





PHOTOGRAPHS BY ANGELA M.H. SCHUSTER, MARK WEBER, AND TEJBIR SINGH FOR WNF

The soft glow of butter lamps illuminates Lama Tsering as he blesses a bundle of prayer flags, aspersing them with rose water and grains of white rice. Clad in a saffron robe and enveloped in a cloud of juniper incense, he prays for the success of our mission, his rhythmic chant punctuated by the celestial chime of cymbals and the percussive strike of a small drum.

Five hours ago our party was dropped off at Chiling—the road head—where we began our ten-kilometer trek to Sumda Chung, an 800-year-old monastery perched high on a hillside overlooking a snow-fed tributary of the Zaskar River in central Ladakh. Shortly after our arrival, conservators Mark Weber, Sanjay Dhar, and Sonam Wangchuk; photographer Tejbir Singh; and I presented offerings of prayer flags and incense at the main temple, removing our hiking boots before entering the sanctuary.

Conservation on the ROOF of the WORLD

by ANGELA M.H. SCHUSTER

With tourism on the rise, the Himalayan kingdom of Ladakh is seeking to address its growing need for infrastructure within the context of sustainable community-based development.

Once sanctified, the flags will be strung between poles atop the temple roof, releasing the prayers printed on them into the wind. It is an auspicious moment, marking the beginning of an international effort to restore the temple and preserve an extraordinary cycle of murals within it—among the most important works of Buddhist art ever created. Porters have prepared our camp in a clearing downslope, a place we will call home for the next two days as our team carries out a comprehensive documentation of the paintings and the temple, a necessary first step in the preparation of a conservation plan.

It has been more than a millennium since Buddhism took root in the once-independent Himalayan kingdom of Ladakh, introduced there by the venerable sage Padmasambava in the eighth century A.D. Today, the remains of dozens of fortified monasteries—many still in use—dot the region's steep hillsides, a testament to the endurance of the faith and the often turbulent political environment in which it flourished.

Embraced by the majestic peaks of the Himalaya and Karakorum ranges, Ladakh—now a 100,000-square-kilometer semi-autonomous region in the Indian state of Jammu and Kashmir—is one of the highest inhabited places on Earth. It is a rugged alpine desert criss-crossed by great rivers and deep verdant valleys nourished by melting snow. Its name is derived from the



SUMDA CHUNG



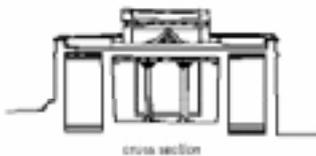
southeast elevation



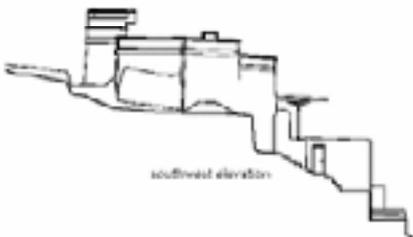
ground floor



longitudinal section



cross section



southwest elevation

Tibetan *La-dwags*, meaning “land of high passes,” an apt description of a region whose elevations range from 2,600 to 7,700 meters. For centuries, caravans plied these often treacherous passes, transporting textiles, precious stones, tea, spices, and other luxury goods from China, Tibet, and India to Kashmir and Central Asia. Perhaps more important, this well-trodden byway of the fabled Silk Road served as an intellectual corridor, fostering an exchange in ideas evident in a rich cultural legacy that survives to this day, preserved within numerous Buddhist temples and monastic complexes.

