

BROKEN SHRINES: SIKKIM'S MONASTIC HERITAGE AFTER THE EARTHQUAKE

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1. INTRODUCTION

1.1 SCOPE OF THE REPORT

Monasteries were among the most heavily damaged institutions in the 6.8 RS earthquake that occurred on 18 September 2011 in Sikkim. The scale of the damage ranged from hairline cracks to near total collapse. A report prepared by the Cultural Affairs and Heritage Department (CA&HD) surveyed 93 properties in the four districts and it revealed that very few monasteries had emerged intact from the quake.

This report attempts to survey, study and categorise related damages to the monasteries. It will also glance at the social impact of the quake on monasteries and their communities. However, before proceeding with the details of the report, it is necessary to encapsulate the provenance and importance of monasteries in Sikkim.

1.2 MONASTERIES AND THEIR IMPORTANCE

Monasteries have great meaning in the lives of Sikkim's practicing Buddhists and believers from other faiths. They are important as centres of spirituality, learning and community. Some of the larger monasteries support around 700 monks and also nurture small hamlets that come up around them. They provide economic opportunities to the village folk and act as centres of community life during funerals and festivals. They are also repositories and producers of the Tibeto-Buddhist scriptures, the prevalent form of literacy in pre-British Sikkim. Their role is similar to the monasteries in Europe at the turn of the previous millennia, which served as nodes of arts, learning and human settlements.

Monasteries are also indispensable to Sikkim's artistic and architectural identity. They also attract the student of Buddhist architecture and its history, particularly in the pan-Tibetan region. The arts in Sikkim have always had a religious coloration and the artisans have always been crucial to the monastery's visible identity.

Sikkim's recorded history is recent and its monasteries were the only institutions, apart from royalty and sections of the aristocracy, that could afford to build on a large scale. Domestic architecture in Sikkim has always been perishable and apart from a few well built residences of the aristocracy—the *kothis*—nothing much survives and what remains in Sikkim's archi-historical vocabulary is almost entirely monastic.

1.3 HISTORY OF THE MONASTERIES IN SIKKIM

The antecedents and forms of monasteries in Sikkim can be traced to Tibet. A telling example is the mythical history of Ralang Monastery in South Sikkim, one of the first large monasteries in Sikkim. Legend says that this monastery was built by the 4th Chogyal Gyurmed Namgyal (1707-1733) and was endorsed by the 12th Karmapa Changchub Dorje (1703-1732) in Tibet. The monastery was sanctified by scattering sacred grains of Tibetan barley. At the consecration ceremony, the Karmapa sent two ambassadorial vultures from Tibet and they blessed the monasteries in his name by circling the monastery three times.



Ralang Monastery, South Sikkim (Photo – Author)

The early monasteries would have closely imitated the Tibetan monasteries with their adobe walls and flat, crenellated roofs. Over

time however, Sikkim's extreme weather probably influenced the designs. The adaptations that Sikkim made to the design of monasteries are:

- i. *Planning*: Large monasteries in Tibet tend to be sprawling complexes, housing thousands of monks. This is a difficult style to replicate in Sikkim where the available land is less. Early monasteries in Sikkim had a limited number of monks, and this reflected in their planning. Monastic complexes then consisted of a single large structure surrounded by smaller ancillary structures, and this is reflected even today in monasteries such as Phodong and Labrang.
- ii. *Roofs*: The roofs were made to slope to manage Sikkim's extreme rainfall, resulting in a distinct deviation from Tibet's predominant flat roof style.
- iii. *Design*: While the plans of the main monasteries remained more or less the same, there was a distinct eschewal of the intricate detailing on the facades of the monasteries. Sikkim's monasteries tend to be simpler and sparer.
- iv. *Ornamentation*: Certain deities such as Kangchendzonga who were more central to Buddhist worship in Sikkim were given greater space in the monasteries.

1.4 TYPOLOGIES

Architecturally speaking, there are two main bases for classification of monastery typologies.

