934 photographs demonstrated a white washed *shikhara* style Kageswar Mahadev Temple; no clue of what the temple appeared like as it stood originally remains. The two available historic photographs, perhaps taken during the same time frame (see page no. 6 for reference) depict more or less the same structure. The roof structure with corrugated sheets over the terrace on first floor level, which we can see in the photographs, was more likely to be added for protection against rain. This no longer exists, must have been removed in subsequent repairs. Much of its fabric and materials dated from the later rebuilding.

Research was conducted to verify whether the above claims of the temple being a pagoda one, were correct or not, but we did not come across any relevant documents to prove this. So, reinventing the pagoda configuration for the temple would be totally incorrect.

- Firstly because, in order to back us up for recreation of the pagoda, ample of evidence, both written as well as visual documentation would be essential, which in this case is missing.
- Secondly, questions arose so as to how the structure appeared initially, since there are myriads of shapes and forms prevalent in traditional Newari temple design. Even it's description in the written



above: Tarpaulin was installed over the structure as an emergency measure to protect it from the coming monsoon rains. Photo by: Raju Roka, KVPT, June 2004.



above: Kageswar Mahadev Temple under scaffolding.
Photo by: Lumanti Joshi, KVPT, April 2005.

documents are not specific about the overall configuration of the structure. Whether the temple was multi tiered like Narayan or double tiered like Jagannath was difficult for us to assess due to this.

•Moreover, the present eclectic structure featuring elements of two different architecture style, has evolved into an illustrious component of this historically significant Square since the rebuilding of the temple in 1823. Re-establishing the tiered feature of the structure would be equal to erasing a period of history from the structure.

Thus, we opted to restore the existing structure with minimal intervention in its configuration.

Documentation Process

Having decided that no major intrusion would disturb the present structure, our next step was to make complete documentation of the existing conditions to propose the necessary recommendations for restoration. This has always been a significant part of the Trust's continuous documentation of historic structures which serves as a reference for future projects.

Prior to the site analysis, thorough research of regarding its history and establishment was conducted with immense support from Mr. Kashinath Tamot, an independent researcher currently working for Nepal Research Center. The findings of the study has been included in this report under the chapter "Historical Background". Several relevant facts about the temple's history, previously unheard of, were discovered. For example, the principal image in the sanctum (Shiva Linga), which we had anticipated to be made of stone, displaying repousse covering, is actually a solid metal image made with 8 different metals. The eight metals are considered auspicious in Hindu religion.

The details of the structure were comprehensively recorded in form of digital photographs and ink drawings prepared by the technical team of the Trust. All this was based on the site inspection conducted and the measurements taken. A complete set of drawings in 1:20 scale were prepared, which includes, existing ground and first floor plans, principal south elevation and south-north section. In addition to this, details of the structural as well as other aesthetic elements were photographed. These provided valuable information about the extent and causes of decay in the structure.

On the basis of the research results, site investigation of the existing conditions and the drawings thus



prepared, proposed recommendations were developed. Drawings with planned alterations were prepared in 1: 20 scale too, which are as follows, proposed ground and first floor plans, principal south elevation and south-north section.

Refurbishing the structure

The detailed documentation aided in determining numerous factors, which needed to be considered during the restoration process. The restoration of the temple presented challenges similar to those we had faced in other projects. Typical problems included fragile roof structure, insensitive earlier repairs and damage from monsoon rains. Our approach to the problem, thus, depended on the analysis of the structure as a whole. As previously discussed, minimal intervention to the existing structure was our primary concern (see chapter “Restoration Design Question: In which state of history should the temple be restored to?” for further reference). Here we will discuss, step by step, the methodology incorporated in the project.

Under the layers of red wash, the bricks in the plinth appeared in fair condition. This unsightly color was a result of annual painting done in the temples of Darbar Square as a maintenance gig. As we removed this, badly damaged bricks were revealed, with complete deterioration of the wall fabric. Moreover, the east section of the plinth was already lost. When we studied the pre1934 photograph of the temple, this portion seems to be in disintegrated condition (see “Historical Background). It was never restored during the repair of the temple after the earthquake.

To regain its configuration, it had to be reconstructed. Together with reconstruction of the east section, the damaged veneer bricks were replaced with traditional *dachi appa* laid on yellow mud mortar, filled *ma appa* to create a solid core. This design ensures that the entire core has the same mechanical properties as the main structure and hence performing homogeneously under seismic movement. The existing stone aprons were reused, after further dressing, only replacing the damaged ones.

The timber beam base for the columns (Newari:*lakashi*) had damaged considerably, so had to be replaced replicating the existing. Here, also, the severely deteriorated plinth wall was rebuilt. The mud filling with bricks-on-edges paving on the arcade level from the 1934 refurbishment had to be disposed off because of its unhistorical character and was substituted with 2” thick planking.



above: A section of wall in the ground floor level was probed into to assess its condition. The investigation revealed that the interior had been completely compacted with brick masonry, not hollow as we had anticipated. Since it was in fair condition, we decided not to intervene in the core structure. *Photo by: Lumanti Joshi, KVPT, May 2005*



top: The plinth in the south facade being excavated to reconstruct it with traditional *dachi appa* and *ma appa* set in mud mortar. The east section was lost in the 1934 earthquake and was never rebuilt. It was reconstructed to regain its original configuration.

Photo by: Raju Roka, KVPT, May 2005.

below: The damaged wall was dismantled section by section and was carefully shored to replace the deteriorated veneer brick with new ones. Photo by: Raju Roka, KVPT, August, 2005.

During the site investigation, we probed into a section of the east wall of the structure in the ground floor level to assess its condition. In preliminary inspection, we had expected the interior to be hollow, only opening to be blocked by the staircase, an addition from 1823. The crude construction of the staircase indicates hasty repairs after the earthquake. However, it was discovered that the interior had been compacted with common bricks set in mud mortar. The reason for doing this is unknown, we can only assume that it was prompted by the damage triggered by the earthquake. Any intervention in the ground floor would mean dismantling the whole structure, implying total reconstruction. But the core structure is still in fairly good condition, only the veneer bricks required maintenance.

Rain water seepage into the structure had resulted in total damage of the masonry structure, about 80% of it was damaged. Besides this, the upper level of the walls was protruding outwards, also caused by the water seepage. In the process of restoration, the protrusion was corrected and the lower section of the wall was rebuilt with *dachi appa* set in mud mortar, section by section. The mud mortar construction greatly increases the performance of the structure in an event of seismic movement as it is able to absorb shock waves of the earthquake without fracturing the adjacent bricks. Because of the fairly good condition of the *shikhara* structure, no intervention was required to be administered.

The annual red wash on the carved features, such as the columns, beam ends, cornice details, doors and windows, had concealed the details to a great extent. In other KDI project, for example, Narayan Temple, retention of the historic painting was the key component of the project. But in case of Kageswar Mahadev, the repulsive red color did not have much of a history to preserve, instead was covering a layer of history. Removal of the color using a mild detergent, accompanied by re carving of damaged parts of the details, particularly the cornice. Continuous seepage of rainwater has caused many areas in the detail to deteriorate and prone to termite attack. The damage was more prominent on the west and north facades. The re carved sections were incorporated with the existing details, to give continuity to the feature.

The primary factor affecting the integrity of the structure was water penetration from the poorly constructed roof structure into it. Ill fitted joinery in timber members, backed up by inadequate structural members had initiated the steady deterioration of the roof. Even its projection was not adequate enough to shelter the plinth. In addition to this, absence of proper drainage of rainwater from the upper terrace made the structure venerable to moisture penetration, which has damaged the brick masonry. Entirely



new roof was restructured incorporating new rafters, purlins, eaves board, wall plates and planking with introduction of water proofing member (multiplast) in between the mud bed and planking.

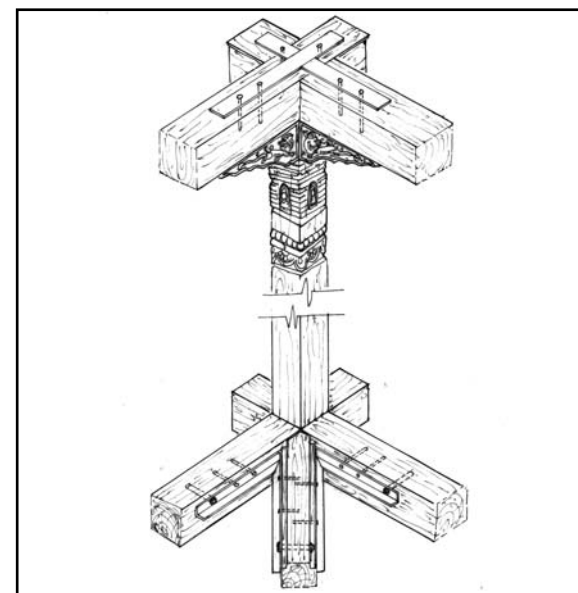
Old tiles were reused wherever possible as new tiles are of inferior quality. In order to check the drainage problem, the impervious membrane was added. And outlet with proper channeling of rain water were constructed.

Analyzing the seismic activity in Nepal for past decade, seismic strengthening has been an integral part of the project, which includes reinforcement of existing structure and the introduction of new structural members to withstand earthquakes. The intervention comprises of concealed bolting and steel angles at critical joints, bolting of rafters to the wall plates (while maintaining the visible traditional timber peg connection) and careful quality control of all timber joints. This reinforcement of roof structure helps the timber frame to act as a brace for the overall structure.

