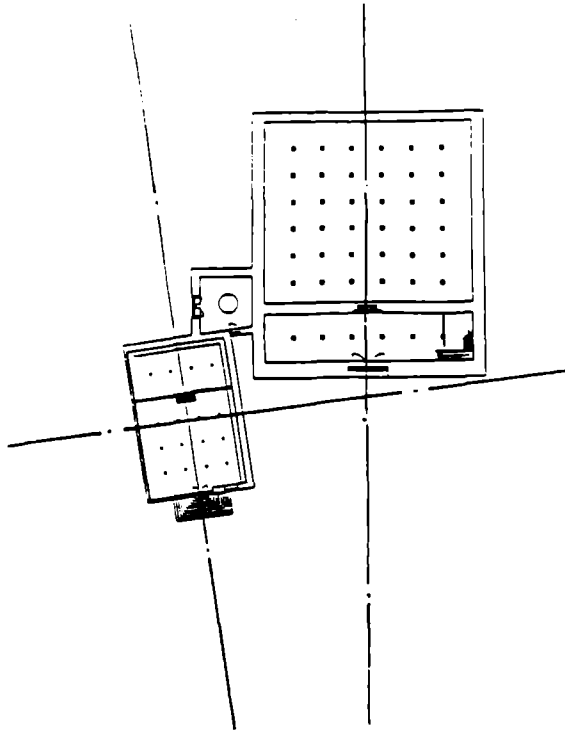


**BUDDHIST MONASTERIES
OF GANZI TIBETAN
AUTONOMOUS PREFECTURE,
WESTERN SICHUAN, CHINA**

**A Project for Architectural Conservation
Funded by the Getty Grant Program**



**CHINA
EXPLORATION &
RESEARCH
SOCIETY**



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Prepared by
How Man Wong, Patrick Troch, Jiaming Yang,
Pamela Logan and Ildiko Choy

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I INTRODUCTION

1.1 Background

The western half of Sichuan province in China is inhabited by Tibetans with strong religious and cultural ties to the people of neighboring Tibet Autonomous Region (TAR). The Tibetans of Sichuan, as a legacy of generations of devotion to Buddhism, have inherited a great many monasteries and other religious structures scattered throughout the plateau. Many of these structures are not only of great historical importance, but are also valued as places of contemporary worship and study.

Unfortunately, the majority of monastic structures in western Sichuan have been neglected over the last forty years and are seriously in need of restoration. The Tibetans themselves have undertaken restoration in many cases, sometimes with the help of government or external aid, but the task is enormous and so only a few monasteries have received adequate attention. And because monasteries in Sichuan have less visibility than monasteries in TAR, they have so far received relatively little outside aid.

In the past visitors to the region have observed that traditional building techniques (which are, in the main, being adhered to in existing restoration projects) suffer from a number of shortcomings that make the buildings prone to early decay. It is thought that if modern techniques and materials were judiciously employed, the buildings could be made more resistant to earthquake and water damage, thus extending their useful life as well as making them safer and more comfortable. Hence there is a need for outside expert help in developing a model program for restoration. The work described in this report is a first step toward developing such a program.

1.2 Objective

The China Exploration and Research Society (CERS) was given a Getty Foundation Grant to survey the Tibetan region of western Sichuan in an effort to identify specific sites for architectural conservation.

1.3 The Mission

The initial grant proposal was written primarily for the Dege Printing House, which is well known to the outside world for the printing and distribution of major Buddhist sutras such as the Kanjur and Tengyur, and is in urgent need of repair. Subsequently, however, funds from local sources became available and in 1991 restoration work on the Dege Printing House was already well under way. The original Getty proposal also provided for a

survey in the local area of important monasteries, the present status of which was very little known, to assess their need for restoration. This survey became the key goal of the project.

CERS was awarded the initial grant in March 1990 for a survey to identify potential candidates for conservation. By late summer of 1990 when preparations for travel were complete, our hosts in Sichuan notified us that because of the fast approaching winter, travel on the Tibetan plateau would be impractical. We were advised by our Chinese counterparts to postpone our trip to the following spring when the mountain passes would be open again. Accordingly, the project was planned for the spring of 1991.

In March of 1991 the team arrived in China. The mission was somewhat delayed due to poor weather conditions, but was finally fielded between April 11 and April 28, 1991. The time before and after was spent in Chengdu to prepare the mission and to meet with local authorities.

The field team, at times exceeding ten members, operated with expedition-like logistics. Because of the limits on team members' visas, the work had to be completed in a short span of time. Through tightly-organized team work and coordination, and aided by liaison with regional and local governments, we succeeded in surveying a total of eighteen monasteries in remote regions of the plateau. Special efforts were to be made to include in the survey monasteries belonging to the all four sects of Tibetan Buddhism--Nyingmapa, Kargyupa, Sakyapa and Gelugpa--as well as Tibet's indigenous shamanistic religion of Bonpo. It was a major challenge, but in the end we achieved our goal after only eighteen days in the field (from Kangding back to Kangding), thus averaging one monastery per day. During that time, we traveled for over 2,200 kilometers in our jeeps and three days on horseback.

Owing to the constraints placed by the fast pace of the expedition, this work should not be considered definitive. At times we had to survey two monasteries that were far apart within a single day, as in the case of Tagong and Huiyuan for example. More detailed measurements and extensive cross-comparison of historical records are planned for future phases of this project.

Special notice should be given to Babang and Baiya monasteries, which were researched in greater detail. These are the two sites the team recommends for future restoration and conservation.

Despite the shortcomings of this research, it represents a giant leap forward in knowledge about the monasteries of western Sichuan, and has enabled the team to select sites where future restoration efforts can be most effectively concentrated. Thus the goal of the expedition was successfully met. This

initial effort will, we hope, open the gate for intensive architectural conservation in this region.

1.4 The Team

Field Team:

WONG How Man, team leader, President of CERS, U.S.A.
Patrick TROCH, architect/restoration expert, Belgium
YANG Jiaming (Tibetan), historian/researcher, China
LI Xinxin, ethnologist, China
YAN Changqing (Tibetan), photographer/video specialist, China

Field Support:

JIU Yongxian, interpreter, China
LI Pingchuen, mechanic/driver, Hongkong
CHEN Li, logistics, China

Home Team:

Pamela LOGAN, report editor, Tibetan language consultant, additional photographs, U.S.A.
Ildiko CHOY, report design, illustration editor, U.S.A.

1.5 Acknowledgments

The China Exploration & Research Society would like to thank the Getty Grant Program for major funding of this project.

Other individuals and institutions whose funding aided in this project and production of this report include Sir Run Run Shaw, Mr. & Mrs. Eric Wu, Mr. Wang Ti-wu and the Ulan Bator Foundation.

The following people rendered assistance in logistical and information matters:

- Vice-Chairman Tashi Tsering (Tibetan), Sichuan Provincial Congress
- Vice-Governor Luo Tongda (Tibetan), Provincial Government of Sichuan
- Rimpoche Qimei Dorji (Tibetan), His Holiness the Reincarnate Lama of the Baiya Gomba
- Sun Zichang, Director, Sichuan Commission of Nationality Affairs
- Li Weihui, Deputy-Director, Sichuan Commission of Nationality Affairs
- Prof. Li Shaoming (Tujia), Deputy-Director, Sichuan Institute of Nationalities
- Liu Fasheng, Vice-Governor, Ganzi Tibetan Autonomous Prefecture
- Chen Xinfu, Consultant, Sichuan Tibetology Research Insti-

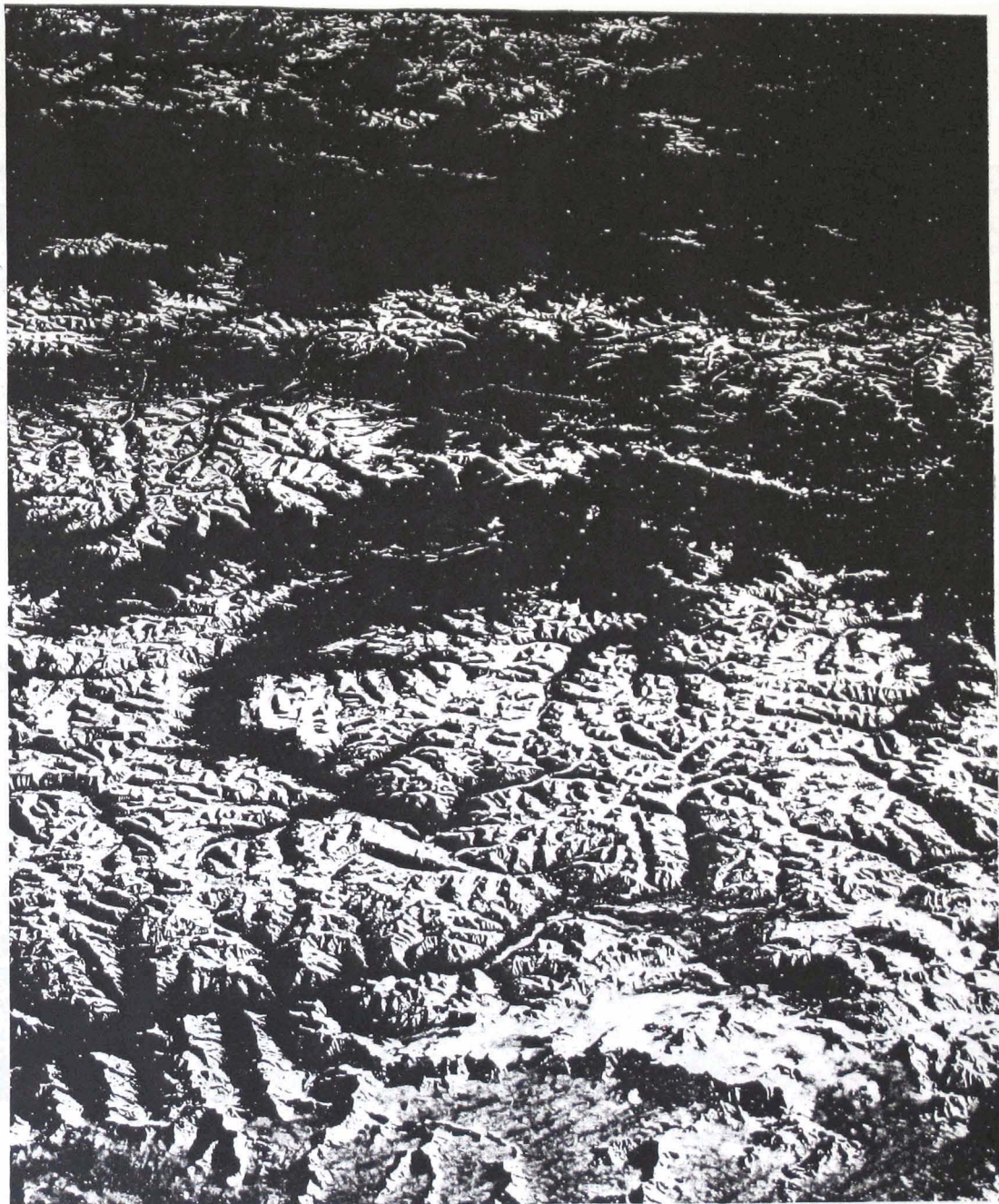
tute

- Tang Jiawei, Editor, Sichuan Tibetology Research Institute
- Zheng Yongxue, Vice-President, Design Council of Ganze Prefecture
- Lobsang Dorji (Tibetan), Editor/Photographer of Sichuan Nationalities Publishing House

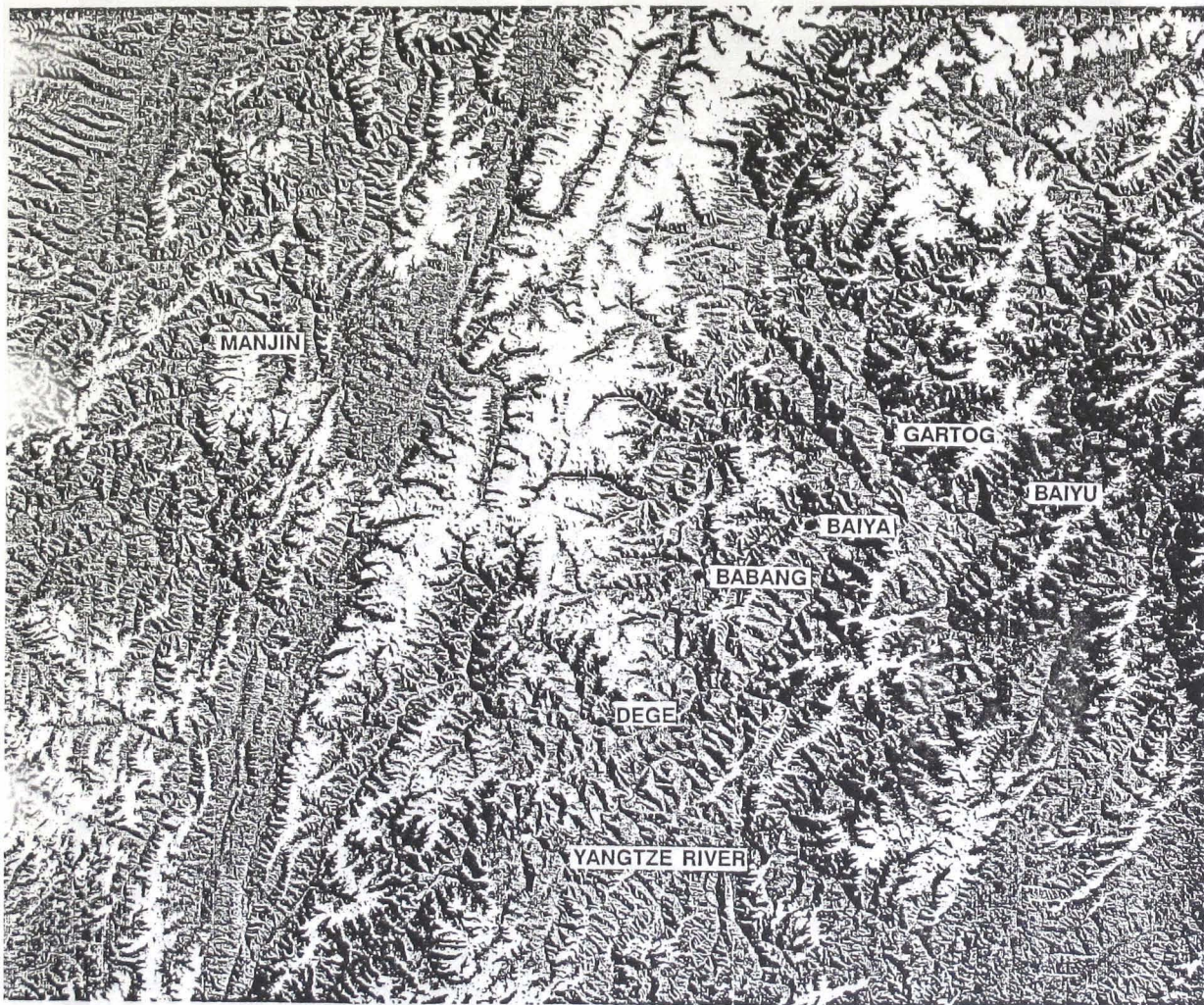
The team would also like to thank Ms. Deborah Chan of Hong Kong who coordinated our communications from the field and helped arrange our travel itineraries. Mr. Barton Choy graciously helped in the final reading of this report. Ms. Laurel Martin proofread and typed the report. Mr. Ivan Ho at Northwest Airlines assisted tremendously in our shipping of equipment from the U.S. to Asia and Ms. Wendy Hughes, Consultant to Dragon airlines in Hong Kong, helped in our final flight into China.

Many corporations contributed to this project by donating their fine equipment for use in the field. They are:

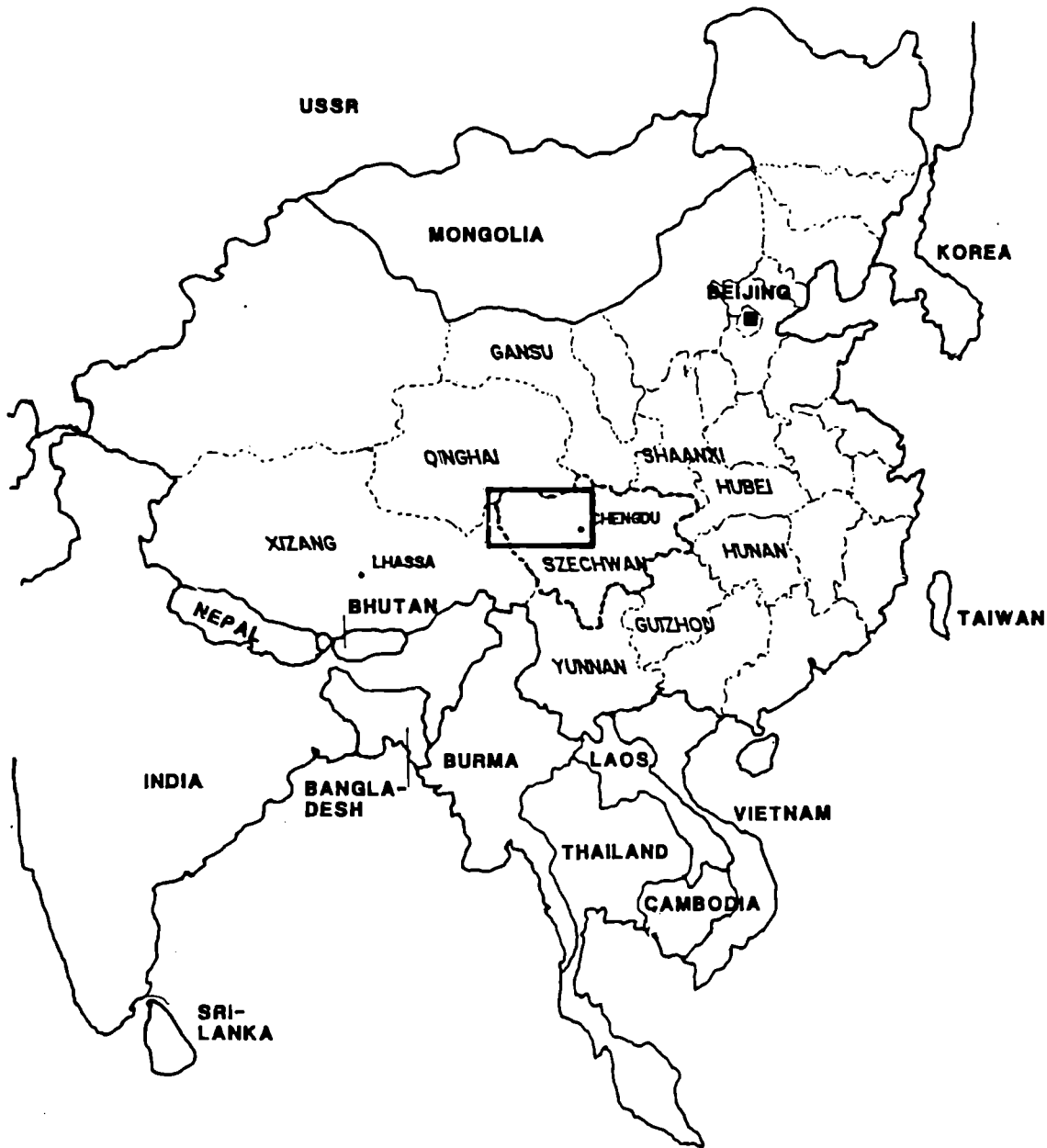
AST RESEARCH, BAUSCH & LOMB, DICK CEPEK, GREGORY MOUNTAIN PRODUCTS, GYMWELL, KODAK, MOUNTAIN SAFETY RESEARCH, NIKE, THE NORTH FACE, RICHMOOR, SONY, UNDERWATER KINETICS, AND YAKIMA.

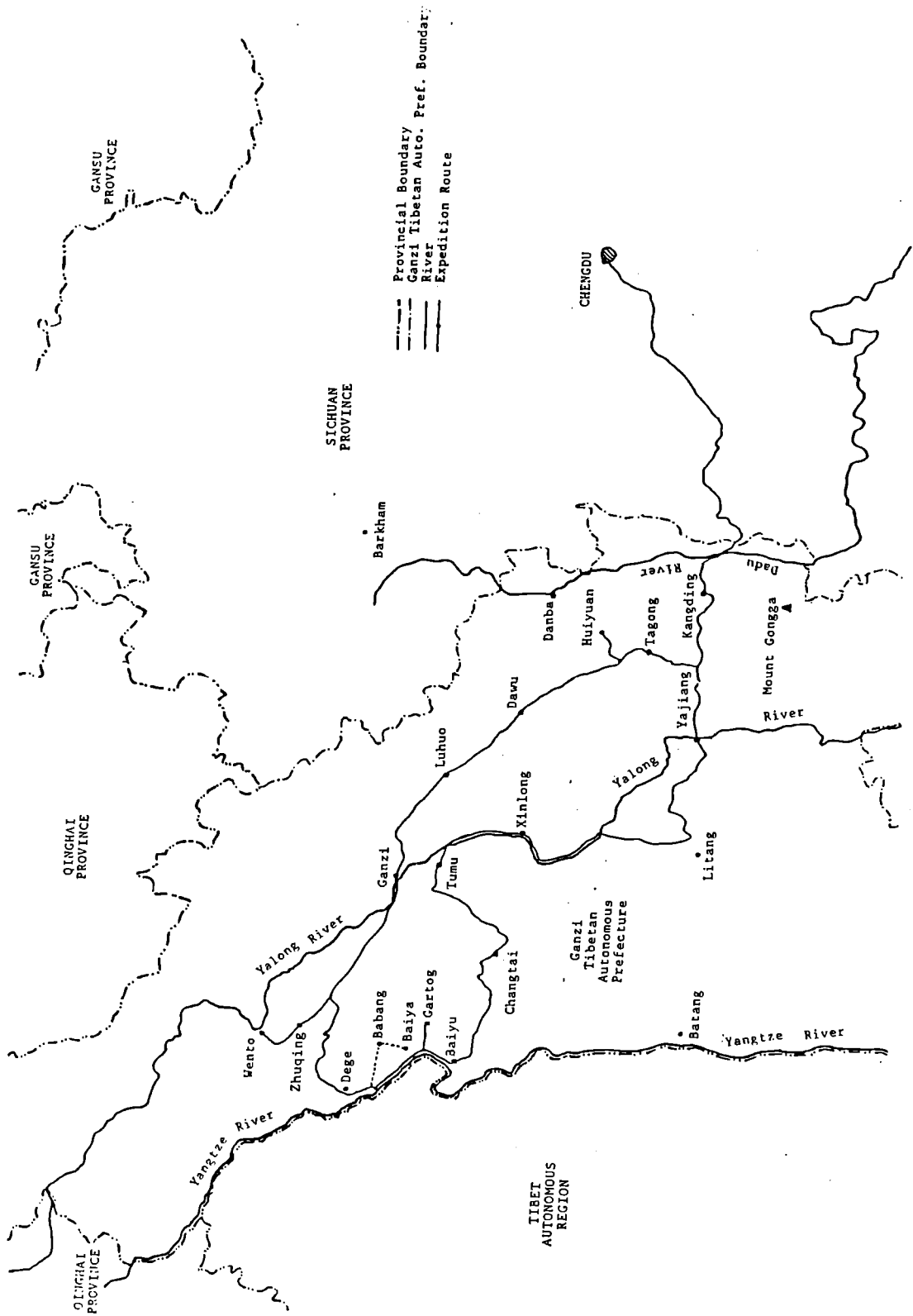


Hand-held photograph taken from the Space Shuttle Atlantis on Mission 51J in October 1985. Looking east from Tibet across the Yangtze river into Baiyu and Batang counties



Landsat image showing general terrain of survey area, including Ganzhi, Dege and Baiyu counties





- - - - - Provincial Boundary
 ———— Ganzi Tibetan Auto. Pref. Boundary
 ———— River
 ———— Expedition Route

QINGHAI PROVINCE

GANSU PROVINCE

GANSU PROVINCE

SICHUAN PROVINCE

TIBET
AUTONOMOUS
REGION

CHENGDU

Barkham

Danba

Huiyuan

Tagong

Kanqeding

Yajiang

Mount Gongga

River

Luhuo

Dawu

Xinlong

Yalong

Litang

Ganzi

Tumu

Changtai

Ganzi
Tibetan
Autonomous
Prefecture

Batang

Yangtze River

Yalong River

Yangtze River

Wento

Zhuqing

Babang

Baiya

Gartog

Tumu

Dege

Baiyu

II GENERAL INFORMATION ON THE REGION

2.1 Geographical Situation

Ganzi Tibetan Autonomous Prefecture is located in western Sichuan Province. The political headquarters of the prefecture is at Kangding but actual control is exercised by the Provincial government seated at Chengdu in central Sichuan. Ganzi is one of three autonomous prefectures (*zizhizhou*) of the province of Sichuan, the other two being Aba Tibetan Autonomous Prefecture with its headquarters at Barkam and Liangshan Yi Autonomous Prefecture with its headquarters at Xichang. There are also six prefecture-level municipalities (*shih*) and districts (*diqu*) in the province.

Originally, there were twenty-one counties (*xian*) within Ganzi but in 1978 the number was reduced to eighteen, with three being incorporated into neighboring counties. Those visited during the mission are underlined as follows:

to the East: Danba, Jiulong, Kangding, Luding, Yajiang;
to the South: Daocheng, Litang, Xiangcheng;
to the West: Batang, Derong;
to the North: Dawu, Luhuo, Ganzi, Sertar, Serxu, Dege, Baiyu and Xinlong.

Ganzi (Tibetan: Garze) Prefecture is separated from Xizang (Tibet Autonomous Region) by the Jinsha River (Yangtze) in the west. Qinghai Province lies to the north; to the east is the Sichuan Basin and to the south is the Degen Tibetan Autonomous Prefecture of Yunnan Province. Ganzi covers a total land area of 149,481 square kilometers.

The area is enclosed by the Hengduan Mountains, a series of north-south oriented ridges drained by a series of tributaries of the Yangtze River, which flows north to south. The eastern portion of the prefecture is drained by the Yalong River.

Geologically, Ganzi is located at the eastern edge of the Tibetan plateau, consisting of highlands above 3,600 m (12,000 ft) and higher mountain ranges and peaks. Many of the mountains are almost Himalayan in scale, with over 20 peaks rising to more than 6,000 m (20,000 ft). The highest peak in Ganzi, Gongga Shan (Minya Konka), rises to 7,556 m (24,900 ft) and is the eleventh highest mountain on earth. Mount Qiaoer (Cho La), located to the east of Dege, has a height of 6,119 m (20,200 ft). Much of the highest land is covered with snow year-round, with the snow line between 5,000 and 5,800 m (16,500 and 19,000 ft).

Today, 9.4% of Ganzi Prefecture is forested. The mountains are thickly forested on the eastern flank, with mixed forests of birch, hemlock, poplar, aspen and pine below 2,500 m (8,200

ft). From there to about 3,900 m (13,000 ft) are fir and spruce forests. In the drier northern regions, grasslands and mixed forests of pine and oak are common. Above 3,900 m (13,000 ft) the tree cover gives way first to juniper, then to alpine pasture, low shrub and grassland. The vegetation, like the climatic regime, varies greatly over comparatively small areas because of the steep topography.

The most important timber grown and used for construction purposes is the Yunnan fir (*yunsan*), which is a hard timber but very lightweight. Other timbers found are the cold fir (*lengsan*), iron fir (*tiesan*), oil pine, feather pine, birch, maple, and mountain poplar.

Rainfall averages between 600 and 800 mm/year with about 250 mm during the summer. There are approximately 180 days of sun, most of which are during the winter season. Temperature varies dramatically with elevation, but in major towns the daytime highs during summer can be as high as 25C, while night-time winter lows fall well below freezing.

As it is close to the Himalayan range, the Ganzi Tibetan Autonomous Prefecture is located in a zone where frequent earthquakes occur. The earliest record goes back to 116 B.C. About fifty large earthquakes have been recorded since then, of which ten occurred during the last hundred years. Within recent history, there were nine earthquakes in Ganzi that registered 7.0 and higher on the Richter Scale. Within this century, there was a 7.3 quake in 1923 near Luhuo, a 7.2 quake in 1948 at Litang, a 7.5 quake in 1955 at Kangding, and a 7.9 quake in 1973 again at Luhuo. More recently, there was a 6.9 quake at Dawu in 1981. Each of these quakes caused major damage to people and property in the region. There is also a constant threat of landslides, and the presence of steep slopes makes construction hazardous and costly.

The population is mostly centered around the few towns located on the caravan trails that cross the area into the Tibetan Autonomous Region. Most of the inhabitants are pastoral Tibetans. They make up about 72.7% of the total population of 770,000 people of the Prefecture. Beside the Tibetans there are 24.6% Han, 2.1% Yi, the remainder belonging to other ethnic groups such as Mongols, Naxi and Hui (Muslims).

2.2 Historical Background

The first time the name Ganzi appeared was during the Qing Dynasty (1644-1911). The settlement, whose name means "white and beautiful" in Tibetan, was founded in 1663 at the site of a big white stone. The stone still stands in the center of the monastery to the north of Ganzi City. Later on Ganzi Country was created and in 1955 Ganzi became one of the three prefectures within the province of Sichuan. Sichuan, because of its

geographic isolation, inaccessibility, extensive area, large population, and virtual economic self-sufficiency, has maintained periodic independence.

In Ganzi, all four of the major sects of Tibetan Buddhism are represented: Nyingmapa, Sakyapa, Kargyupa, Gelugpa; as well as the indigenous Bonpo faith. Furthermore, because Ganzi is so far from Lhasa (where the Gelugpa sect rules supreme), in Ganzi the four other groups not only survive, but even prosper and are major influences regionally. In fact, there are two counties within Ganzi Prefecture, Xinlong and Baiyu counties, that do not contain a single Gelugpa monastery.

The area is also noted in the history of Buddhism in Tibet because four Dalai Lamas originated here. They were the Seventh Dalai Lama, Kelsang Gyatso (1708-1757), who came from Litang; the Ninth Dalai Lama, Longto Gyatso (1805-1815) from Dainkog (between Dege and Serxu); the Tenth Dalai Lama, Tshultrim Gyatso (1816-1837), also from Litang; and the Eleventh Dalai Lama, Kedrup Gyatso (1838-1855), from Qianning.

2.3 Architectural Features

As the valleys run north to south, buildings in Ganzi Prefecture are usually located on the western slope facing the morning sun. This side of the valley also usually gets less wind. The monasteries are usually located away from the center of town in more inaccessible areas, but they follow the same theory of catching the most the sun during daytime. The main structure, which contains the archives, lecture halls and prayer halls, usually encloses the monks' quarters as well. Some monasteries hold as many as three thousand monks and form are virtual towns within themselves.

The size of a monastery is customarily defined by the number of wooden columns found in the main assembly hall that support the main roof. Behind this hall there may be a second smaller assembly hall accessible from the main hall. The roof is usually flat not only because of the little rainfall but also to allow the inhabitants to do other activities on the roof top level without having to leave the safety of the building.

In order to bring more light into the main assembly hall the ceiling of the central part of the hall is usually raised above the other roof which enables sunlight to reach the main shrine located against the rear side of the hall facing the entrance.

The residences of the monks are different from those of the laymen as there is no need for grain-storage or shelter for livestock. Monks' quarters consist usually of one single floor, although residences of up to three stories can be found. Although these structures are primarily residential, trading and religious activities do sometimes take place.

2.4 Structural Analysis

2.4.1 General

Building materials used are mainly wood, stone and mud. Stone is used for the thick outer walls and the foundation. Timber is used to build the inner framework and the supporting structure of pillars and beams. Since the beams were traditionally laid on the capitals, which top the pillars, the inner structures are unsuitable for bearing horizontal thrust created by earthquakes and even the force of wind. The thick outer walls are relied upon to protect the inner timber work.

2.4.2 Foundation

For most structures of the Himalayan region the foundation is set in a trench type rubble stone foundation or set on the hard rock of the spur. During the field mission it was impossible to investigate the foundations of any of the structures visited. A proper inspection is recommended prior to restoration.

2.4.3 Walls

The walls, 100-150 cm thick, are built of different materials depending on availability, location and function. In general they are built of rough cut stones set in mud mortar which are then plastered over on the interior and exterior with a clayey earth mixed with straw.

Where there is a shortage of stones, mud mortar is used to build up the walls. In most cases the walls are constructed by *in-situ* mud laid between timber planks or basket shuttering in layers of approximately 50 cm and compacted by hand. After compaction the shuttering is removed and moved upward where the process is repeated. The frame which holds the planking together is pulled out after each operation which leaves behind holes that are often seen in contemporary constructions.

Sun dried bricks are also used to build mud walls, but as this requires more time and skill, it is mostly only used for smaller buildings or for details of the building such as roof edges and parapet walls. Where the mud is extremely bad, it is customary to mix the mud with chopped chaff or barley stems to give additional bonding quality.

Where there is an abundance of fir trees, timber logs are used to form the supporting walls of the structure or at least part of it. The choice of interlocking logs as the basic structural material imposes very serious limitations on the buildings. The size of the building cannot easily exceed the normal height of a tree, as splicing of the logs is difficult and weakens the stability of the structure. The stability depends primarily on the firm interlock at the corners - the most primitive form merely takes a semi-circle out of the the underside of the

upper log - and does not give sufficient positive lock. It is also not weather tight. The joints have to be very precise and are the most difficult part of the construction; therefore, as few sets of joints as possible are made. This, together with the linear nature of the material and its restricted length, tends to produce the utterly simply rectangular plan. To prevent further permeability by wind and water the joints are sometimes filled with mud.