- i. *Planning*: The monasteries can be divided into three main typologies in planning and massing. These typologies are exemplified by Dubdi, Rinchenpong and Phodong Monasteries. Please refer to accompanying article by Gary Chopel.

Many of these traditional planning methods, which arose mainly because of the properties and limitations of stone and timber, have been made redundant by the introduction of concrete. While fundamental principles, such as the east facing altars, are obeyed, the structure now often follows the designer's dictates.

- ii. *Structure*: There are four established styles of building technology for monasteries in Sikkim.
 - a. *Vernacular*: Monasteries built in the local vernacular style are few in number. This may be because they are usually the

first ones to be upgraded to reinforced concrete (RCC). They employ the *ekra* or 'wattle-and-daub' style and have little or no structural ornamentation. Kewzing Monastery is an example of this style.

- b. *Masonry*: Monasteries built in this style utilize stone, mud mortar and local timber. They employ load bearing techniques and are characterised by thick walls and small openings. There is a steadily diminishing number of these monasteries in Sikkim. Hee Gyathang, Chawang, Tato Pani, and Samtenling monasteries are examples of this style.
- c. *RCC*: New monasteries are all built, without exception in RCC, a medium which needs little explanation in Sikkim. The new monasteries that have come up in recent times are Mani Choekhorling in Rabong and Jorethang Monastery. A number of old masonry monasteries were also torn down to make way for concrete structures. They include the monasteries at Phodong, Tashiding and Phensang.
- d. *Composite*: The three structural styles mentioned are not inviolable and there tends to be a fair amount of cross breeding. A high percentage of monasteries tend to use two or more of the above structural styles. Some examples are: Pemayangtse Monastery (RCC and masonry), Labrang Monastery (steel and masonry), Kewzing Bon Monastery (*ekra* and masonry), Chungthang Monastery (*ekra* and RCC).

2. RECENT MONASTERY CONSTRUCTION IN SIKKIM

This section traces the recent history of monastery design and building in Sikkim. It studies some of the principal factors that have influenced monastery constructions in recent years.

2.1 THE DETACHMENT FROM TIBET

Sikkim has always had close religious, cultural and political links with Tibet. This link was sundered after the flight of the Dalai Lama in 1959 and the closing of the border following the Sino-Indian war of 1962. Sikkim has been cut off from Tibet since then, and this precluded any possible checks on deviances in monastery building. Though, how much Tibet mentoring could have come from Tibet during its own devastation is a matter for debate. The damage to Tibet's cultural

heritage by the Chinese invasion and the Cultural Revolution is well known.

Sikkim's monastic building practices has been forced to evolve, if that is the word, in isolation. Factors such as patronage and material, which influence the design and building processes, are now exclusively local, except for the occasional interjection by the well travelled Rinpoche. Sikkim's recent history in monastic design shows only the broadest adherence to established principles. And its current lack of awareness on heritage practices highlights a profound ignorance of the role architecture can play in preserving cultural identities.

2.2 THE TREND TOWARDS CONCRETE

While the older monasteries used local materials such as timber or stone, the newer monasteries show a complete reliance on RCC, irrespective of location. The conversion to RCC took place post 1975—the year Sikkim was integrated in the Union of India—after which cement, steel and semi-skilled labour in RCC became widely available.



Pemayangtse Monastery, West Sikkim (Photo – Anna Balikci)

Pemayangtse was one of the first examples of a concrete frame being used on an old monastery. In 1960, Sir Tashi Namgyal, then Chogyal funded a restoration/expansion program at the monastery. This was a

sensible strategy as it used the existing building and worked around it. Concrete, perhaps because of its scarcity, was used sparingly. Later projects have refrained from such understanding. Many old monasteries have been dismantled and rebuilt in concrete, such as Tashiding, Phensang, Phodong and more recently, Tholung.