New challenges

As we progressed with the restoration work, we were faced with new developments and problems. While working on the masonry wall structure, a 4" wide crack developed at the center of the east parapet wall, which must have been caused because of the settlement of the structure. With time, the crack widened and further appeared on all the other three sides as well. This was the result of the hasty reconstruction post 1934 earthquake (the joints were not properly executed), supplemented by the subsequent settlement. Sections of the parapet wall where the gaps had formed were carefully dismantled and redone with corrections of improperly executed joints.

Despite the numerous challenges confronted by the technical team during the restoration, the project was completed in a record time of nine months, two months before its scheduled completion.



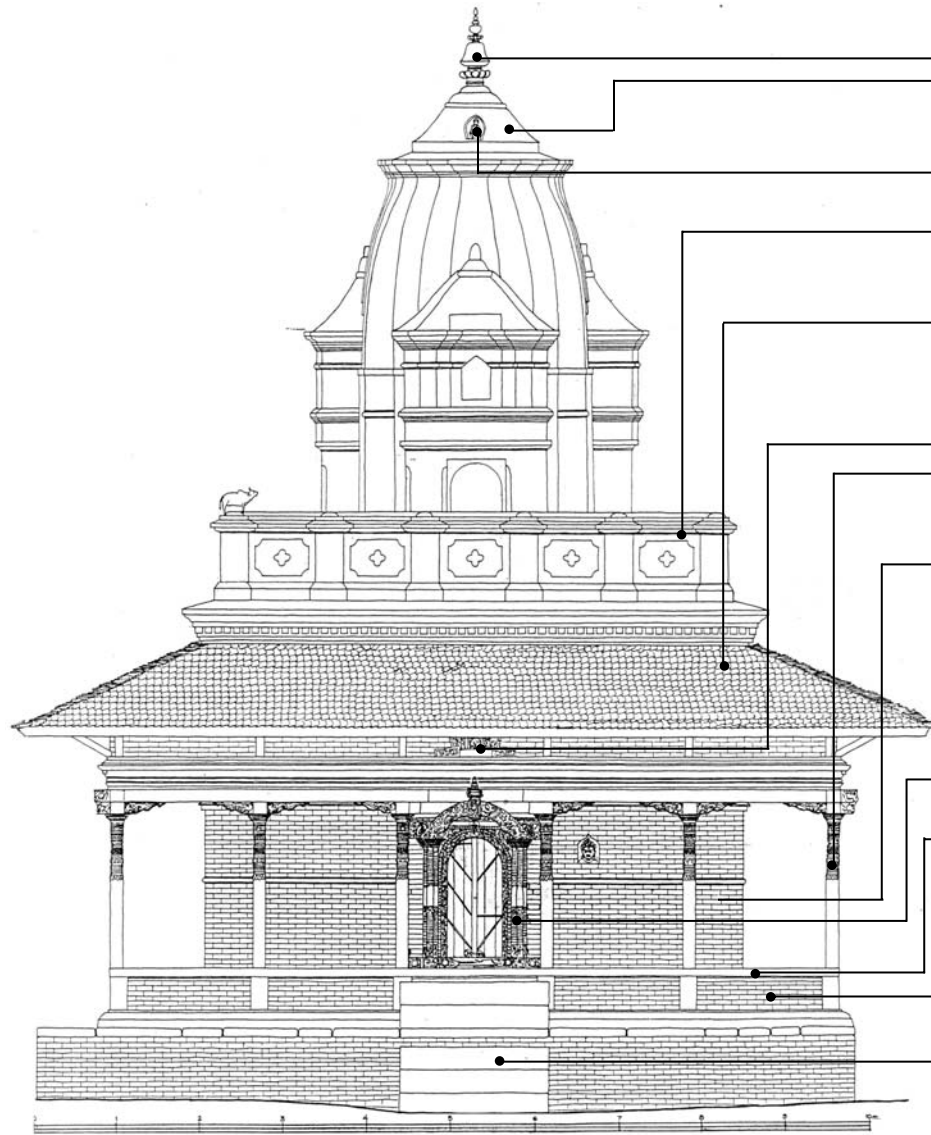
top: Simple and conservative cleaning method using water and mild detergent proved effective for removing the un-historic red paint from the carved elements. *Photo by: Raju Roka, KVPT, June 2005.*

below: Steel members are incorporated in the timber structural members for seismic strengthening. *Drawn by Rajan Shrestha, June 2004.*



ANNOTATED DRAWINGS

SOUTH ELEVATION : EXISTING CONDITIONS

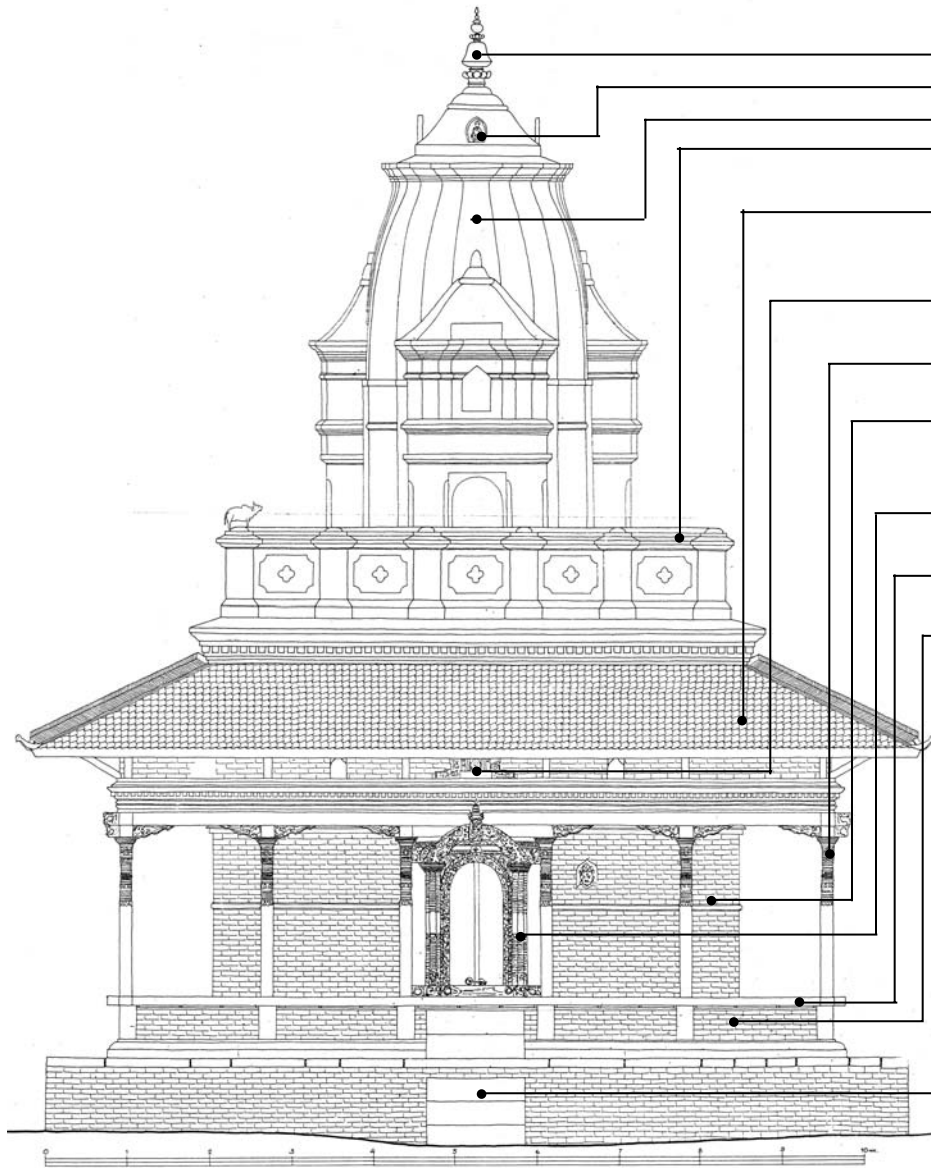


- **Pinnacle:** Altered after the 1934 earthquake, which can be proved clearly with the help of the historical photograph taken before 1934 earthquake.
- **Shikhara:** Shape of the shikhar or the dome is more slender than the pre-earthquake configuration. The plaster work is white washed and is in good condition. Similarly the details in the plaster work has also been altered.
- **Small figures:** Auxiliary deities on all four sides, which can be seen in the historic photograph, is now missing.
- **Parapet wall:** The design and pattern of the parapet wall on all sides too were altered after the earthquake. There exists a large crack on the parapet wall in the east and south facade. There is no provision of drainage of rain water from the terrace.
- **Roof cover:** Roof tiles have been displaced at some places revealing the mud bed. Ridge tiles on all corners are not properly placed (more tilt than the tradition configuration) and in north east & north west corners, some of these are missing. Corner tiles are missing on n/e, s/w and n/w corners.
- **Windows:** Intact in all sides, red washed which has faded.
- **Timber columns:** All columns are damaged at the lower ends, but intact in all sides. There are insect bore holes in all of them. Dowels, which are used for connecting the columns with *lakhashi* are different from the traditional detail. All columns in the arcade are red washed.
- **Wall fabric:** Wall is constructed with *dachi appa* laid in mud mortar, in poor condition, is red washed. Wall above the beams is in urgent need of restoration. Seepage from roof have damaged upper five layers of bricks on all sides. Large cracks have developed on the east and north facades. At many areas in the wall, as in lower 5 layers of west facade, traditional *dachi appa* has been replaced larger chinese bricks. Lower 6 layers of bricks of the principal wall and bricks around the door frame have worn out. Bricks are sprawling out, where the dampness has effected.
- **Door frames:** Intricately carved, details are covered with red paint. Lower frame has totally worn out. Details of the left frame lost or have worn out.
- **Timber plinth beam:** These have completely worn out on all sides, large cracks have formed. sitting on brick plinth without timber runners in an ahistorical configuration.
- **Plinth:** Constructed of veneer brick on mud mortar, cement plaster has been applied over this on all sides at both levels. The lower plinth in the east side is lost. Apron stones are intact with superficial damage. Both levels have been red washed. Base stones for columns (*Ilohan*) are intact on all sides. *Nagol* encircling the upper plinth is not uniform in size and is undulating.
- **Steps:** Five steps constructed with common bricks laid on mud mortar, which has been cement plastered, lead to the main door in the south side. Cement plaster has been chipped off at some places, however have been redwashed over them.