The most common system of making internal partition walls is similar to medieval English studding. Head and sill beams are joined by vertical posts, often with a further beam at waist level, joined by mortise and tenon joints. The intervals may be filled with wooden panels but are mostly filled with mud-plastered wooden basket work.

The walls of more important rooms, such as the head Lama's quarters, are usually built the same way as the timber-log walls. Here the logs are often cut to half sections to reduce the weight.

2.4.4 Interior Timber Structure

The main assembly hall typically consist of a series of square or round timber pillars set onto irregular stone slabs which function as a base. The distance between the pillars is usually 230 to 300 centimeters with an average section being about 45 cm depending on the size of the assembly hall.

Above the post one or two layers of extensive shelf-type capitals support composite floor beams which run both ways. These in turn support the floor joists above. Occasionally small sections of carved timber are placed between the capitals to act as ties.

With the exception of a few monasteries the pillars do not run up to the next floor but only as high as the capital. In most cases the grid is then repeated at the second and next floor levels.

The pillars, shelf-capitals and beams are not nailed or bolted together but instead are usually held by force of gravity alone. In some places these elements are tied together with a few wooden dowels or tenons.

The ceiling of the central part of the main assembly hall and those of more important rooms are frequently framed with timber paneling and painted with religious motives.

2.4.5 Floors

The floors of the courtyards are usually covered with stone slates of irregular shape.

The floor covering of the interior rooms at the first floor, with the exception of the kitchen and store rooms, is finished with boards (120 cm long, 15 cm wide, and of uneven thickness up to 7 cm) and set into larger beams running parallel to the main beams. The cavity under the boards is filled with gravel. As such the floor-finish can be leveled regardless of the thickness of each board.

At second floor level and above the floor structure, which is supported by the columns, is a multi-layered construction with each layer closing the gap further so that eventually the gaps are so small that mud can be laid over and plastered. Round or square joints are usually laid simply over the main beams. These are topped by small round branches (approx. 7 cm diam.) and laid parallel or diagonally over the joists. These in turn are then covered with smaller branches which are compacted with a thin layer of clay above which a thick layer (15 to 20 cm) of earth is then laid. Finally the boards are laid the same way as at the first floor level.

2.4.6 Roof Structure

As there is relatively little rainfall and snow found in the region the roofs are always flat with a gentle slope towards the drain outlets.

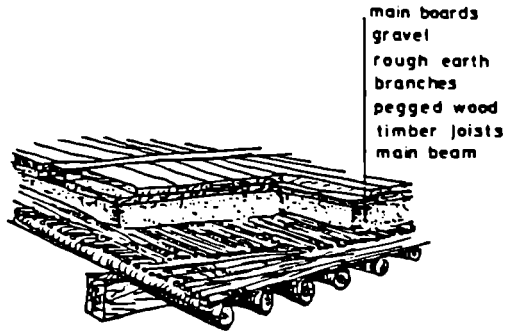
The roof structure is generally built the same way as the floors beneath whereby the thicker layer of earth is covered with approximately 20 cm of fine gravel and is well compacted to prevent water infiltration.

This layer of gravel has to be maintained every year before the rainy season because of wear and tear of the covering and to prevent leaking. Traditionally the upper surface of the roof was covered with one layer of compacted crushed red slates. This was then covered with fresh green branches. After one season of summer rain the layer of slates solidified and made the roof waterproof. During the winter the inhabitants are obliged to clear the snow off the roof as it accumulates, not only because the roofs cannot stand the additional load of heavy snow but also for sunny days when melting snow could cause seepage into the roof structure.

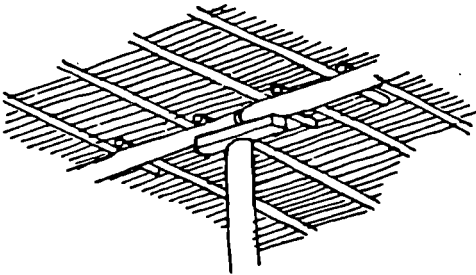
Occasionally the roof may consist of a double layer in which a second roof structure is laid about 50cm above the main roof. This improves the water-impermeability of the building. The composition of both roofs are identical as described above. The lower roof supports the upper roof by short pillars or short timber logs laid one on top of each other or a combination of both.

2.4.7 Roof Eaves

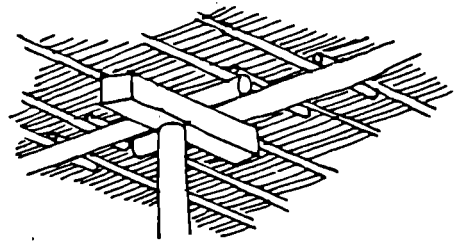
Until recently the Ganzi Tibetan Autonomous Prefecture and the



TYPICAL FLOOR STRUCTURE

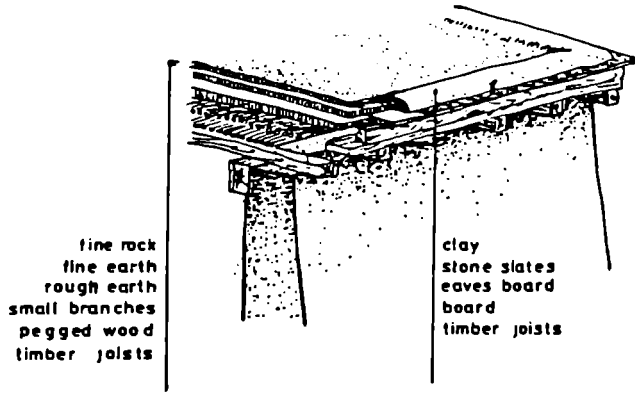


two beams head to head

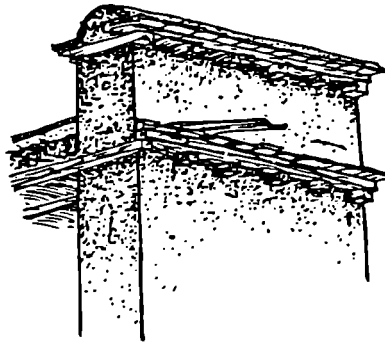


two beams next to each other

POSITION OF MAIN BEAMS AND
CAPITALS



TYPICAL COMPOSITION OF ROOF AND EAVES



ROOF EAVES WITH 'DAUGHTER-WALL'

surrounding region was a comparatively lawless area. Most residences and monasteries were built to be strongholds against numerous invaders. In order to prevent enemy invasion the beams could not stick out too far from the wall. Therefore the roof-eaves which partially protect the wall against rain never extend more than 30 to 40 cm out of the wall. Where roof slates are used the eaves do not extend at all.

There are two types of roof-eaves:

a. Many of the roofs have a 'daughter-wall' on top of the main external walls that run around the building. It is nothing but an extension of the lower lying wall which extends up to 2 meters above the roof level. The joists that make up the roof stick out of the external wall up to 20 cm in order to place a board on which slates can be laid. The number of boards and their length extend upwards from level to level. The uppermost level of joists are covered with gravel put at a slanting slope on which one layer of slates is laid. Usually the joists are painted alternately black and white but more colorful patterns have also been observed.

Sometimes the upper side of the wall is covered with slates held *in-situ* by heavy stones. Most often the daughter-wall partly supports a gallery with a colonnade of timber pillars set at about 200 meters from the wall. These partially support a simple timber structure with short beams running perpendicular to the wall on top of which a light flat roof is placed.

b. Occasionally the roof is without a daughter-wall. In such cases the composition is similar to the one described above with the exception that the wall does not continue above the roof level.

2.4.8 Drainage

To allow the surface water to run away from the roof, the roof is set at a gentle slope towards one of the few outlets set between two joist heads. Here a timber gutter, which usually consists of a hollow beam, sticks out of the building up to 4 meters. A counterweight consisting of a large stone is placed on the gutter at its other end to hold it into position. With additional roofs one above the other the water is taken from the upper roofs to the lower roofs by gutters which are placed almost vertically on large stone slates where the water finds its way to the next outlet. In general the drains that take surface water from the roofs above the daughter-walls take the water first to the central roof before it runs away from the building.

2.4.9 Doors

Door and window frames are most often pre-fabricated and installed during the construction of the walls.

Typically the first floor level has one large central door that gives the only access to the building. At most there will be a second door set in the side wall closest to the kitchen building and to the rear a third door on the other side. Occasionally a canopy is built above the central door to protect from rainfall. The doors consist of a post and lintel frame with occasionally an additional pillar in the center.

The central door panel consists usually of two panels for the monasteries while residents usually have only one panel. The size of the doors is much greater than that of residential buildings with much thicker panels. These have mainly a defense purpose while residence doors also depend on the height of the building and are designed to hold cold weather out of the house.

The decorations of the main doors towards the assembly halls are usually finer and more colorful than those of other rooms and buildings. The jambs and lintels are not only beautifully carved but also show fine detailed paintings with patterns of flowers, allegoric figures, and repetitive motifs such as the lotus petal and canonical texts. Above the door there may be a projecting cornice decorated with zoomorphic figures.

2.4.10 Windows

a. External Windows

The size of the windows is larger than in residential buildings but the general design and the basic patterns remain the same.

When the windows are set into mud or stone walls they are usually smaller on the inside than on the outside to allow for better lighting and observation. There are usually two sets of window frames, one set into each side of the wall, which are held together by plain boards holding each window shutter. When they are set in a timber frame making up the external wall there is only one outer frame.

On the inside of the windows two panels of solid boards are usually hinged from the top and are held into position by vertically hinged elements.

The outer panels slide horizontally into a frame and are made of separate timber pieces forming intricate motifs. These are typically covered on the inside with china paper to keep the cold outside the room. An extra curtain affixed to the outside of the window further prevents a draft.

On the outside walls the windows of some monasteries are bordered with the traditional black trapezoidal shape of a thangka frame painted on the wall face. The windows always have canopies over these like those over the doors (with the exception

of those set into a timber structure).

The dimensions of the window depend very much on the function of the room. The central window gives light to the main guest room and Rimpoche's quarters, which are usually larger than the others.

b. Sky Windows

Because of the cold climate sky windows are sometimes installed to admit light into the central rooms of the building. They are usually 4 x 9 m in size and can be covered by slates or timber boards during the rainy season. Only a few monasteries were observed to have this kind of window.

In most monasteries a drop ceiling skylight above the second floor level gives light to the main assembly hall. The window is typically set in a timber frame placed between the pillars that support the roof. These windows don't have panels but fixed frames that are usually covered with china paper.

c. Internal Windows

These are the windows that face the court yard, sun deck or balcony. They consist of only one panel, are large in size and of a square or rectangular shape. There exist many different types with intricate designs such as the endless knot and swastika motives.

2.5 General Repairs and Recommendations

2.5.1 Timber Structure and Fabric

Due to the high altitude there was no evidence of fungi attack in most of the buildings observed except for the Aga monastery near Xinlong.

2.5.2 Foundations and Walls

None of the foundations of the monasteries visited were inspected but it is expected that they were either built on solid rock or sound stone boulders.

In structures the size of monasteries, movement of some form or another is inevitable whether it is due to weaknesses in the materials or inequalities in the foundation base. Consequently nearly every monastery showed defects due to movement of the walls.

Structural movements are only significant in the following circumstances :

a. When movements are still "alive."

b. If initial movements, although expected, have caused significant structural weakness.

c. Where structural cracks or widened joints have permitted weather penetration thus causing further weakening.

Most of the structural weakness in these buildings have been caused by earthquakes and tremors, although landslides and inadequate draining have also caused weaknesses in the structure.

Recommendations

If there are signs of serious movement it must first be ascertained whether this movement is still alive. A simple solution is to bridge any serious fractures with a telltale which can be a thin strip of glass fixed in mortar across the fracture. If the glass breaks it denotes movement. There are other more sophisticated methods such as measuring between fixed triangulated points using micrometers.

Depending on the severity of the fracture its repair is usually a simple matter of bridging the fracture either with well bonded stonework or the insertion of a simple reinforced binder which is cast *in-situ* and hidden in the masonry. Where there is failure at roof-level or in the sun-dried mud walls it may be necessary to insert a simple reinforced concrete ring-beam to tie the top of the structure together.

2.5.3 Floor and Roof Structure

The floor and roof structures are identical throughout the region. All the roofs are flat and the only difference in the construction of the ceiling structures is that the edges to the roofs are finished with a low parapet which controls the limited flow of rain water into gargoyles. The timber sizes are limited by the sizes available. Spans are shortened by the placement of a grid of timber columns restricting most spans to about 2.80 m. The roof or ceiling structures in the larger rooms are divided by deep timber beams spanning the shortest distance between structural walls.

Failures in the structure are usually the result of timbers being too small in section or the spans being increased by the removal of a key structural member such as a column or a beam. There are also cases where rafters or joists have fractured due to the transfer of a heavy load caused by the failure of another section. Also structural failure due to movement of the joists has been noticed. Rarely are the joists properly fixed to the beams and timber joints.

With regard to beetle attack most of the timber used is *shamo* (fir) which very often has been attacked by beetles. Fortu-

nately there are few cases where the presence of beetle attack has caused damage of a structural nature.

Recommendations

All structural repairs must be considered in relation to the total structural condition of each building and not just at some isolated failure. Much information can be gained from relating one series of apparent structural failures with another. In the case of replacement of defective or missing timbers with new parts a careful check should be made of the loading conditions and the future use of the rooms. Only then can the size of the new timbers be determined. A check should be made of all bearing ends where they meet the structural walls to ensure there is a satisfactory bond and sufficient bearing. In some cases it may be wise to insert hidden concrete or timber bearing pads to distribute the loading in the walls.

It is essential that the extent of damage done by insects be investigated in more detail and that the beetles are identified to allow for proper treatment.

2.5.4 Wall Coverings

Most of the walls of important rooms are both plastered and decorated with wall paintings or are painted with color wash. The plaster is of mud and straw base finished with a fine clay. The original paintings are made with ground minerals. Other rooms are either crudely plastered or left unfinished. In some cases where the roofs are leaking badly at the junction between the roof and the supporting walls, the rainwater has eroded the surface and washed some of the plaster away. As a result the murals have been badly defaced. In many monasteries the walls are covered with murals painted on cloth. These are very often torn or cracked and show other defects due to leaking roofs or the movement of the frame.

Recommendations

Many of the murals show excellent quality of craftsmanship; it is essential that they are protected and, if possible, repaired. For this it is recommended that a mural specialist be called upon to establish the quality of the paintings and prepare a proposal for their repair. It is also suggested that a detailed iconographic study be made of the paintings as many of them show unique illustrations of both a religious and secular nature.

2.5.5 Floors

In most cases the floors are in reasonable condition, although the space underneath the floor coverings has not been inspected. Since the climate is rather damp, it may very well be that there is wet rot or fungi which may affect the timber in the

long run.

Recommendations

It is recommended that all floors are inspected and that proper ventilation be provide under the floors.

2.5.6 Roof Coverings

It was observed that, although there is little rainfall in the areas visited, the roofs and courtyards are laid to a minor fall and that there are crude gargoyles to throw the water away from the building. However the egress points for rainwater are few and far between. Usually due to structural movement in the walls or due to the sag in the roofs themselves water collects and finally percolates through the roof and down the wall.

Recommendations

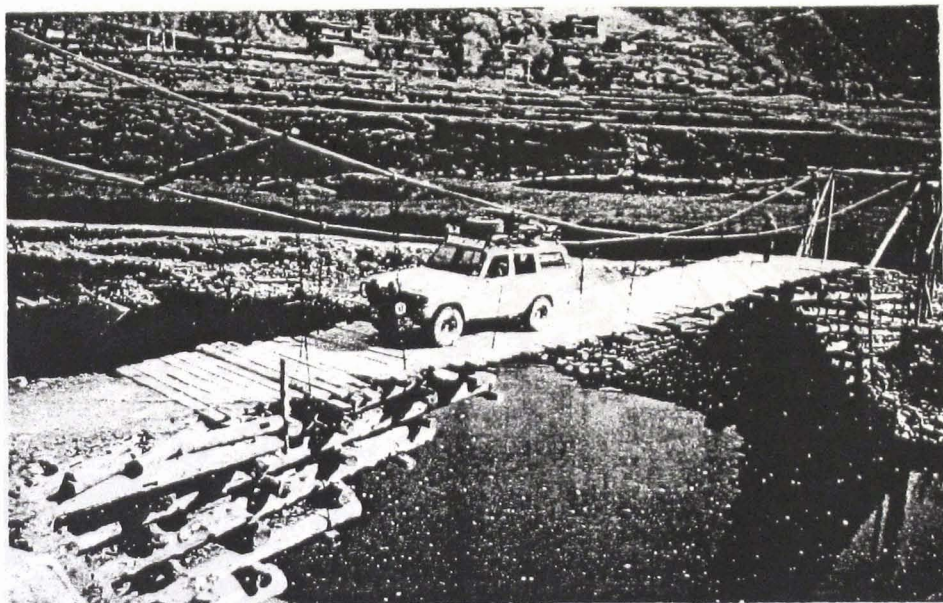
It is essential that the roofs are laid to a proper fall to allow the rain water to run towards the gutter in the quickest way possible. The roof covering should also be made waterproof by inserting a moisture-proof membrane between the layers of mud. More gutters should also be installed.

2.5.7 Doors and Windows

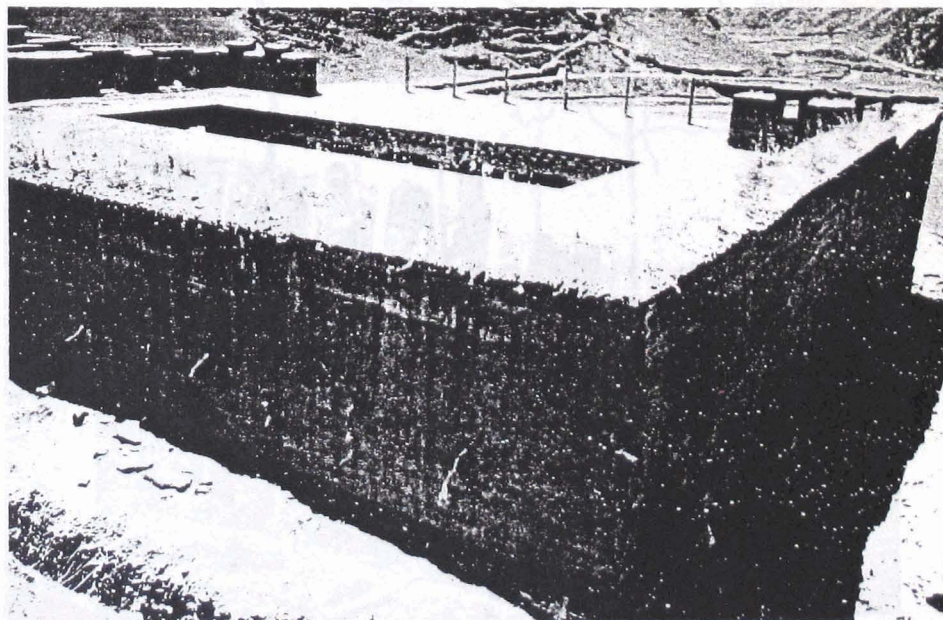
The doors and windows are mainly in good condition and most of the carving is still intact. In cases where the main structure has started to fail the windows similarly have failed to operate properly. As a result of the simple design, water and wind easily penetrate the cracks between the frame and the window panels which worsen the living conditions inside the rooms. Some traditional windows have been replaced with glazed windows but many of them are inefficient as well as anesthetic.

Recommendations

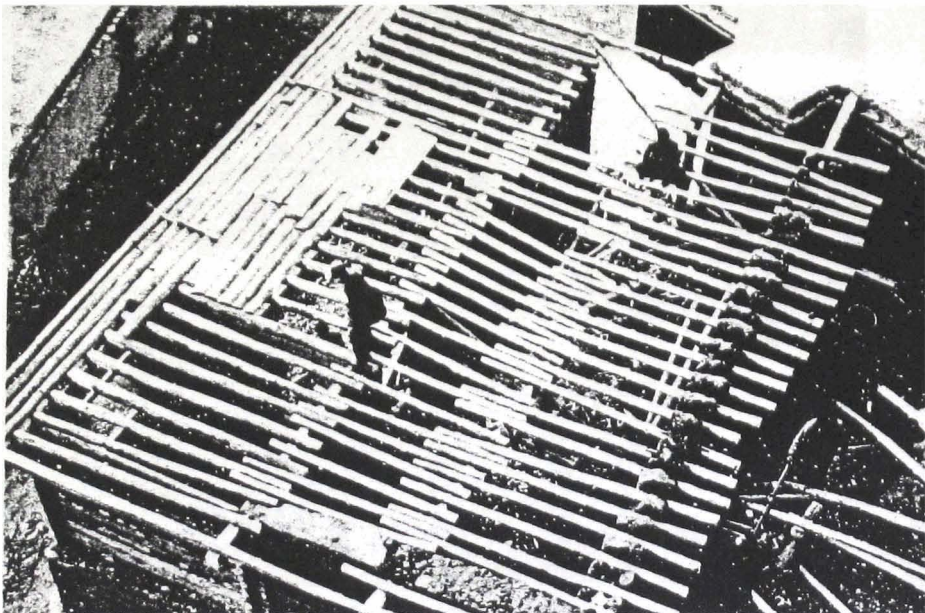
Once the main structure is repaired the window and doors should be repaired and made water-tight. The use of glass may be a solution to some extent for the monasteries located not far away from urban settlement. But the aesthetic aspect should be carefully considered as well as the proper placing of the glass to prevent both drafts and water penetration through the gaps. The canopy over the windows and doors should also be protected with a water-proof membrane to prevent them from allowing water to seep through the walls.



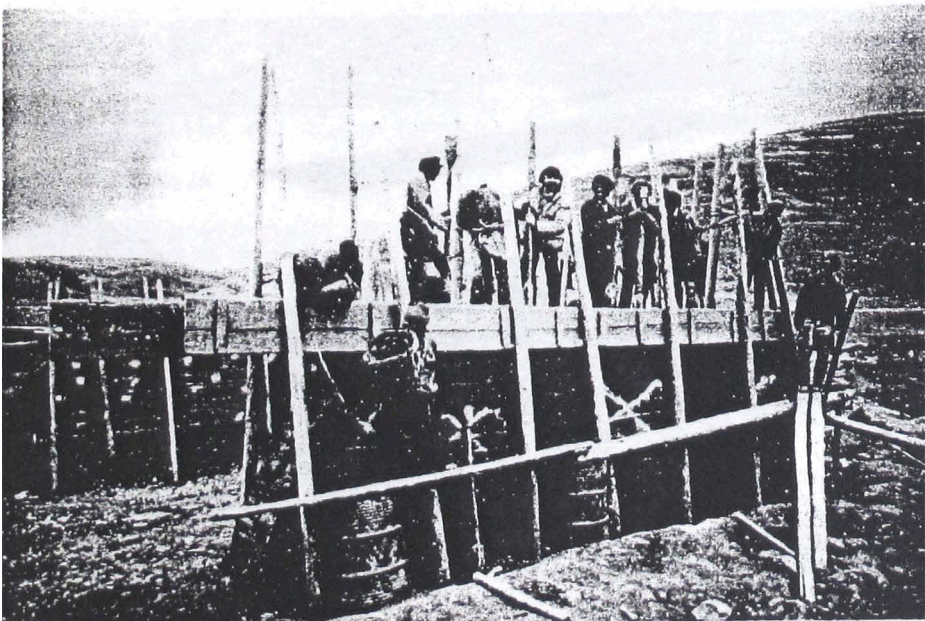
Expedition vehicle crossing a tibetan cantilever bridge at Hebo village of Baiyu county



Roof of a building undergoing reconstruction at Donggu Gomba



Roof system being built at a small building adjacent to the Assembly Hall at Babang Gomba in Dege County



Traditional method of compacting earth in building walls of a tibetan structure



TAGONG GOMBA

III SURVEY OF MONASTERIES VISITED

3.1 Tagong Gomba

3.1.1 Location, Environment and Present Situation

The monastery of Tagong is located along the main highway connecting Chengdu with Lhasa, between Ganzi's prefectural capital of Kangding and the town of Ganzi. Directly adjacent and to the south of the monastery is the little village Lalong, at an elevation of 3670 meters above sea-level. The environment is very dry without a single tree in the neighborhood and the area is considered nomadic as little farming is done here.

The striking snow mountain in the distance is one of the four most important sacred mountains to Tibetans. This particular one is called *Shaxuyalagonbo*, meaning Wild Yak Snow Mountain of the East, *Shaxu* meaning in the direction of the east, *yalo* the wild yak, *gonbo* snow mountain. The mountain is 5448 meters high.

There are five other smaller routes that lead to Tagong Gomba from all directions. All of them are only serviceable on foot or by horse and yak caravans. To the north, the trail leads to Xialong and Geyidan, to the east Xiaxie and Lalong, to the south Baixonma and two other trails leading to Longgu and Gedaxialong.

The whole monastic complex is surrounded by a high compound wall built of random stone with the main entrance facing a large open square to the south of the complex. In the north-east corner outside the compound wall, twenty prayer wheels are located under a covered timber structure. To the north outside the compound wall is a large area covered with chorten of all sizes and shapes. It is said that this "Chorten Forest" has 108 chorten, an auspicious number within the Tibetan Buddhist sutras. The most famous of these chortens are the large colored chortens presiding at the four directions of north, south, east and west.

When the monastery was rehabilitated in 1980, the government allocated 50,000 yuan (U.S.\$30,000 at the time) for repairs. 10,000 yuan was used in purchases and 40,000 in reconstruction. Later, a Tibetan college was established here with 210,000 yuan from the government. But when the college was moved to Ganzi, the remaining money was left as a permanent property of the monastery. Thus, the government has invested a total of 260,000 yuan into Tagong.

3.1.2 Building Description

The main courtyard (approximately 65 x 80 meters) is entered through a small door covered by a short flat roof opposite the

main assembly hall. This hall is set to the north of the compound, faces south and is flanked to the east and west by smaller assembly halls.

To the east of the entrance of the courtyard there stands a two tiered square building (approx. 10 x 10 m). This building holds a copper gilded statue, set against the northern wall facing the entrance. The stone structure has two tiled roofs which are slightly slanted upward at the eaves end. A recently built circumambulatory path with corrugated iron sheets cover a series of prayer wheels.

Behind this building a long two story structure runs along the eastern compound wall and houses the resident monks. To the west of the main entrance another two story building forms part of the southern compound wall where some of the monks also reside.

To the west of the courtyard a high stone wall encloses a second more expansive courtyard where ruins of what once was another assembly hall are found.

Access to the main assembly hall is reached along a flight of steps onto an open platform supported by four round free-standing columns set on stone cushions. From this platform a double door flanked on either side by small balconies leads to the porch which is supported by six round pillars. Two large glazed windows with projecting canopies set on either side of the front wall give light to the atrium.

Through a large pair of ornate doors the main chapel is reached. The chapel of regular size proportions is almost square (23 x 18 meters) and is set out traditionally with supporting pillars and with the main altar opposite the entrance on the north wall. The slightly raised altar is flanked by two walls together with the remaining walls covered with wall paintings. The eastern and western walls have a small window which lights the chapel.

In the northwest corner of the porch a narrow wooden staircase leads to the second floor which contains several small rooms. Above the porch opening there is a verandah covered by a projecting canopy. Set into the wall are three parallel bay windows. Flanking this central window are four small windows similar to those at the first floor level.

Above the lower staircase a second staircase leads to the roof level. Here the external wall has been raised to form a parapet wall with the traditional wall band running at the top and bottom. Set into the parapet wall are gilded copper plates depicting Buddha and Bodhisattvas.

In the center above the verandah are two gilded copper statues of deer facing the Dharma Wheel.

The main assembly hall is roofed with a hipped roof surmounted by a lantern. The whitewashed hips of the tiled roof are slightly pinnacled upwards at the eaves. On the ridge three gilded pinnacles crown the structure.

3.1.3 Architectural and Historical Elements

Tagong comes from the Tibetan name Lhagang, meaning "among the gods". In the beginning it was a Kargyupa institution, later changed to Sakya. In the middle of the assembly hall is a statue of Sakyamuni, sculpted with clay. Five other bronze statues were recently cast, the middle one being that of Dorjincang. After gold is plated on, they will occupy the front section of the hall. The statue of Sakyamuni will then be put to the side.

The bronze statues were cast by craftsmen from Chando in eastern TAR. Led by a young man Dorji, 28 years of age, there were a total of six workers, spending almost one month. Each statue cost 5000 yuan with the copper provided by the monastery. Each statue takes up 15 bucketful of copper. The statues are empty inside and will be filled with sutras and other religious objects. Before the Cultural Revolution and the destruction of the monastery, there were no bronze statues. The three carpenters working there are hired from Yajiang County. They are Han people and each get paid about 12 yuan per day.

3.1.4 Religious Activities

The four most important festivals of the year are listed under the Tibetan calendar as follows: 10th-16th of the First Moon, Praying ceremony called *Choyan*; 5th-16th of the Fourth Moon, Praying ceremony called *Karrijuncho*, the most important religious activity of Tagong; 6th-17th of the Sixth Moon during which time they have monastic dances; and 18th of the Sixth Moon to 15th of the Eighth Moon with approximately one month and a half of religious teaching activities.

The most important Rimpoche is Tupdenyima, who lives most of the time in Chengdu and is the fourth generation of his line. He has traveled widely including a trip to the U.S. on invitation of the China Exploration and Research Society. He made several trips to Nepal and Bhutan and is at present doing research at Oxford University.

At present there are 77 monks belonging to this monastery. However, only 30 of them live permanently within the monastery with the remaining ones living at home in neighboring villages. These monks are supported by their families and only come to the monastery to attend religious functions.

Because Tagong Gomba is famous in the region, there are many pilgrims year-round. Each year, the monastery derives about

7,000 yuan (U.S. \$1,500) of income directly from religious offerings, 605 of which are divided among the monks whereas 40% are kept by the monastery as savings.

3.1.5 Construction

Walls

The walls are constructed of random stone set in a mud mortar. The front wall is colored with a coating of red. The windows by the elevation are simply framed up in timber and have a projecting corbelled lintel over. The decorative white wall-band at the parapet wall is constructed of small projecting false joists bordering the wall band with the circular motive. Directly below there is a further white painted band. All the walls are red except for the uppermost, and are approximately one meter thick.

First Floor

The floor is boarded out with wide boards that are supported on exposed bearers leaving an air space below.

Upper Floor and Ceilings

The ceiling and roof of the main assembly hall is supported off a grid of five rows of six pillars each. The outer line of pillars support the second floor and are four meters in height and support beams running along with the external walls. The central pillars which raise up to the lantern at roof top level are approximately 7.5 meters in height.

All pillars are circular with a diameter up to 45 cm and are capped with brackets carrying composite beams. The ceiling joists span between the beams and boarding run across them. The structure continues on the same grid as below. The outer columns supporting the central hipped roof are closed by timber paneling with glazing.

Roof

The flat roof has a central raised hipped roof supported off the lower structure with a lantern above surmounted by three pinnacles. Both sloping roofs are covered with Chinese tiles.

3.1.6 Present Condition and Repair Recommendations

As this monastery has recently been reconstructed the whole structure and fabric is still in very good condition.

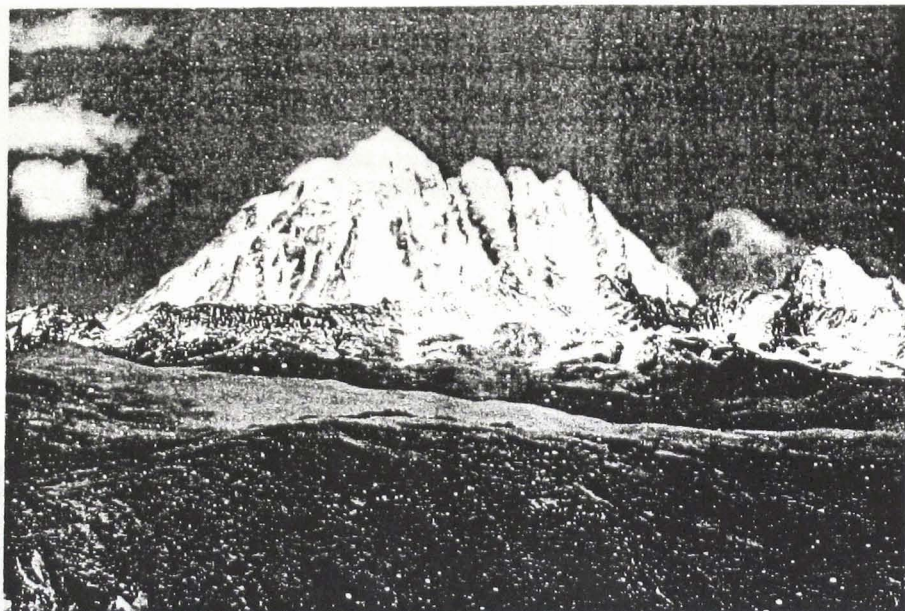
3.1.7 Associated Buildings

The structures surrounding the courtyard have all been recently constructed and are structurally sound. The ruins to the west

of the main courtyard are in a very dilapidated condition. It is recommended that as long as the ruins of the old assembly hall are visible a survey should be carried out to analyze the design and construction methods of this building. The construction of the two smaller assembly halls flanking the central main hall is still continuing.