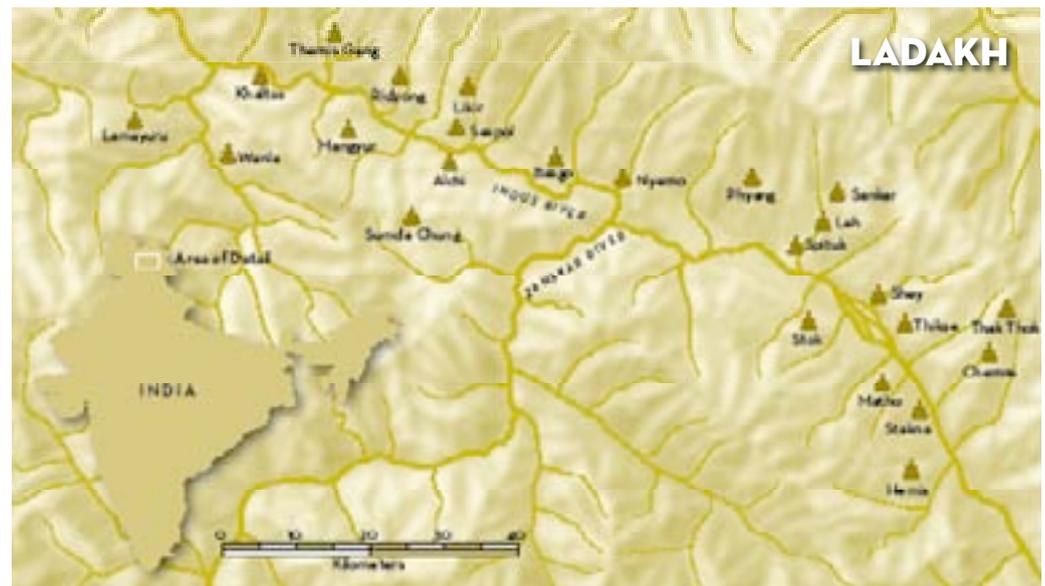
Built of mudbrick, wood, and stone centuries ago, the monasteries prospered under the patronage of Ladakh’s rulers and *rinpoches* (Buddhist teachers), who commissioned the extraordinary works of art within them—murals, *thangkas* (painted scrolls), and gilded images of the Buddha. Foremost among these was Rinchen Zangpo (A.D. 958–1055), who with his successors has been credited with reviving the faith in Ladakh and in the process founding more than 100 monasteries and temples in the region, including those at Alchi, Mangyu, Nyarma, and Lamayuru, and the lesser-known temples at Sumda Chung.

Today, many of the monasteries founded by Rinchen Zangpo and his successors continue to serve as centers of learning for vibrant communities of monks and as spiritual anchor points for villages throughout the region. Time, however, has taken its toll on their surviving buildings, which have endured centuries of exposure to the elements and seismic activity—the latter wrought by the unrelenting march of the India Plate as it continues its 55-million-year northward journey, plunging deep into the Earth’s mantle beneath the Tibet Plateau. In some cases, well-intentioned efforts to shore up buildings have only compounded the damage. Such has been the case with Sumda Chung, which was recently inscribed on WMF’s 2006 list of 100 *Most Endangered Sites*.

Yet the future of this remote monastery may be a bit brighter now, thanks to the pioneering efforts of the Namgyal Institute for Research on Ladakhi Art and Culture (NIRLAC), a Leh-based family trust headed by His Excellency Chogyal Jigmed Wangchuk Namgyal, whose ancestors ruled Ladakh throughout much of its history—from A.D. 975 until the kingdom was annexed by Jammu and Kashmir in 1846.

Launched in 1985 to foster a better understanding of Ladakhi culture and encourage a revival of traditional crafts in the region, NIRLAC has become the leading preservation organization in Ladakh, working to protect its architectural wonders and build the necessary local infrastructure to conserve and care for them. Central to NIRLAC’s operation is the full participation of village and monastic bodies in the conservation, management, and maintenance of the historic properties the trust chooses to take on.

Since 2002, NIRLAC has played a critical role in the restoration of a trio of temples at Basgo, 42 kilometers northwest of Leh, providing much-needed technical assistance to the Basgo Welfare Committee (BWC), a village-based social organization that had brought the sanctuaries to the attention of WMF, nominating them to the organization’s 2000 list of 100 *Most Endangered Sites*. The primary reason for our coming to Ladakh—aside from documenting the





murals at the ancient monastery of Sumda Chung—has been to check in on the progress made at Basgo in the years since the temples first came onto the Watch list and to attend a WMF-sponsored planning workshop on sustainable development at the site.