PRINCIPAL SOUTH ELEVATION:EXISTING CONDITIONS



SOUTH ELEVATION : PROPOSED CONDITIONS

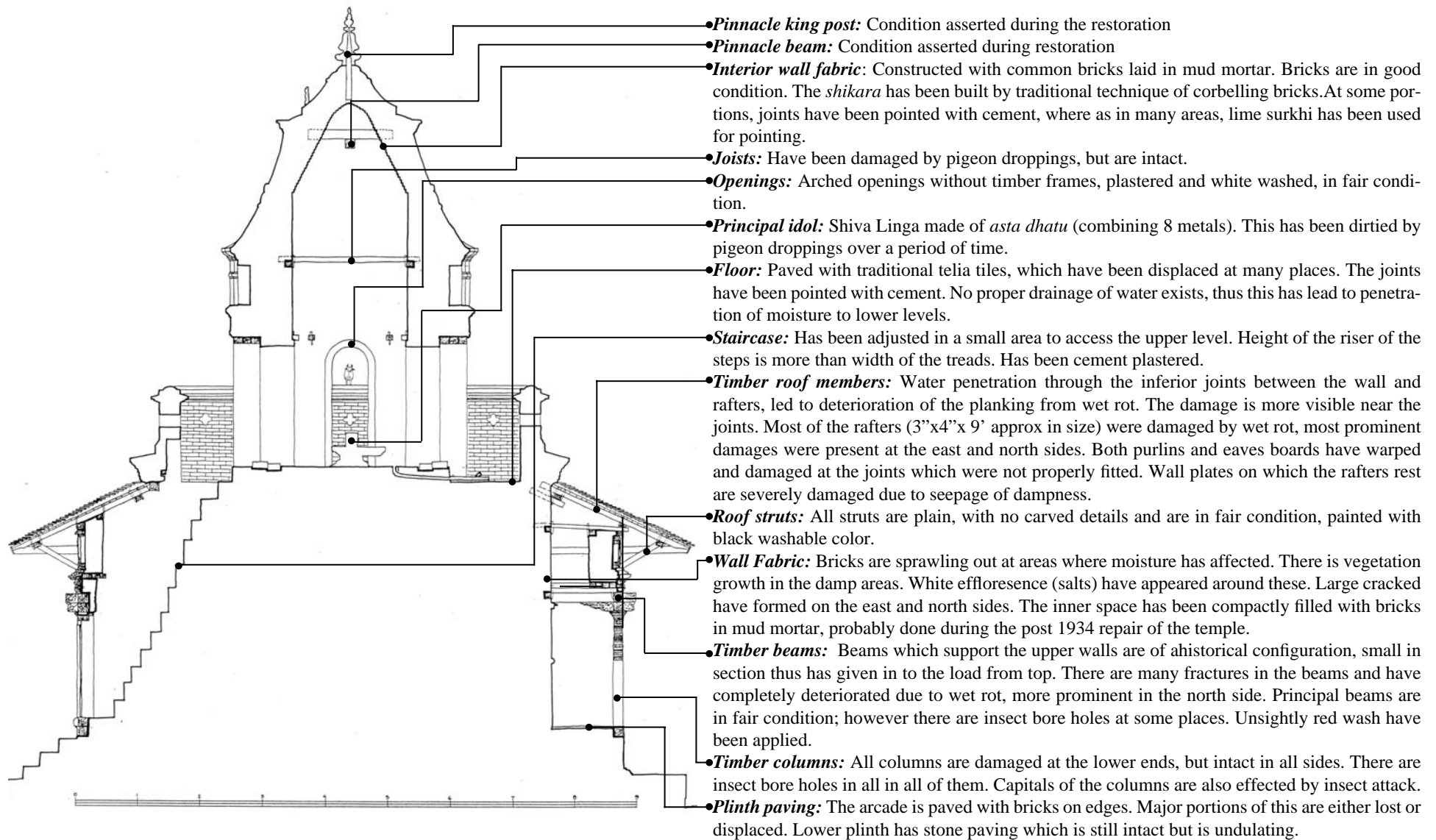


- **Pinnacle:** No intervention done in the pinnacle.
- **Small figures:** The auxiliary deities were not intervened.
- **Shikhara:** Minor repair of the damaged portions done and white washed.
- **Parapet wall:** Sections of the parapet wall where the cracks had formed were carefully dismantled and redone with corrections of improperly executed joints.
- **Roof cover:** Redone completely with introduction of water proofing membrane (tarfelt) between planking and mud layer to protect the timber roof members from rainwater. Old tiles were re-used
- **Windows:** Unsightly redwash cleaned using water and mild detergent, missing details recarved and reinstalled.
- **Timber columns:** Red paint cleaned using water and mild detergent, damaged portions recarved and reinstalled.
- **Wall fabric:** The damaged *dachi appa* from the ground floor arcade wall and replaced with new *dachi appa* done in yellow mud mortar, section by section. Internal wall fabric was not intervened.
- **Door frames:** Red paint removed with water and mild detergent. the damaged lower portion of the frame was recarved.
- **Timber plinth beam:** These were replaced with new timber of section 5"x6". The existing carvings on the *lakashi* was replicated in the new ones.
- **Plinth:** The lost east section of the plinth was reconstructed. Together with reconstruction of the east section, the damaged veneer bricks were replaced with traditional *dachi appa* laid on yellow mud mortar, filled *ma appa* to create a solid core.
- **Steps:** Steps were reconstructed with *dachi appa* done in mud mortar.