Main Assembly Hall of Tagong Gomba. The front courtyard is used for monastic performances and other religious activities



View of the Shaxuyalagonbo (Wild Yak Snow Mountain of the East) as seen from Tagong



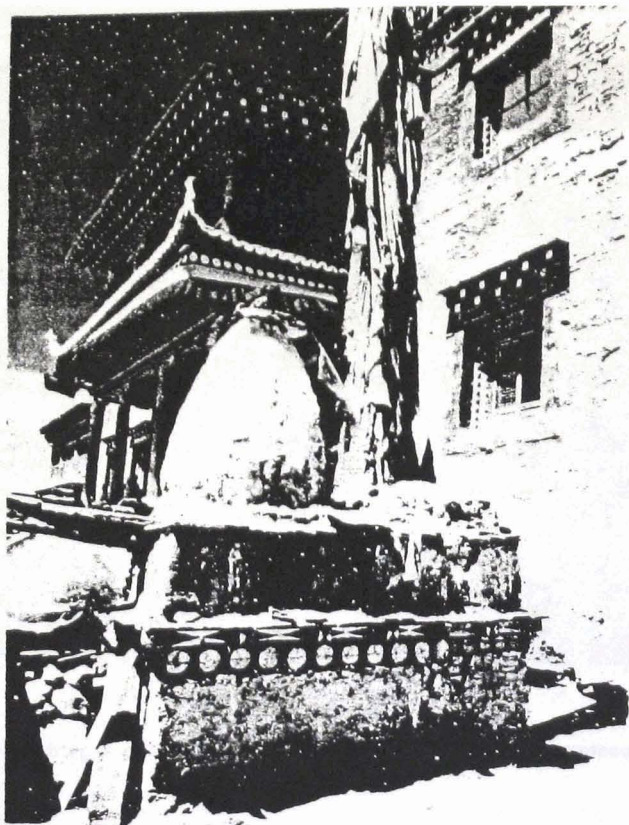
Tagong Gomba with chortens of all sizes. The prayer wheels are housed in the covered corridor at the left side of the monastery



Southeastern corner of the monastic complex housing a gold-gilded chorten



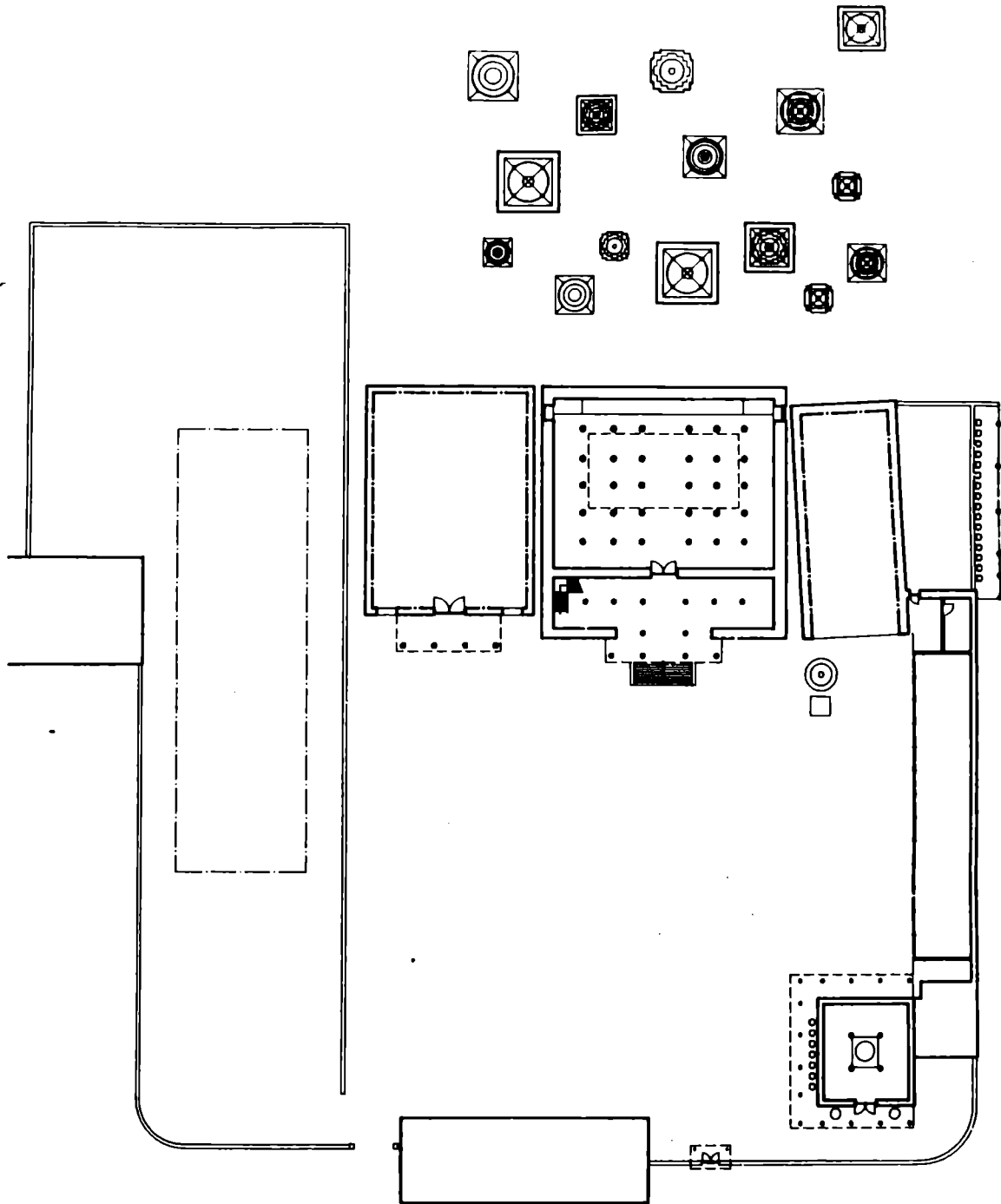
Row of prayer wheels along the corridor



Incense burner in the courtyard of Tagong Gomba



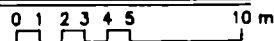
Bronze statues for the altar of the Assembly Hall at Tagong Gomba

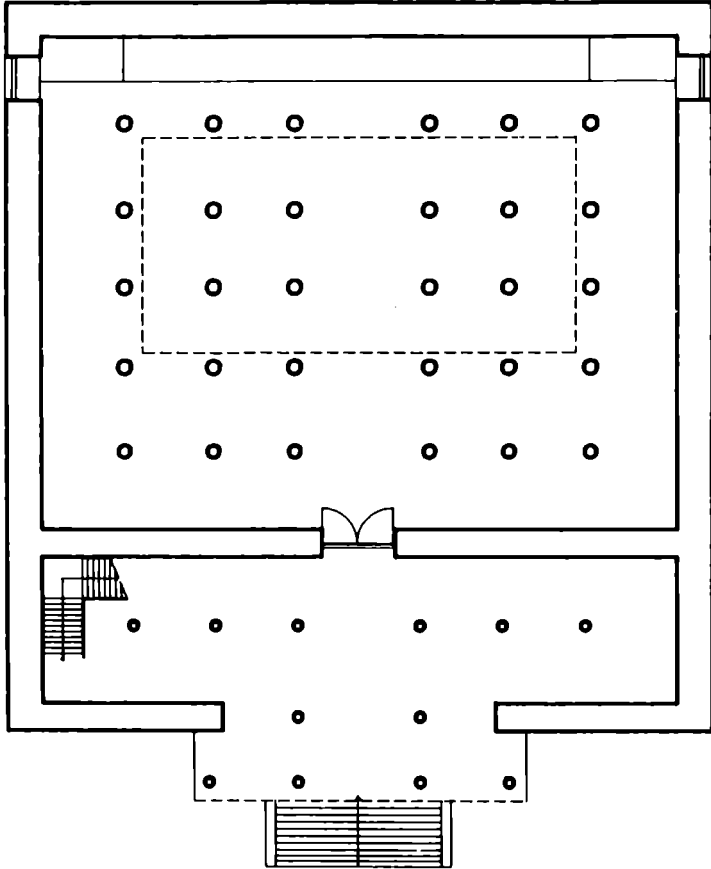


TAGONG SHE — QIANNING

1:500

SITE PLAN

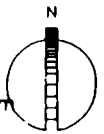
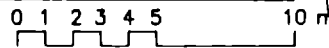


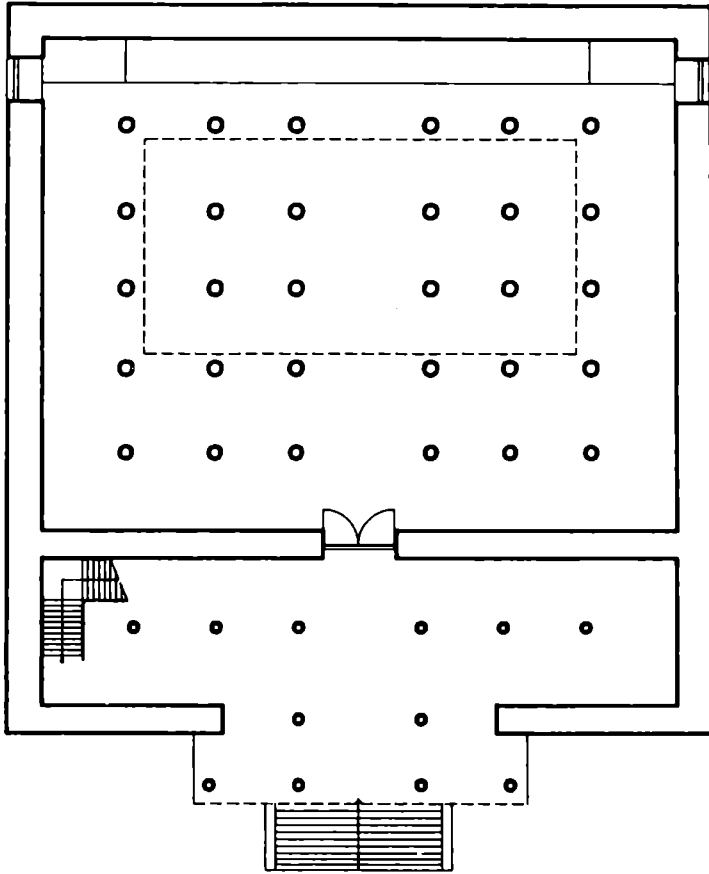


TAGONG SHE - QIANNING

FIRST FLOOR PLAN

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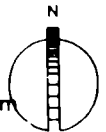
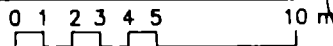




TAGONG SHE — QIANNING

1:200

FIRST FLOOR PLAN





HUIYUAN GOMBA

3.2 Huiyuan Gomba, Qianning

3.2.1 Location, Environment and Present Situation

Located about 8 km off the main road from Kangding to Ganzi Town is the large monastery of Huiyuan. The road branches off about 1 km south of the town of Qianning. Prior to 1978 Qianning was a county seat, but it has since been incorporated into neighboring counties.

Huiyuan is set in the center of a wide green valley at 3585 meters in elevation. Nearby is the village of Xede belonging to Bamei District. This is the old caravan road linking Kangding to Dawu which is now replaced by the Sichuan-Tibet Road.

South of the monastery and in the distance is an extension of the Wild Yak Mountain called *Dapola* (meaning big cannon mountain in Chinese) rising to 5310 meters. The Eleventh Dalai Lama was born at the foot of this mountain. The valley itself is called Garda. Legend has it that it is shaped like a lotus. The heart of the lotus is considered most sacred and blessed, and thus the monastery, situated in the center of this lotus-like valley, is also most sacred. Otherwise, monasteries are usually constructed along hillsides where they can be protected from the high winds of the plateau.

The monastic complex, south of the village, has an enclosed compound with an approximate area of 400 square meters. Located in the center of the southern wall is a large covered porch giving access to the main courtyard and the monastic buildings.

Before reaching a second smaller porch, one sees cultivated land on either side of the central access road, which is no more than a beaten track. In the center of the compound another smaller porch gives access to a second courtyard measuring 96 x 108 meters. To the east and west of the central courtyard single-story independent monastic dwellings are located. To the west behind the central courtyard another compound wall encloses a smaller open area where amidst a few trees a multi-story pagoda-like building can be seen. It is said that this was the residence of the Seventh Dalai Lama. Right behind the central courtyard, ruins of what once was another assembly hall are found. Further to the north the land is cultivated.

3.2.2 Building Description

The central courtyard is enclosed by a two story timber building which houses the resident monks and has a distinct brown color with yellow glazed painted windows set between the pillars. To the east and west two more smaller entrances give access to the compound.

The main temple is located opposite the main entrance and con-

sists of two parts. The front part--two stories high--is painted yellow and white while the rear side--three stories--high is painted red ochre. All windows have black linings like a thanka frame painted on the walls.

On the eastern side a small porch leads to the white painted store rooms and communal kitchen, while to the west of the main chapel a smaller red painted chapel can be seen.

The first floor of the main building is set some 2 meters off the ground with an open porch reached by a large flight of diminishing steps. The opening to the porch is formed by a large lintel supported on four free-standing square pillars.

Both sides of the porch are partially closed off by a timber paneling to form on the western side a storeroom while the eastern side gives access to a wooden staircase leading to the second floor. Set into the southern wall each room has a small square window with two projecting joists forming a canopy.

Through a central doorway one enters into the main assembly hall (approximately 25 x 20 meters). To the east a second entrance is used on a daily basis. The main assembly hall counts five rows of six free-standing square pillars. In front of the eastern entrance a beautifully decorated wooden panel is placed between two pillars. While the outer bay has a ceiling height of 4 meters the second row has a ceiling height of 8.3 meters and the third row is 7.3 meters in height.

The raised altar is located on the northern side set against a timber paneling fixed between the sixth row of pillars. On either side of the altar a doorway leads to a second hall which has only one row of six pillars in the center and has a total height of 7.6 meters. While the first four rows of pillars are square in shape all others are round. On a raised stone plinth set against the northern wall life-size statues and chorten are placed. In the eastern corner another staircase leads to the second floor which contains several rooms and fine living quarters overlooking the courtyard. Behind the space looking into the main assembly hall there is a small verandah open to the sky. All timber paneling between the columns are richly decorated and partially glazed although the pillar brackets and beams are less elaborately painted. In some places wooden logs form separate rooms which are probably of more importance than the others. Windows are placed into the walls at regular intervals with three projecting joists.

A narrow wooden staircase leads to the third level where more living quarters are located on the northern side. The lantern of the main assembly hall is covered by a hipped roof of glazed Chinese tiles and crowned with three gold-plated copper pinacles. The entire external wall is enclosed by a parapet wall consisting of two rows of protruding joists with tamarisk branches between and beautifully carved dragons set in each corner.

Atop the wall a banner is placed on each corner.

3.2.3 Architectural and Historical Elements

The Huiyuan She was first constructed in 1729 during the Qing Dynasty, and belongs to the Gelugpa (Yellow) Sect of Tibetan Buddhism. Prior to that time, there were many political disturbances in inner Tibet so that the Seventh Dalai Lama Kelsang Gyatso was not able to return to Lhasa and was stationed at Kumbum Gomba in Qinghai Province. The Qing Emperor ordered that a monastery be built at the Huiyuan so that the Dalai could stay and wait for an appropriate time to return to Tibet. The name Huiyuan was given by the Emperor, and means "Enlightened".

For six years between 1730 and 1735, the Seventh Dalai lived here and was supported by the Qing court with 160,000 taels of silver during that time. A military detachment was also stationed nearby at Taining (present day Qianning) to protect the monastery. In 1735, the brother of the Emperor came to Huiyuan and sent an army escorting the Dalai back to Tibet. A few stone tablets excavated at the monastery verify records of its early history. Later, because the Eleventh Dalai Lama Kedrup Gyatso was born near here, the monastery became even more famous throughout Tibet.

In the beginning, the assembly hall alone took up 4,500 square meters. There were said to be 132 gold-gilded statues with the largest one rising over 5 meters. Because of damages incurred by frequent earthquakes in the region and more recently it is used as grain storage during the Cultural Revolution. The building has sustained many losses over the last couple hundred years.

The monastery was rehabilitated in 1982. Today the assembly hall has about 2,100 square meters and holds only 13 clay statues and one larger clay statue of "Champa" in the back of the altar. No old thankas survived and those hanging in the hall today are all newly painted. A large black drape with white design called *bayung* woven from yak's wool is used to shade the entrance from direct sunlight. Beneath the eaves is a section of wall made by branches bundled together. This is done in the traditional Tibetan style religious building and the plant is called *bama*. The maroon color of the branches are dyed from a red earth pigment. It is unusual that the same method of branch-compacted wall is used along the two sides of the entrance to the assembly hall.

Before 1949, there were about 500 monks at Huiyuan. Today, there are 150 monks, 20 of whom lived in the monastery. For their livelihood, they depend upon their families. Each monk's family is supposed to build the monk's quarters along the periphery of the monastery. Some families, in order to save money band together in twos and threes and build one house for their

families' monks. Along three sides of the courtyard are also monastic quarters, two stories in height. It used to have only one story as it was believed that no ordinary ranking monk can live above the first floor. Only high lamas and *Rimpoches* (incarnate lamas or "Living Buddhas") could live in two-storied buildings. This rule, however, has since been abolished.

The monastery derives its meager income from ownership of about 100 hectares of farmland cultivated by the monks. They also have over 30 sheep herded by neighboring villagers. Every year, offerings by the public come to about 10,000 yuan in the form of cash, butter, meat, grains and livestock.

3.2.4 Religious Activities

There are five main lines of Reincarnation. The most important one, Lobsang Riujl passed away a number of years ago and was not reincarnated. The other four are all holding positions in government, in Ganzi Prefecture Political Consultative Council, Dawu County Deputy Governor, Dawu Political Consultative Council and Ganzi County Political Consultative Council respectively.

The four major religious activities of the year are as follows according to the Tibetan calendar:

- 1) 6th - 16th of the First Moon, *Meilangqinpo* praying ceremony.
- 2) For 9 days in the Fourth Moon, *Yibachori*.
- 3) 11th - 17th of the Sixth Moon, *Juobaruqu*.
- 4) 18th - 27th of Tenth Moon, *Anqu*.

3.2.5 Construction

Walls

The walls are built of random stone set in mud mortar of about 1 meter in thickness at the bottom which leans slightly inwards. The windows are simply framed and follow the traditional method of construction. The porch with its projecting balcony above is supported by timber pillars. The balcony at the second floor level consist of three bays of three partially glazed window panels above which a richly decorated wall band follows the traditional construction.

Upper Floor and Ceilings

These are supported off the outer pillars that are bracketed to receive the main ceiling beams running parallel to the external walls. Round pillars are also set into the wall. The beams in turn support ceiling joists with parallel boarding spanning between them and the walls. A further supporting structure continues in the upper floor to support the roof above.

3.2.6 Present Condition and Recommendations

Foundation and Walls:

Generally the walls are in good condition and the foundation although not inspected appear structurally sound. As the building is well raised above the ground there is no problem caused by rising damp to the fabrics.

Upper Floors and Ceilings:

The interior appears sound and the condition of all timber is satisfactory. The ceilings are also in good condition.

Roof and Roof Coverings:

The roof has been recovered recently and the structure was found in good condition. The flat roof consisting of compacted earth is in reasonably good condition as the water is taken away through plastic down pipes running along the external wall of the building.

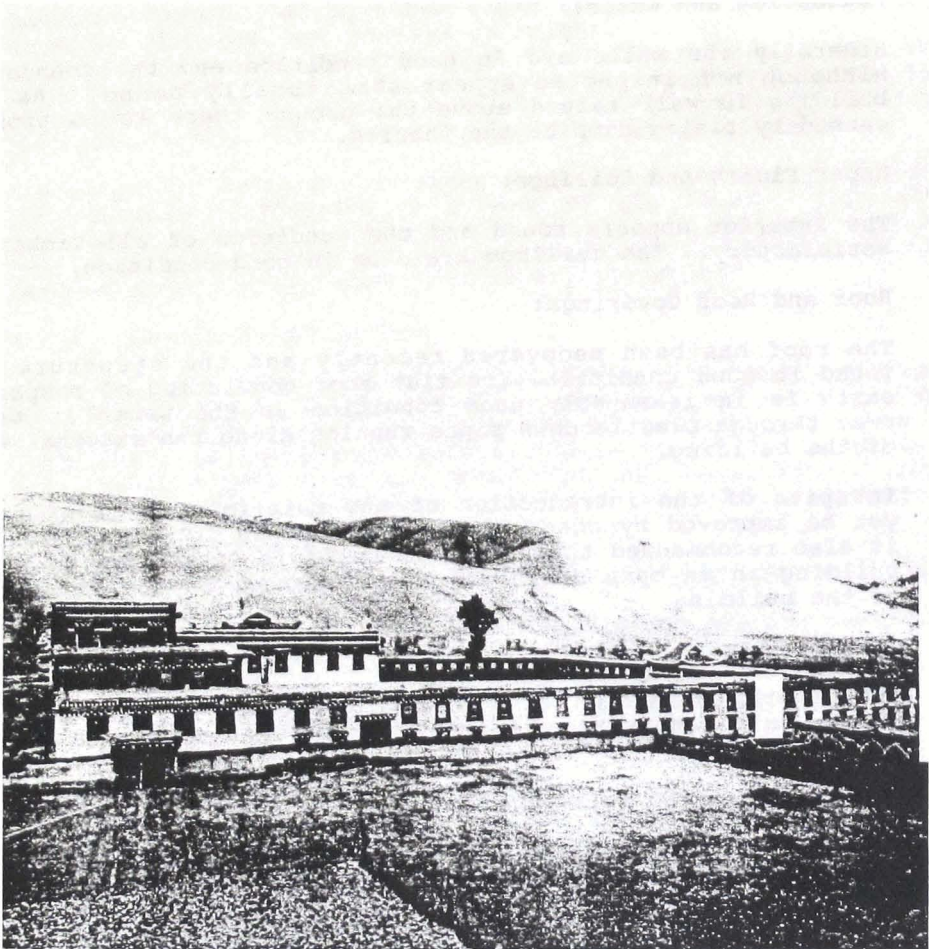
In spite of the introduction of new materials the system can yet be improved by concealing the downpipes in the walls. It is also recommended that the rain water is taken away from the building in an open drain to prevent damage to the foundation of the building.

Wall Linings:

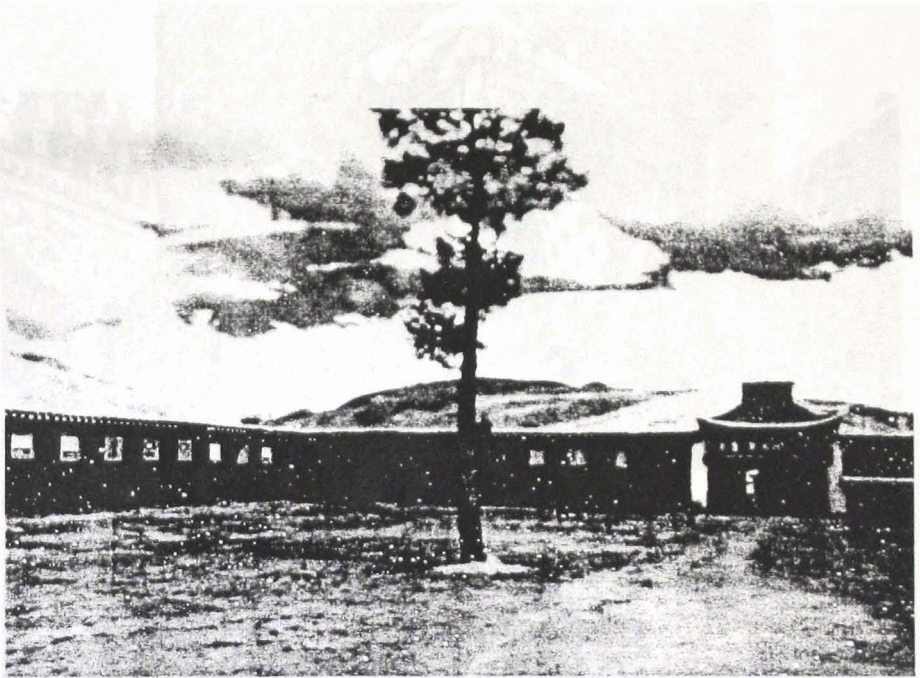
The general condition of the wall paintings is good and the timber wall panels at the first floor level area are in good condition.

3.2.7 Associated Buildings:

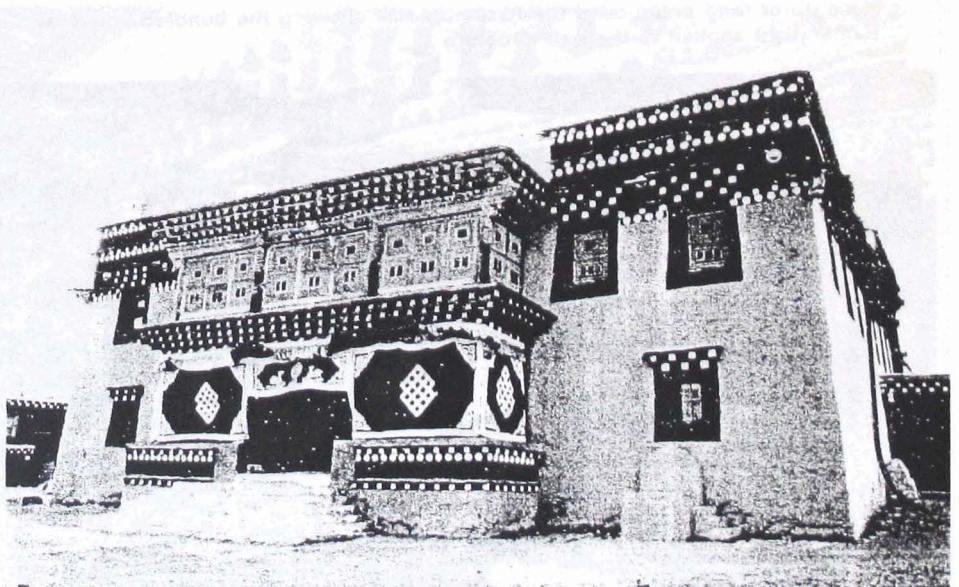
The neighboring buildings were not inspected closely but it was observed that the flat roofs of the monks dwellings were partially being repaired.



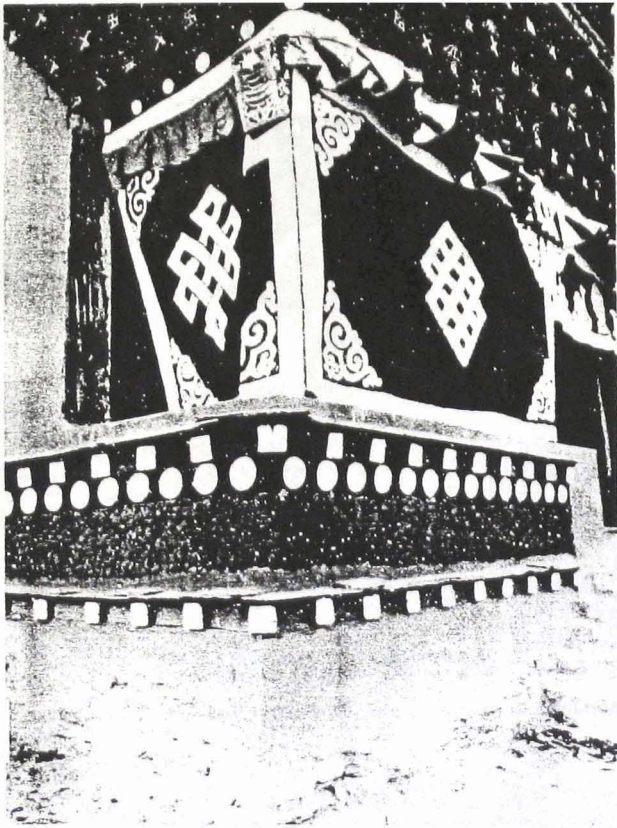
Exterior view of Huiyuan Gomba with the main building on the left and monastic quarters on three sides of the compound



Two story monastic quarters as seen from the interior courtyard of Huiyuan Gomba



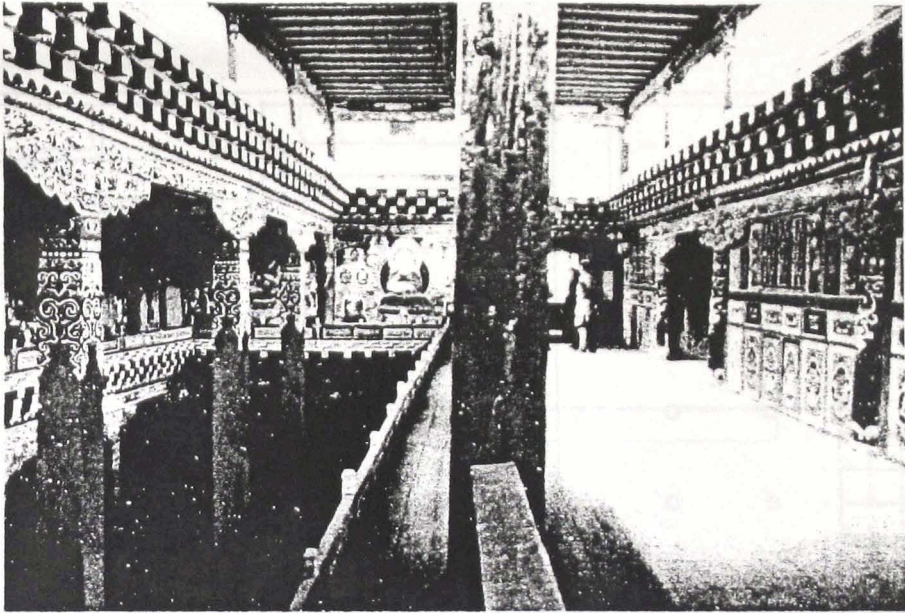
Front view of the Assembly Hall of Huiyuan Gomba



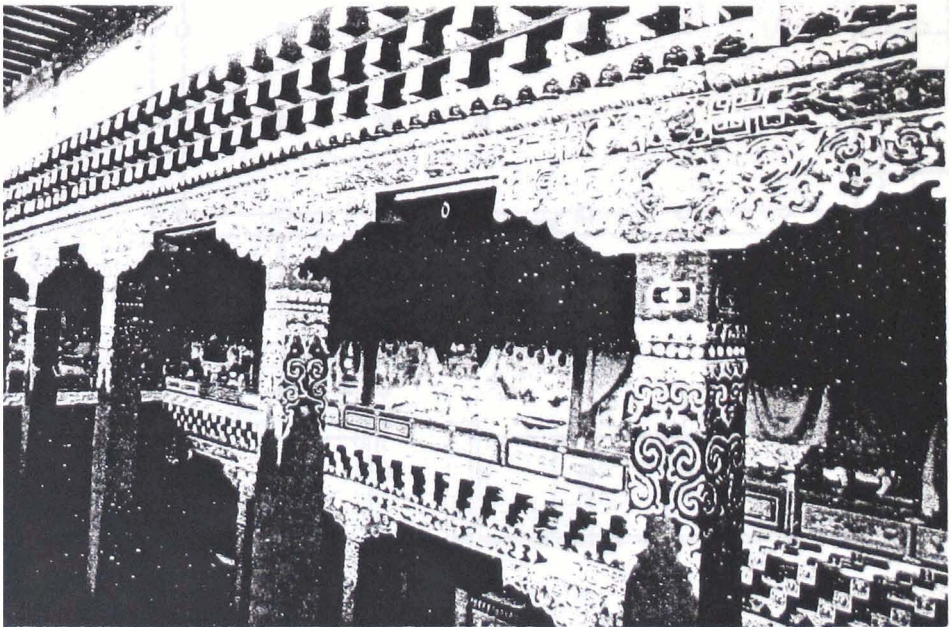
Close up of front entrance of the Assembly Hall showing the bundled and dyed "Bama" plant applied to the wall structure