Built between 1445 and 1650 and dedicated to the Great Maitreya, or “Future Buddha,” the temples are cradled by the eroded ramparts of once-mighty Basgo Citadel, sited atop a rock outcropping overlooking the village of Basgo, home to 1,000 inhabitants. Known in Ladakhi chronicles by its Tibetan name, *Rab-brtan lha-rtse*, or Divine Peak of Great Stability, the fortress, built of mudbrick and rammed earth, served as the seat of Ladakh’s royal family and the administrative capital of the country from the fifteenth through seventeenth centuries. During this time the citadel weathered numerous sieges, most notably from invading Mongol, Tibetan, and later Dogra armies.

The oldest and most magnificent of the Basgo temples is Chamba Lhakhang, constructed during the reign of Drakspabum Ide (r. 1450–1490). A colossal gilt and polychromed clay figure of the Maitreya—flanked by statues of Avalokiteshvara, the Bodhisattva of Compassion—fills the apse of the temple, which is laid out on basilica plan. In the late sixteenth century, the Chamba Lhakhang was refurbished under the guidance of King Tsewang Namgyal, who commissioned the murals that grace its interior. Painted between 1580 and 1600, the murals depict manifestations of the Buddha, important deities and rinpoches, as well as scenes from the life of the king and his court.

Begun during the reign of Jamyang Namgyal (r. 1600–1615) and completed by his son Senge Namgyal in 1622, the temple of Serzang—which literally means “gold and copper”—houses a 14-meter-high, gilt-copper statue of a seated Maitreya. Adjacent to the temple is the diminutive Chamchung, a shrine commissioned by Queen Gyal Khatun, a Balti princess and wife of Jamyang Namgyal. Thought to have been built originally as a mosque—the Balti being Muslims—the shrine was converted into a Buddhist temple by Skalzung Dolma, the Balti wife of Senge Namgyal (r. 1616–1642). Like the walls of Chamba Lhakhang, those of Chamchung are graced with resplendent murals.

At the time of their inclusion on the 2000 list of *100 Most Endangered Sites*, the sanctuaries were in an advanced state of decay with failing roofs, structural cracks, crumbling mudplaster, and delaminating murals—damage caused in large part by the erosion of the hill upon which the temples were built. Chamba Lhakhang in particular was on the brink of collapse. A deep gully had developed in the hill beneath the southern end of the temple’s foundation, resulting

**A NEWLY CONSTRUCTED RETAINING WALL
HAS HALTED EROSION OF THE HILLSIDE
BENEATH CHAMBA LHAKHANG .**

SONAM ANGDUS, RIGHT, SUPERVISES THE REPLACEMENT OF CHAMBA LHAKHANG'S PAINTED CEILING. A CIVIL ENGINEER BY TRAINING, TSERING ANGCHUK, PICTURED WITH HIS MOTHER BELOW, HAS BEEN A DRIVING FORCE BEHIND THE RESTORATION OF THE TEMPLES AT BASGO FOR WELL OVER A DECADE. PAINTINGS CONSERVATOR SANJAY DHAR, BOTTOM, SHOWS WMF PROJECT DIRECTOR MARK WEBER AREAS OF SUBSTANTIAL WATER DAMAGE TO CHAMBA LHAKHANG'S MURALS.



in a vertical crack down the length of the south elevation that weakened the entire structure. Despite the fact that several years earlier the Basgo Welfare Committee (BWC), under the guidance of Tsering Angchuk, a civil engineer and secretary of the committee, had begun construction of a retaining wall to bolster the southern end of the citadel, the temples were literally being torn apart by the differential settling of their foundations as the rock beneath them continued to waste away.

Shortly after the 2000 Watch list announcement, American Express stepped forward with a grant of \$45,000 for Basgo—just enough money to complete the construction of the retaining wall and to begin carrying out emergency repairs. It soon became clear, however, that a team of trained conservators would be needed to carry out the more delicate work of stabilizing the temples, stitching the structural cracks in their walls, and beginning the painstaking process of conserving their murals. At this stage WMF dispatched a team to evaluate the site and determine the best methods for its restoration.