PRINCIPAL SOUTH ELEVATION:RESTORED CONDITIONS



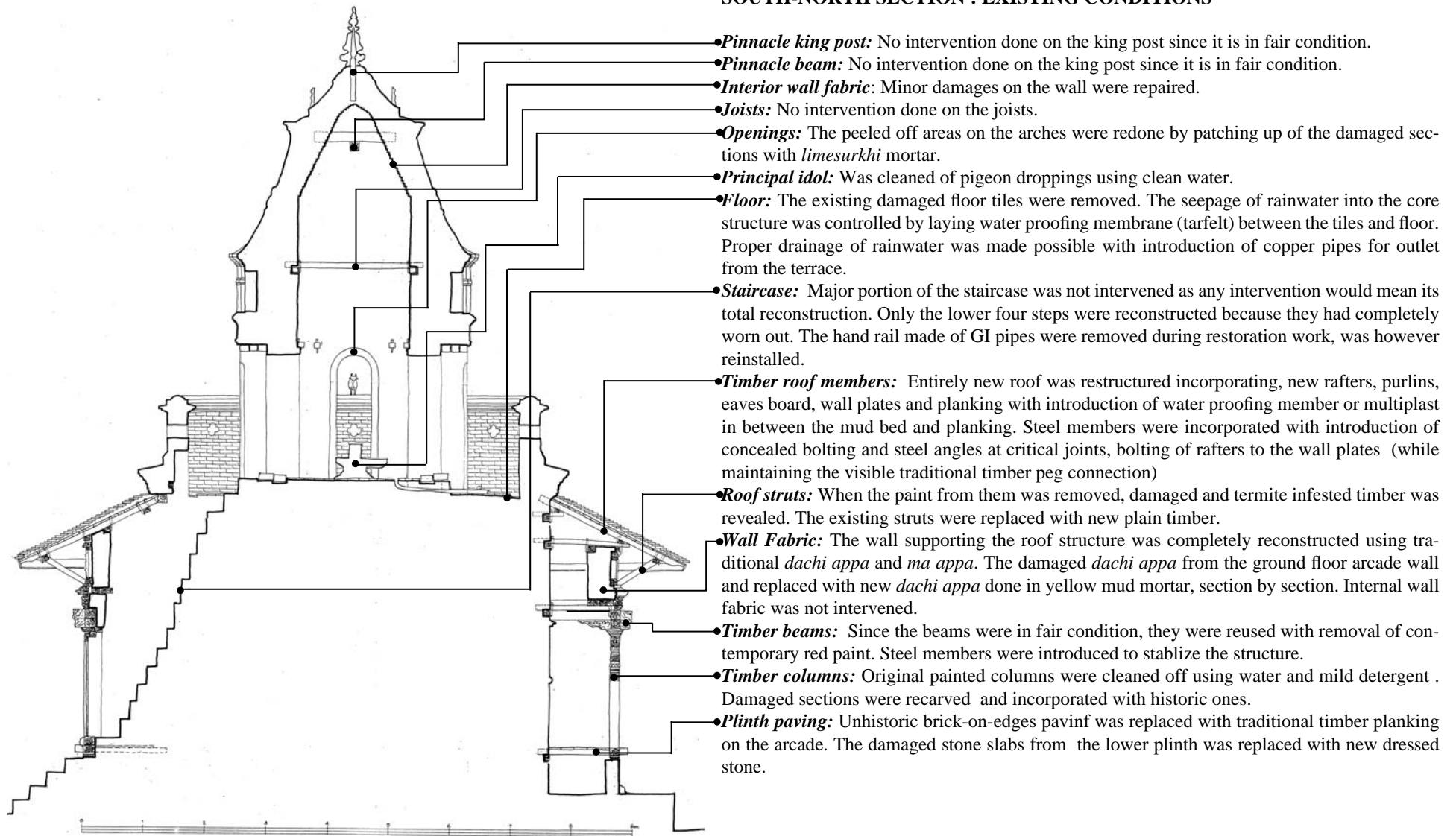
SOUTH-NORTH SECTION : EXISTING CONDITIONS



SOUTH-NORTH SECTION:EXISTING CONDITIONS



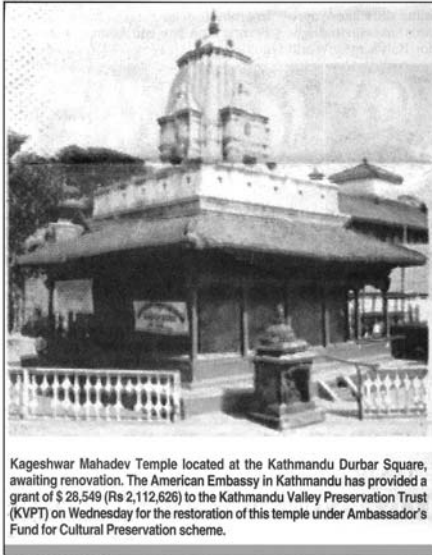
SOUTH-NORTH SECTION : EXISTING CONDITIONS



SOUTH NORTH SECTION:RESTORED CONDITIONS



The Kathmandu Post | 8
Thursday, July 1, 2004



Kageswar Mahadev Temple located at the Kathmandu Durbar Square, awaiting renovation. The American Embassy in Kathmandu has provided a grant of \$ 28,549 (Rs 2,112,626) to the Kathmandu Valley Preservation Trust (KVPT) on Wednesday for the restoration of this temple under Ambassador's Fund for Cultural Preservation scheme.

top: Donors observing the craftsmen preparing the details for temples. *Photo by: Raju Roka, KVPT, November 2005.*

bottom: A press release was announced by the American Center, Kathmandu when the Trust received the U.S. Ambassador's Fund for Cultural Preservation 2004 for restoration of Kageswar Mahadev Temple in The Kathmandu Post, a leading newspaper of Nepal.

PUBLIC AWARENESS

The Trust, in its each projects, has advocated the need to develop programs to generate public awareness for the project to be successful. Unless the general public recognizes the value of their ancient heritage and the underlying principles of the impact of conservation works carried out, all done will be restricted to a physical achievement only.

With many temples and monuments of the valley being restored in the past few decades, general public's interest in conservation works have substantially amplified as compared to before. Providing information to the people regarding the restoration project is a means to make them conscious regarding the issues of heritage conservation. Public involvement in several of the conservations projects illustrate their growing concern. During the restoration phase of Kageswar Mahadev Temple, many people from different walks of life, many passer by, many students dropped in to just observe the work being done. The interaction with the public has been a learning experience for the team, their insights on history of the temple have been very valuable.

On completion of the Kageswar Mahadev, the donors, both Nepalese and international, were invited to observe the work being done at the Kathmandu Darbar Square in November 2005. A comprehensive tour of the completed and on going restoration was given to the guests by the Trust's executive director Erich Theophile, reporting about the progress of the projects, their history and developments & challenges confronted in the process. Inspired by the work done by the Trust, Mr. Ludwig Kuttner and Ms. Beatrix Ost pledged to partially sponsor our next project, Patan Darbar Initiative to match the fund granted by World Monuments Fund, New York.



CHRONOLOGY OF WORK

2004

June

Installation of tarpaulin over the damaged roof as emergency measure

2005

March

Searching of timber for pillar base and beams

April

Preparation of pillar bases and beams

Building of scaffolding and fence for restoration work

Removal of roof tiles and mud bed

Dismantling of roof structure, carved elements carefully and storing the reusable members

May

Dismantling of damaged plinth and arcade wall

Building of lower plinth wall in *dachi appa* and *ma appa*

June

Cleaning of red wash from carved elements, pillars etc.

Building of upper plinth wall in *dachi appa* and *ma appa*

July

Preparation of timber frame for arcade floor planking

Preparation of joist

Installation of pillar base timber, pillar and timber frame for arcade floor planking