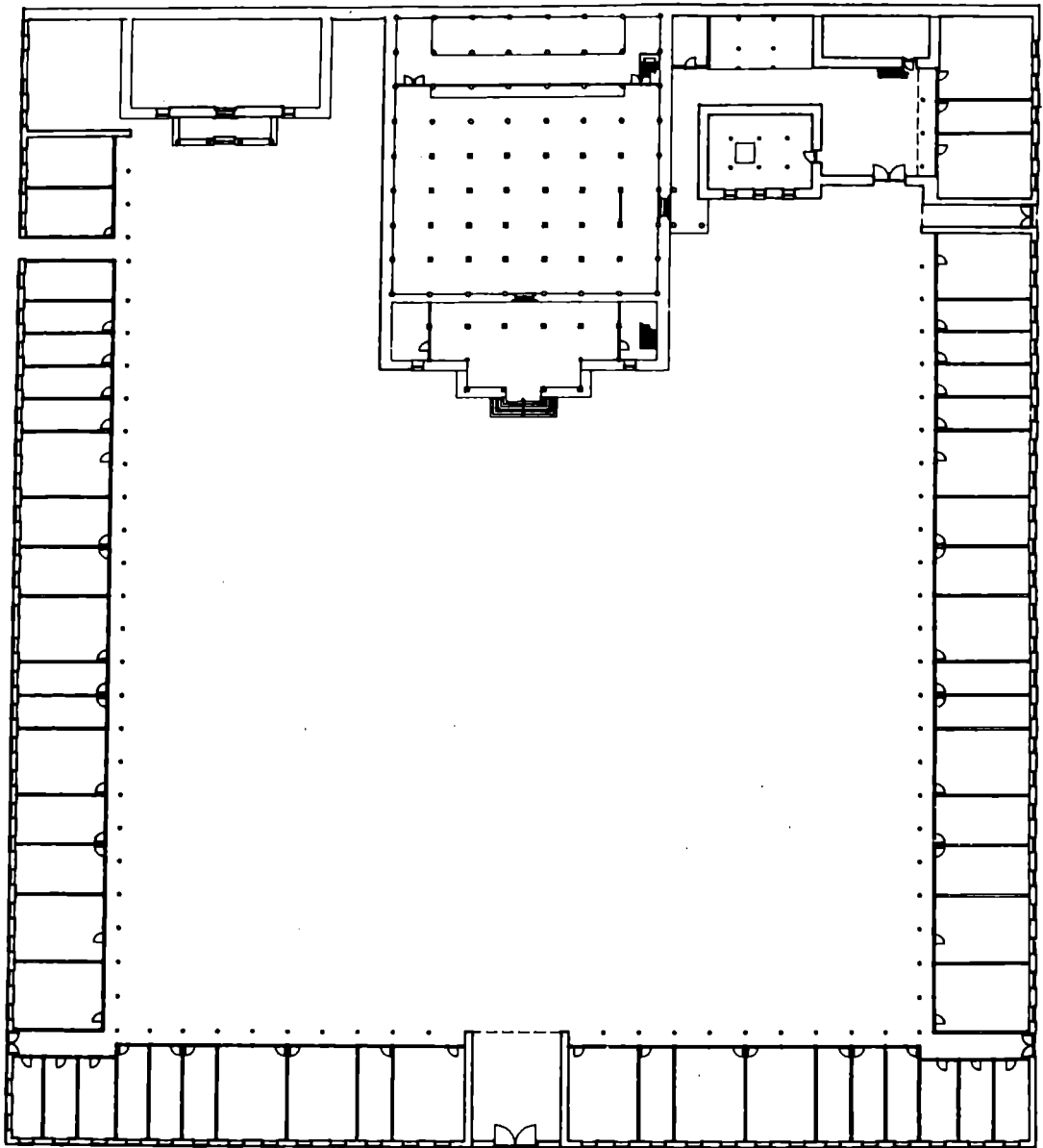
Eave decoration along the four corners of the Assembly Hall



Interior view of the Huiyuan Gomba with its heavily decorated eaves and columns



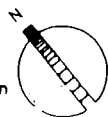
Relief carving on the columns of the main Assembly Hall

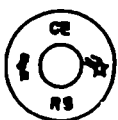
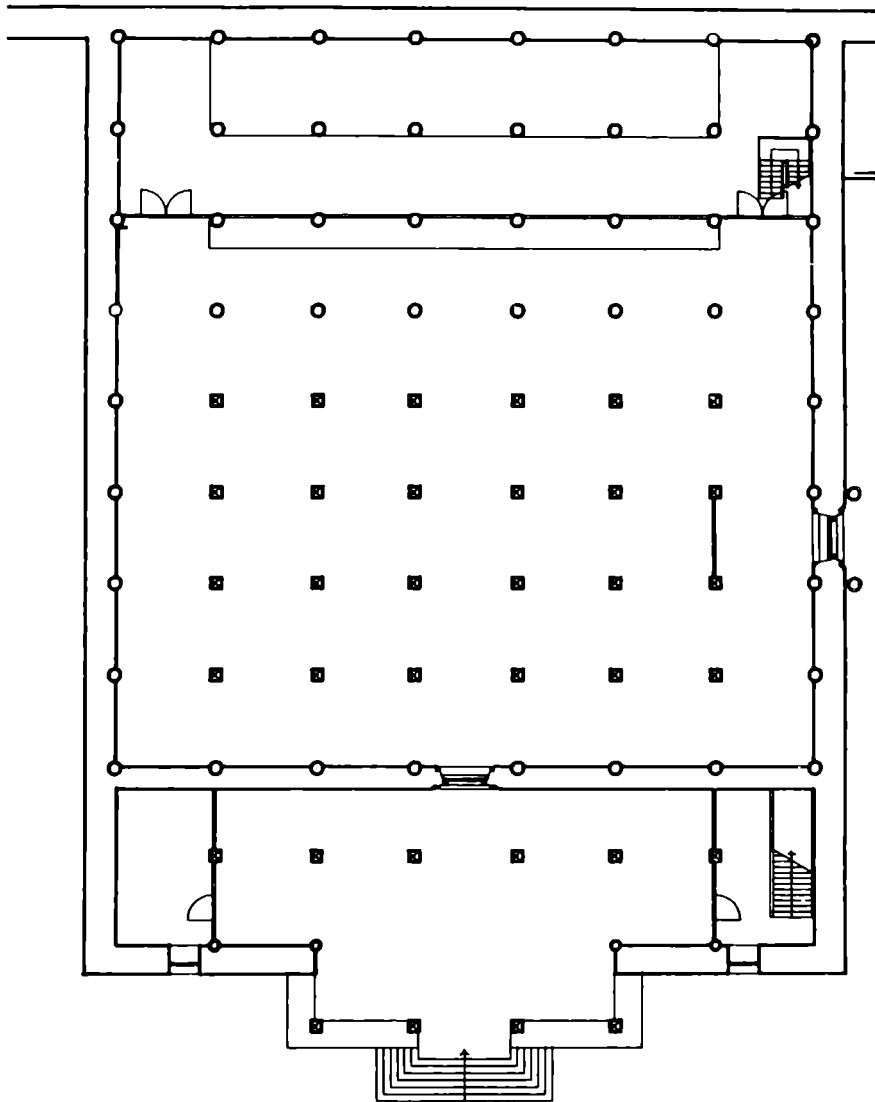


HUI YAN SHE
SITE PLAN

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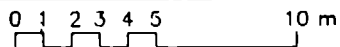
0 1 2 3 4 5 10 m

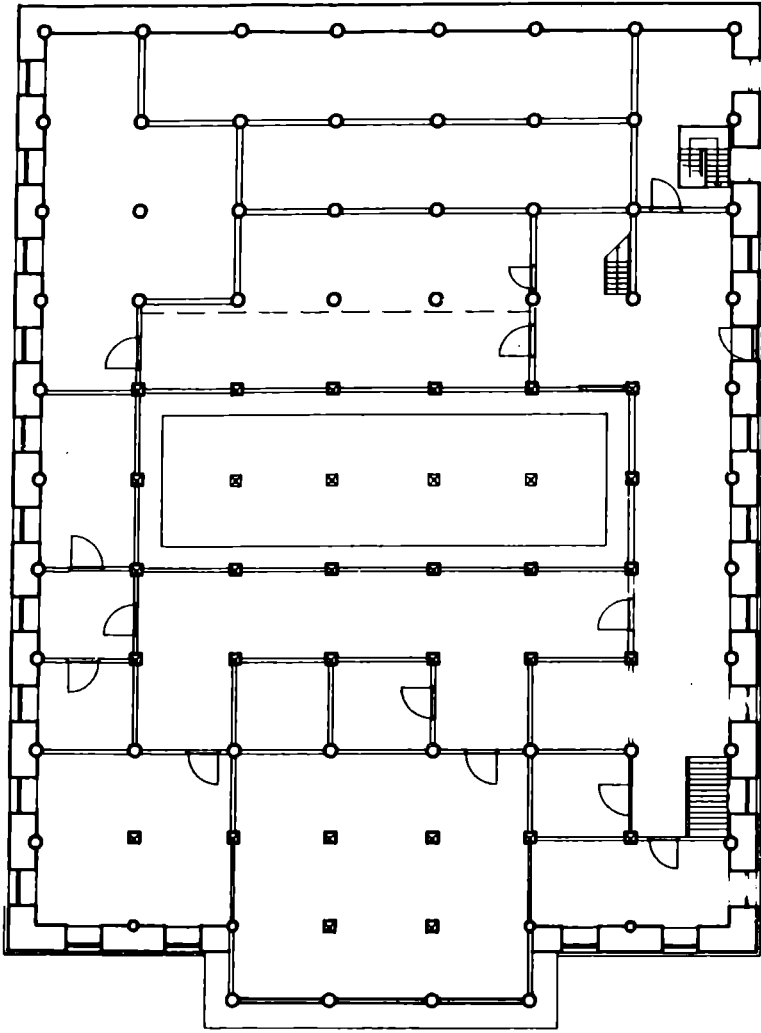




HUI YUAN SHE
FIRST FLOOR PLAN

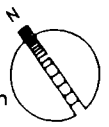
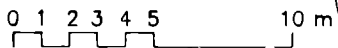
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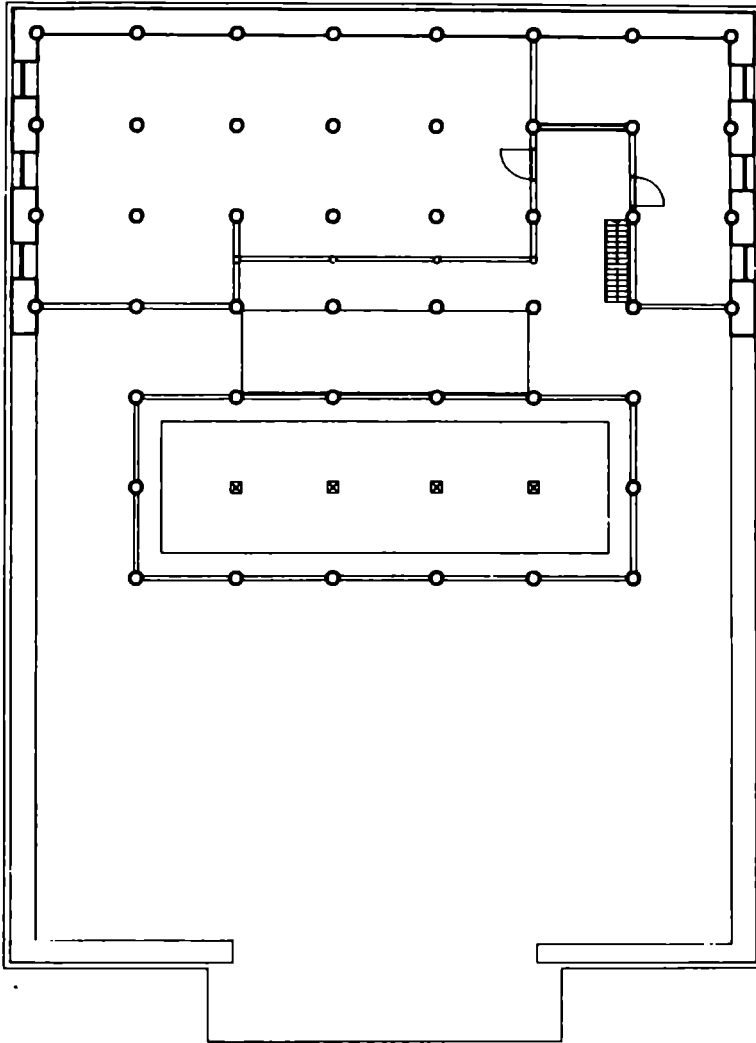




HUI YAN SHE
 SECOND FLOOR PLAN

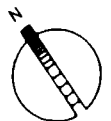
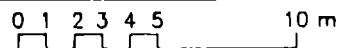
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HUI YAN SHE
ROOF PLAN

1:200





NINGCHO GOMBA

3.3 Ningcho Gomba, Dawu

3.3.1 Location, Environment and Present Situation

The monastery of Ningcho, standing at 3,000 meters elevation, is situated on a gently sloping hillock overlooking the valley, to the north of the town of Dawu. Access to the monastic complex is from the east along a marginal dirt road. The monastery proper is entirely surrounded by two-storied buildings occupied by monks and villagers.

The monastery is set in the foothill of Nicho Mountain. The full Tibetan name is Niarcho Gomba with several meanings: (1) fish in the sea, (2) a shoe below the shaded mountain, and (3) a phonetic translation of the mountain name, meaning good fortune.

During the 6.9 earthquake at Dawu in 1981 much damage were incurred and reconstruction began soon after. The government contributed 220,000 yuan during that year and later in 1989 an addition of 30,000 yuan for building of water and drainage system. The system is used for irrigation of the monastery's apple orchard as well as for drinking use.

3.3.2 Building Description

A wide covered gate situated to the east gives access to the monastic complex. The large open stone paved courtyard (40 x 30 meters) is situated to the south of the main building complex. To the south of the entrance is the communal kitchen. On the opposite side is a two-story building used as the official guest rooms adjacent to which there is a small prayer hall (12.5 x 9.5 meters). The southern side of the courtyard is formed by a single story building used as a store.

The main building consists of two prayer halls of which the eastern one is largest. The front facade of the building is built up symmetrically with two entrances. Two flights of diminishing steps leads to two separate covered porches which in turn lead to separate assembly halls. In the north-eastern corner of the porch of the smaller prayer hall behind a partition wall is a narrow wooden staircase leading to the second floor. On the opposite side a door through another partition wall gives access to a storeroom. A single row of columns in the center of the porch of both prayer halls supports the second floor. Between both entrances on the external wall a small shelter is built from where the head lama can observe religious ceremonies taking place in the courtyard.

The largest of the assembly halls is called the *Duang* and is rectangular in shape measuring 30.0 x 20.5 meters. The hall consists of seven rows of ten round pillars each. The height of the first, second, seventh and eighth horizontal bays as well as the first, second, ninth, tenth and eleventh vertical

bays is 4.95 meters while the central bays have a height of 9.4 meters. Against the eighth row of pillars opposite the entrance stands the main altar set against a timber panel fixed between the pillars. On either side a narrow wooden stair leads to a second prayer hall, one meter higher than the main hall. Two rows of pillars are running in the center of this hall whereby the second row is built on a raised plinth 2.5 meters higher on which statues of divinities are placed.

The second smaller prayer hall is called Kangyurkang. This hall is 15.5 x 20.5 meters and is built up the same way as the larger hall. There are two rows of six round pillars of which four are free-standing and two are set into the wall.

The third and smallest prayer hall is called the *Sonakang*. It is reached by a wide flight of steps through a wide carved door. The hall is rectangular in shape (12.5 x 9.5 meters) and consists of three rows of four pillars each. While the outer bays have a ceiling height of 4 meters the ceiling of the central area is at 6.5 meters where a window give light from the eastern side.

The main altar is located on the eastern side while to the north a raised plinth contains several statues of Buddhist divinities.

The second floor is still being rebuilt but some rooms have already been occupied such as the rooms in the northern corner which are used for making printing blocks. Along the first bay a central corridor open to the sky runs the length of the building giving access and light to the rooms on either side as well as to the assembly halls beneath.

The flat roof covers both the Duang and the Kangyurkong. The parapet wall is covered with the traditional decorative wall band consisting of two layers of tamarisk edged with the projecting false joist ends. Set on all corners of the building are black and white banners. In the center atop the front wall are two gilded copper deer facing the *Dharma* wheel.

All windows are simply framed out in timber with projecting canopies over and black painted frames of the traditional trapezoidal shape which stands in great contrast with the white-washed walls.

Two of the large three bayed window balconies, as all other timber, are painted brown and glazed.

3.3.3 Architectural and Historical Elements

The monastery was first built in 1662 as a Gelugpa monastery by Woren Pancho, disciple of the Fifth Dalai Lama. It is considered as one of the thirteen most important monasteries of Kham area. It was a very powerful and militant monastery and

successfully destroyed many monasteries of other sects within the area. Through the establishment of a "Dare-devil" Army, they fought their way throughout the region and conquered one of the most important Bonpo monasteries, Jolor Gomba. Many other Bonpo and Nyingmapa monasteries were intimidated into subjugation. The people were forced to switch from Bonpo and Nyingmapa to Gelugpa. The few Bonpo believers who refused to switch had to move to faraway places like Murue where they established the Gejar Monastery.

In the beginning, there were two to three hundred monks. The present *Kangyurkhang*, where sutras are stored is the original assembly hall. At one time, the monastery recruited almost 1,000 *ula* (unpaid laborers) spending over three years in construction of the 3,000 square meter three-storied large assembly hall, called the *Jokhang*. The back chapel of this structure has 21 pillars each rising 11 meters high. In the center of this chapel is a statue rising 10 meters. On the sides are eighteen smaller statues of two to three meters in height. The center hall is supported by 88 pillars with an area of about 700 square meters. Fully carpeted, it can house 1,200 monks during chanting and praying ceremonies. The outer front corridor is supported by twelve large pillars with smaller chapels above and on the sides.

To the left of the *Jokhang* is a separate kitchen building housing two large cooking pots with a diameter of 2.5 meters and two slightly smaller pots of 1.5 diameters. It is large enough to produce tea and food for almost 2,000 monks during special events.

Across from the *Jokhang* and in descending order along the hillside are many smaller residential structures for older monks who live here year-round. Around the entire monastic complex are hundreds of smaller buildings for the remaining monks, forming a terraced town. In the past, there were four entries to the monastery with strict restrictions against women and peddlers. People had to dismount and go on foot as they passed the monastery. The total area of the monastery was said to be twice that of the town of Dawu. In land holdings before 1949, it used to own 4,670 hectares, representing 12.3% of total arable land within the county.

After the Unequal Treaties signed by the Qing Dynasty in 1862, French missionaries began entering Dawu and built churches. Since then, relationship between the Ningcho and the Catholic church was strained until the monks burned down the churches in 1912. The government responded by sending in an army which defeated the army of the monastery and later used the complex as a garrison. Through arbitration by two respected Rimpoches, the monastery was later returned to the monks.

In 1904, the large earthquake of Luhuo and Dawu destroyed three large halls with only the center hall remaining but leaning.

Over 500 monastic quarters also collapsed, but they were later restored to original shape.

There used to be thirteen Rinpoches within Ningcho. Recently, there was only one remaining called Lorong Jiangla who passed away in 1989 and has not been reincarnated yet. There used to be fifteen *geshe* (doctor of divinity) of which only one remain today. His name is Lorong Gardeng. One head butler and seven subordinates together attend to the business of the monastery.

Based on census prior to 1949, there used to be 1,900 monks within Ningcho but most people believe the actual number exceeded 2,000. Between 1958 and 1981, all religious activities were suspended and the monastery was used first as the county high school, then later as a husking area for the production brigade and for grain storage. Damage was incurred both from the earthquake and the Cultural Revolution. Today there are 620 monks of whom over 200 live in the monastery year-round. The rest of the monks only come to the monastery during religious observances. When the monastery was first rehabilitated in 1981, many monks and local people worked as unpaid labor. Among the monks are local craftsmen, including painters, carpenters and blacksmiths. Rehabilitation of Ningcho thus has been a collective, local effort.

At time of our visit, murals were being repainted by four Tibetans, a father and three children from Luhuo. Dawa, the father, studied painting with head painter of the Sikang warlord Liu Wenhui during the 1940's. Dawa and his children were under contract with the monastery to paint for one year. Each section of the wall mural is called one *kung*. At Ningcho, there are over a dozen *kung*. Painting of each *kung* by the four-person team requires about two months and costs around 1,200 yuan. The content of each *kung* is fixed according to tradition. The raw material including paint were provided by the monastery. Some of these earth pigment paints came from Lhasa.

Today, the monastic complex takes up 90 hectares of which 50 are used as an apple orchard. The orchard was begun in 1976 by a commune here and was turned over to the monastery after 1981. there are now over 2,000 apple trees and about 1,000 almond and walnut trees. Most trees are still quite small and over about 500 catties (550 pounds) of apples are harvested annually. This has become an important source of income for the monastery.

In 1990, offerings by the pilgrims include about 3,000 catties of grains, 5,000 yuan in cash, five horses and four yaks. In comparing to previous years, it was said that support was getting smaller and the old monk interviewed, Dengzu Tsering, attributed it to the rehabilitation of many more smaller monasteries, thus depleting the number of available pilgrims. At present, the monastery has about 80,000 yuan in savings. They

have bought two "East Wind" trucks to operate a transport business. The two trucks bring in about 20,000 yuan of profit a year.

3.3.4 Religious Activities

There are twelve regular religious festivals conducted by the monastery. Of these, four are most important and involve many monks and civilians. These activities always follow the Tibetan calendar.

4th-18th of the First Moon, praying for 15 days, attended by all lamas and monks. On the evening of the 15th, butter-sculpture are put out as offerings.

19th-29th of the Second Moon, praying and chanting of the 108 volumes of *Kangyur*. All monks participate.

22nd-29th of the Ninth Moon, praying of the *Quja* sutras and two days of monastic dances. Many laymen attend this ceremony.

22nd-25th of the Tenth Moon, a ceremony called *Anqu* in commemoration of the death of Tsongkhapa, founder of the Gelugpa Sect. It includes two days of monastic dances and praying by hundreds of monks.

3.3.5 Construction

Walls:

The walls are all of random stone set in a mud mortar approximately one meter thick. The northern wall is built into the slope. The exterior is crudely plastered over and painted white. All the walls are blank except for the main elevation. The windows to the elevation are simply framed up in timber and have a projecting corbelled lintel over. Both projecting porches are constructed of timber with large central windows above. These are simply framed and decorated with a traditional projecting canopy above. The decorative double wall band is constructed of large projecting false joists bordering the tamark branches into which decorated gilded copper plates are placed.

Floors:

The floor is boarded with short wide planks spanned between exposed bearers and leaving an air space below.

Upper floor and Ceilings:

The smaller hall is built up the same way as the large hall with the exception that here also columns are placed in the wall. The pillars support fairly extensive brackets with a composite beam over. This beam supports the ceiling rafters

that are closely spaced with boarding over. The floor is a suspended floor and integral with the ceiling below. The support to the ceiling of the first floor follows the traditional grid of tapering pillars which support the main beams. The ceiling of the rear part of the building has been raised one more floor to create a clear-story window that lights the prayer halls at the back.

Roof:

The flat roof is built up the traditional way and is enclosed by a parapet wall of about two meters in height which has a small cantilever roof supported by additional round pillars.

3.3.6 General Repairs & Recommendations

Foundation and Walls:

The foundation was not inspected but seems sound. The general condition of the walls is fairly satisfactory and the windows and portico are sound and solidly constructed.

Floors:

The floor is mostly in good condition but there are recordings of a high moisture content in the timber in the southern end. Chemical treatment should be carried out to prevent fungi attack.

Upper Floor and Ceilings:

The structure appears generally sound. There is no sign of movement but many timber are infected by beetles. Also signs of wet rot were visible at several places where the beams are inserted in the wall. It is recommended that the timber be treated chemically to prevent further damage by beetle attack.

Roof and Roof Coverings:

The slope of the roof is not sufficient to allow the water to run away properly. Also the drainpipes are not large enough to take the water away. It is essential that the roof be repaired in particular near the eaves using a polyethylene sheet. Also drains and downpipes should be placed at regular interval to discharge the water from the roof.

Wall Linings:

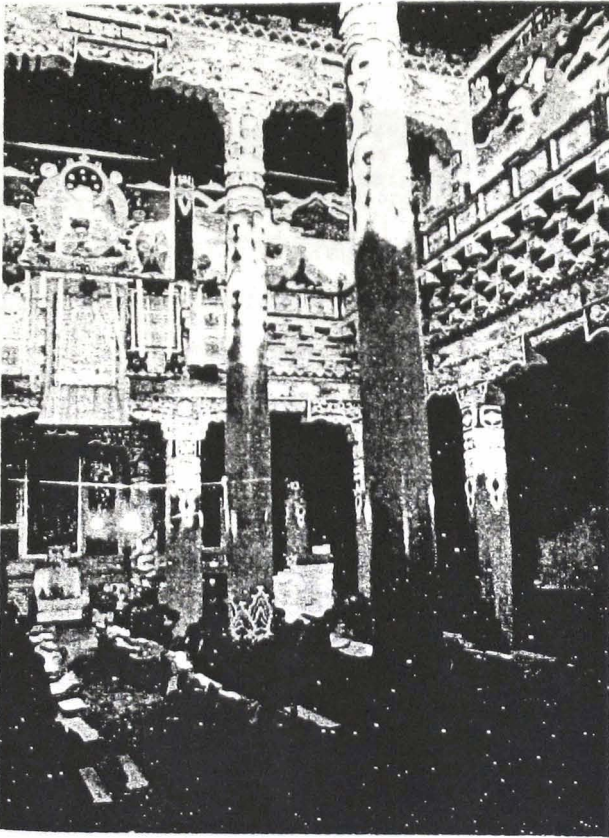
As the wall paintings are recent they are generally in a good condition.

Wiring:

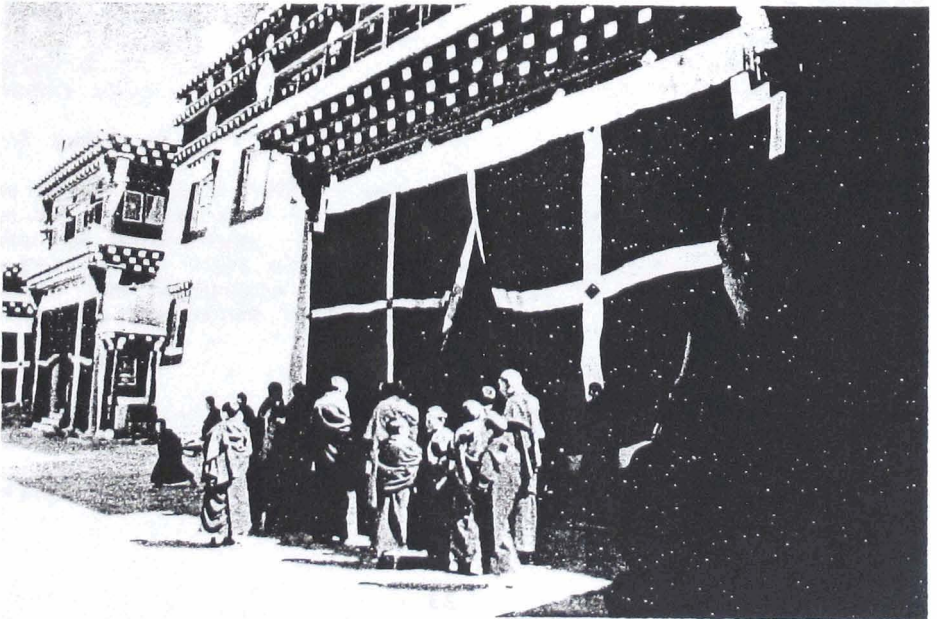
The electrical wiring has been laid in a rather crude way leaving many of the wires exposed even to rainfall. In order to prevent a potentially disastrous electrical fire, it is essential that the electrical wiring be properly protected.

3.3.7 Associated Buildings:

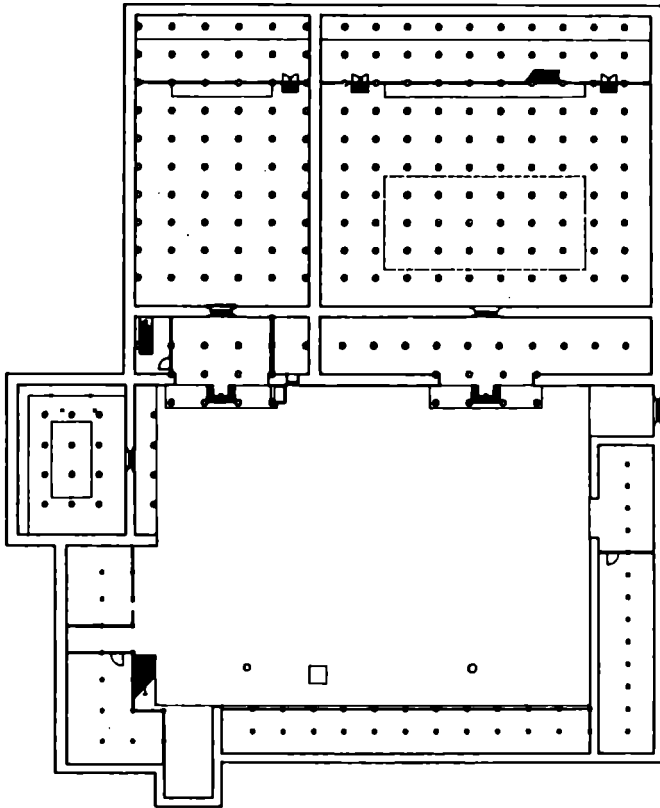
The single story building enclosing the courtyard to the east, south and west is structurally in fairly good condition with the exception that most of the sloping of the flat roofs is insufficient, causing these roofs to leak. To prevent further damage to the roof structure below it is recommended that the roof covering be dismantled and replaced at a proper slope using a plastic sheet to make it waterproof.



Interior view of Ningcho Gomba with ornate decorations



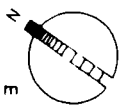
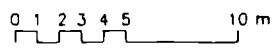
Exterior view showing two of the Assembly Halls



NINGCHO SHE - DAWU

1/500

FIRST FLOOR PLAN





DONGGU GOMBA

3.4 Donggu Gomba, Donggu

Due to inaccessibility into the main assembly hall at the time of the visit, it was impossible to assess the architecture structure and condition of the building. Thus the survey was limited to general aspects.

3.4.1 Location, Environment and Present Situation

Twenty-five kilometers south of Ganzi, a narrow road following the river Daqu leads to the monastery of Donggu, 27 km to the north of the main road. At the confluence of this river with the river Zitong lies the little village of Zitongda, meaning "above the valley of the respected gods". The monastery stands at 3395 meters and is set against a hill above and to the north of the village.

The hill is called Garri, meaning "hill behind the monastery". Nearby is another small sacred hill called Zitongla. Over the pass to the south is Nilong mountain, a famous sacred mountain of the Luhuo and Ganzi region. Legend has it that three Buddhist saints had their meeting here. Many pilgrims come to circumambulate the mountain.

The main Assembly Hall of Donggu has been damaged many times by earthquakes. At present, this hall is being reconstructed, with about 25% of the work completed. Work began three years ago and will need at least three more years to complete. The monastery was rehabilitated in 1982 and the government has contributed 12,000 yuan to the effort.

On the second floor of the living quarters of the Rimpoche Jugukong are some old wall murals painted on a rough lacquer-like finish. The two southern walls are covered with murals painted on timber boards 15 cm x 220 cm long which were covered with cloth. Many elaborately carved pillars of this building also are original. There are also 152 *thangka* (scroll paintings) of which the oldest are said to be over 300 years old.

3.4.2 Building Description

The monastic complex consists of a straggling group of buildings which are linked by a narrow wooden bridge. Along a flight of steps leading through a wide covered gate one enters the courtyard of the eastern section of the monastic complex. On the inside large prayer wheels flank the doorway while the courtyard (approximately 23.0 x 16.0 meters in size) has about a dozen trees. The floor of the courtyard is covered with boulders polished through age. The wall enclosing the courtyard (about 4 meters in height) is built of random stone and plastered over. The external side of the wall is white washed and the internal side painted red in which a yellow frame holds dozens of white circles. The wall is topped by a projecting timber structure covered with slates held down by a white layer

of mud.

Opposite the gate a single story verandah supported by one row of columns is set into the slope of the hillock. Under this verandah there are two square structures.

To the east a wide flight of steps leads to a second raised courtyard (22 x 22 meters) set at a right angles to the first one. Adjacent to the courtyard the main assembly hall is situated with the main entrance in the southwest corner. The building consist of four layers built in the form of terraces following the slope of the hill. Large windows light the hall inside. To the north of this courtyard a narrow wooden staircase leads to the third floor of the assembly hall. On the eastern side another covered entrance gives access to this hall. On the western side of the main gate of the large courtyard a narrow stone staircase leads to a wooden bridge which links the main courtyard to the western building complex. Through a narrow door the second floor of the adjacent building is reached.

The main entrance to the western building complex is actually on the eastern side at the first floor level but this door is hardly used any more. The assembly hall - approx. 10 x 10 meters - (not accessible) is situated to the north of a large unpaved courtyard. Originally the courtyard was enclosed by a two-story arcade but at present only part of the eastern structure and the unfinished compound wall remains.

Opposite on the western side is a third two story building that houses the residence of the head Lama. In the center of this building at the second floor there is a small verandah opening to the sky and enclosed a covered corridor. The walls of this building are all whitewashed and the large timber windows are painted with bright colors.

All the buildings have a similar canopy without any structures above the flat roofs.

3.4.3 Architectural and Historical Elements

Donggu Gomba in Tibetan means "originally vacant, but later settled". It is generally believed that the monastery was originally Bonpo and was converted to Gelugpa later on. The first generation of reincarnation, Dawa Shentse merged four existing Bonpo monasteries (Bonke Gomba, Karyi Gomba, Bonpo Zala and Bondato) into one over 500 years ago. There is only one line of rimpoche and it has continued for ten generations so far.

As legend goes, while the first Donggu Rimpoche was still in his mother's womb, he already knew how to talk and told his mother what to do and what not to do. When he was born, once his hands and feet touched the ground, four deep depressions

were made. Whenever there were disputes among the villagers, he was able to settle the disputes correctly. He became learned without a teacher and later united the four monasteries into one.