The advantages of RCC over traditional masonry are many:

- i. *Convenience*: It is cheaper and more easily purchased than stone or timber, which is naturally available but difficult to procure. There are also numerous governmental restrictions on stone quarries and timber harvesting.
- ii. *Easy*: Building in RCC does not require a high degree of craftsmanship. There has been an influx of semi-skilled labour in RCC after 1975 and particularly during the last two decades.
- iii. *Maintenance free*: RCC is mistakenly seen as maintenance free and this makes it attractive as an option. Masonry, thatch roofs, clay plastered walls and other such elements of traditional buildings appear cumbersome, having meaning and romance only to the preservationist or the outsider.
- iv. *Structural freedom*: RCC as a material is much more malleable than traditional masonry. If built well, it has more strength. Also, it is more amenable to the modern designer, with the freedom that its elasticity affords.
- v. *Progressive image*: RCC also has a progressive image. Many of the monasteries, who have made the switch from masonry to RCC or aspire to it, complain of the fustiness of old monasteries. RCC implies progress and access to funds, which in turn implies connections and contractual possibilities that can only come from good fortune.

Conversely, traditional building materials have their advantages over RCC. Timber is more amenable to carving than cement, which means there is a loss of detailing when monasteries are executed in concrete and for a building type which confers great importance on decorative motifs, it can show a serious lapse in quality. Timber floors are warmer than cement or marble floors. Lime plaster holds warmth and moisture better than cement plaster and paint. These materials are thus more responsive to rain and the cold, Sikkim's great climatological constraints.

This is not to say that the Sikkim's masonry monasteries are perfect specimens of their kind. Many of them are fragile, even when preserved well. A primary reason for their present frailty is that the connections

with Tibet were always tenuous owing to the distance and terrain. The absence of a strong building culture meant that acclimatization to Sikkim was not extensive. So the adaptation remained incomplete. They display an absence of features such as wall plates, gable bands, corner stones, through stones, that are needed in masonry buildings for lasting stability. Old monasteries such as Labrang and Ngadak have come down to us largely intact and as such, they could be seen as studies in traditional building practices. Some of the other existing traditional masonry monasteries are to be seen at Khechuperi, Meli, Pabyuk, Tato Pani, Lachen and Hee Gyathang.

Sikkim's humidity and paucity of good materials for traditional building is a misfortune for which none can be blamed. The absence of good hard stone, found only in the alpine regions, and lime and clay deposits made the buildings inherently weak. The 6-8 month long rainy season meant that there was always a steady battle between the structure and moisture which the latter invariably won.



Labrang Monastery, North Sikkim (Photo – Author)

2.3 CHANGE IN PATRONAGE

Governmental involvement is another stark trend in recent monastic construction. The governmental departments have supplanted the community and the aristocrats as the chief patrons of monastery

building. The advantages are a certain equality in attention, any constituency can be heard and appeased. But the disadvantages are many. There is a decline in building quality and no care is given to design or site specificity. There is no set up for exhaustive checks and balances during the construction phase. There is also an excessive partiality towards concrete, which is easier to estimate and for which a supply chain already exists.

The second source of funds for the construction of new monasteries are wealthy patrons from abroad. Buddhism is an international religion and several monasteries are linked with teachers and Rinpoches of international standing. They channelise building funds and their demands of newness, material extravagance and excessive ornamentation often dictate the building process. Many of the prettier new monasteries in Sikkim reflect this trend.

3. SURVEY OF DAMAGES

This section provides a general district-wise survey of the impact of the earthquake on monastic institutions. It is based on the information compiled in the CA&HD report. The reports were compiled based on site visits by officials of the CA&HD, the author of this report and in some cases, administrative officials. The report covers 93 religious institutions in all the four districts, a great majority of them monastic. It classifies the damage in three categories:

- i. *Moderate*: These include structures with hairline cracks and minor subsidence. They need medium term preventive and repair works.
- ii. *Sensitive*: These include structures with major cracks, partial structural failure and subsidence following soil settlement or retaining wall failure. They need retrofitting and repair works fairly quickly.
- iii. *Critical*: These include structures with major structural failures and as such need immediate intervention. Many masonry monasteries have suffered near total collapse.