August

Installation of pillar base, pillar and timber frame for arcade planking

Tying of timber frame with steel frame as reinforcement

Installation of beams and carved elements

Building of wall in ground floor with *dachi appa*

Preparation of wallplates, purlins, rafters and eaves boards

September

Building of wall in ground floor with *dachi appa*

Installation of joist

Building of wall above timber arcade

Preparation of planking

Installation of wallplates, purlins, rafters and eaves boards

October

Repairing of parapet wall

Reconstruction of terrace with water proofing membrane

Installation of planking above joist

Dismantling of scaffolding and fence

Installation of water proofing membrane above planking

Laying of roof tiles (*jhingati*) above mud bed

November

Installation of planking on arcade

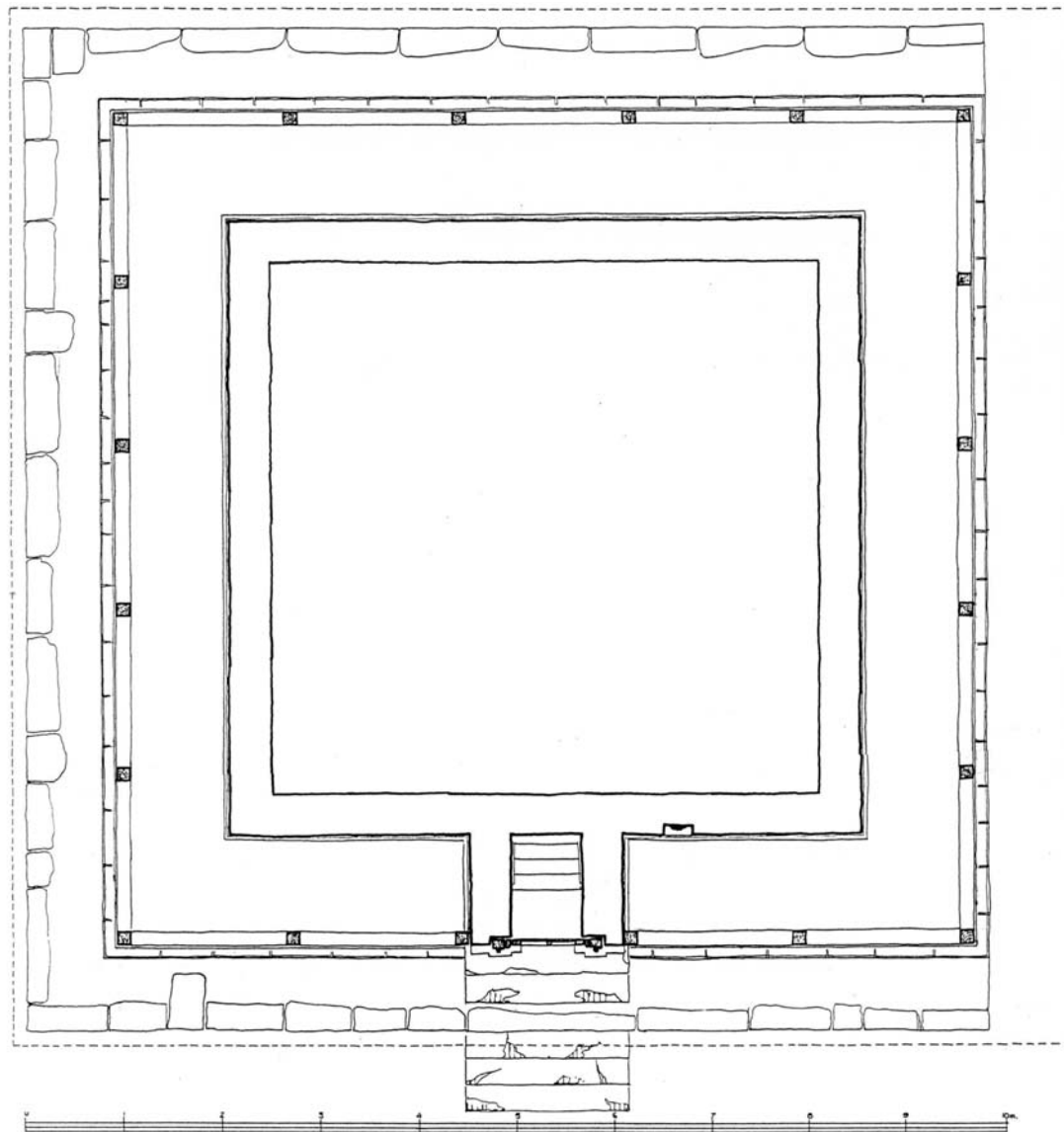
Painting of white wash on Shikhara

Laying of floor tiles (*telia tiles*) on terrace

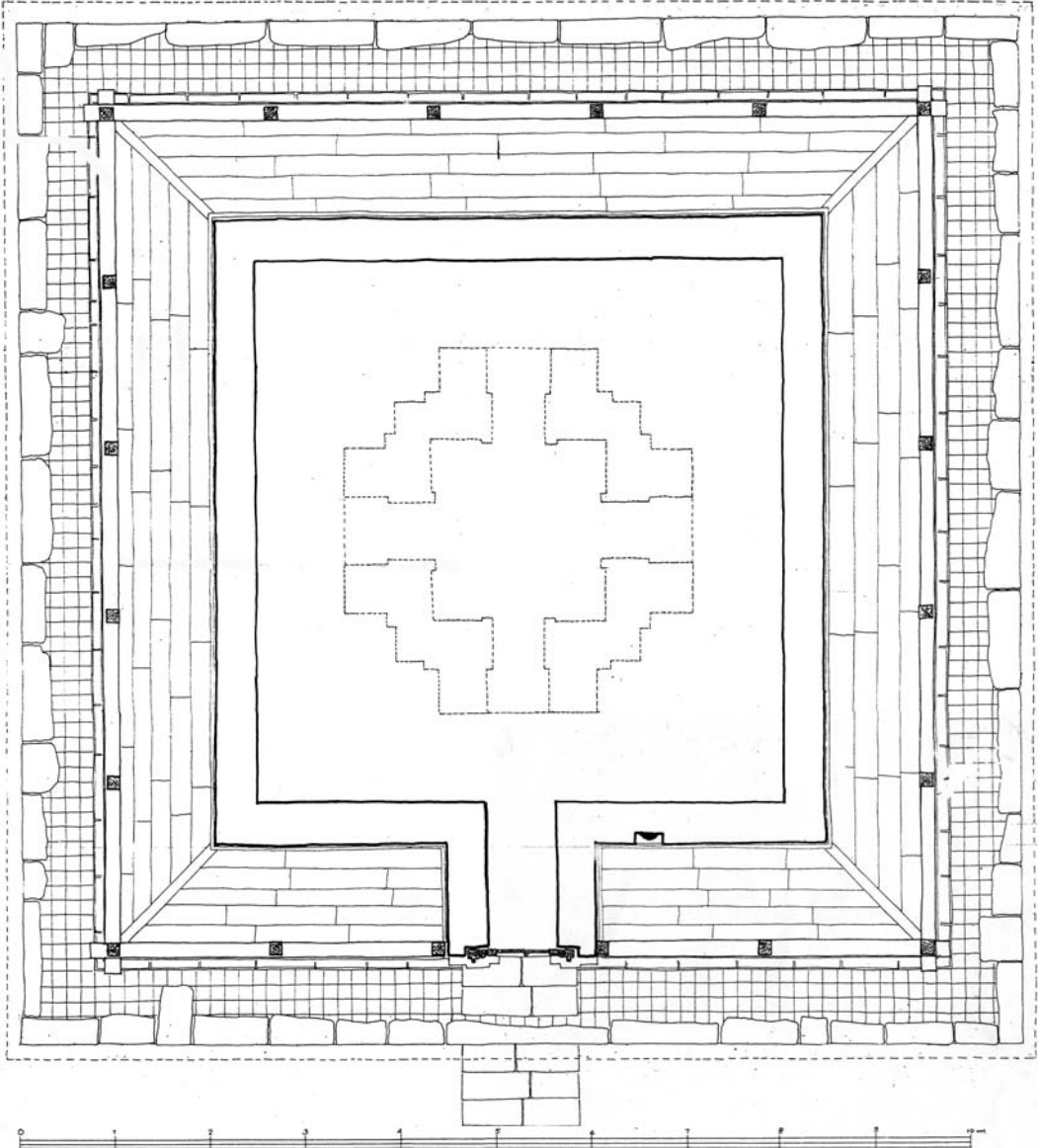
Site clearance



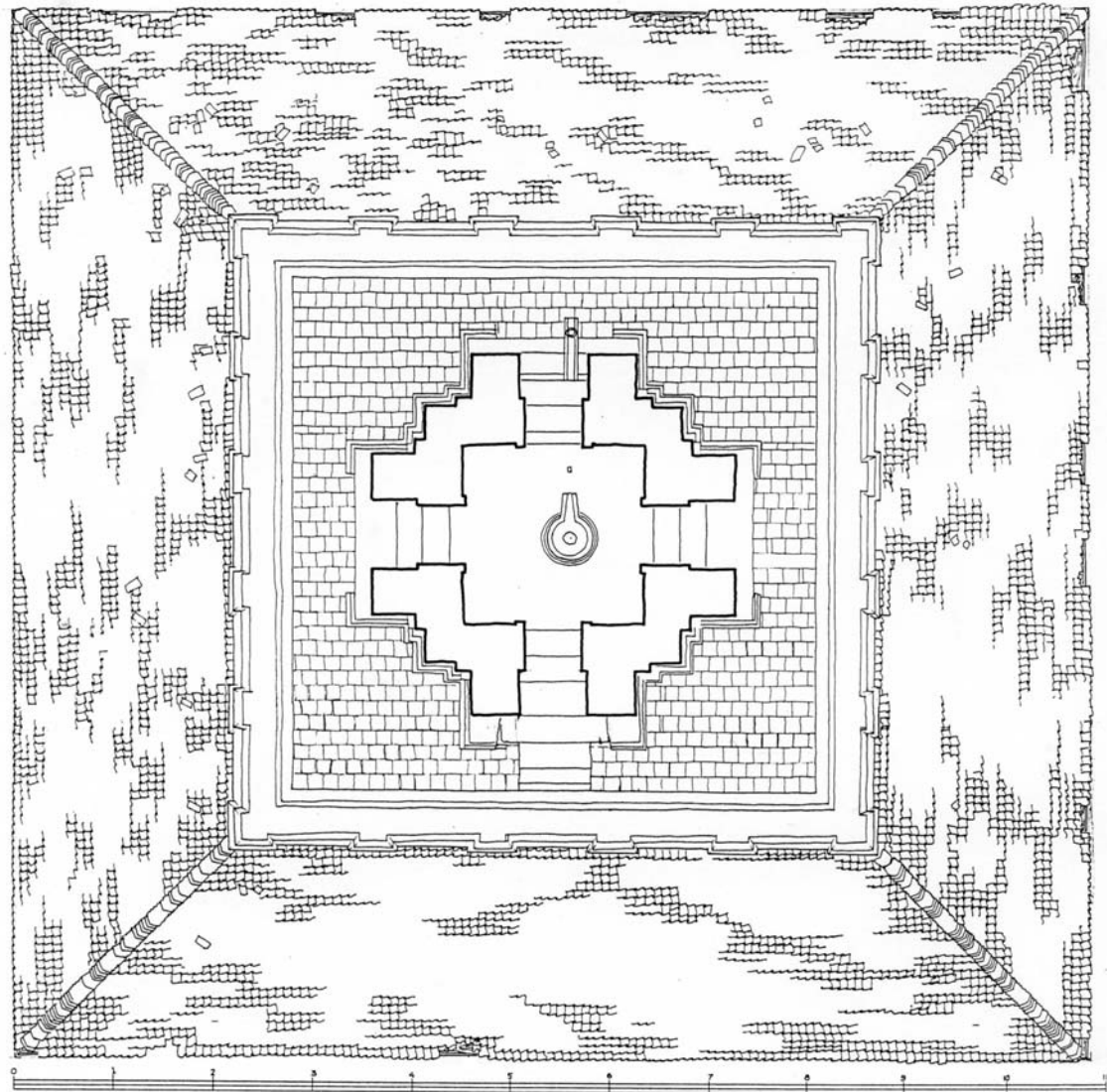
DOCUMENTATION OF EXISTING AND RESTORED CONDITIONS



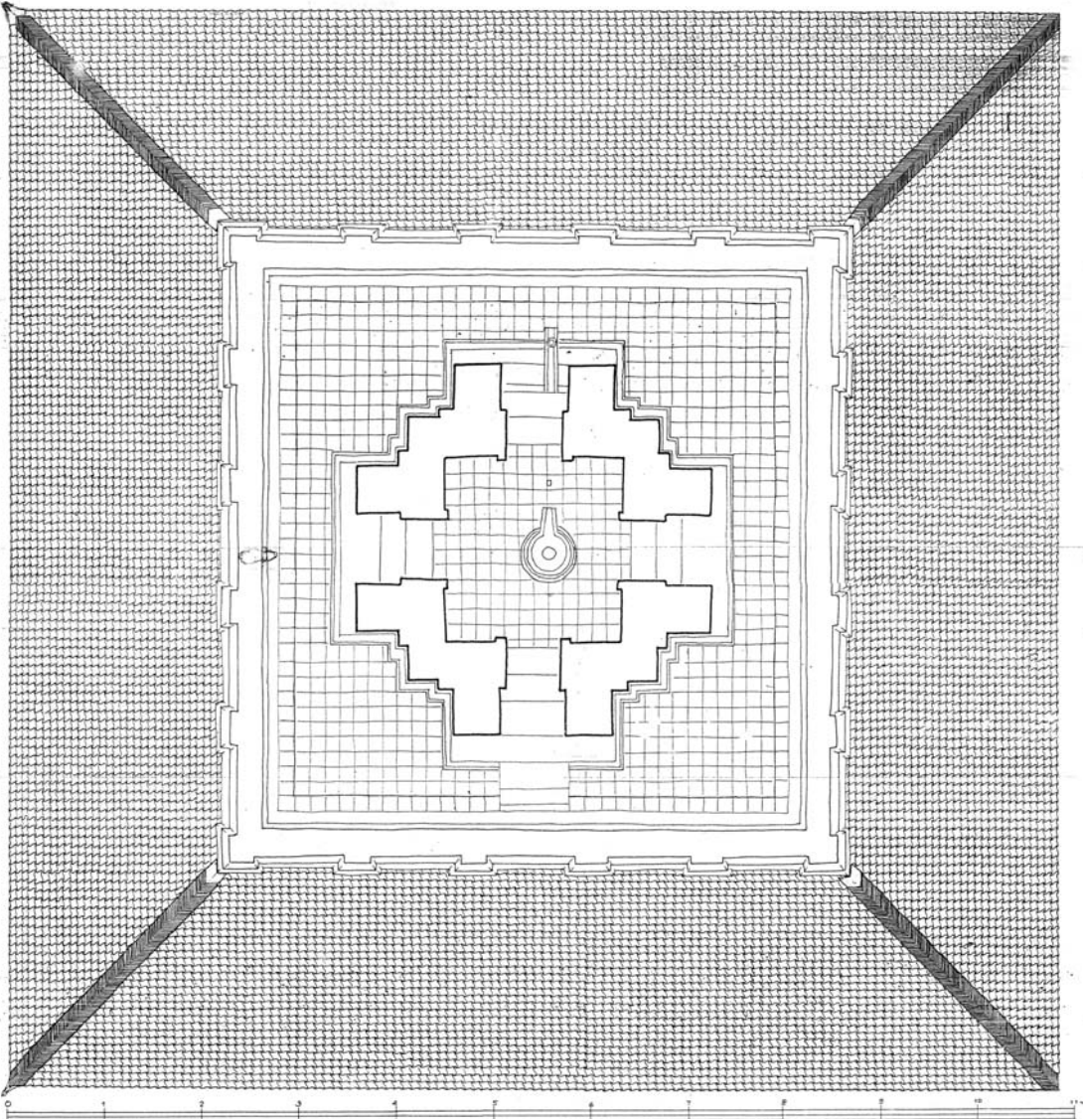
KAGESWAR MAHADEV TEMPLE
Kathmandu Darbar Initiative
GROUND FLOOR PLAN: EXISTING CONDITIONS