NIRLAC, with its access to some of the best conservators in South Asia—as well as His Excellency's familial connection to Basgo—became a natural partner for the restoration project. "We were extremely impressed with how committed Basgo's residents were to saving the site," says Tara Sharma, NIRLAC's program director. "Since the early 1990s, the villagers had volunteered their time and donated money and materials for the project even though some were working hard just to support their own families. That's how important the temples are to them." Beyond monies contributed by villagers, Angchuk was able to raise some \$80,000 in funds from various organizations, including UNESCO, with the help of a Basgo-born friend, Lozang Jampal, a Buddhist scholar associated with the New York-based Tibetan Classics Translators Guild, to support the BWC's restoration work.

In addition to constructing the retaining wall—stones for which had been brought in on the backs of villagers—it seems that Basgo residents had undertaken a number of emergency repairs over the years, including patching temple roofs with layers of clay, which resulted in an ever-increasing load on walls and wooden support columns that further compromised the ancient structures. "Given the extent of the damage, the temples could not be saved without technical assistance," says Sharma, noting that some early proposals from the BWC called for the use of concrete and repainting of the murals rather than conserving the original paintings.

With additional support from private donors in India, the Tibetan Classics Translators Guild, and WMF through its Robert W. Wilson Challenge to Conserve our Heritage, NIRLAC was able to assemble an expert team of architects and conservators not only to carry out the work but to train the resident monks and villagers—many of whom had devoted considerable time and effort to saving the site. With a conservation strategy in place, Angchuk was enlisted as the on-site project manager to guide its implementation. As part of WMF's ongoing commitment to

restoration work at Basgo, project director Mark Weber, who handles the organization's South Asian portfolio, was charged with overseeing the conservation work at the site and providing technical assistance on an as-needed basis. It is Weber who organized our journey to Ladakh with the help of WMF's New Delhi-based consultant Amita Baig. Prior to setting off on our trek to Sumda Chung, we spent several days at Basgo, touring the site in the company of the conservators charged with its restoration.

As one drives north of Leh along the Leh-Srinagar Highway en route to Basgo, the complex geology of this tectonic contact zone is writ large in the disparate stratigraphy of the steep slopes flanking the upper reaches of the Indus—a stretch of the river known locally as the Sengge Tsangpo. To the northeast are hills of craggy and fractured granite, what geologists call the Ladakh Batholith; to the south are tilted and folded bands of bedded sandstone, the Indus Molasse. As we neared Basgo, we passed the junction of the Indus and Zaskar rivers. It is a dramatic landscape punctuated with mané walls, chortens, monasteries, and prayer flags.

The eroded watchtowers and ramparts of Basgo citadel are barely discernible from the surrounding rock, save for the newly constructed retaining wall beneath Chamba Lhakhang. Upon our arrival, we were greeted by Tsering Angchuk and his team who were eager to show us around the site and fill us in on what had been accomplished to date, including the full restoration of the Chamchung shrine—a project carried out with the support of UNESCO—and substantial WMF-sponsored structural work on Chamba Lhakhang, which entailed major repairs to its foundation and the “stitching” of large cracks in its masonry with mudbricks and plaster. This season, restoration of the temple has entered a critical stage with the removal and replacement of its badly damaged roof.

“Originally the roof was composed of layers of birch bark, clay, mud, and barley straw placed atop the painted timber ceiling,” said Abha Narain Lambah, the principal architect for the Chamba Lhakhang project, as we navigated the complex maze of scaffolding erected inside the temple to support it during restoration. “Over time, however, additional layers of clay and straw were added to patch leaks, roughly doubling the original weight of the roof and resulting in the deformation and cracking of the interior support elements. The building may have been under-structured to begin with,” she said, noting that its four interior wooden support columns had been fortified with rope and cloth sometime after its construction, “but were no match for the added burden of the roof.”