3.1 DISTRICT-WISE ASSESSMENT

3.1.1 *North District*

The North District was the worst hit of the four districts. According to some studies, the epicentre of the quake was in this district. This

district is also where the land is the most fragile, being closest to the Himalayan mountain chain and it saw the maximum number of landslides. The structures that have suffered intense damage in the North District are:

- i. Lachung Singring Monastery (RCC)
- ii. Tholung Monastery (RCC)
- iii. Chungthang Monastery (*ekra* and RCC)
- iv. Chungthang Mani Lhakhang (RCC)
- v. Lachung Monastery (RCC)
- vi. Chawang Monastery (masonry)
- vii. Phamtam Monastery (RCC)
- viii. Menrang Monastery / Mani Lhakhang (masonry)
- ix. Ringhim Monastery (masonry)



Ringhim Monastery, North Sikkim (Photo – Sikkim Now!)

Of the large monasteries in the north, there were two notable exceptions to the damage caused: Phensang Monastery and Hee Gyathang Monastery.

Phensang Monastery (RCC) suffered damage only in the form of hairline cracks. It gives lie to the assumption that the monasteries in

North, especially the recent ones, suffered because of the sheer intensity of the quake.

Hee Gyathang Monastery (masonry) escaped the damage—collapsing of walls and bending of timber members—that has occurred in almost all the masonry monasteries. This was mainly due to the initiative taken by the locals where they propped the weak structure with a framework of steel poles. This frame relieved the walls of the roof and the floor’s weight. This allowed the structure to ride out the earthquake with major but not fatal damage.



Chungthang Monastery, North Sikkim (Photo – Rajendra Desai)

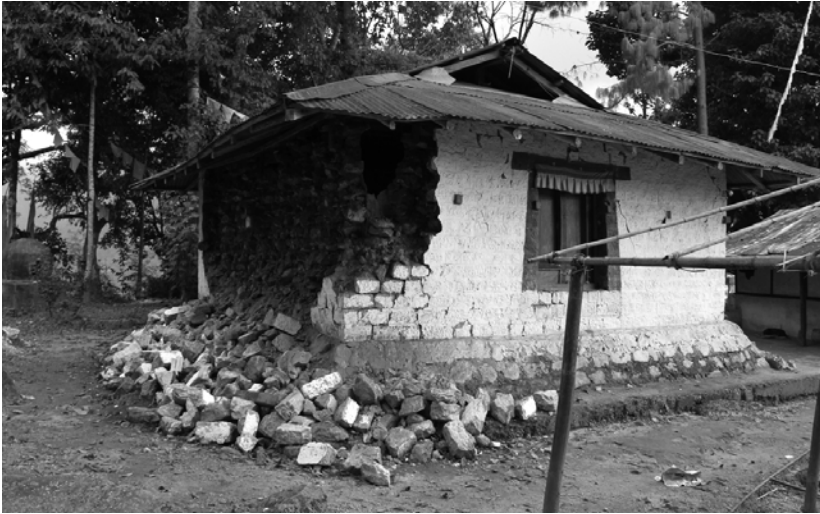
3.1.2 *East District*

The East District has the maximum number of damaged properties but that fact is not an indication of the intensity of the quake.. It is because the concentration of Sikkim’s population is much higher in the East District, it is home to 45% of Sikkim’s population, and perhaps also because of its relative accessibility from Gangtok. There are few monasteries which have the kind of damage prevalent in the North. 45 of the 93 buildings in the CA&HD report are in the East District. The affected structures in the East District are:

- i. Rey Mindu Monastery (RCC)
- ii. Old Rumtek Monastery (RCC)
- iii. Khamdong Monastery (RCC)
- iv. Rongey Mani Lhakhang (masonry)
- v. Tirkutam Monastery (RCC)



Rey Mindu Monastery, East Sikkim (Photo – S T Gyatso)



Rongey Mani Lhakhang (Photo – S T Gyatso)

3.1.3 *West District*

The West District has experienced the most damage after the North District. The damage here has been concentrated in the Pemayangtse - Khechuperi - Yuksom - Gerethang - Tashiding basin.