The third and sixth generation of Rimpoche had been to the Central Court and had audiences with the Ming and Qing Emperor during 1588 and 1781 respectively. Historically, Donggu has close relationship with the Central court and the fourth Rimpoche was said to be of Han ancestry. The monastery is unrelated to any other Gelugpa monasteries within Ganzi and the entire Kham area. Nevertheless, their monks can go to Lhasa's three major monasteries and study to be promoted as lamas. Alternatively, they can study within their own monastery and rise through examinations. Donggu is not a subordinate to any higher monastery nor does it rule over any other monastery.

In the early 1950's, Donggu has about 1,000 monks but today there are only about 300, all of whom live within the monastery. Their quarters are built by each monk's respective family and they are supported by their families.

There is a well-known and ancient tradition among monks of Donggu. When they go out to pray among the public, each day they are allowed to receive only one *ji* of grain. A *ji* is a small bucket-like wooden container with a handle of 8 cm diameter and 13 cm in height. One *ji* of grain weighs about 2 catties (one kilo). If the offering comes in the form of cash, it should only be equivalent to one *ji* of grain in value. Any additional gifts are to be rejected. This system is unique in the entire Tibetan region.

Financially, the monastery subsists on the three variety stores it runs in the village. These bring in a modest profit of 1,200 yuan annually. They also own 50 yaks which are cared for by nomads of the region. Each year, the nomads turn in butter yielded from these yaks. The better class of yaks bring in 17 catties per yak, and the second class yaks, 14 catties. The remaining produce from these yaks is considered property of the nomads tending the herd. Additional offerings by pilgrims amount to about 1,300 yuan per year. The above income is considered communal property of the monastery.

3.4.4 General Repairs & Recommendations

Only the murals at the corridor of the second floor level of the third building could be inspected. Here it was observed that those painted on the walls are quite recent and in reasonable condition. The two panels are damaged in several places especially at the edges. After referencing and carefully removing the panels it could be seen that a specialist was needed for treatment as set out in the General Recommendations. Those that have been damaged by water may need restoration.

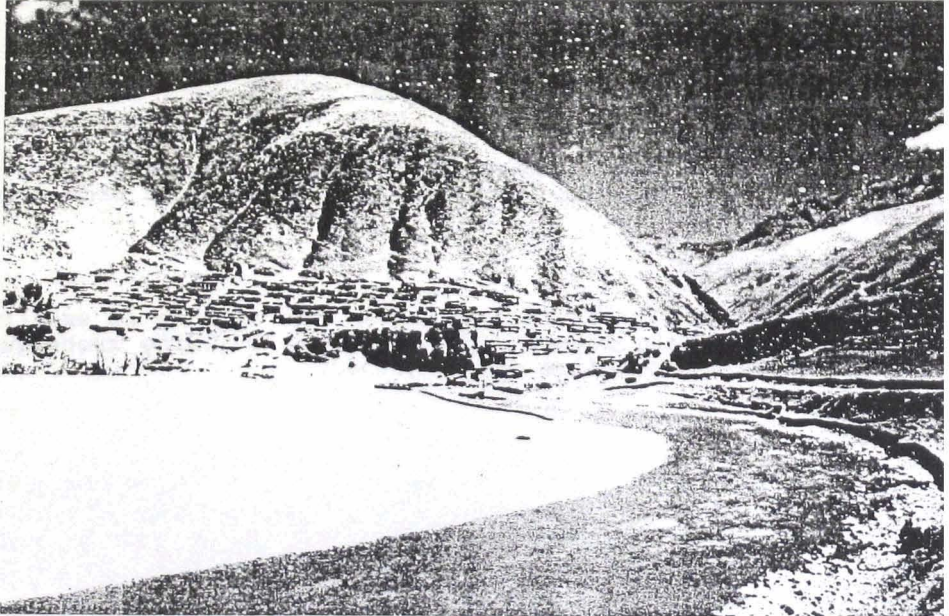
3.4.5 Associated Buildings

To the south and below the monastic complex in the center of the village another monastery is being built by the local community. The design is based on a single rough drawing showing the front elevation and first floor plan but it has been observed that neither the elevation nor the plan are entirely followed during the construction. The overall dimensions of the building will be 40 wide by 50 meters in depth with the main assembly hall being 38 x 45 meters counting seven rows of ten free-standing wooden pillars each (against nine rows of twelve round pillars as shown on the plan). The drawing shows that to the back there will be three more smaller prayer halls set into the slope of the hill. To the east the construction of a new communal kitchen is also underway. The building has a stone foundation with a stone plinth reaching up to about 1.50 meters above the first floor level. From here the super structure is built of compacted mud walls except for the kitchen which is built in random stone.

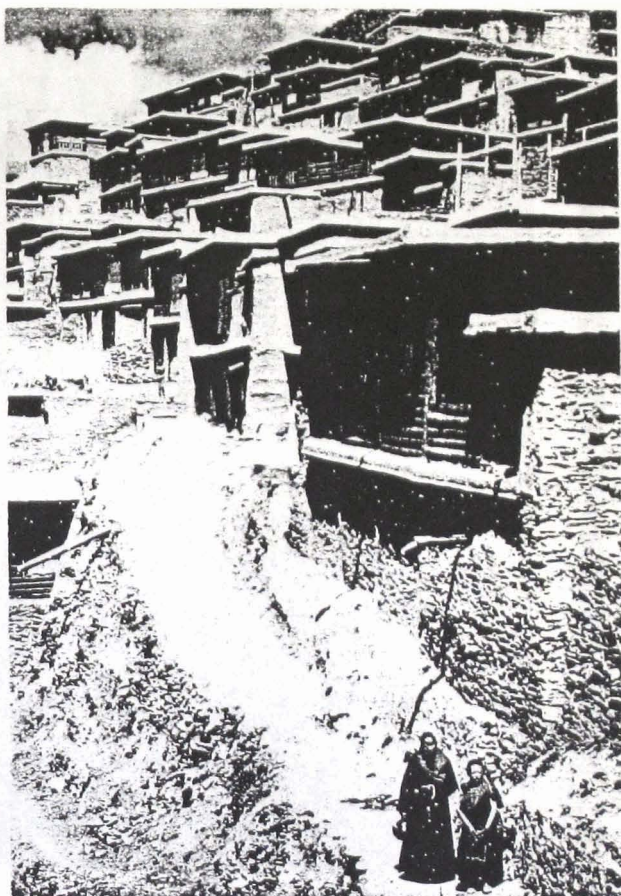
At present the second floor level is reached and half a dozen carpenters are working continuously on window and door frames for the new complex.

Recommendations

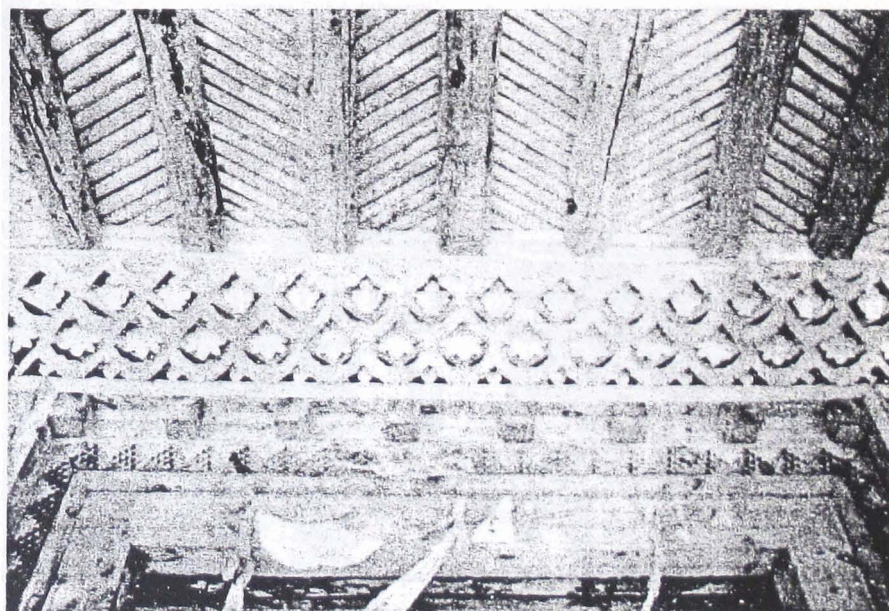
As the construction is in full swing this site is an excellent location to train laymen and to improve building techniques. Here theory and practice can be joined.



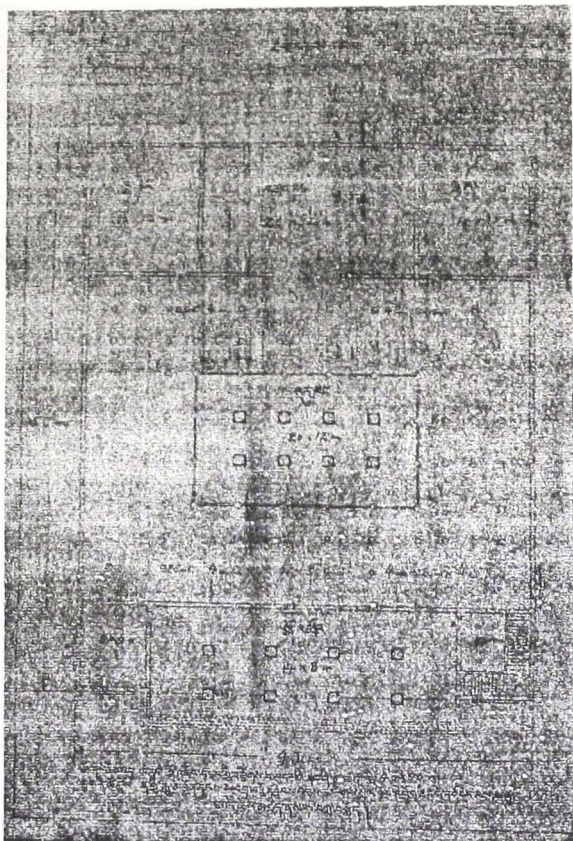
Full view of Donggu Gomba with the river Daqu, a tributary of the Yalong river



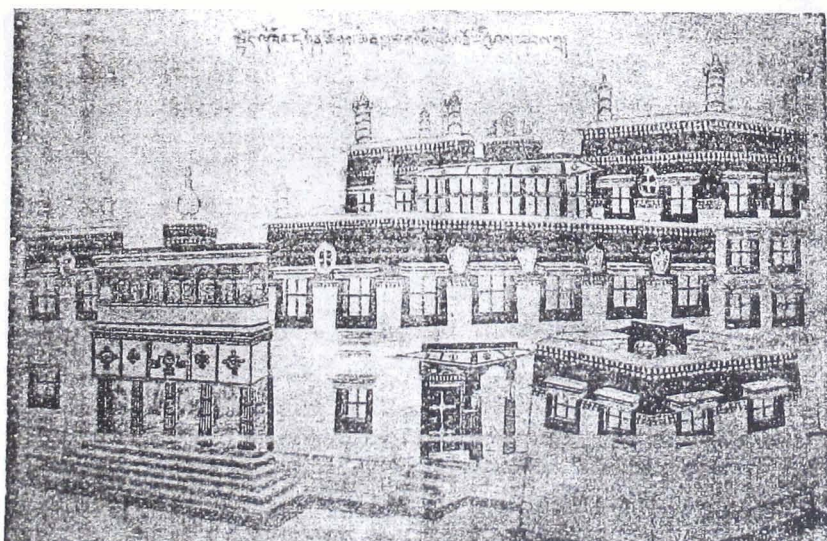
Monastic quarters set against the hill at Donggu Gomba



Eaves and ceiling of an entry way under construction at the Assembly Hall



Locally drawn floor plan of the Assembly Hall



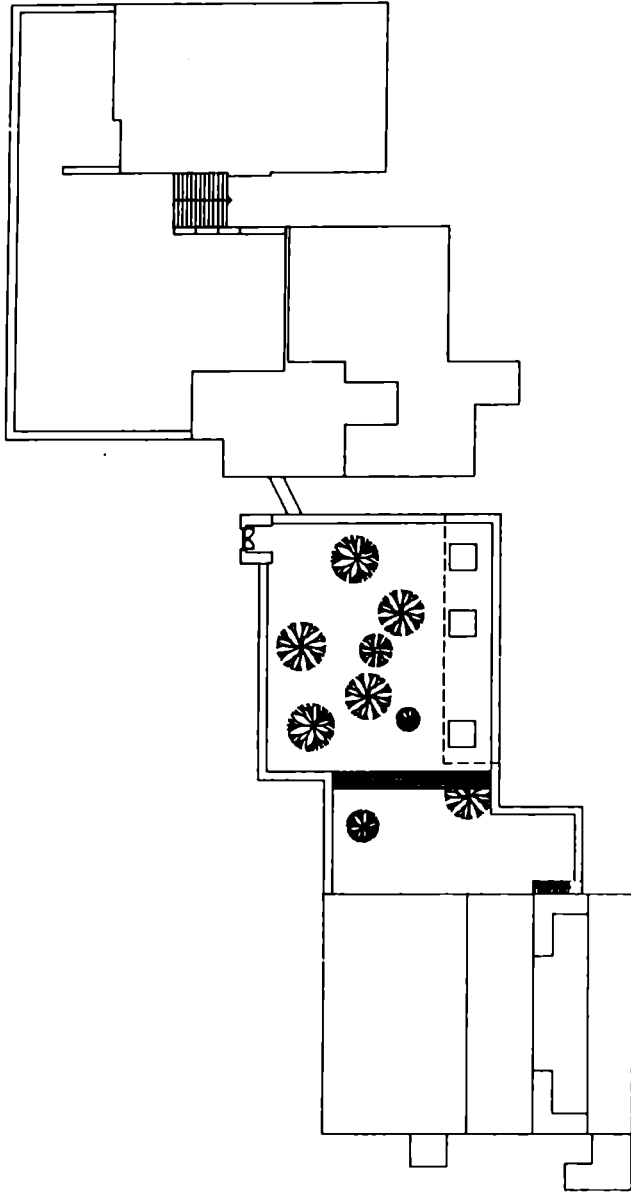
Drawing of the Assembly Hall used during reconstruction

Relief carving on column at a small assembly hall



Mural on laquered board at the living quarters of the head Rimpoche

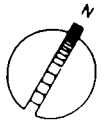


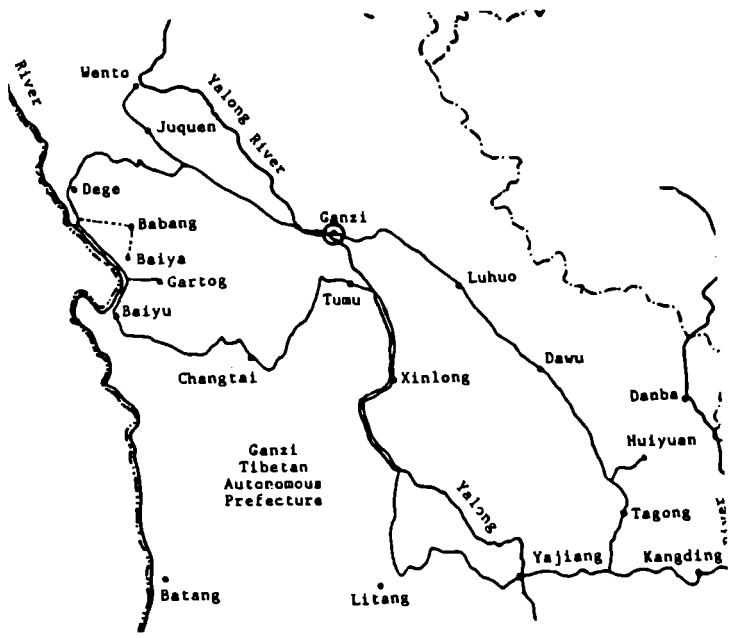


DONGU SHE
SITE PLAN

1:500

0 1 2 3 4 5 10 m





GANZI GOMBA

3.5 Ganzi Gomba, Ganzi City

3.5.1 Location, Environment and Present Situation

The town of Ganzi (having the same name as the prefecture) derives its name, which means "white and beautiful", from a large white rock that is said to be located where the monastery stands today. The Yalong River flows by to the south of the town and the town lies to the north of a broad valley with a superb view of two mountain peaks, Jodala at 4789 meters to the south and Gonjari at 5688 meters to the southwest.

Ganzi stands at 3295 meters with the monastic complex situated to the north, high on a hill. Access to the monastery is along a winding dirt road through the old part of town. The old town can be identified by its predominantly Tibetan architecture, whereas the new town has many modern brick buildings. The marginal road goes north for about one kilometer, winding through the village before crossing the river and turning south. From here it climbs up a narrow strip leading to the monastery until it ends at a large open space in front of the main assembly hall.

The monastery was destroyed in the Cultural Revolution and rehabilitated in 1981 with 440,000 yuan from the government. Restoration began in 1983 and up until 1991, about 1 million yuan was spent. Today, the seven assembly halls and main building structures are considered basically complete.

3.5.2 Building Description

There are seven main assembly halls, all restored since 1983. Only the most important one (Longdong) was visited. Access to the Longdong is along a wide flight of steps which lead to a covered portico supported by large round pillars. Flanking the porch are two large windows giving light to the chapel interior. On the eastern side another door leads to the kitchen to the east.

The main hall is rectangular of form, 31 x 21 meters counting eight rows of ten free-standing round pillars. In the center from the fourth row onwards three rows of four pillars reach up to the ceiling of the second floor. The entrance to the assembly hall is through large double doors with the shrine opposite.

The second floor is reached from the eastern external wall along a steep flight of stairs through a double door at the back of the building. The central raised space of the hall is closed off by timber paneling except for the southern side where the corridor is open to the sky and windows set in between the pillars give light from above into the chapel. On the external side of the corridor are a number of rooms used for storage and residing monks. The *rasha* or room for honored guests is located to the south above the porch.

On the third floor only the northern part of the flat roof has been built over. Here a two story timber structure can be seen. The central part is covered with a two roofed pagoda style open timber structure and betrays the mainland's architectural influence. The uppermost roof is topped by three golden pinnacles

3.5.3 Architectural and Historical Elements

The Ganzi Gomba was first constructed in 1662 when Worong Pencho, disciple of the Fifth Dalai Lama, began building 13 Gelugpa monasteries within the five districts of Fo-er. This monastery is said to be the first of the 13 to be built. In the beginning, Worong gathered over 1,000 monks to build the monastery. In Tibet and among the Gelugpa, it ranks parallel with the Litang monastery, also in Kham, and Labrang in the Amdo region of the plateau.

The monastery is divided into two main *tratsang* (monastic colleges) each subscribing to a different school of thought. The *tсени* send their monks to Lhasa's Sera and Drepung monasteries for higher education whereas the *arba* send their monks to Ganden monastery in Lhasa. The highest academic title acquired from the former school is *geshe* and the latter school, *arong*. The two schools together exert primary influence in all matters within the monastery. Together with six sub-monasteries in the region, they make up the famous Ganzi Seven Monasteries.

At its height in 1957, Ganzi Gomba has a total of four major rimpoches, five minor rimpoches, 27 Geshe and over 3,300 regular monks. It wielded major influence in the entire region and operated businesses in India, Lhasa and Chengdu. Within the town of Ganzi, it had seven shops which controlled important economic links of the area.

The Ganzi Gomba had a long tradition of closeness to the central Chinese government, including the Qing Dynasty, the Republic and later regional Warlord of Sikang in the 1930's. For example, in the 1940's, among the high lamas of Ganzi Gomba were 17 Kuomintang (KMT) party members. Even the important Zongsa Rimpoche was a KMT member. In return, the Chinese government has traditionally patronized the monasteries and showered them with many gifts and cash donations. At one time, the monastery was given 400 yak-load of quality tea a year. During the regional dispute and subsequent battle between the Baili Tuzhi (regional ruler sometimes known as "king") and the nearby Dajin Monastery of 1930 to 1932, the Ganzi Gomba stood on the side of the government and sent its monastic army to fight along side the 24th Army of the Sikang Warlord (Sikang is the old province created during the KMT time and encompassing present-day western Sichuan).

Today, the monastery has 570 monks all living within the comp-

lex. There are presently three rimpoches living within the monastery. The highest one, Namja Yija Norbu, has to live a short distance away in separate quarters since he is now married, having returned to this region from India. After arriving in China he became a personal secretary to the Panchen Lama. He returned to Ganzi four years ago.

3.5.4 Religious Activities

There are nine major religious activities at Ganzi Gomba, they are according to the Tibetan calendar as follows:

1. 1st to 15th of the First Moon, praying *Mailon* and displaying of relics.
2. 8th and 9th of the Fourth Moon, *Renla* praying.
3. 7th of Eighth Moon, after praying of one day, blessing by Rimpoches and Tibetan theater acting.
4. 28th and 29th of the Eighth Moon, *Diqi* praying by Tseni College for two days, followed by monastic dances.
5. 8th and 9th of Ninth Moon, *Diqi* praying by Arba College followed by monastic dances.
6. 24th and 25th of Tenth Moon, for two nights of lantern burning and display of relics.
7. 7th and 8th of Eleventh Moon, *Ninudeja* praying.
8. 28th and 29th of Eleventh Moon, monastic dances.
9. 28th and 29th of Twelve Moon, *Ganzicho* readying for new year, two days of monastic dances.

3.5.5 Construction

Walls: The walls are built of random stone rubble set in a mud mortar of approximately 100 cm thick. The exterior is crudely plastered over and painted white. The windows are protected with steel bars. Directly below roof level there is a red painted decorative double wall band with large decorated gilded copper plates bordered by the traditional white round false joist between.

Floors: The floors are boarded out with short planks that support off exposed floor joists.

Upper Floor and Ceilings: these are supported off the free-standing posts that are bracketed to receive the main ceiling beams running parallel to the external walls. These beams in turn support ceiling joists with boarding spanned between the beams. The same supporting structure continues in the upper floor to support the roof above.

Roof: The roof is a traditional design with a high parapet wall extending beyond the external walls.

3.5.6 General Repairs & Recommendations

Foundation and Walls:

Generally the walls and foundations appear structurally sound.

Floors:

Because of its high plinth there was no evidence of rising dampness.

Upper Floor and Ceilings:

The interior follows the traditional pattern and generally appear sound but much of the timber is oversized and the joints of the timber is of poor quality; nails are used rather than interlocking joints.

In order to make the monastery sound enough to survey possible future earthquakes it is recommended that a thorough investigation is undertaken of timber joints both in other existing buildings in the region as well as at other places in the Himalayan range.

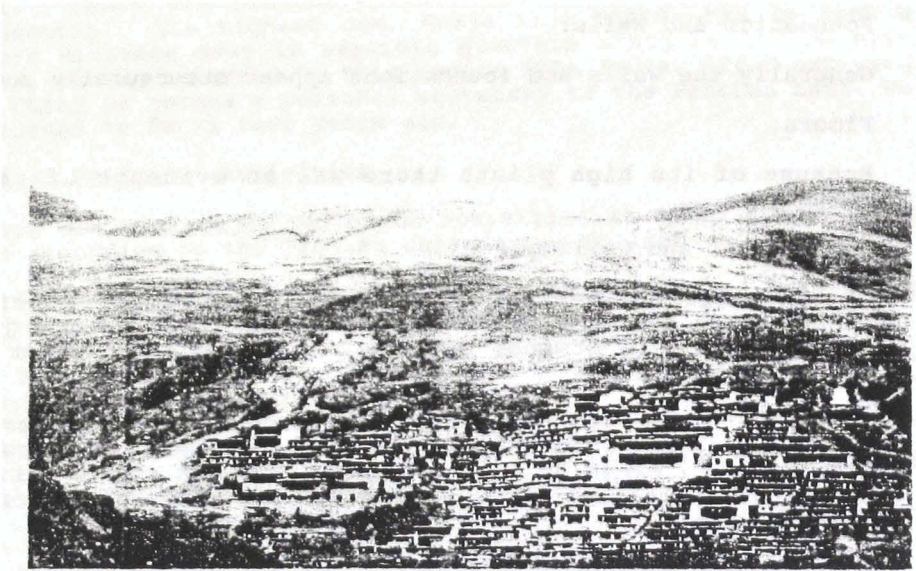
Roof and Roof-Coverings:

The flat roof of the entire building has been recently rebuilt and is in good condition. The roof of the central pagoda is also in good condition. After closer inspection it was observed that the parapet wall showing the tamarisk ball band is made of cement mortar then painted and rendered to imitate the traditional materials.

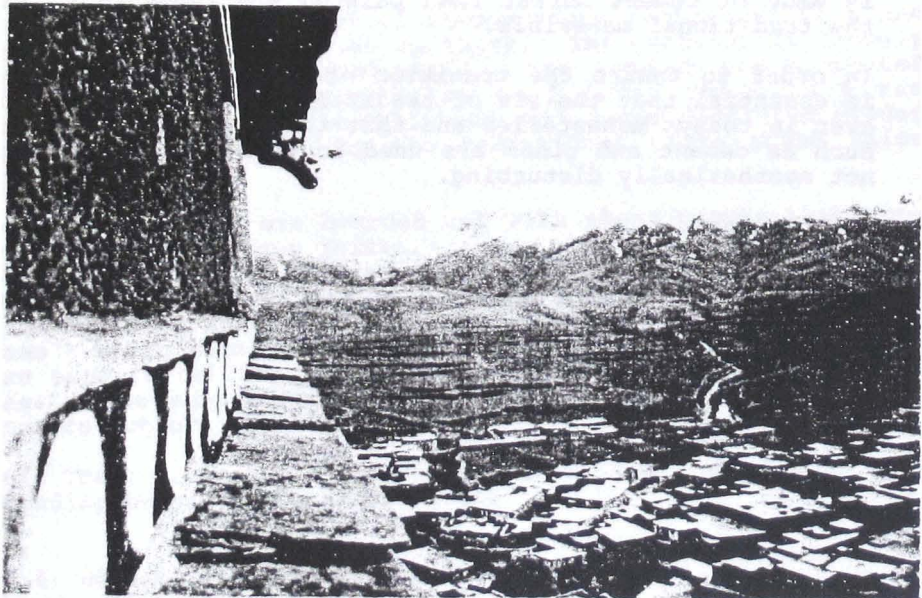
In order to ensure the tradition of architectural features it is essential that the use of traditional materials be continued even in today's monasteries and that the use of modern materials such as cement and glass are used in such a way that they are not aesthetically disturbing.

Wall Linings:

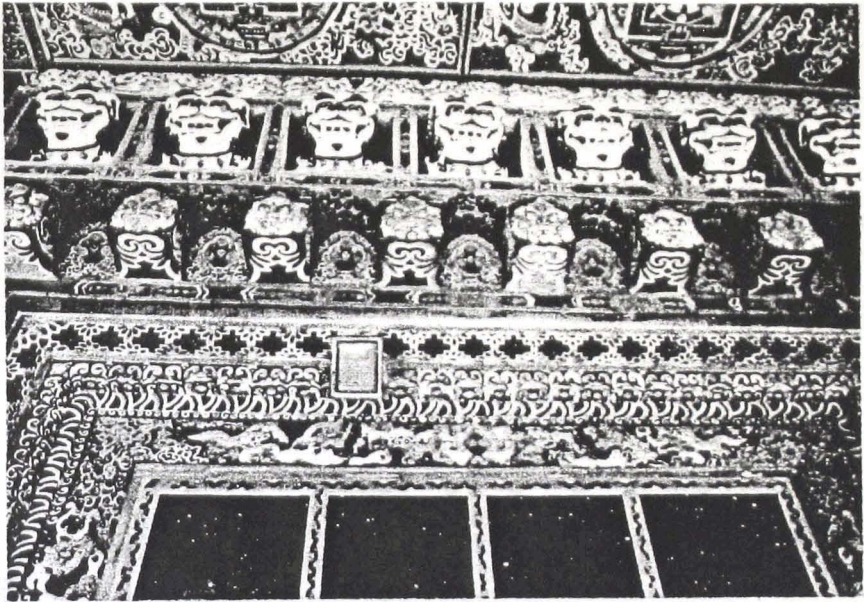
The linings are all in good condition and no damage was observed. The murals on the external walls are protected by glazed frames.



View of Ganzi Gomba with assembly halls and monastic quarters taking up the entire hillside



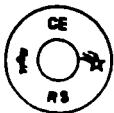
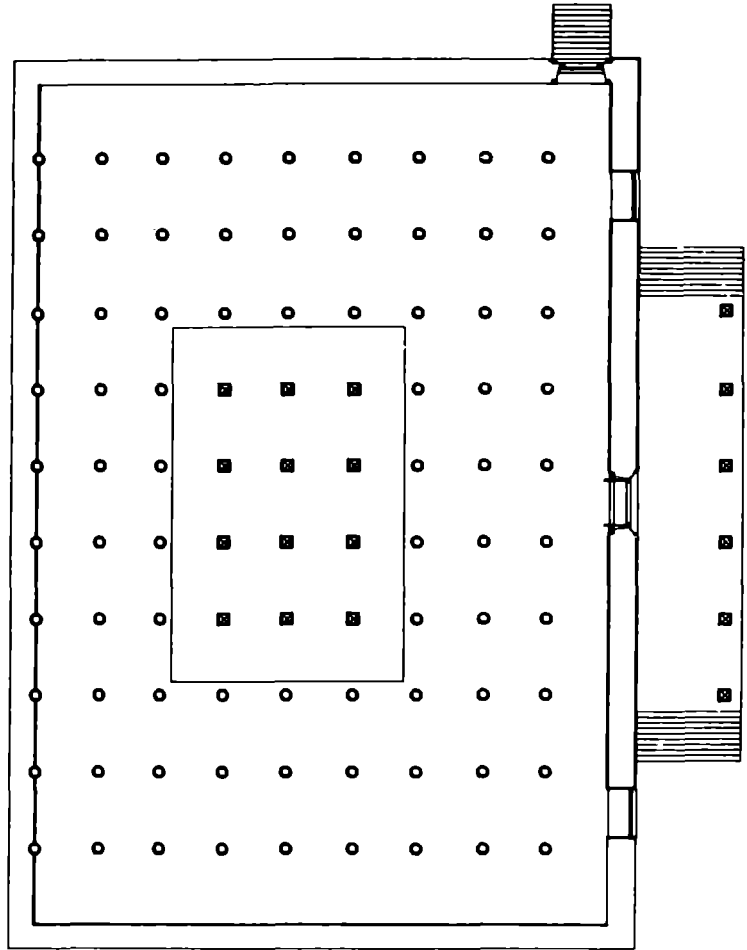
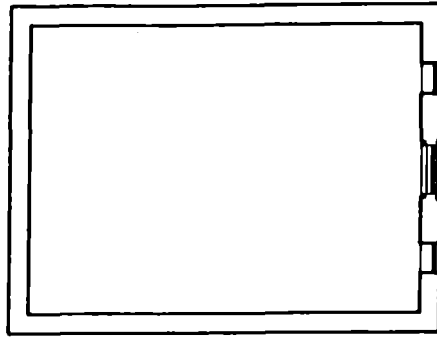
View of the tibetan village as seen from Ganzi Gomba



Relif work and carving above the main entrance at Ganzi Gomba



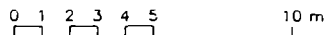
Structure above the main roof of the Assembly Hall



GANZE SHE – GANZE

1:200

FIRST FLOOR PLAN





MANJIN GOMBA

3.6 Manjin Gomba, Wento

3.6.1 Location, Environment and Present Situation

At Manniganggo northwest of Ganzi, a road branches off northward toward Qinghai province. Sixty-seven kilometers into this road is a junction called Sanpanhe, where a road goes east for 80 kilometers to the village of Wento where Manjin Gomba is located.

The monastery, standing at 3540 meters in elevation, is across from Maiji village of Wento District, and is set against a hillock located on the north bank of the Yalong River flowing through the valley. The monastery can be reached by a suspension bridge linking the road-side to the east bank. The hill behind is called Xiangba, a sacred mountain of the region with lush forest and abundant wildlife. Previously, this mountain was also known by the name Nixiaximobanri.

In 1958, this monastery was listed by the prefecture as one of the religious sites to be maintained, but religious activities were suspended during the Cultural Revolution. It was rehabilitated in 1982, and in 1985 the government allocated 15,000 yuan for restoration. Of the six monasteries in the district of Wento, Manjin is the only Bonpo monastery.

3.6.2 Building Description

The old monastery of Manjin Gomba is situated above the monastic complex and built into the hill. The first floor which occupies only the front part of the monastery is accessible from a wide door on the eastern side and is used as a store-room. The main entrance to the monastery is from the east through a single door on the second floor level. A dark and dusty circumambulatory corridor is built into the rock and encircles the main assembly hall. In the center of the southern corridor a doorway gives access to a narrow porch which is lit from a drop ceiling by skylight that occupies the entire space above the southern wall.

Opposite the doorway a double door leads to the main assembly hall with the main altar on the northern wall. The hall is about 13 x 4 meters and its roof is supported by two rows of four free-standing round pillars.

To the east of the porch another small double door leads to a second hall (6 x 8 meters) with three rows of two free-standing pillars. Behind the porch on the southern side is a small courtyard open to the sky and towards the south with room on the remaining three sides.

In the western corner of the porch a verandah on the third floor is reached by a ladder cut from a single log. There is a large store room to the west and in the north eastern corner.

Along the northern side above the main hall a timber structure houses the communal kitchen which is reached by ladder. The rooms above the smaller prayer hall are partially occupied by monks but are otherwise empty. Along the entire length of the northern side of the building a double roof covers the kitchen.