Shafts of sunlight beamed down on workmen perched on the scaffolding as they continued replacing planks of the painted timber ceiling. As we climbed up to a small second floor terrace surrounding a skylight over the sanctuary to examine the roof, Lambah described its original design. Test corings revealed what was original and what had been added over time. “We decided to reconstruct it as it had been originally,” she said. According to Lambah, the only “modern additions” will be a few pieces of metal flashing atop the walls and several hollowed-out poplar timbers to channel rainwater away from the building.



HIS EXCELLENCY CHOGYAL JIGMED WANGCHUK NAMGYAL, FAR LEFT, AND CONSERVATOR SONAM WANGCHUK, SECOND FROM LEFT, LOOK ON AS BASGO RESIDENTS REPLACE THE ROOF OF CHAMBA LHA KHANG USING TRADITIONAL MATERIALS. AN IMAGE OF YAMA DHARMAPALA, THE LORD OF DEATH, AN IMPORTANT PROTECTOR DEITY IN TIBETAN BUDDHISM, GRACES THE WALL OF BASGO'S CHAMCHUNG SHRINE.





PAINTED EIGHT CENTURIES AGO, A DELICATE FLYING APSARA IS JUST ONE OF THE THOUSANDS OF EXTRAORDINARY IMAGES GRACING THE WALLS OF SUMDA CHUNG. OTHER INTERIOR DETAILS INCLUDE A VAJRADHATUMANDALA, BELOW, COMPOSED OF 37 INDIVIDUAL SCULPTED FIGURES AND ONE OF THE EARLIEST SURVIVING WORKS OF ITS KIND.



“One of the most challenging aspects of the restoration,” said Lambah, “has been the procurement of building materials such as birch bark—which had been placed directly atop the timber ceiling as a waterproofing layer in the original construction—due to the scarcity of timber at such high elevations and the relatively brief summer window in which materials can be brought into Ladakh. Since roads into the region are impassable during the winter months, timber, particularly Deodar wood from Kashmir must be ordered nearly a year in advance so that it has a chance to cure.” Scattered about the terrace are stacks of replacement birch bark, harvested from forests of Sonamarg in the Kashmir Valley.

Back inside the temple, Sanjay Dhar, a paintings conservator trained in India and Italy, brought us up to date on the restoration of the murals, which have been covered with a protective tarp while structural work on the building is carried out.

“Water damage at the site has been exacerbated by a pronounced change in the region’s rainfall pattern,” said Dhar. “What used to fall in numerous light showers is now falling in one or two torrential downpours,” he added, pulling back the tarp and pointing to several bulging columns of mud—the remains of rain-melted masonry—flowing down the murals. “It is not just a matter of removing the mud from the paint surface, but centuries of soot from ever burning butter lamps in the temple.”

Despite extensive damage, it was clear to us why the murals are so important—the artistry with which the figures are rendered was masterful. Aside from the mudflows, which bond tenaciously to the painted surfaces, there has been substantial pigment loss in areas where structural cracks had opened in the masonry. Where painted surfaces survive adjacent to the cracks, the intonaco has largely delaminated from its plaster ground.

Beyond the traditional problems of mural conservation, Basgo has presented a more difficult challenge for Dhar—one that has pitted his ethics as a conservator against the needs of the community whose temples continue to serve a religious function. “While strict rules of conservation dictate filling paint-loss areas with blank intonaco,” Dhar told us, “locals do not understand why I seem unwilling to repaint missing portions of the images since ‘everyone knows what belongs

there,' given the strict canon of figural representation in Buddhist art. For them, the restoration of old and dilapidated shrines and replacement of broken, decaying images or other cult objects with new ones is seen as a great act of religious merit. It is not a matter of restoring paintings for art's sake but restoring the spirit with which they are imbued." Moreover, he said, there is great fear within the community of potential wrath wrought by damaged images.

After much animated discussion, Dhar and the villagers were able to reach a compromise of sorts. He would "visually integrate" any missing portions of the images, "ritually completing the figures," while still adhering to international conservation standards by maintaining a clear distinction in tone and texture between what is original and what is not. Restoration of the murals is slated for completion this coming October.