The structures that have suffered intense damage are in the West District are:

- i. Pemayangtse Monastery (composite)
- ii. Khechuperi (masonry)
- iii. Hongri Monastery (masonry)
- iv. Dubdi Monastery (masonry)
- v. Tashiding Monastery (composite)



Khechuperi Mani Lhakhang (Photo – Suraj Rai)

3.1.4 South District

The South District has seen the least damage of all the four districts. The structures that have been affected most in the South District are:

- i. Ralang Monastery (RCC)
- ii. Jorethang Monastery (RCC)
- iii. Samtenling Monastery (masonry)

Although not a built structure, the Sangmo caves (Shar phyogs sbas phyug: the eastern cave), in South Sikkim also deserve mention. The caves, located near Rabong, are an important pilgrimage site as one of the four major caves in Sikkim, and one in which Guru Padmasambhava is thought to have meditated in the eighth century AD on his way to Tibet. The internal faces of the cave have completely collapsed, and it is now inaccessible to the pilgrim or visitor.



Ralang Monastery interior, South District (Photo – Author)

3.1.5 *Chortens* and *mendangs*

There has also been substantial damage to the innumerable *chortens* and *mendangs* that are scattered across the state. The *chortens* and *mendangs* are masonry structures. *Chortens* tend to be inherently vulnerable to earthquakes because of their design, which comprises of a series of bellies and necks. Some of the notable *chortens* that have been

substantially damaged are the ones at Tumlong, which have great historical importance, Lachung (Thomchi Monastery), Khechuperi, Pemayangtse and Dubdi. The *mendangs* which have been damaged are Mangru Mendang in South Sikkim, Bichu Mendang in Lachung, North Sikkim, Khamdong Monastery in East Sikkim and Tashiding Monastery in West Sikkim.



The *chortens* at Tumlong (Photo – Author)



Tashiding Monastery *mendang*, West Sikkim (Photo – CA&HD)

3.2 FACTORS INFLUENCING THE DAMAGE TO THE MONASTERIES

The factors which have influenced the damage to monasteries in the earthquake can be divided into four main types. They are:

3.2.1 *Intensity / Location*

The effects of the quake were distributed unequally all over Sikkim. In terms of damage caused, it was the most intense in the North District and the least intense in the South District. Even within the same district the intensity appears to differ according to location.

A striking example is in the West District. The relatively populous areas of the West District are in two basins. The first basin runs along Sombaria - Chakhung - Soreng - Rinchenpong - Kaluk - Dentam - Uttarey - Pelling. The second basin runs along Pelling - Rimbi - Yuksom - Gerethang - Tashiding. The first basin suffered negligible damage, even in old masonry structures such as Anden Mani Lhakhang. The second basin suffered tremendous damage with almost all major monasteries showing effects of great impact.

The topographical placement of the monasteries within the hill's terrain also may have been a major factor. Monasteries on the ridges of hills are demonstrably more vulnerable because of seismic force concentrations.

3.2.2 *Subsidence*

The earthquake could be seen as a 35 second resettlement of the mountains. This movement has also caused damage, particularly in areas where the soil was loose. Subsidence led to land settlement and also in some cases failure of retaining walls. This is telling of the scale of damage as almost all structures in the hills tend to be supported by retaining walls. The failure of these walls may also have been due to incorrect construction. This is potentially one of the most far reaching damages, one whose full effects may be known only after subsequent monsoons.

Jorethang Monastery is an example of the other kinds of damage wrought by subsidence. It is located on the edge of the hill, a distance from the road. The entire approach shows massive subsidence and the retaining walls have failed nearly completely. This may have been in part due to the tunnelling works nearby, taking place due to hydro-power related activity, which had already loosened the soil and made the substructure more vulnerable.