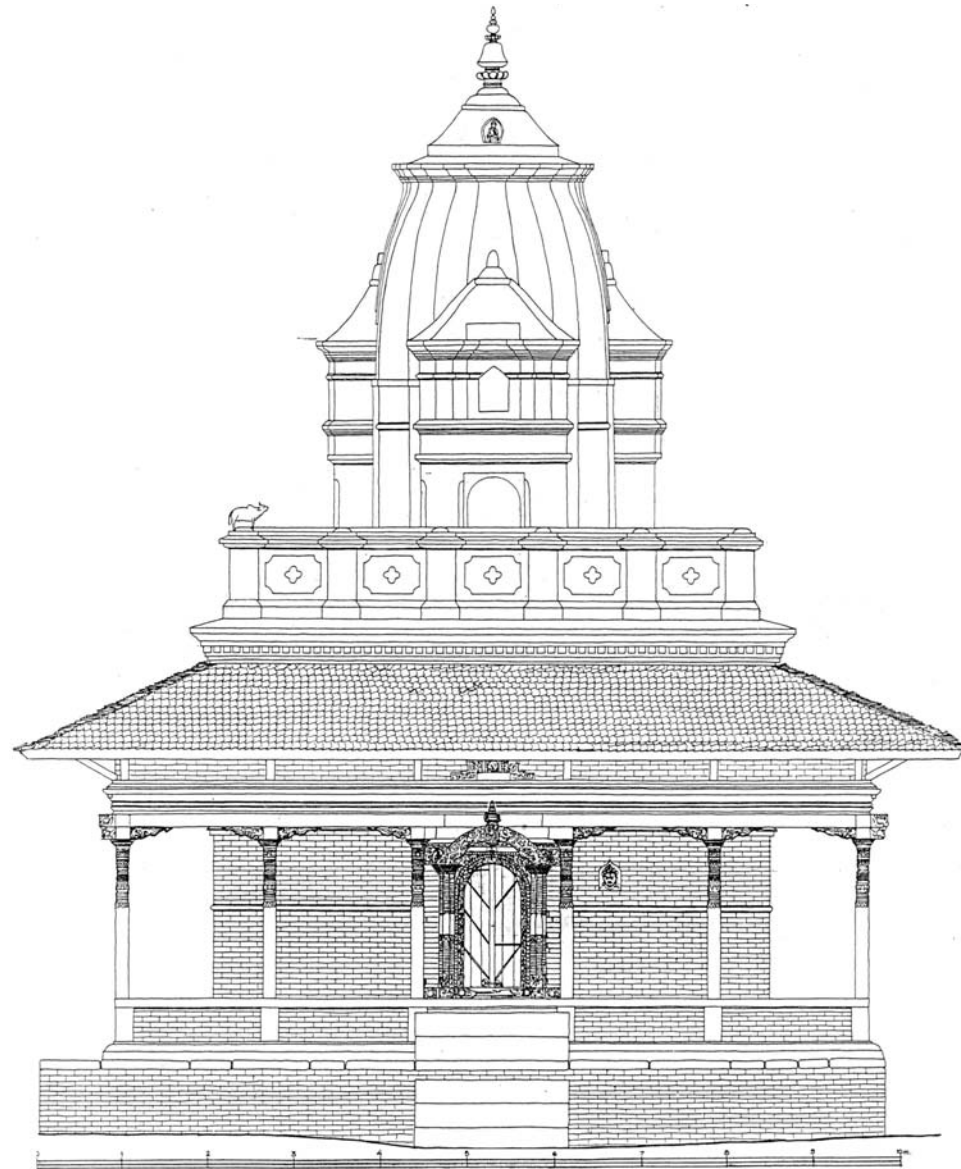
KAGESWAR MAHADEV TEMPLE
Kathmandu Darbar Initiative
GROUND FLOOR PLAN: RESTORED CONDITIONS



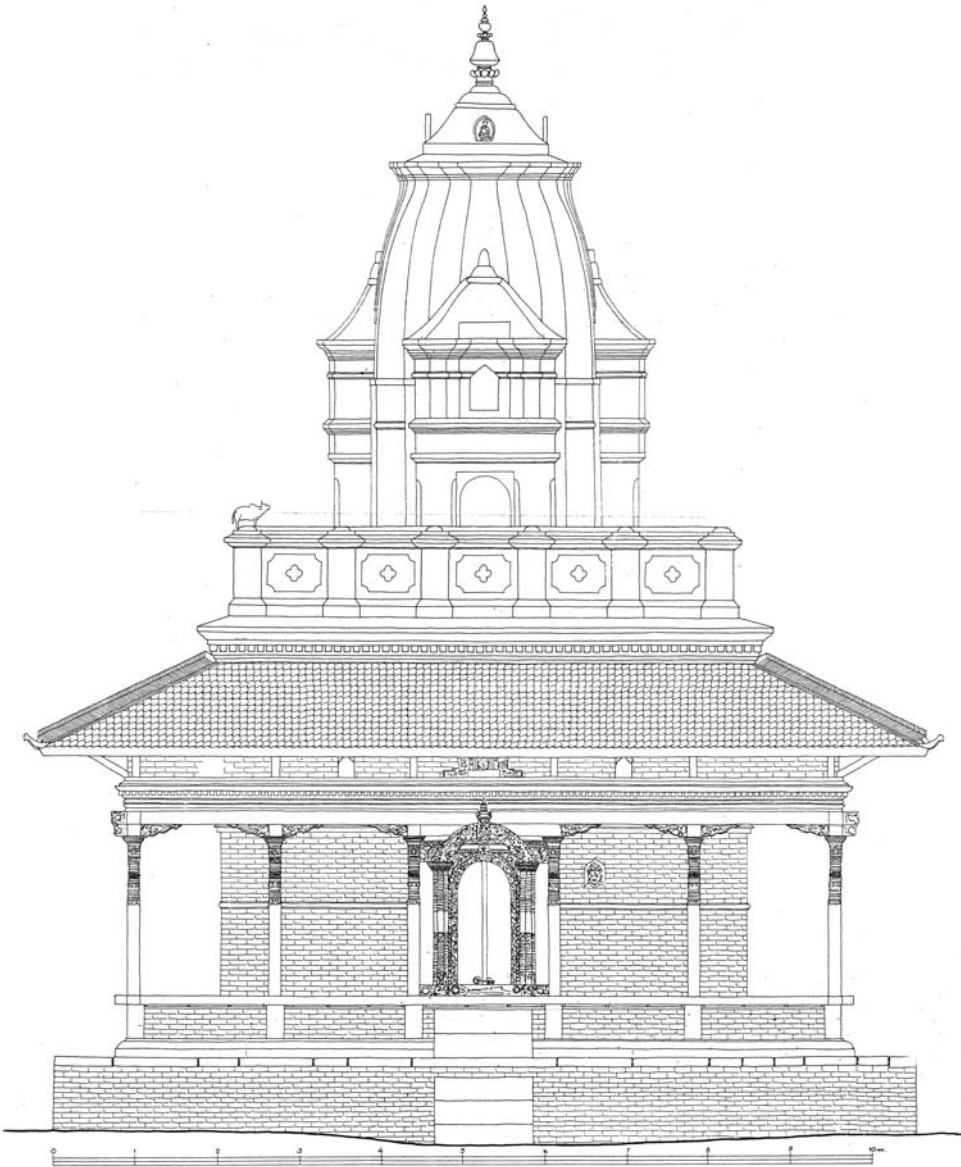
KAGESWAR MAHADEV TEMPLE
Kathmandu Darbar Initiative
FIRST FLOOR PLAN: EXISTING CONDITIONS