3.6.3 Architectural and Historical Elements

Manjin Gomba was first built by Gongchojaba Taseng Ningpo in the year 1700. He was originally from Tibet's Jinpo region. When he first arrived at Wento, he began meditating in a natural cave before establishing Manjin Gomba later as a Bonpo monastery. In the beginning, Manjin was a sub-monastery of Dingqin Gomba, head Bonpo monastery within Kham. Later, it was further developed and established itself as the second most important Bonpo monastery in Kham. Today, Manjin has four sub-monasteries, they are Qizong Gomba at Langdoi, Bomaigangan Gomba at Bomai, Zongcho Gomba at Jake and Celangganja Gomba at Rongbapan.

There are three main assembly halls at Manjin. The oldest is called *Yakang*, meaning "hall on top" at a site called Tashi Longba. This is the original structure, dating from the beginning of the monastery. The building is painted white. On the lower floor, approach is through a side entrance. Following a long dark and rectangular corridor used for circumambulating in an anti-clockwise direction, a practice unique to the Bonpo Sect, one comes to the front-facing door.

The old murals within this lower room are partly damaged from smoke and soot and the painted pillars are hardly legible. Looking at a floor board which was burnt, we judged that the original wooden floor must be very thick, over 6 cm in thickness. Against the walls of the lower floor called "Nidekang" are niches with statues of Bodhisattvas. Against the right wall along the entrance of this lower room are inscriptions called *Guozpngkulu*, purportedly written by the first Incarnation of the Rimpoche, in praise of the monastery. An adjacent room to the right is called *sertakang*, and has murals painted by the first Rimpoche, with a history of over 290 years. There are also some old relics including sutras written in silver over black painted pages.

The second assembly hall painted in red is *Hongqinchopo Lhakhang*, adopting the name of Manjin's famous line of incarnations. Today it is the most important ceremonial building in use and is considered the newer building even though it was built in 1934 by the influential sixth incarnation of the rimpoche. This man passed away in 1958 while attending conference at Kangding and his reincarnation was later found in India. At present, the seventh rimpoche is still in India and about 28 years of age. He has not yet returned to China.

The second floor of this hall is used for praying and the front

Along the northern side above the main hall a timber structure houses the communal kitchen which is reached by ladder. The rooms above the smaller prayer hall are partially occupied by monks but are otherwise empty. Along the entire length of the northern side of the building a double roof covers the kitchen.

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The second floor of this hall is used for praying and the front

upper deck called *Renchong* is used for blowing of the long horns and conch-shell horns. The empty courtyard in front of hall is called *Chora* and used for monastic dances. A covered structure to the right is called *Ajakang* and is used for the musical orchestra during religious ceremonies.

A third assembly hall is called *Karji Lhakhang*. In it is a carved clay statue. Adjacent to the main hall is a smaller building for young monks to study.

There is a separate single structure called *Dongke*. Within is a large prayer wheel for use by monks and laymen.

A tower-like structure, basically square in shape, 10 meters to each side and 12 meters in height, is used once every three years for sunning of a giant *thangka*, an important function for the monastery. The scroll measures about 8.5 meters x 10 meters.

At its height, Manjin has about 150 monks. Today there are about 70 all of whom live within the monastery. The living quarters of the monks are built by their respective families and support is also derived from their families. The monastery has no land holding but own 38 yaks which are raised by nomads in the region. Each year 15 catties of butter are provided per yak.

3.6.4 Religious Activities

There are four major religious functions during the year. According to the Tibetan calendar, they are:

Jigu, during the Second Moon, praying for 17 days in the past but now reduced to 10 days.

Yaxong, during the Fifth Moon, praying for 14 days, now reduced to 12 days.

Yanla, right after the *Yaxong*, praying for a month and a half, now reduced to 10 days.

Gudu during the twelfth Moon, praying for 10 days. This is the most important of the four functions above.

Prior to 1958, every two years there was a special event called *Bonju* when monks gathered together and pray. The number of monks praying must exceed 500, therefore, monks from nearby are enlisted for the event regardless of sects. Each can recite and chant prayers from their own sect. Since rehabilitation this ceremony has never been done due to its high cost.

3.6.5 Construction

Walls:

The walls are built of random stone set in mud mortar and are crudely plastered over and whitewashed. The exterior walls of the third floor are built of stone while the remaining walls are built of timber logs set between timber pillars. Only four small simple windows at the second floor are set into the southern wall.

Floors:

The floor of the main assembly hall is boarded out and supported by exposed bearers. The smaller prayer hall, store room at the first floor level and the circumambulatory path at the second floor level have beaten clay floors.

Upper Floor and Ceilings:

The roof and ceiling of the chapel are supported off a grid of 6 pillars capped with brackets carrying composite beams. The ceiling joists span between the beams and boarding runs across them.

Roof:

The flat roofs are of traditional design with a small projecting canopy.

3.6.6 General Repairs & Recommendations

Foundation and Walls:

Although the foundation was not inspected it was observed that there are several cracks in the walls due to settlement. The rear side of the building is supported by solid rock. Also the plaster and stonework around the windows is ragged. Recommendation: As there is some local concern for the structural stability of the wall, it should be monitored.

Floors:

There is a fair amount of rising damp rising through the clay floor. Recommendation: A polythene sheet should be laid over the clay, over which stone flags should be laid.

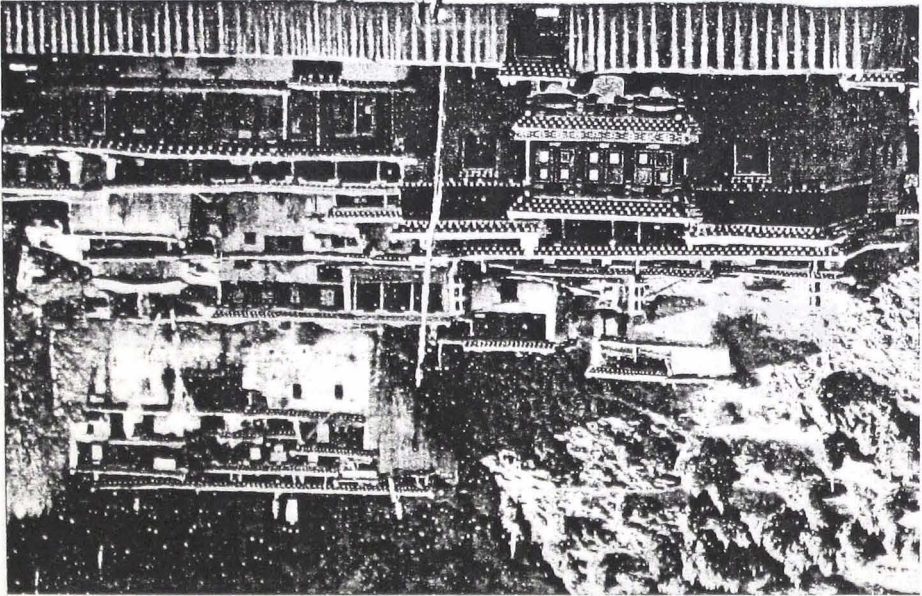
Roof and Roof-Coverings:

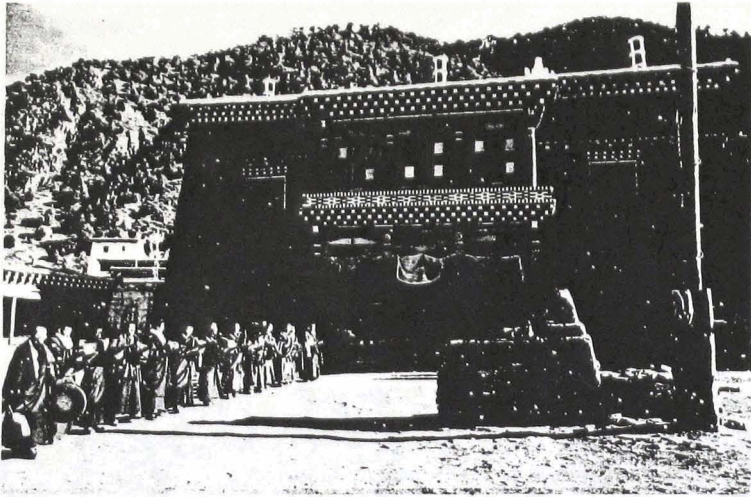
The structure of the roof, which has suffered very much through negligence, shows several leaks. Recommendations: In order to prevent further damage to the structure and interior it is essential that the entire roof be repaired using a polythene sheet as mentioned in the general recommendations.

Wall Linings:

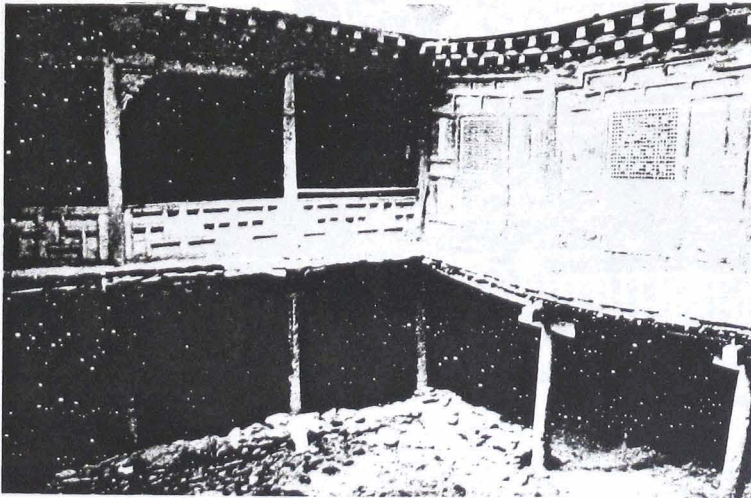
The murals on the northern wall of the porch and those in the smaller prayer hall have been severely damaged by condensation causing the paint to flake off. The wall-coverings in the smaller prayer hall are also covered with a thick layer of soot. Careful investigation by specialists is necessary to establish a way of preventing further damage.

Manjin Gomba with the older white building on top and the newer red building at lower left

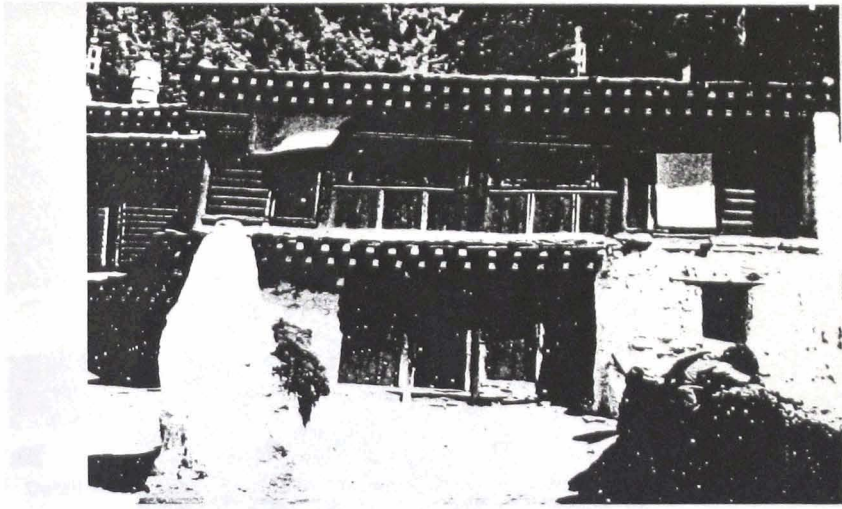




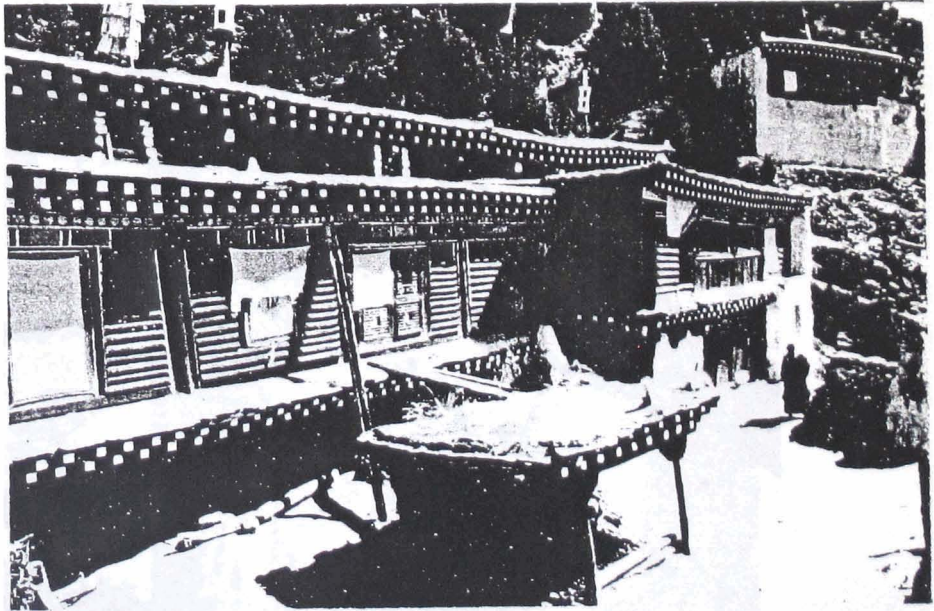
Monks of the Bonpo (Black Sect) parading at the front entrance of the Red Assembly Hall of Manjin Gomba, built in 1934



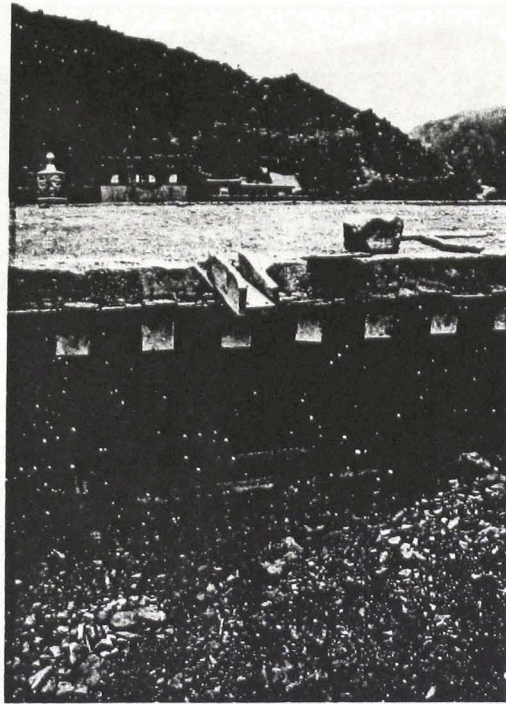
Inner courtyard of a building adjacent to the Assembly Hall



Upper levels of the White Assembly Hall, a 300 year old structure at Manjin Gomba



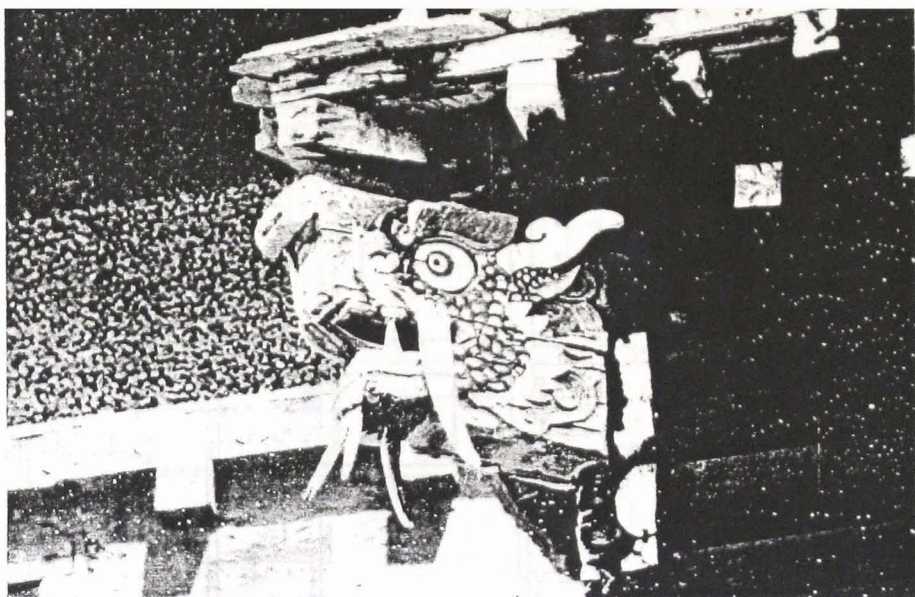
Section of the White Assembly Hall



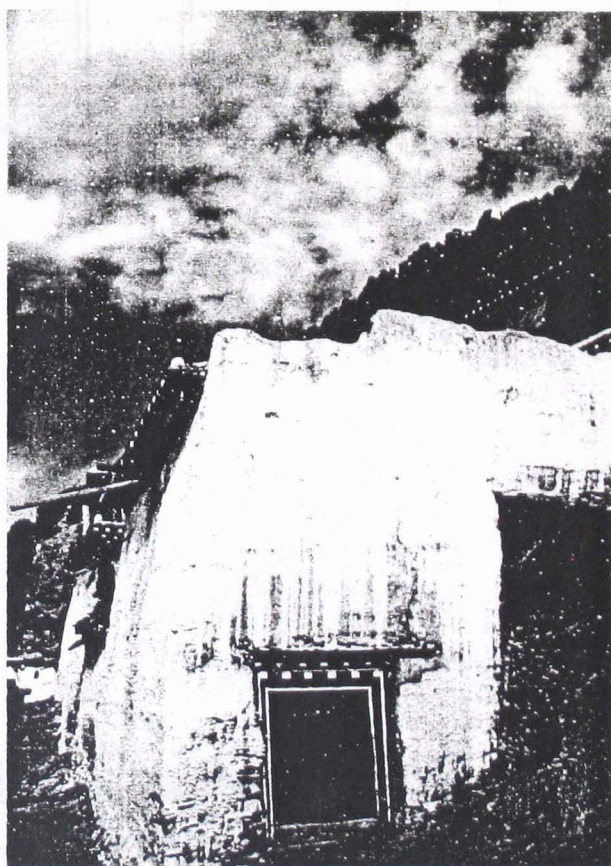
Close up of drainage duct directing water from one roof to another at Manjin Gomba's White Assembly Hall

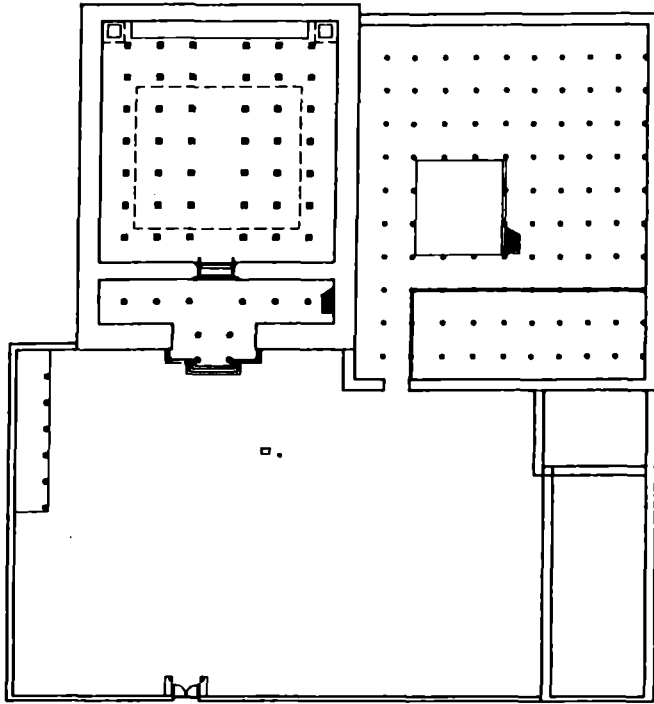


View of the multi level roof of the White Assembly Hall



Detail of relief-carving under eaves of Manjin Gomba



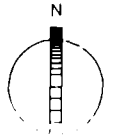


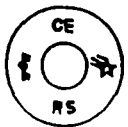
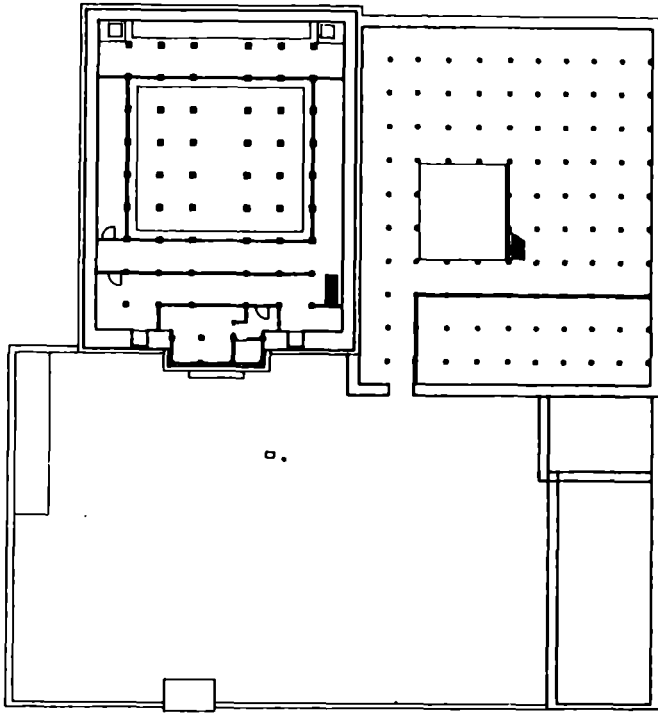
MANJIN SHE - WENTU

1:500

FIRST FLOOR PLAN

0 1 2 3 4 5 10 m

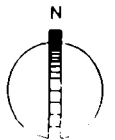




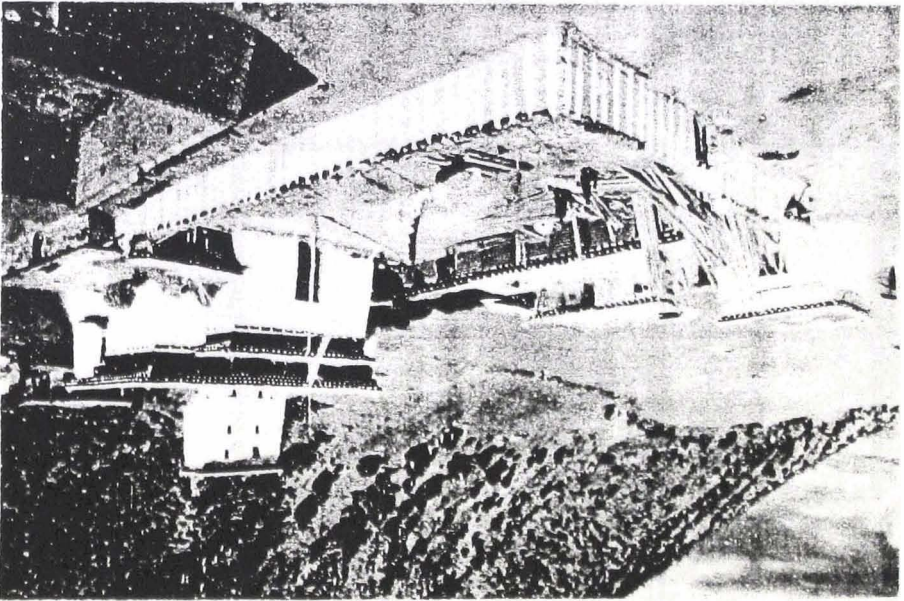
MANJIN SHE - WENTONG
SECOND FLOOR PLAN

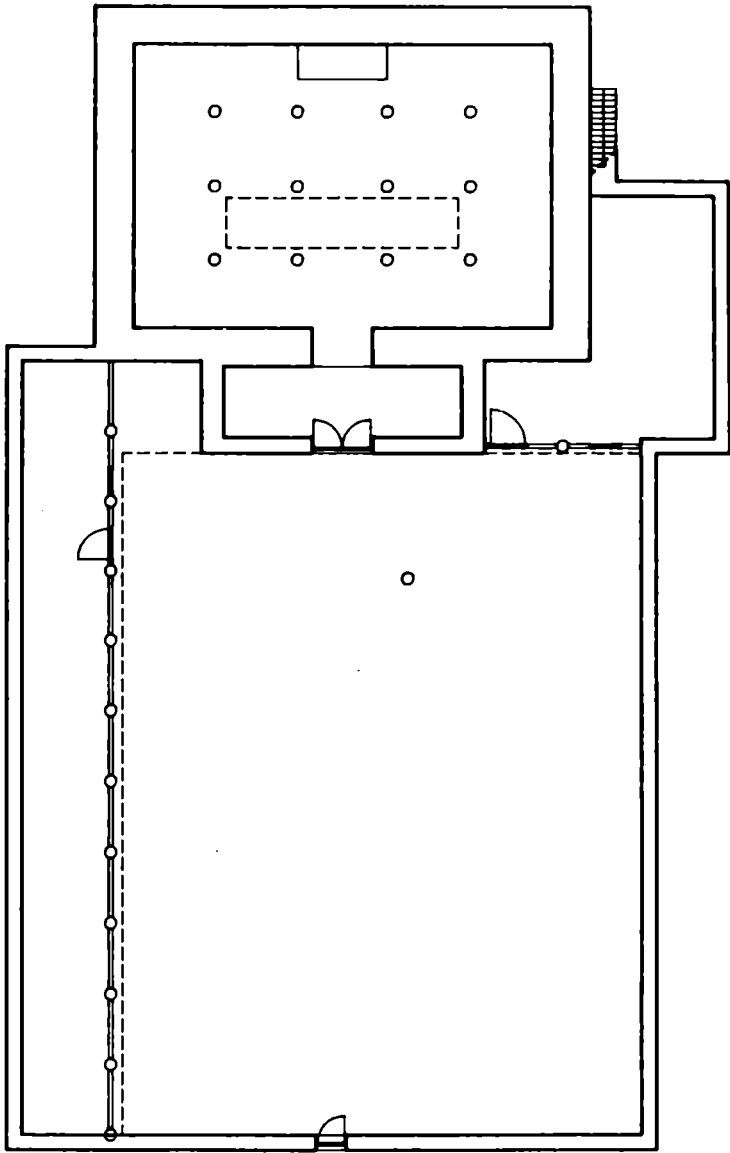
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Minor assembly hall used for praying and studying by young monks at Manjira Gomba. White tower is a separate building.

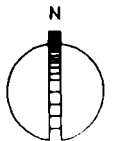


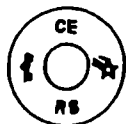
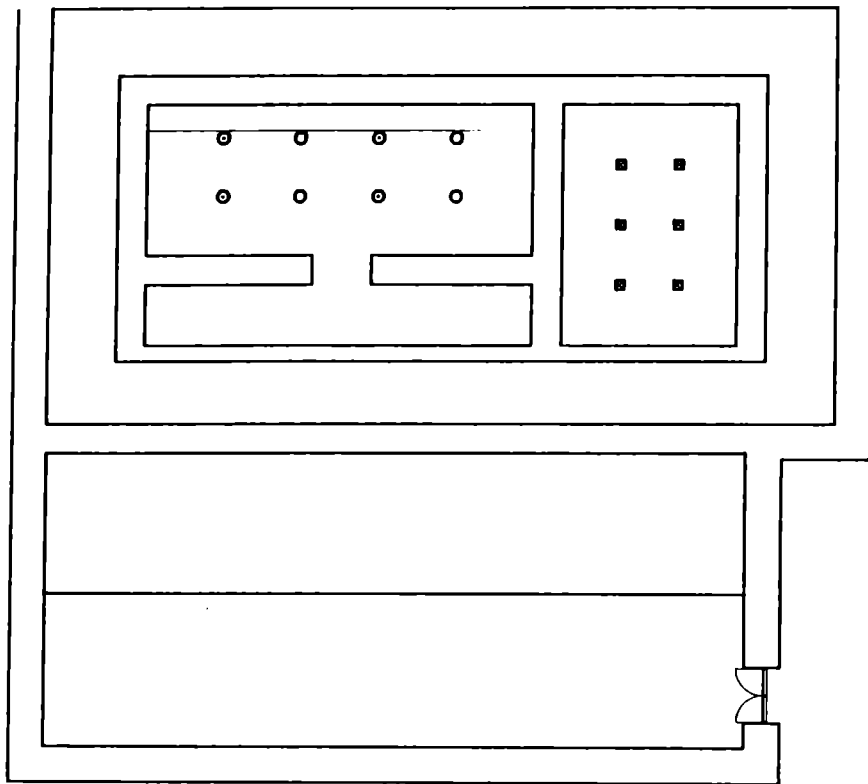


MANJIN SHE - WENTU

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FIRST FLOOR PLAN

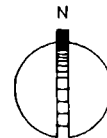
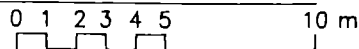


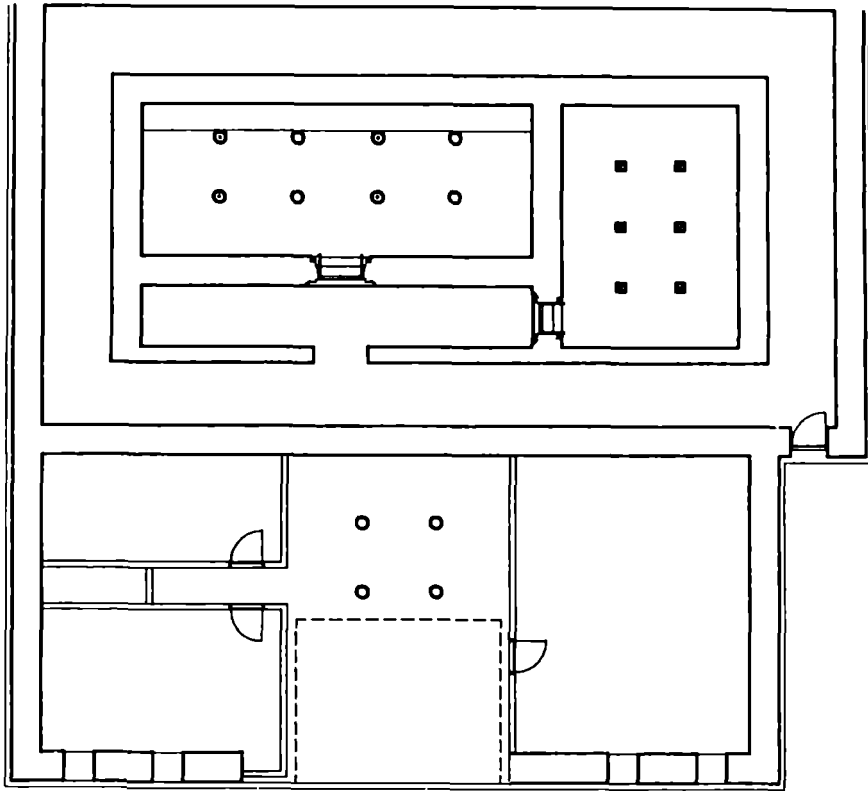


MANJIN SHE - WENTU

FIRST FLOOR PLAN

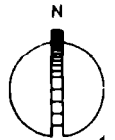
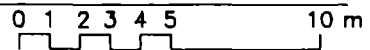
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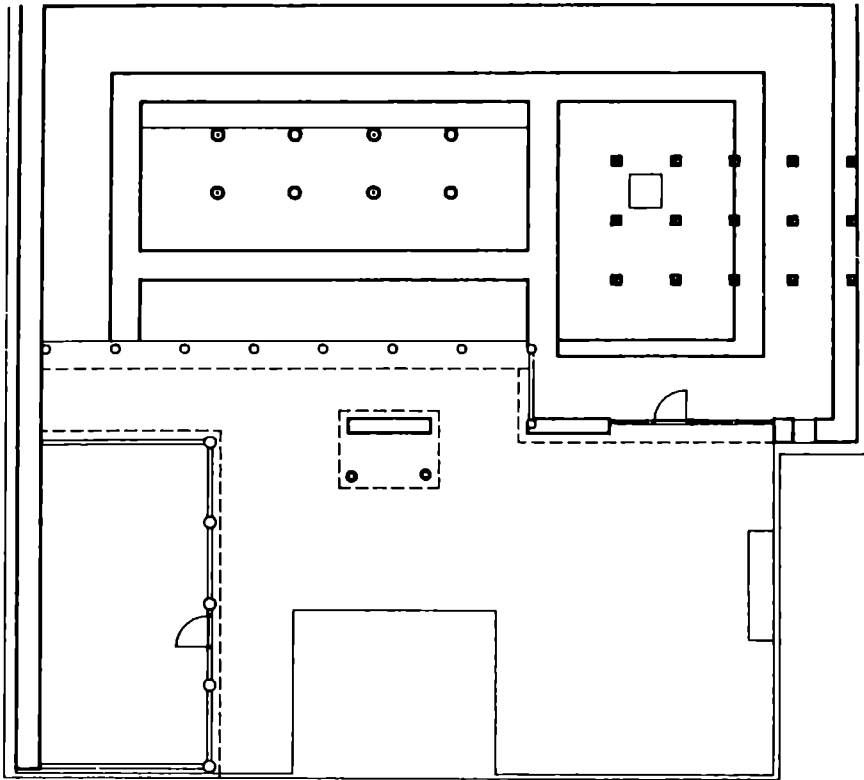




MANJIN SHE - WENTO
SECOND FLOOR PLAN

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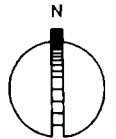
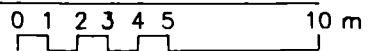




MANJIN SHE - WENTO

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THIRD FLOOR PLAN





ZHUQING GOMBA

3.7 Zhuging Gomba, Zhuging

3.7.1 Location, Environment and Present Situation

About halfway between Manniangguo and Wento stands the monastery of Zhuging. The monastic complex is located to the south of the main road at the end of a narrow valley. A winding dirt road lead up to the small hill where the monastery stands. The altitude is 3900 meters above sea-level.