Following our visit to Chamba Lhakhang, we strolled over to Serzang, which is awaiting restoration. Although the temple's condition is less dire than the others, Serzang too suffers from erosion beneath its foundation, which has resulted in several cracks in its rear wall and damaged paintings. And, like the other temples, attempts to repair its roof with the addition of clay and straw has stressed the structure to such an extent that wooden lolly columns have been installed inside the sanctuary to help bear the weight. Although a preliminary assessment of the structure was carried out as part of the overall documentation of Basgo, a more detailed analysis of the building must be carried out before work on the temple begins next season.

Since conservation efforts began at Basgo, His Excellency, who assumed leadership of NIRLAC in 2000, has taken a hands-on approach to the restoration process, working alongside Angchuk and his team. In addition, NIRLAC has been instrumental in helping local residents formulate a plan for the long-term care of the site as well as examine its potential for generating revenue for the village through tourism.

While visitor numbers have steadily increased in Ladakh since the region first opened its doors to tourists in 1974, there has been a sharp increase in visitor numbers over the past two years due in large part to the political instability in neighboring Nepal. Seen as an alternative destination for travelers seeking an Himalayan adventure, Ladakh welcomed some 23,000 visitors during its 2005 June-to-September trekking season. Yet, as in so many parts of the world, Ladakh's local people have been among the last to benefit from tourism but the first to experience the toll it can exact on cultural and natural resources—particularly in a fragile environment. Visitors to Ladakh tend to make Leh their home base, visiting local villages and monasteries as day trips. As a result, the communities fail to profit from tourism dollars—the lion's share go primarily to outside tour operators—leaving them with neither the incentive nor the capacity to care for and protect their cultural and natural patrimony.

For the BWC, the restoration of Basgo's monastic complex is a key component of an overall village revitalization scheme that also includes the rehabilitation of more recent vernacular buildings for reuse as guest houses and cultural centers. If Basgo can attract overnight visitors on its own terms, the village hopes to reap the benefits of tourism without eroding the traditional values and way of life. How to ensure the preservation of Basgo's cultural legacy and natural environment with controlled tourism cultivation and infrastructure building was one of the focal points of the workshop at the site.

"Beyond the rescue of the temples, Basgo is serving as a case study in conservation training and sustainable economic development," His Excellency told us, "one we hope to replicate at other 'living' historic sites such as Sumda Chung," a project slated to begin early next year, funds permitting.

MONKS FROM HEMIS MONASTERY, WHICH HAS JURISDICTION OVER THE ELEVENTH-CENTURY SUMDA CHUNG, ACCOMPANIED THE WMF TEAM AS IT CARRIED OUT A PHOTO DOCUMENTATION OF THE MURALS WITHIN THE SANCTUARY, WHICH IS IN DIRE NEED OF CONSERVATION.





It is clear from our trek to Sumda Chung that this site will pose logistical problems as well as conservation challenges for NIRLAC and its international partners. Conservators will have to live on site for weeks at a time while materials needed to carry out the work, including a tented camp and generators, will have to be brought in by porters and yaks.

Reaching the site, some 65 kilometers southwest of Leh and ten kilometers from the nearest road, entails a four-hour hike—from an elevation of 3,300 meters at Chiling to nearly 4,600 meters at Sumda Chung—along a boot-wide trail broken by steep stretches of scree and patches of wild rose and willow where the path traverses a tributary of the Zanskar River. Each twist and turn in the trail reveals a mountain view more splendid than the last, and the air grows thinner with every meter gained in elevation. It is a perilous journey where a missed step could result in death. Agile ibex scampering across the landscape prompt rock slides that wipe out portions of the trail. At a point where one experiences near exhaustion, prayer flags strung across a white-washed chorten signal the home stretch with Sumda Chung glistening in the distance.

Despite its difficulty of access, Sumda Chung is nothing short of extraordinary. Built in the eleventh century, the monastery overlooks a tiny hamlet of no more than ten families. The complex includes a main sanctuary or assembly hall with its polychromed interior, monks' residences, several stupas and chortens, and a mane wall. It is clear from the eroded remains of numerous structures at the site that the monastery once covered a substantial portion of the hillside.