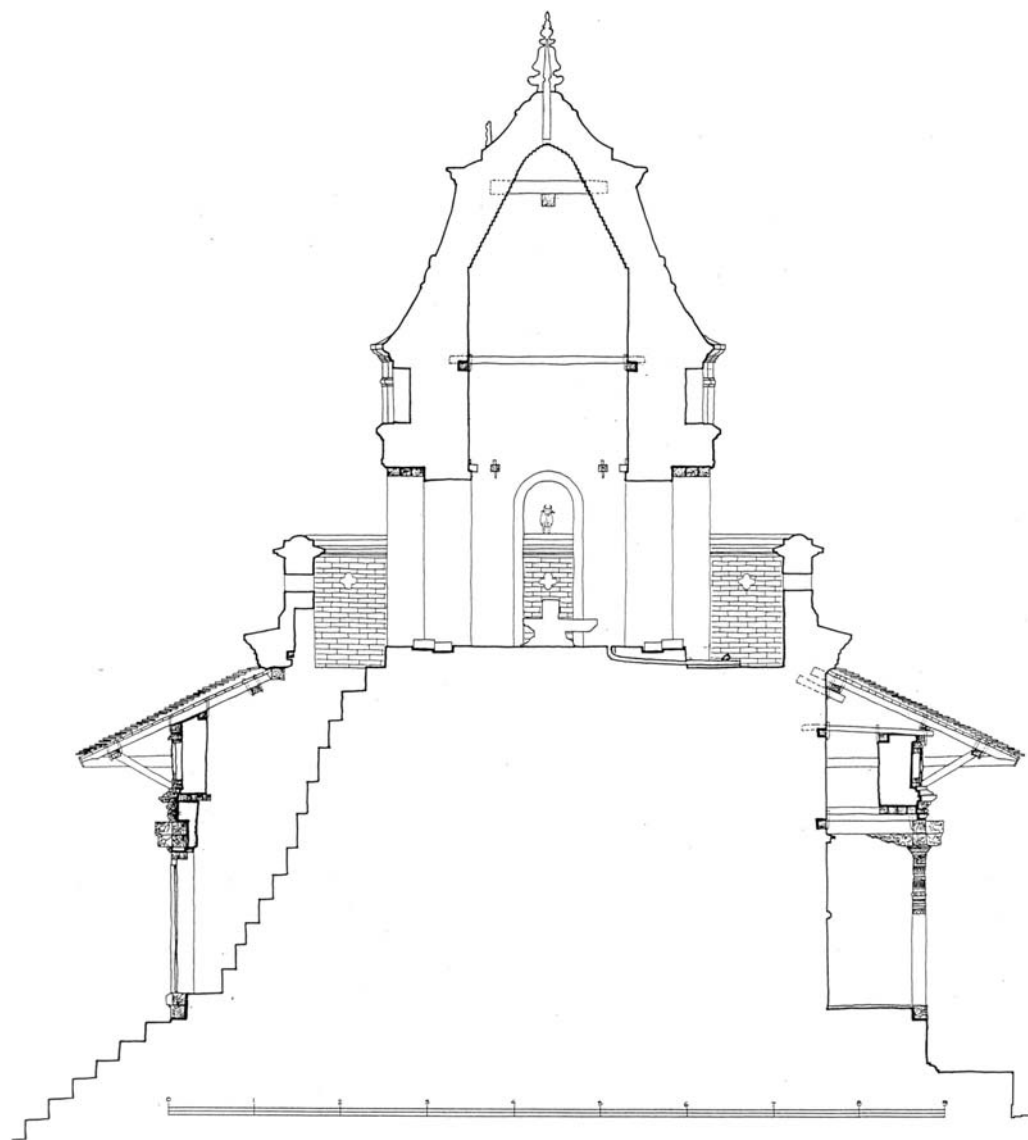
KAGESWAR MAHADEV TEMPLE
Kathmandu Darbar Initiative
FIRST FLOOR PLAN: RESTORED CONDITIONS



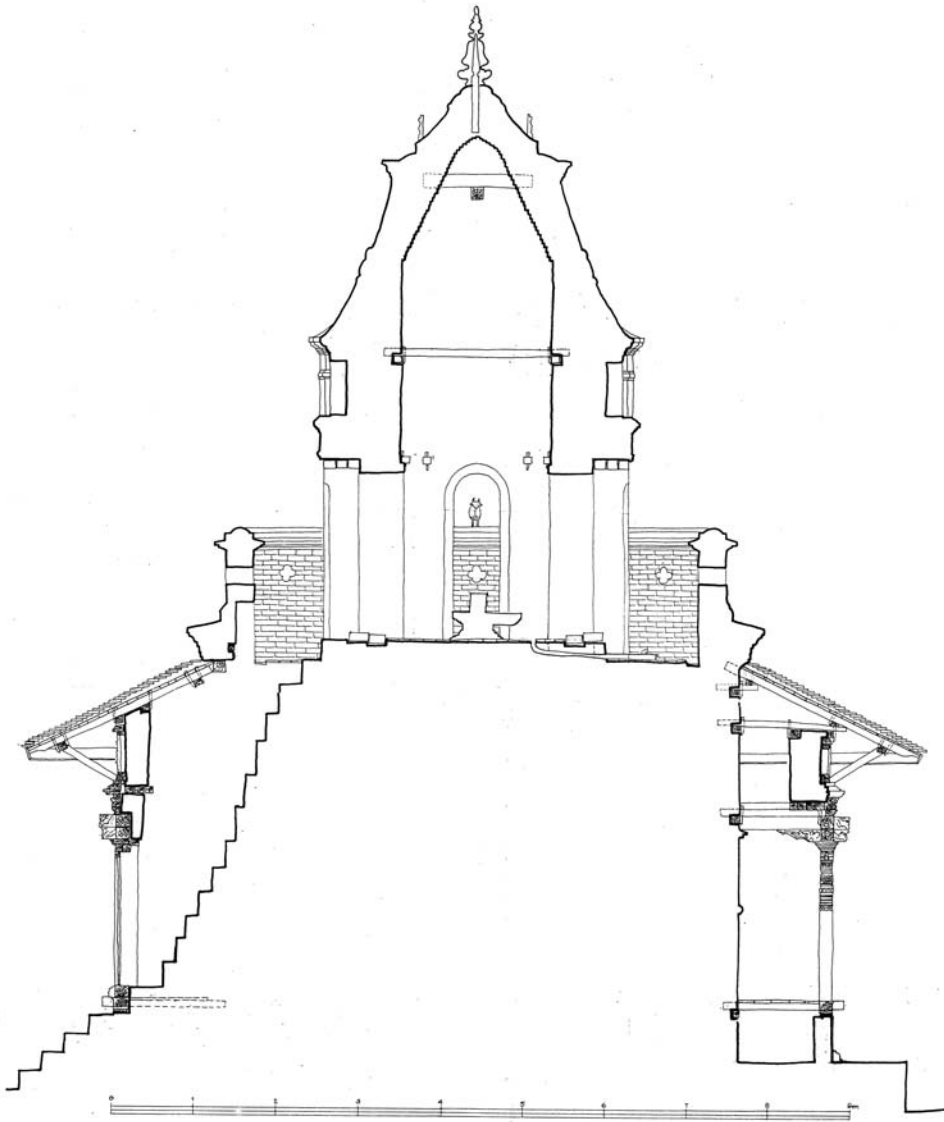
KAGESWAR MAHADEV TEMPLE
Kathmandu Darbar Initiative
PRINCIPAL SOUTH ELEVATION: EXISTING CONDITIONS



KAGESWAR MAHADEV TEMPLE
Kathmandu Darbar Initiative
PRINCIPAL SOUTH ELEVATION: RESTORED CONDITIONS



KAGESWAR MAHADEV TEMPLE
Kathmandu Darbar Initiative
SOUTH-NORTH SECTION: EXISTING CONDITIONS



KAGESWAR MAHADEV TEMPLE
Kathmandu Darbar Initiative
SOUTH NORTH SECTION: RESTORED CONDITIONS



DOCUMENTATION OF RESTORATION



top left: The beams supporting the upper wall were smaller in section and thus had warped because of the load. *Photo by: Lumanti Joshi, KVPT, April 2003.*

top right: The floor tiles laid on the terrace were coming off at many places and required emergency repair work. *Photo by: Lumanti Joshi, KVPT, April 2003.*

bottom left: The staircase leading to the terrace of the temple from the main entry. *Photo by: Lumanti Joshi, KVPT, April 2003.*

bottom right: The *lhakashi* had deteriorated at many places and were replaced during restoration. *Photo by: Lumanti Joshi, KVPT, April 2003.*

right: Kageswar Temple, an important component of the historic square, from west. *Photo by: Raju Roka, KVPT, March 2003*





left: Roof tiles and mud bed were first removed and reusable ones stored, in order to dismantle the roof structure. *Photo by: Raju Roka, KVPT, April 2005.*