As this monastery is along the main road between Qinghai province and Sichuan and is known as a major center of study, it receives many visitors every year. In the 1950s it had over 1,000 monks many of whom were very accomplished scholars. However, much damage was incurred to the monastic structure during in the late 1950s and reconstruction is at present under way.

The monastery was rehabilitated in 1983 and since then the government has contributed 20,000 yuan to the rebuilding of the monastery, but this sum is hardly enough. Consequently, most of the money is being raised by the monastery itself. There used to be many gilded statues and relics within the assembly halls. Today three new bronze statues have been cast but they are much smaller in size. A gold-covered chorten in memory of the sixth generation of their Rimpoche here cost 300,000 yuan and was cast in Lhasa before being delivered here.

3.7.2 Building Description

The design is based on a drawing prepared by the head lama and follows the traditional layout. The entrance to the compound, which is about 200 meters square, is from the east through a wide open gate. At present only the monks' quarters surrounding the central courtyard are nearly complete. There are approximately 160 rooms on two levels. In front of the rooms at the first floor level a covered corridor supports a verandah at the second floor level. In the center (not yet built) will be the main assembly hall, the communal kitchen and two classrooms for students.

3.7.3 Architectural and Historical Elements

At present there is no architectural element within the compound that is worth describing except for the two stone lions which guard the gate. This monastery was first built in 1662 by a disciple of the 5th Dalai Lama and later expanded in 1685 by the 40th king of Dege. At that time, it was one of the most important monasteries of the Kham region and ranked among the three most important Nyingmapa monasteries of Kham, (the other two being Gartog Gomba and Baiyu Gomba). It used to have over 60 sub-monasteries with more than 60 different lines of Rimpo-

ches among them.

Traditionally the monastery has had very close ties with the Kingdom of Bhutan and every year many scholars visit back and forth. It is famous for its many colleges and disciplines of studies and has trained many local and foreign students.

Unfortunately the monastery was destroyed during the late 1950s and the place left abandoned ever since. The present head Garzhong Rimpoche wanted to stay here because the monastery was very famous and he wanted to continue its tradition and rebuild the monastery. With some financial aid from the government he was able to start construction and was able to attract some teachers and students. Because of his own experience as a contractor he is able to guide them in the reconstruction but progress is slow. The overall design of the new monastery is larger than the original one. It will be 10,000 square meters in size.

Because the area is remote, transport is expensive and difficult. Also local materials are poor in quality. The present Rimpoche is well aware of these problems and asked for assistance in both technical and financial aspects to continue and complete the reconstruction of the monastery.

3.7.4 Construction

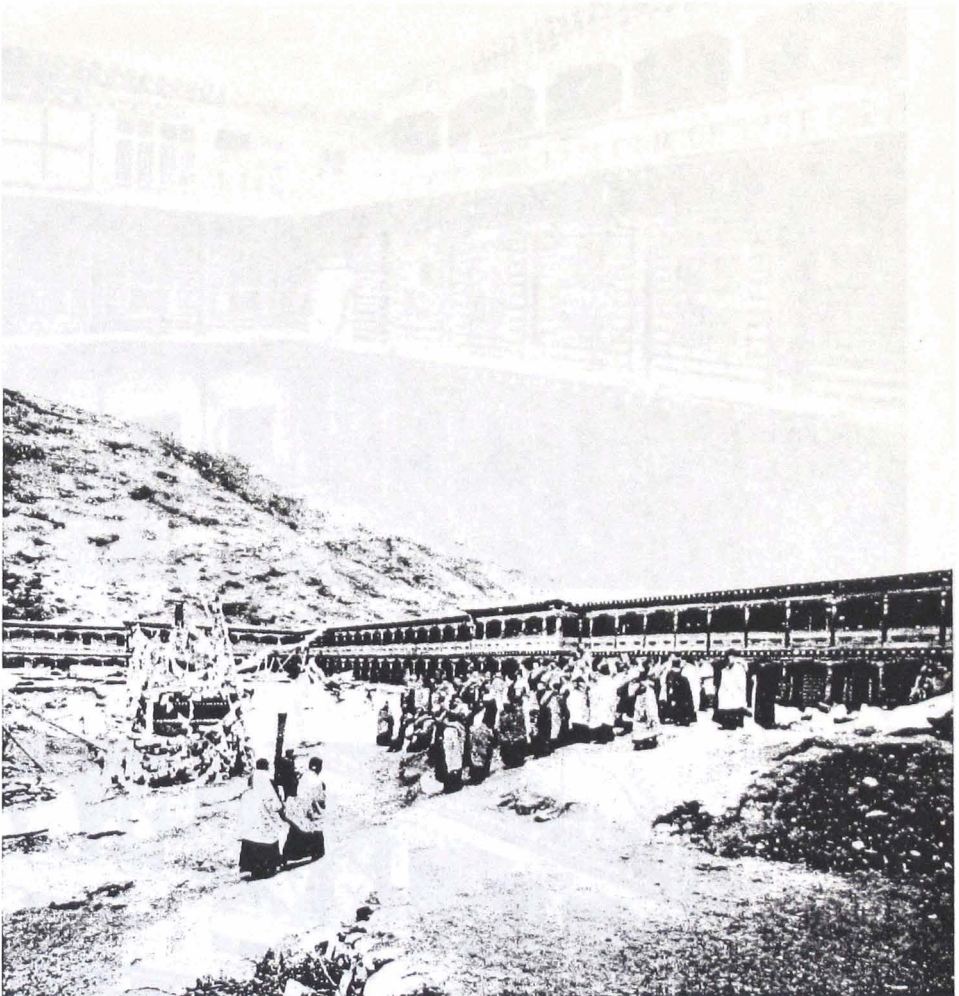
The assembly hall has yet to be constructed. Very little can be said about the monks quarters. In general the structure is rather unstable with poor quality material and structurally weak joints. The walls are built of compacted mud mortar and had to be rebuild twice over. The joints of the timber structure are weak and not sufficient for resisting earthquake movements.

3.7.5 General Repairs & Recommendations

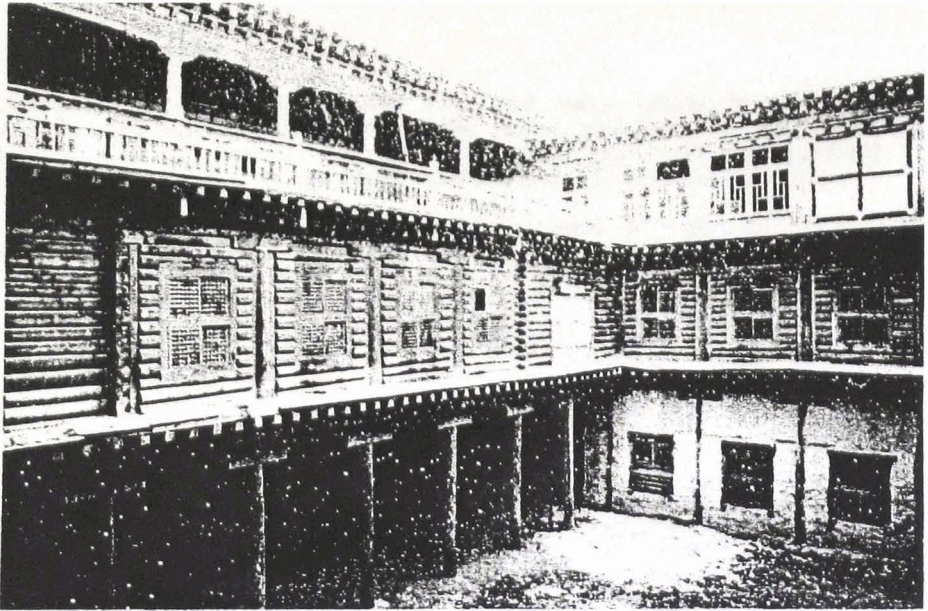
As the construction of the monastery will take some time to complete and because of the limited experience of the monks in building construction it is recommended that the technical support be given to the monastery so that new techniques and the use of modern materials can be introduced.

3.7.6 Associated Buildings

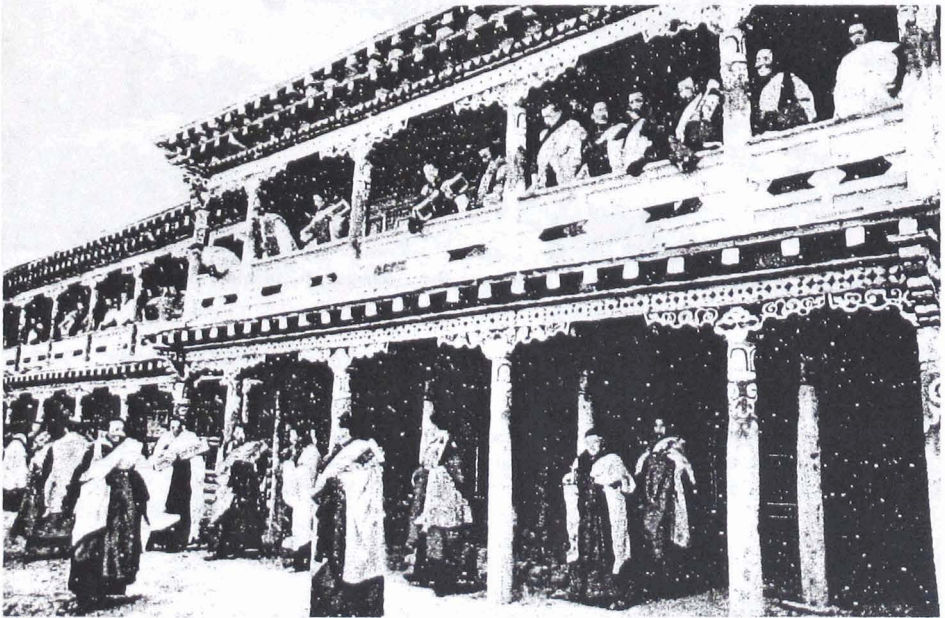
About one kilometer to the north stands part of the old monastery of Juquen. Originally seven halls stood here on the top of a small hillock surrounded by a few dozen monks' residences. Today only two assembly halls have been rebuilt according to the original design.



Monastic quarters and boarding rooms at the college of Zhuqing Gomba.



Main structure with an internal courtyard attached to the Assembly Hall at Zhuqing Gomba



Teachers and students gather in front of the monastic complex at Zhuqing Gomba



DEGE PRINTING HOUSE

3.8 Dege Printing House, Dege

3.8.1 Location, Environment and Present Situation

The town of Dege is about 1,000 kilometers and at least three days' driving distance from Chengdu. It is situated along the river Serqu which flows into the Yangtze at Gantog. At an altitude of 3220 meters, the town has most of the buildings concentrated in a narrow valley facing west. The Printing House is set in the center of the town facing south.

3.8.2 Building Description

The three-story building resembles any Tibetan monastery on the outside but inside it houses the printing block library, paper storage room, drying area, block washing balcony, trimming and binding room, chapel, library, and workers quarters. It is the only sizable Tibetan printing house in China. The library takes up six rooms and comprises over half of the area of the entire compound. The entire building is approximately 50 meters in length and 30 meters in width and is about 15 meters in height. The external wall is painted red with a wide black tamarisk band at roof-level. Only the front elevation, facing south is opened up with windows. All remaining sides of the building, except for the northern side, are without windows, giving it a fortress-like appearance. The central part of the front section of the building has two floors while the rear building with the side arms of the building count three floors. The roof is flat but broken by several smaller structures such as drop ceiling skylights and chimneys.

The main entrance is to the south through a large double door covered by an open porch. A long narrow courtyard of about 31 x 5 meters divides the front part with the main building. To the south there is a two story building with few small windows and two doors leading from the courtyard into long narrow rooms supported by a single row of columns in the center.

On the northern side a row of 12 free-standing pillars support the second floor of the main building creating a covered arcade. The external wall of the northern wall of the courtyard is painted with murals.

To the north-east of the courtyard a wide double door gives access to one of the two assembly halls. A steep wooden flight of steps leads to the assembly hall, raised about 2.45 meters above the level of the courtyard. The hall is about 21.2 x 14 meters in size and is supported by four rows of six free-standing round pillars. The central part of the room is raised for one more floor-level. Set between the outer row of columns a few dozen clay statues are placed facing the center. The walls are covered with beautifully painted murals. The central part of the floor is covered with timber boards while the outer side is rendered with cement.

The western assembly hall is accessible from an equally large door in the western corner of the northern wall of the courtyard. This hall, which is 24 x 14 meters in size, counts four rows of eight free-standing round pillars supporting the first floor. Between the external line of pillars are a number of raised plinths on which there are statues of Buddhist divinities.

In the south-western corner of the courtyard a timber staircase leads to an equally large room at the second floor above the western assembly hall. To the south there is a staircase leading to a raised corridor running behind the black tamarisk band and links the western wing with the eastern wing. To the north of the room there is a door leading to the room above the eastern room. At present both rooms at the second floor are being turned into libraries for storing the printing blocks. Two large drop ceiling skylights to the south give light to the rooms.

3.8.3 Architectural and Historical Elements

The Dege Printing house's history goes back to 1729 in the early Qing Dynasty. Legend has it that the local king Zhueji-dengbaze was a devoted Buddhist who had been contemplating the building of a printing house for some time. One day a subordinate by the name of Laweng brought forth blocks of the sutra *Changduo* as a gift for the chief. His yak carrying the 22 blocks got to the vicinity of the chief's compound. But before reaching the destination the yak was startled into dropping the load of printing blocks, which fell to the ground. Thus, Laweng's yak designated the area as the future site of the printing house.

In the beginning workers and craftsmen from five neighbouring counties were recruited to construct the building and carve the blocks. It took sixteen years in all for the work to be finished. It was reported that carving the blocks alone took 1,300 workers. The carving of the *Kangyur* (Commandments of the Buddha) which has over 3,000 blocks, took 500 workers over five years to complete. At its peak the library had over 400,000 printing blocks.

Today the printing block library will hold over 260,000 printing blocks which cover disciplines as diverse as religion, history, art, literature, medicine, astronomy, and mathematics. With six to seven variations, the blocks average 70 cm in length and 15 cm in width each. Each block is carved on both sides and has a handle. The blocks may have as many as three different languages carved on them namely Sanskrit Hindu and Tibetan. Given that each leaf has approximately 600 words, there are over 250 million words carved into these blocks.

3.8.4 The Printing Process

The making of a block entails following a series of stringent rules. In autumn red birch trees are felled after their leaves have fallen. Following the grain of the wood, boards are cut to size. Using pieces of red birch as fuel, a fire is set up to dry the boards. These are then buried in yaks dung for one winter. In the spring the boards are taken out and boiled in water. They are then dried and filed for a smooth carving surface.

To ensure that the inscriptions are deep, accurate, and perfect each carver is allowed to work on only a few square centimeters each day. When carving is completed it is submerged in yak's butter for a day and then taken out and dried under the sun. The roots of a grass called *suba* are dug up and boiled in water. The block is then washed in this water and work on the block is considered complete.

Like the blocks the paper making involves a special process. In neighboring bushes a weed called *ojiaorujiao* is used. Its roots have superior fibers which are poisonous. Because of this toxicity worms and rodents will not eat the paper thus preserving the texts for a long time. The finished paper is white with a taint of yellow. Thick and somewhat shiny it absorbs ink very well.

For printing a red or black ink is used. Red ink is made from *zhusha* (cinnabar) and is reserve for the more important religious sutras like the *Kangyur*. One of the earliest works in Dege's possession is "8000 Praises" in three languages on 555 blocks. It is printed in red and was reportedly carved in 1703 some 26 years before the establishment of the printing house. On the other hand, black ink made from white birch bark is used for printing general works.

The printing operation is divided into a number of departments. Each department is staffed by a specific number of people with 42 workers in all. A chancellor, a manager, and a secretary make up the administrative personnel. They are usually lamas more senior in age. Elected every three years they carry on their duties beyond on e term based on performance. Below them are 9 teams of printers with three workers in each team. Trimming and binding departments have six people block washing two and the ink and *zhusha* mixing two. A cook and a water-carrier make up the total.

Every afternoon the secretary will plan and assign work to each team for the following day. The teams will then be given the respective number of pre-cut papers. With these the team will perform the necessary preliminary work which includes storing the papers in between wet papers pressed together by thick wooden boards. This will soak the paper for easier application of ink the next day.

On an average day if five to six copies of the same block are printed an experienced team can print 1,800 pages. But if one copy is to be printed the same can only complete some 800 pages. Finished pages are then hung in prescribed areas for drying before being delivered to three administrators for proof-reading. They will inspect the printed pages for quality printing accuracy cleanliness sequence omission and duplications. The pages are then sent to the trimming and binding departments. When they are bound and red paint is applied to their edges the books are considered ready for delivery.

Pricing of publications is pre-determined by the religious leaders of the five major monasteries nearby. For example the 108 volumes *Kangyur* cost 5,000 yuan (US \$ 1,000) today. Buyers from neighboring provinces as well as India, Nepal, Bhutan, and Sikkim place orders and take deliveries at Dege. The most popular publications are the *Kangyur* and the *Tengyur*. Both contain stories related to Indian history between the 8th and 12th century which can no longer be found even in the historical books of India.

In the past, only 25 copies of the *Kangyur* and 15 copies of the *Tengyur* were printed every year. During the Cultural Revolution not a single book was printed. Since 1979 printing has resumed. Today in order to meet the great demand for the *Kangyur* alone about 200 copies must be printed.

3.8.4 Religious Activities

Printing commences every year from the middle of the Fourth Moon to the end of the Eighth Moon under the Tibetan Calendar. On the first day of printing a religious ceremony is conducted. The secretary of the printing house will pay respect to *Jie-junzhuoma* and *Xie*, guardian gods of the *Kangyur* and the *Tengyur* sutras respectively. *Khata* (ceremonial scarves) are also offered to various stacks in the block library. Prayers are chanted for a successful year of printing. This process is then repeated at the completion of printing later in the year.

3.8.5 Construction

At present the Printing House is being restored by the local community, consequently it was possible to both study the construction and discuss the repair techniques used.

Walls:

The walls are built of compacted earth up to 150 cm thick at the bottom of the external walls. The central spine-wall dividing the courtyard from the two assembly halls is 240 cm thick at the bottom and supports the second floor above the assembly halls. The northern wall of the front building is built of timber pillars filled with earth and straw.

Floors:

The floor of the courtyard is covered with earth. The assembly hall floors are covered with timber boards laid on exposed beams.

Upper Floor and Ceilings:

The upper floor structure is carried off of the lower grid of posts, supporting long brackets that carry beams spanning across the chapels. The posts are joined with a long tenon through both the bracket and the beam above. They are carved and embellished with traditional motifs. The beams in turn carry smaller ceilings joists closely spaced, with boarding over, that run at right angles with them. The central spine-wall to the north of the courtyard supports the second floor of the assembly hall.

Roof:

The flat roof is of traditional design with a high parapet wall extending above the external walls. Two large drop ceiling skylights give light to the two large rooms at the second floor.

3.8.6 General Repairs & Recommendations

Unfortunately, in spite of the fact that work is well under way, the team was not aware of any concrete plan or scheme that showed that a thorough study had been made before the work was started. Still it was possible to collect an extensive amount of information from the engineer on the repair activities.

Foundation and Walls:

In spite of the fact that the foundation of the building is fairly sound, and the walls very thick, many of the walls show severe cracks which have caused serious damage to the mural paintings. It is recommended that all fractures are monitored carefully to establish if they are alive. It would be advisable to consolidate the central spine-wall as well as the external wall with well bonded stonework to act as a ring-beam.

Floors:

The floors have all been re-laid and their condition seems to be satisfactory. The central part of the floor in the eastern assembly hall has been covered with cement punning. It is recommended that the use of new materials is limited as much as possible. The use of timber floors should prevail over other materials, as they are not only the traditional floor-covering, but also give more comfort than cold cement floors.

Upper Floor and Ceilings:

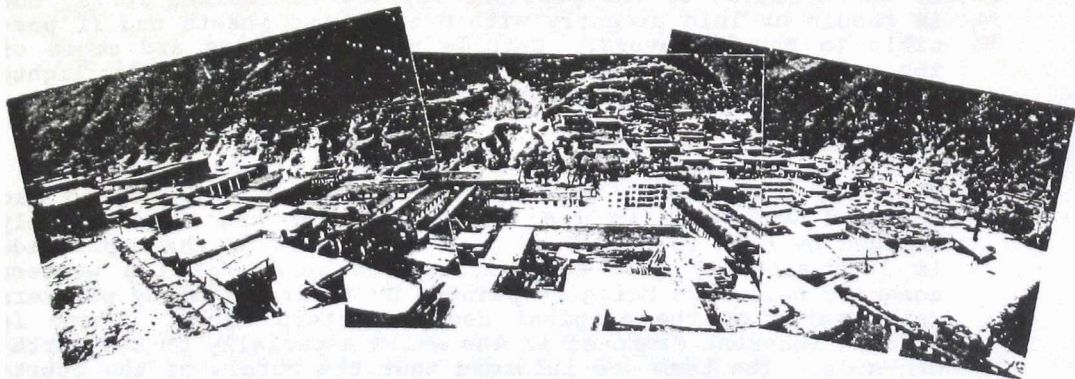
Most of the upper floor has been replaced and the remaining parts were being repaired using new timber.

Roof and Roof-Coverings:

The team was informed that a new method using a single layer of polythene sheet was laid to make the roof waterproof. No serious rainfall had occurred since the repair-work so it was not possible to establish its success. The results of the method used here should be observed closely to enable the conservation team to learn from this system. Laying a polythene sheet can be the solution to the problems related to leaking roofs, but it should be laid properly with overlapping sheets and if possible in double layers. Details at the corners and edges of the building as well as where there are drop ceiling sky lights should be carefully worked out.

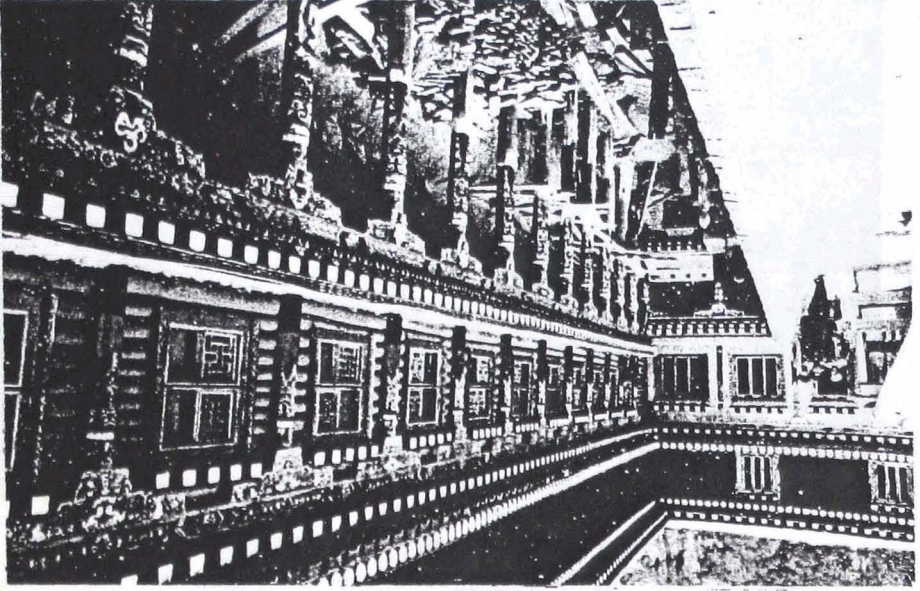
Wall Linings:

The wall linings on the northern wall of the courtyard had suffered very much as most of the plaster had been severely damaged by both rainfall and man. Only part of the upper side is in reasonably good condition. The murals of the western assembly hall were being re-painted by local specialty painters using parts of the original design pattern walls. There is also an inherent dampness in the walls especially on the northern side. The team was informed that the murals of the courtyard will be entirely re-painted. Measures should be taken to prevent the murals from being dismantled and replaced by replicas. It is therefore recommended that a specialized muralist be sent to the site to inspect the condition in order to keep part of the original murals intact. The murals in the assembly halls should also be protected as much as possible.

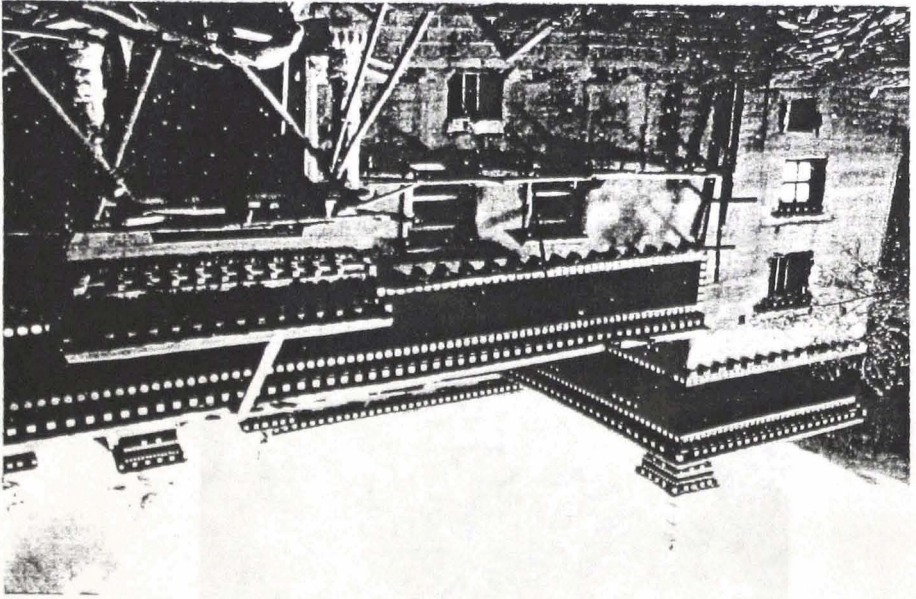


General view of the valley and town of Dege from north with the Printing House to the right and Gengqing Gomba at the far left

Interior courtyard of the Dege Printing House under restoration. Old damaged murals are under the corridor

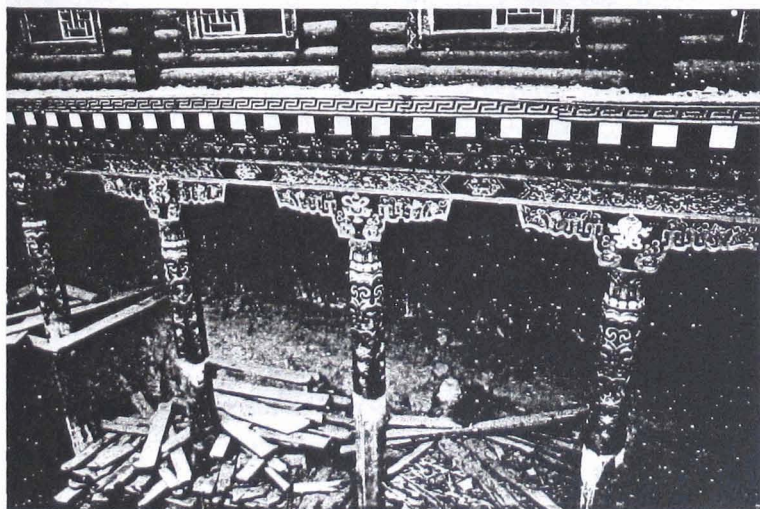


Dege Printing House in state of repair and restoration





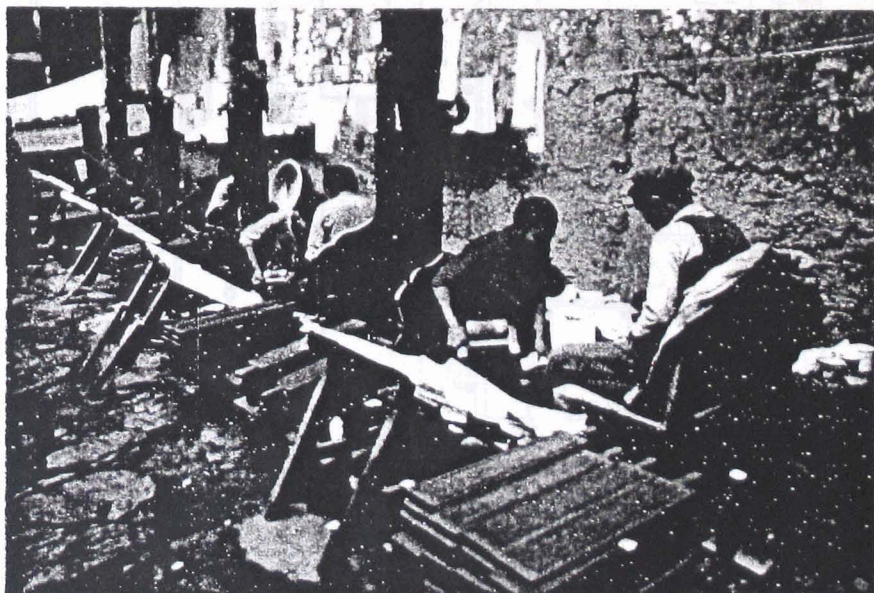
Old murals in the Dege Printing House. White lines are chalk tracing that local artists applied to the murals for reproduction



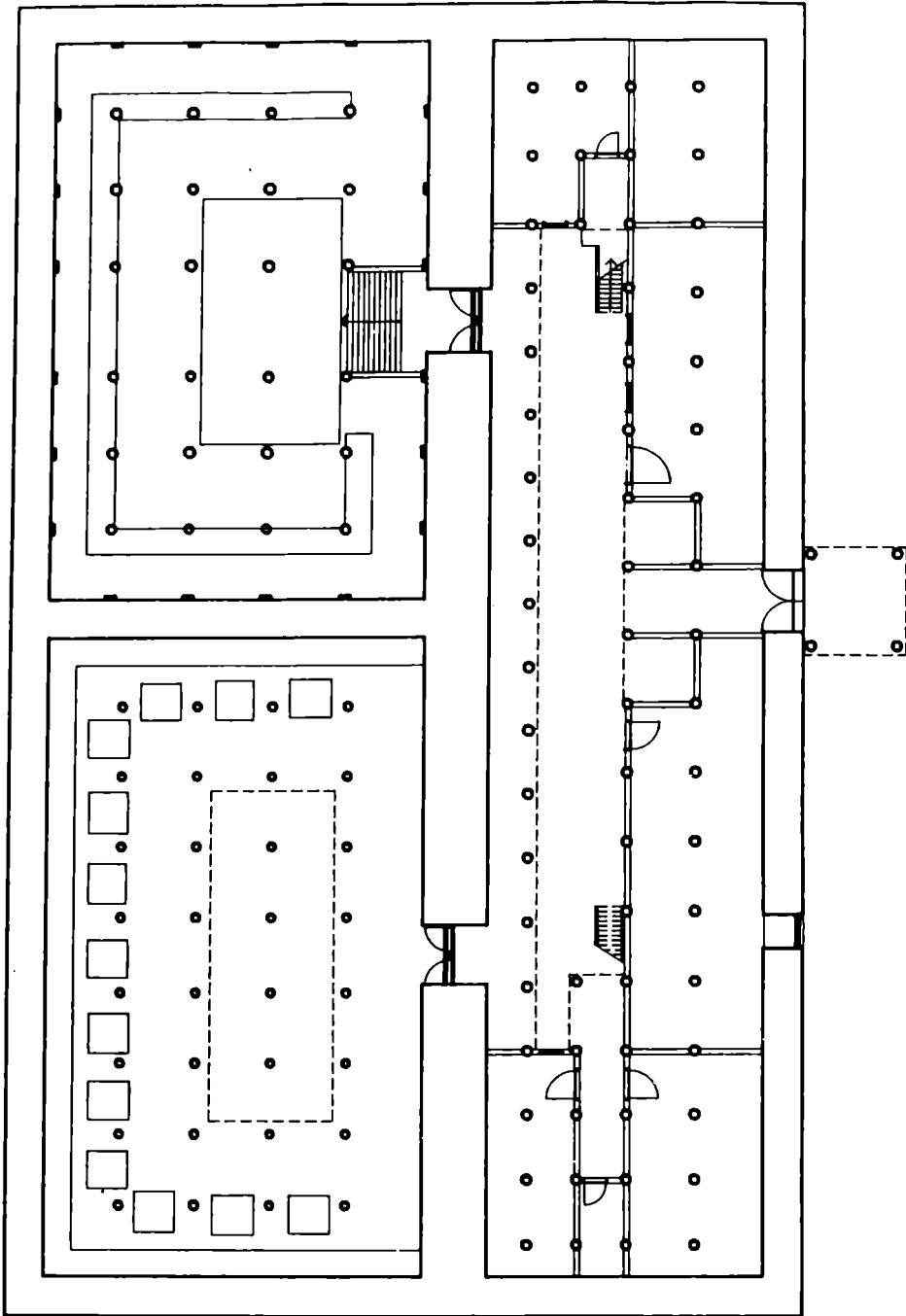
Restoration underway at the Dege Printing House. Damaged murals can be seen under corridor