Inside the assembly hall, butter lamps flicker, enabling us to make out mandalas and hundreds of images of the Buddha. As our eyes become accustomed to the light, more detailed renderings come into view, among them a delicate flying apsara no more than 15 cm across. Lama Tsering explains the mural cycle, pointing out tiny gold ornaments embedded in the paintings.

Whereas the two main temples at Basgo were dominated by a large statue of the Maitreya, the central feature within the temple at Sumda Chung is a *Vajradhatumandala* composed of 37 individual sculpted clay figures, one of the earliest surviving works of its kind. Prayer tables and bookcases filled with prayer books occupy much of the sanctuary interior, its cool clay floor burnished from centuries of wear. Small chapels on either side of the assembly hall contain towering four-armed statues of the Maitreya and the Bodhisattva Avalokitesvara.

To document the murals, we must gather every available light source—flashlights, butter lamps, and a small solar-powered generator that fuels a single fluorescent light bulb. The latter, Lama Tsering tells us, is the village's only source of electricity. With the help of Lama Jigmed, one of the monks who accompanied us to the site, Tejbir Singh spends the better part of two days capturing every square meter of the muraled interior using long exposures and large-format film, while Dhar and Weber scour the building, inside and out, making note of every structural problem and conservation challenge.

Sumda Chung sits astride the junction of the Indus Molasse and far older Paleozoic elements of the Tethys Himalaya—the compacted remains of an ancient sea whose waters separated India and Asia prior to the collision of the continents more than 45 million years ago. Recent tectonic activity in the region is evident in a large crack that runs east-west through the monastery complex, cleaving the assembly hall, the chortens that flank it, and the hillside below. Our team will eventually place so-called tell-tails on the crack to detect any ongoing movement. If the crack is the result of a one-time event, it can easily be stitched. If not, it will have to be patched in such a way that will allow it to “stretch” with time.

Like the paintings that grace the walls of Basgo's Chamba Lhakhang, those at Sumda Chang suffer primarily from water seeping into the building, which has been exacerbated by well-intentioned efforts to protect the site and arrest further decay. A few years ago, stone buttresses were built to bolster the assembly hall's bulging walls. Unfortunately, the buttresses have trapped moisture in the walls and foundations of the sanctuary and its side chapels. Clearly these will have to be removed so the building can dry out, but only after alternative emergency stabilization measures are taken to support the structure during restoration.

While WMF and NIRLAC conservators estimate that saving Sumda Chung will cost less than \$200,000, the long-term survival of this Himalayan gem will require far more in terms of careful planning for appropriate and sustainable economic development. Recently, construction began on a road from Chiling into Sumda Chung to allow for greater visitor access. The project—expected to take at least five years to complete—will undoubtedly impact this remote community, its spiritual patrimony, and pristine environment. Sumda Chung is a living sanctuary, not merely a stop on a tourist itinerary. Yet the quality of its murals warrant worldwide attention. The challenge will be to develop the site in such a way that everyone involved gains in the process. ■



A MANDALA AND A CARVED SUPPORT BRACKET GRACE THE INTERIOR OF SUMDA CHUNG. FACING PAGE: A CLUSTER OF BRIGHTLY COLORED TENTS SERVED AS HOME BASE FOR THE WMF-NIRLAC DURING THEIR SURVEY OF SUMDA CHUNG. AT PRESS TIME, CONSTRUCTION HAD BEGUN ON A ROAD INTO THE HAMLET OF SUMDA CHUNG, CURRENTLY HOME TO LESS THAN A DOZEN FAMILIES. THE ROAD, WHICH WILL TAKE MORE THAN FIVE YEARS TO BUILD, WILL NO DOUBT HAVE A SIGNIFICANT IMPACT ON THE COMMUNITY, WHICH UNTIL NOW COULD ONLY BE REACHED VIA A TEN-KILOMETER TRAIL FROM CHILING.