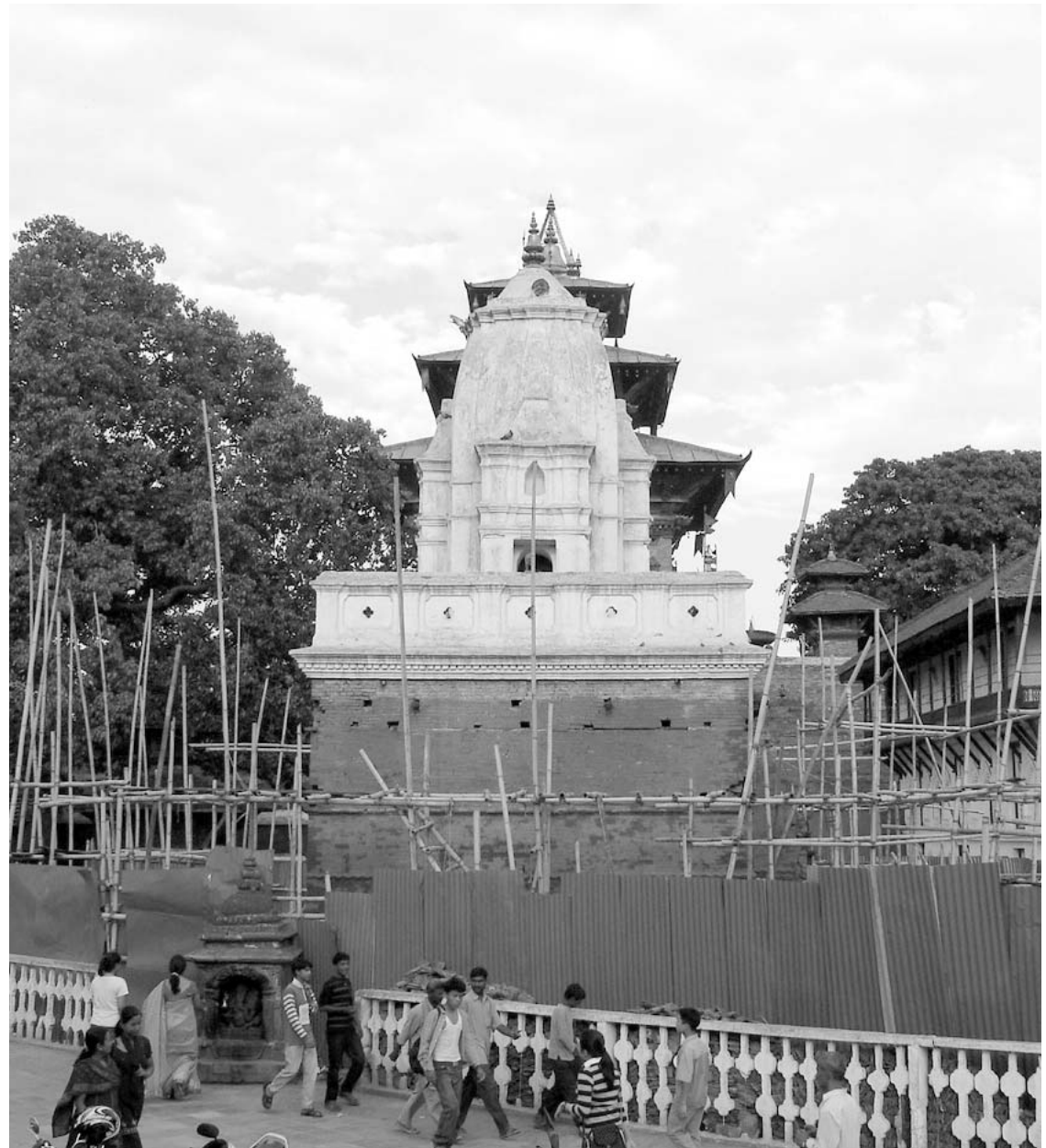
top left: Craftsmen replicated the damaged elements with reference to the existing ones. *Photo by: Raju Roka, KVPT, June, 2005.*

top right: Rebuilding of lower plinth. The damaged walls were dismantled and reconstructed with *dachi appa* set in mud mortar. *Photo by: Raju Roka, KVPT, May 2005.*

bottom: The layer of unhistoric red paint was removed from the carved elements. *Photo by: Raju Roka, KVPT, June, 2005.*

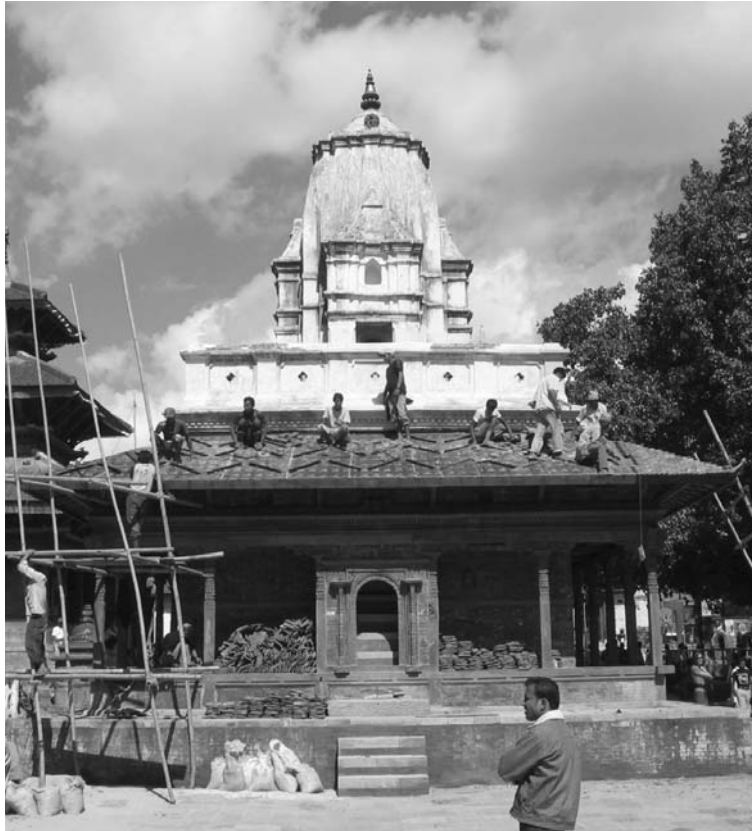


top: Damaged sections of the cornice were recarved and installed with original details. *Photo by: Raju Roka, KVPT, August 2005.*
bottom: Walls above the beam level being rebuilt. The frame of the temple was covered with tarpulin to check the rain water seepage. *Photo by: Raju Roka, September 2005.*
 left: The roof structure was dismantled to be completely refurbished. *Photo by: Raju Roka, April 2005*





left: Kageswar Mahadev Temple with newly prepared rafters installed. A large crack developed on the parapet walls as we progressed with work, was later repaired. *Photo by: Badri Juwal, KVPT, September 2005.*
top: Masons at work. *Photo by: Badri Juwal, KVPT, May 2005.*
bottom left: Preparation of mud for mortar. Mud mortar construction greatly enhanced seismic performance of the building. *Photo by: Raju Roka, KVPT, September 2005.*
bottom right: Carpenters installing the rafters. Every third rafter was bolted to the wall plate for stability of structure. *Photo by: Badri Juwal, September 2005.*



top: Battens being fixed on the roof structure to hold the mud in its position. Water proofing membrane was introduced between the planking and mud bed. Traditional roof tiles (*jhingati*) were laid on the mud bed. *Photo by: Raju Roka, KVPT, October 2005.*
right: Final stage of completion. *Photo by: Raju Roka, KVPT, October 2005.*



left: On november 19th, 2005, executive director of the Trust, Erich Theophile (3rd from left) gave an exclusive tour for a group of Nepalese and international donors, reporting about the progress of the Kathmandu Darbar Initiative project. Restoration of Kageswar Mahadev Temple (*in background*) was completed in November 2005. *Photo by: Raju Roka, KVPT, November 2005.*



IMPLEMENTATION SCHEDULE

Nov-05

S No.	Work Description	March	April	May	June	July	August	September	October	November	December
1	Searching of timber for pillar base and beams		■								
2	Preparation of pillar base and beams		■								
3	Building of bamboo scaffolding and fence around the temple		■								
4	Dismantling of the roof structure, wall structure supporting the roof.			■	■						
5	Dismantling of damaged plinth and arcade wall			■	■	■					
6	Storing of historic elements such as the blind niches, windows, timber columns and other usable materials.			■	■	■					
7	Rebuilding of lower plinth with <i>dachi appa</i> and <i>ma appa</i>			■	■	■					
8	Cleaning of red wash from the carved historic elements.				■	■					
10	Building of upper plinth with <i>dachi appa</i> and <i>ma appa</i>				■	■	■				
11	Preparation of timber frame for arcade floor planking					■					
12	Preparation of Joist					■					
13	Installation of pillar base timber, pillar, and timber frame for arcade floor					■	■				
14	Reinforcement of timber frame with steel reinforcement						■				
15	Installation of beams and carved elements						■	■			
16	Rebuilding of ground floor wall with <i>dachi appa</i>						■	■	■		
17	Preparation of wall plates, purlins, rafters and eaves boards						■	■			
18	Installation of roof members such as wall plates, purlins, rafters and eaves boards							■	■	■	



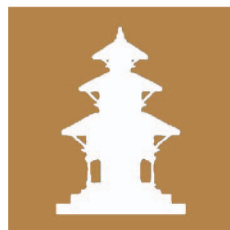
SUMMARY OF EXPENDITURE

December 2005.

No	Work Descriptions	Amount (in US \$)
1	Office Supplies	82.44
2	Communication	78.93
3.	Local Conveyance	131.32
4.	Reprographics	-
5.	Photography	3.61
6.	Documentation	200.00
7.	Fundraising	152.11
8.	Construction Materials	6,973.08
9.	Timber	10,166.54
10.	Tradesmen	11,236.49
11	Implementation Team	1,369.25
12.	Local Consultants	-
13.	Meeting Allowance	-
14.	Miscellaneous	204.31
15.	Bank Charges	35.23
Total Expenditure		\$ 30,633.31

Source of Funding :

1. US Ambassador's Fund for Cultural Preservation 2005	\$28,549.00
2. Kathmandu Valley Preservation Trust, USA	\$1,990.31
3. Interest from Bank	\$94.00
Total	\$30,633.31



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