Other monasteries which have shown major subsidence are the ones at Rey Mindu, Pemayangste, Ralang, Mangru, Phamtam and Lingdum.

3.2.3 Age

Masonry: Most of the older masonry monasteries suffered damages because of the weakness caused by ageing. A number of masonry monasteries date back to the late 1930s when they were rebuilt following the earthquake of 1934. The main effect of age in the older monasteries is the weakening of the mortar and timber members. Also, the older monasteries at some point swapped the traditional thatch for corrugated sheets and this increased the load on the walls, a load they were not designed to carry, hastening their weakness. When the weight of the corrugated sheet roofs were taken off the walls, as is the case in Ngadak and Hee Gyathang, the walls have not suffered any great damage.

RCC: The effects of age on RCC monasteries cannot be determined as most of the RCC monasteries are fairly young, dating to after 1975. One of the earlier known RCC interventions was at Pemayangtse in 1960. It does not show signs of stress due to ageing.

3.2.4 Inferior construction

Some of the damages were visibly due to inferior construction methods employed by the contractors, most of whom tend to be monks. The mistakes in construction tend to be:

- i. Incomplete curing
- ii. Wrong reinforcement techniques
- iii. Wrong proportions of mixture components
- iv. Ill-constructed retaining walls
- v. Inferior structural design

Evidence of inferior construction could be seen in the damages at Phodong Monastery, Old Rumtek Monastery, the Golden Stupa building at New Rumtek Monastery, Chongey Mani Lhakhang.

Older masonry structures too show the absence of practical load bearing construction methods and materials. Their failures have been discussed in Section 2.2

3.3 OTHER EFFECTS OF THE QUAKE

The monasteries proved to be particularly vulnerable during the September 18 earthquake. The damage has been enough to cause alarm,

and excitement, in bureaucratic, building and religious circles. As expected of an event of this magnitude, the social fall-out has also been great. There are some note-worthy effects on the populace at large:

- i. *Psychological fear*: The monasteries are seen as solid entities, capable of providing refuge in crises. In Lachen, the entire population camped in the monastery, which escaped major damage, after the earthquake. There is a possible social fallout of the quake. This comes from the contradiction in the instinctive need to see the monastery as a traditional refuge and also seeing the same monasteries suffer the worst damages.
- ii. *Evidence of retribution*: There is a belief that the Gods are angry, especially with the monasteries. There are few structures that have emerged unharmed. The precise nature of the disgruntlement is not known but the large scale damage to monasteries—proportionately, they are the institutions that have been most affected—are seen as evidence of divine anger.
- iii. *Exposure of poor building standards*: The governmental buildings have proven to be more vulnerable than private ones. Amongst the monasteries too, there is a growing realization that, while much of the damage were caused by natural forces, some contributions were made by the amateurish construction techniques used by monks. How far this will go to dissuade the monks from construction remains to be seen.

CONCLUSION

The damage has been widespread and in some cases, near total. But there are positive developments from the earthquake.

The damage has led to a corresponding frenzy in calls for preservation, a call that has been matched by governmental promises in aid to revive and protect the more vulnerable ones amongst the monasteries. Governmental promises have a paradoxical combination of urgency and distance in them so one can only speculate to the level of final fulfilment, but it is incumbent upon us to hope for the best.

But perhaps the most valuable effect has been to give Sikkim's heritage an exposure to its keepers. There is now a growing awareness amongst the people themselves about the twin dangers over-development and neglect and their fatal effect on an already tottering legacy. Affected monasteries have been covered by the local press and their historical significance discussed and evaluated in the social media.

While we can safely assume that the more stringent of these voices will fade away soon enough, we should be comforted by the quiet, but nevertheless palpable, movement towards a more responsible building and conservation culture.

NOTE

I should add that my studies in monastic architecture have so far not been extensive and that there may be fallacies or inaccuracies in the text. Corrections are welcome and will be incorporated into future versions. Also, I have not visited all the monasteries in Sikkim after the earthquake, so there may be exceptions to my arguments. Again, corrections are welcome.