Grinding of cinnabar to be used as ink for printing at Dege



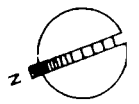
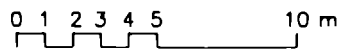
Printing in progress at the Dege Printing House. The printing blocks with red (cinnabar) ink are seen in the foreground

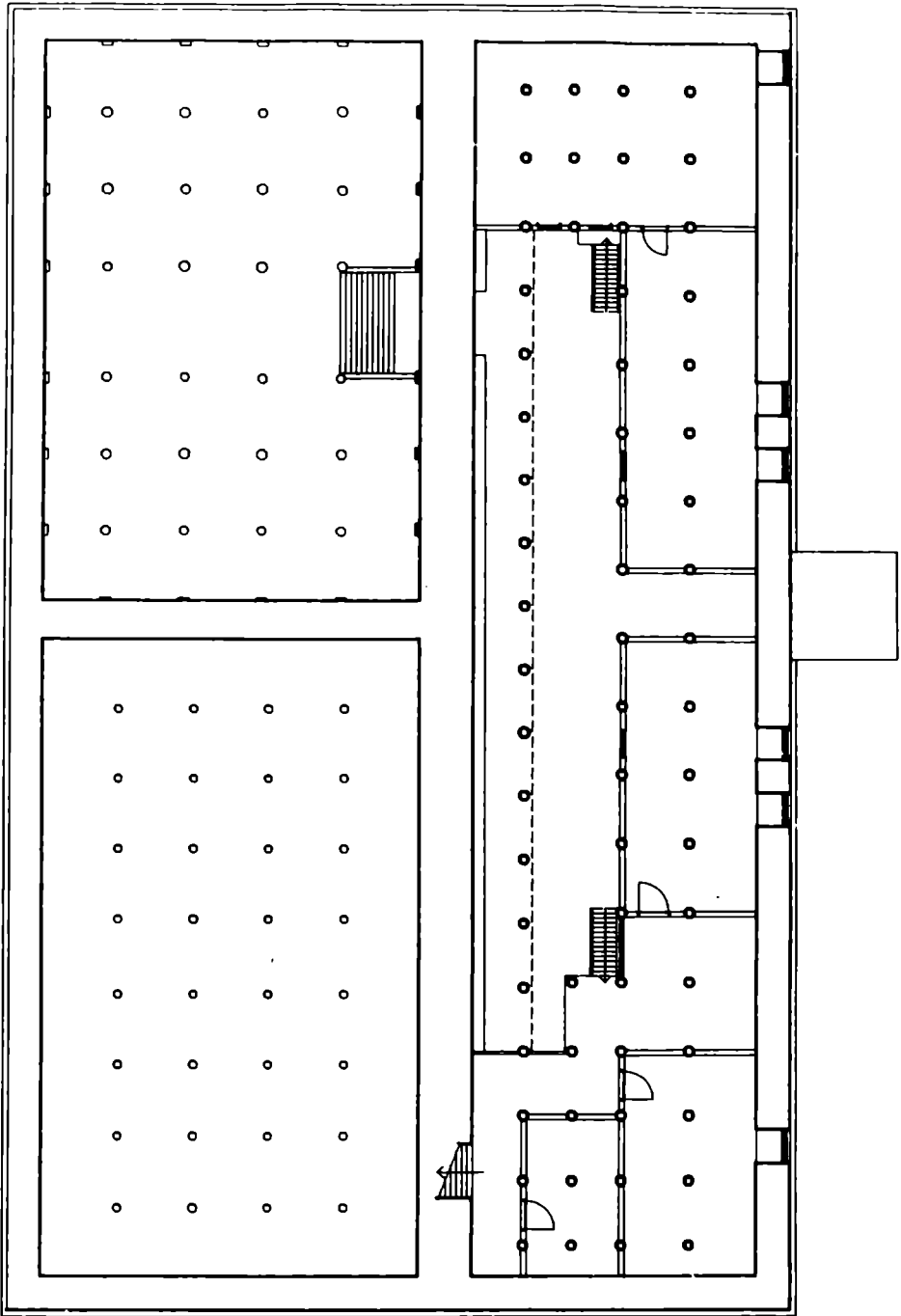


PRINTING HOUSE - DEGE

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FIRST FLOOR PLAN

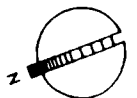
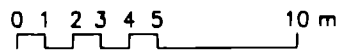


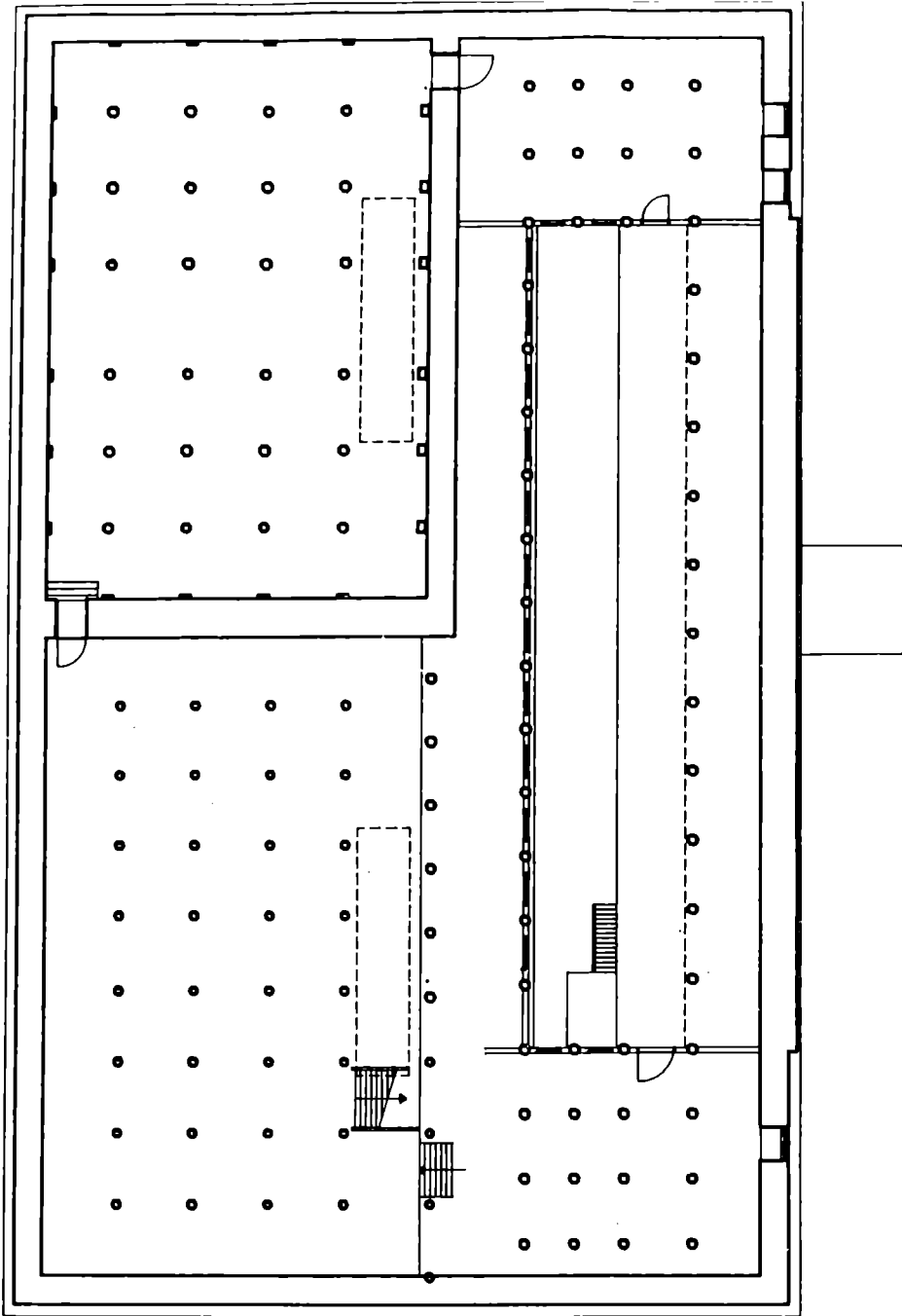


PRINTING HOUSE - DEGE

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SECOND FLOOR PLAN

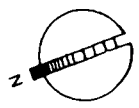
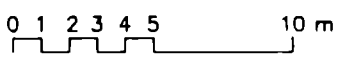


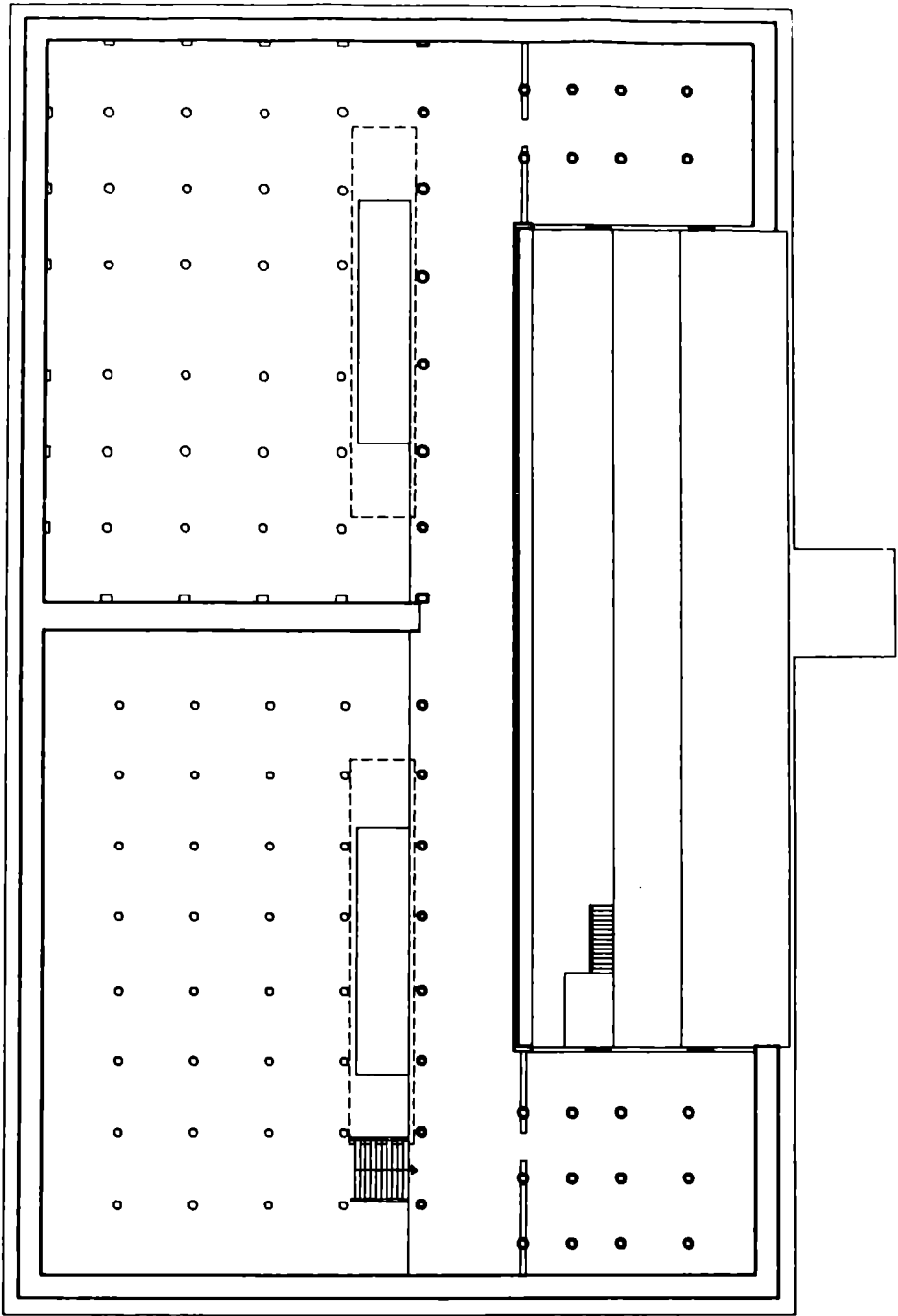


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THIRD FLOOR PLAN

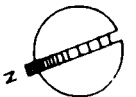
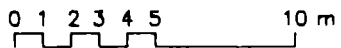


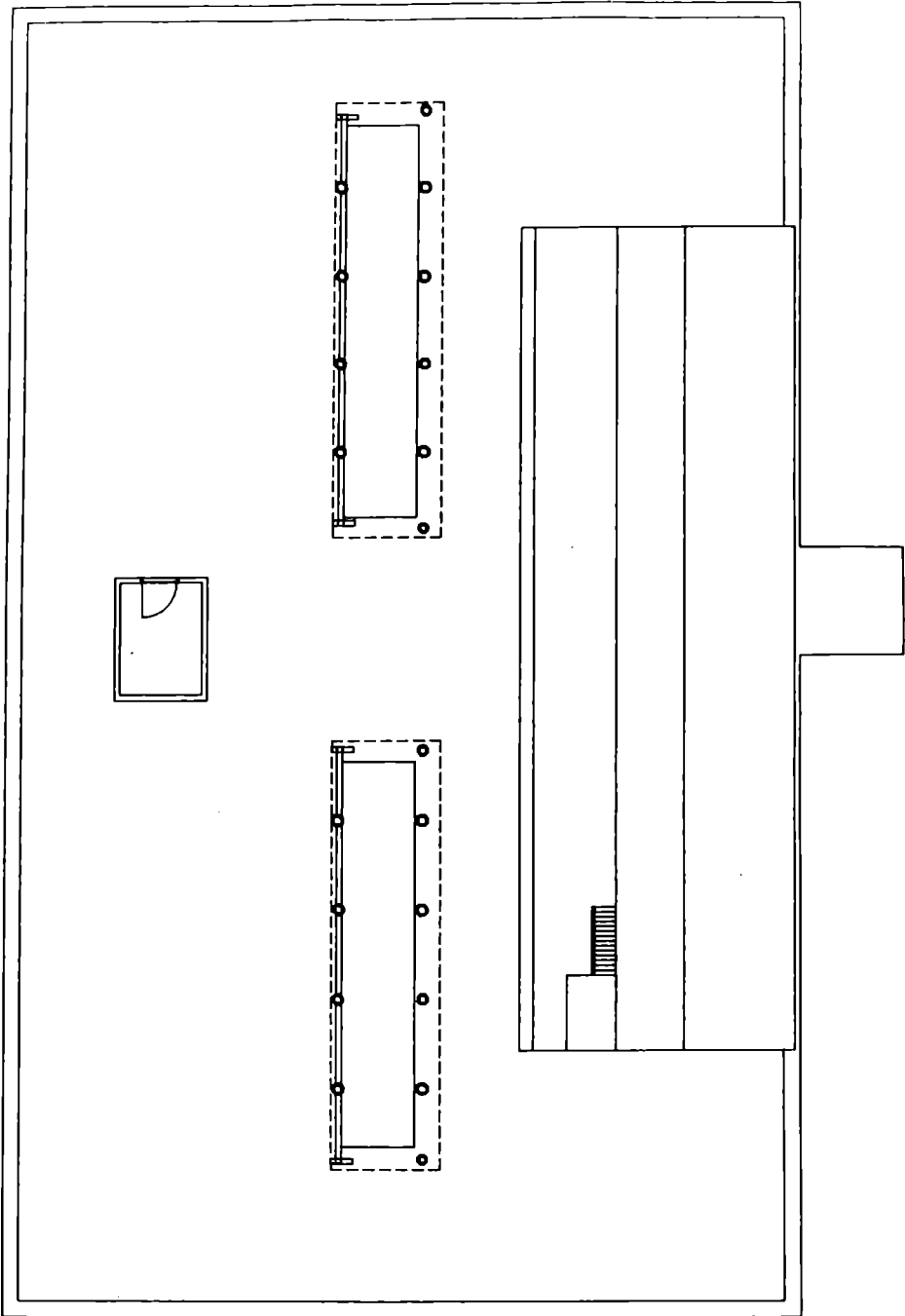


PRINTING HOUSE - DEGE

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FOURTH FLOOR PLAN

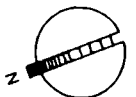
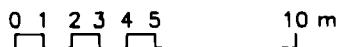




PRINTING HOUSE - DEGE

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ROOF PLAN





GENGQING GOMBA

3.9 Gengqing Gomba, Dege

3.9.1 Location, Environment and Present Situation

Approximately 500 meters east of the Dege Printing House stands the Dege Monastery also known as Gengqing Gomba. The monastery is oriented east-west with the courtyard overlooking the town. The central entrance to the monastery is along the main road on the eastern side of the building. Behind the monastery, further to the east is another small assembly hall while to the north and south sides there are dwellings for both monks and villagers.

In the 1950s it had over 600 monks. But the monastery was destroyed during the Cultural Revolution in 1967. It was rehabilitated in 1981 with reconstruction beginning in 1987 and at present there are about 400 monks.

3.9.2 Building Description

The monastery of Gengqing is built following the traditional design with a main courtyard in front of the assembly hall. The actual entrance to the monastic complex is in the southwestern corner of the main building where there is also the staircase leading to the upper floors. From here one enters the courtyard from the east. The courtyard is 29.5 x 28.5 meters square and is entirely paved with stones. A two-story building encloses the courtyard. While all external walls of the courtyard are painted gray with wide white and red vertical lines, the main building housing the assembly hall is painted red. The first floor is mainly used for store rooms and communal kitchen. The second floor is reached along a wide wooden staircase in the northwestern corner of the courtyard. Along the western side a wide covered corridor on the second floor gives access to more rooms as well as to the northern and southern wings of the courtyard.

In the center of the western wall to the assembly hall, a wide flight of diminishing steps leads to a small atrium (9.5 x 6.5 meters). Here, a small raised plinth gives access to the main assembly hall. The main hall is perhaps the largest hall visited measuring 40 x 31 meters and counting nine rows of twelve round pillars.

To the east, opposite the main entrance stands the main altar flanked by a raised plinth with large statues. Behind the altar are three small prayer halls (13 x 5 m) with life-size statues of Buddhist divinities set onto a raised plinth.

To the west of the main entrance a third wide door gives access to another large porch measuring 13 x 6.5 m. At second floor level three large windows flank the central balcony on the western side. All remaining facades are without doors and win-

dows.

From the southwestern corner a door leads to the second floor above the main assembly hall. A circumambulating corridor encloses the central clear-story windows which covers six rows of eight pillars set in the center of the space. To the south, west and north, the roof of the corridor has been raised one meter to give light into the second floor and into the assembly hall downstairs. At the back there are three small rooms above those of the first floor level. The ceiling of the central room is raised. The roof-level can be reached along a wooden staircase in the northeastern corner of the building. The parapet wall forming the black band of tamarisk branches runs all around the main building boarded by a white line of exposed round beams. Bells are suspending from the lower line of exposed beams all around the building.

3.9.3 Architectural and Historical Elements

Gengqing is the Chinese way of pronouncing the Tibetan name *Gomchhen*, meaning "large monastery". It began as a Nyingmapa monastery and in 1662 switched over to Sakya. Traditionally the monastery has no Rimpoche in residence. The oldest son of King of Dege always became a monk and headed the monastery whereas the second son inherited the administration of the kingdom. So far, there are 49 generations of the head lama of Gengqing and it use to control seven sub-monasteries.

The monastery was rebuilt in 1987 and the work is still not entirely completed. There are only a few new statues and the second floor level still needs to be finished. Also the painting of the murals is still to be done.

3.9.4 Religious Activities

There are a few religious functions at Gengqing. They are mainly praying ceremonies: five days during the Ninth Moon, five days during the Eleventh Moon, 21 days during the Twelve Moon.

In the past, between the Fifth and Sixth Moon, there were also monastic dances performed for the family of the Dege king.

3.9.5 Construction

Walls:

The walls are built of compacted earth and are 1.95 m thick at the bottom. They are plastered over on the inside and painted. While the main chapel is painted red, the courtyard is painted gray with the traditional vertical red and white bands. The window and doors are set into the wall with a canopy which does not project outside the wall. The lintels of the two doors flanking the main entrance to the assembly hall are sup-

ported by round pillars set on a stone plinth.

Floors:

The floor of the courtyard is entirely paved with stones. The floor of the main assembly hall is covered with compacted earth except for the central part where there are timber boards set in exposed beams.

Upper Floor and Ceilings:

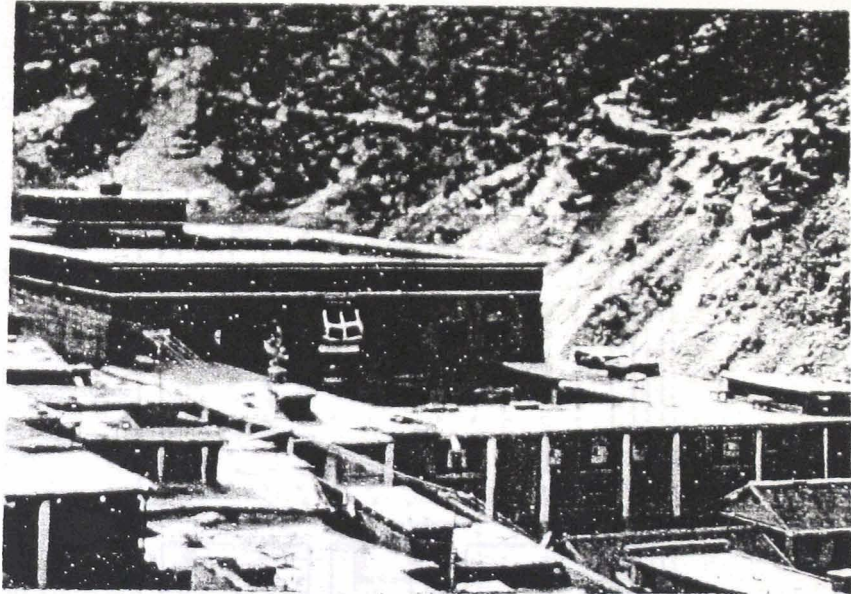
The upper floor structure is carried off the lower grid of posts, supporting long brackets that carry beams spanning across the chapels. The posts are joined with tenons through both the bracket and the beam above. They are carved and embellished with the traditional motifs. The beams in turn carry smaller ceilings joists closely spaced, with boarding over, that run at right angles with them. The central pillars of the assembly hall run all the way up to the roof.

Roof:

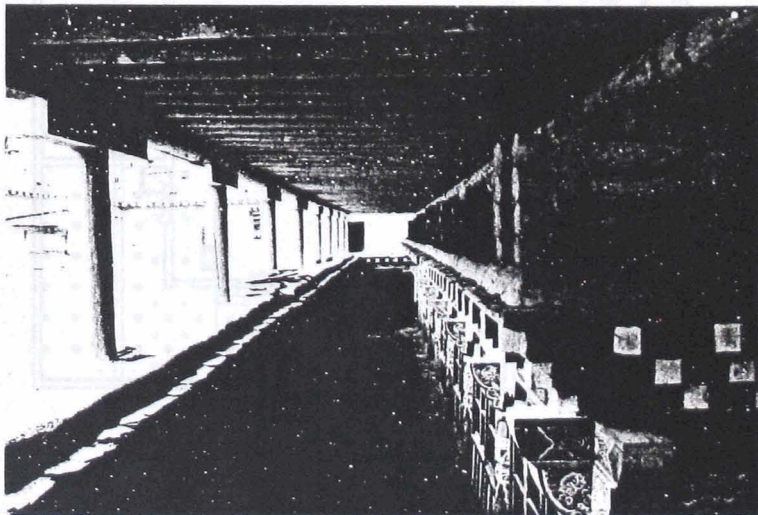
The roof is flat and built in the traditional way with a high parapet wall around.

3.9.6 General Repairs & Recommendations

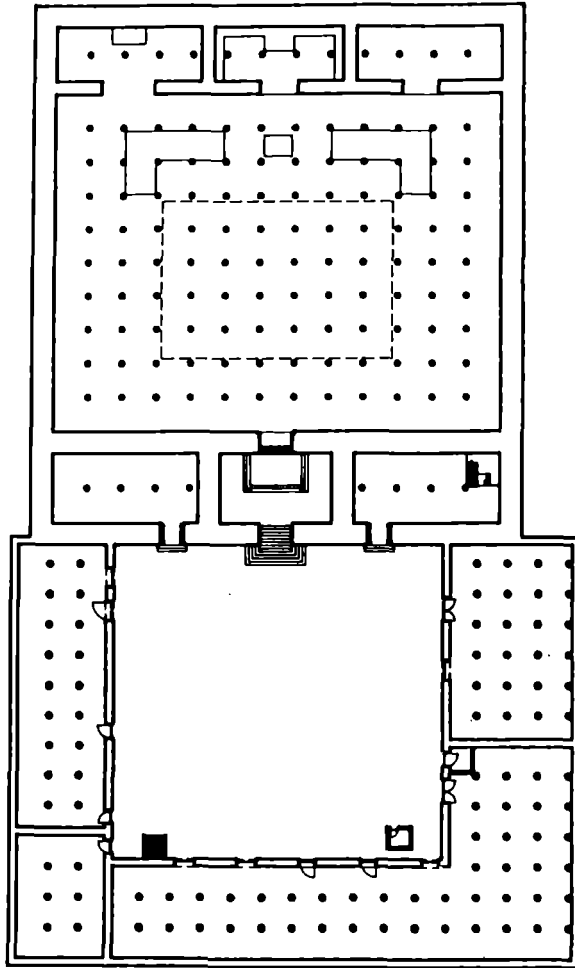
As the monastery has recently been rebuilt, its general condition is good.



Gengqing Gomba set in the valley of Dege



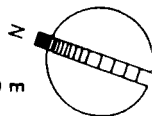
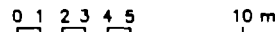
Typical double roof structure with two types of supporting system

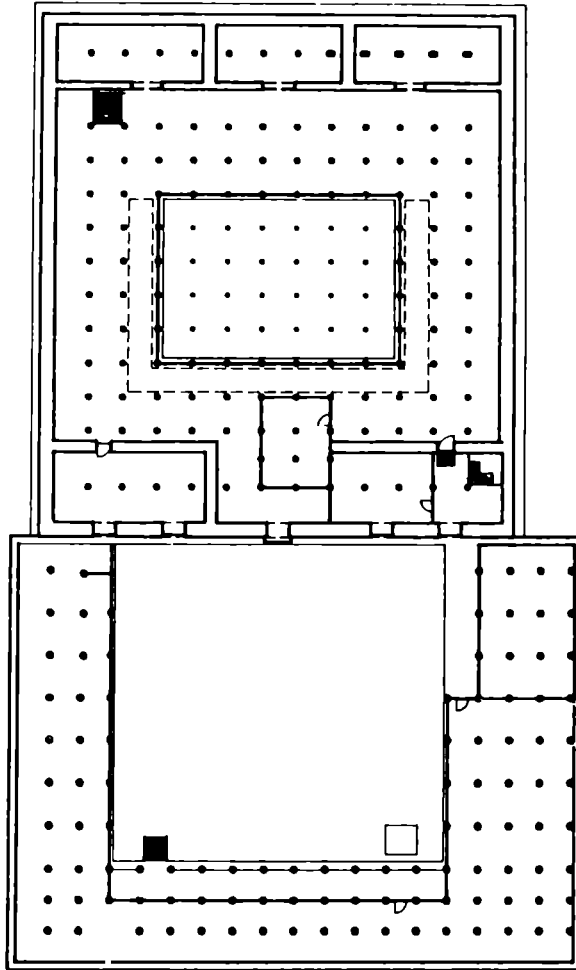


GANSHIN SHE - DEGE

FIRST FLOOR PLAN

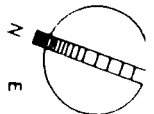
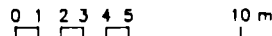
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GANSHIN SHE - DEGE
SECOND FLOOR PLAN

1:500





BABANG GOMBA

3.10 Babang Gomba, Babang

3.10.1 Location, Environment and Present Situation

Administratively the monastery of Babang is located in Babang Village of Maisu District in Dege County within Sichuan's Ganzi Prefecture. Its geographic features resemble three elephants playing in water therefore it is sometimes related to sacred stories from Buddhism. Babang is the head monastery of all Kargyupa monasteries in the entire Kham region of the plateau.

Within its sphere of influence are purportedly over 180 sub-monasteries throughout the plateau, including Sichuan, Qinghai, Yunnan and Tibet proper. But according to our field study at Babang and by the account of the senior Lama Rebe Pengde, there are a total of 138. They are as follows: 13 in Yunnan, 28 in Qinghai, 60 in TAR, 25 in Aba Prefecture of Sichuan, and 12 in Ganzi Prefecture of Sichuan.

The monastery's influence is particularly powerful in Kham and Amdo regions of the plateau. Together with "Chupu Gomba" of interior Tibet, Babang is one of the two most important monastic headquarters of the Kargyupa. In the past whenever a Kargyupa monk wanted to enter Tibet proper to study Buddhism at Chupu Gomba he first would have to study at Babang for at least three years before a "visa" would be granted for a visit to Chupu. Chupu would not consider receiving a visiting monk without such an academic background.

The name Babang village was derived from Babang Gomba. During the Kuomintang time it was called Bawu Village and later changed to Babang Village in 1959. The monastery is situated on a sacred mountain called *Wugen* with the *Ridong* (house for meditation) behind the hill. Along a saddle-shaped ridge of *Wugen* is an assembly of religious structures. The main building *Cholakong* (elevation 3785 meters) presides over the end of the crest before the mountain becomes an almost vertical drop to the valley below. Babang Village is situated at the bottom of the valley at 3665 meters elevation. The river *Baiqu* passes by the valley and flows downstream toward the *Baiya Gomba* and onward to join the Yangtze at the county line of Dege and Baiyu. Two switchback trails connect the village to the monastery. Two other small villages are bases for nearby nomads - *Quici West Village* and *Ranqinglong Village*.

There is no motorable road near Babang. The closest road is at Gongya District's *Anjihei Village*. It is still about 25 kilometers away from Babang on a horse trail that crosses two mountain passes - *Orse La* and *Niwo La*, both over 4000 meters in elevation. *Anjihei* is about 30 minutes by car from Dege. Another six to eight hours on horseback riding the caravan road takes one to Babang Monastery. In good weather, caravans of yak, horses, and pedestrians are a daily occurrence between Babang and *Anjihei*. Some caravans make a stop at Babang and

continue for another day's riding distance to Zhongsha Gomba, the most important Sakya Monastery in Kham.

Before reaching the main complex one enters a large open courtyard which is surrounded by a main hall, a second smaller monastery, a school building and a podium from which religious activities taking place in the courtyard can be observed. The monastic quarters are scattered around the open courtyard and further up the hill behind. A second smaller monastery is located above the monastic complex.

The surrounding area was formerly thickly forested, but now not a single tree is found on the spur. The neighboring hills are still covered with fir trees.

3.10.2 Building Description

General

The entire complex of Babang centers around the main building *Cholakong*. Most of the buildings are preserved in close to their original form. The most important structures are:

1. *Riche*, behind the hill, originally a shrine of one of the Rimpoches). This is destroyed now.
2. *Chokong*, a place of meditation.
3. *Gaidikong*, a shrine.
4. *Duogankong*, prayer hall.
5. *Xiezhakong*, school for the Chaba. Destroyed
6. *Bakong*, printing house.
7. *Lasakong*, the main assembly hall before *Cholakong* was built and the oldest building. It was used as a storage room for the production team during the 1960s and 70s.
8. *Saduokong*, originally religious shrine for the founder Shidu Rimpoche.
9. *Paikong*, a small prayer chapel.
10. *Cuojukong*, prayer shrine.
11. *Dongke*, big room for prayer wheels.
12. *Cholakong*, the main assembly building. It comprises of two attached buildings one red and the other white washed. The building stands on slightly lower ground of the slope and is also shorter. The white attached building is called *Larong* and contains the living quarters of the head butler, guest rooms, and storage rooms. The red main building is called *Lakong*.
13. *Qudeng*, pagodas or chorten. Originally Babang had 130 chorten of different sizes. Today there are 18 chorten built on previous foundations.
14. *Chakong*, living quarters. These are the most numerous and are the hundred or so monks' residences houses built on the slope of the hill to the north of the main building *Cholakong*. Most of them were built quite recently. They are mainly built along the rear sides and back.

The *Cholakong* or main assembly building is considered to be one

of the finest examples of classical Tibetan monastic architecture in Western Sichuan. It is the most massive single building within the entire Kham region. Of the eighteen monasteries studied on this trip, Babang is also the most elaborate. It is known to many as the "little Potala Palace". The Cholakong was built during the first generation of the Shidu Rimpoche. It is now over 200 years old.

The building is about 100 meters in length and 40 meters in width with the highest height rising to 24 meters and contains in total more than 100 rooms. The rooms of either courtyard can only be reached along a wide corridor at first floor level.

External

In pleasing contrast to the reddish brown wall of the main courtyard building the walls of the second courtyard building are painted white. A traditional broad black band consisting of black painted branches of the tamarisk runs around the building directly beneath the roof. Below the black band and dentil-like reliefs forming a friezes in between.

All roofs are flat with the exception of the smaller ones which cover openings such as smoke and vent shafts and staircases.

Main Courtyard Building (A)

The temple complex is reached by a double flight of steps leading into a covered platform outside the main courtyard eastern entrance. To the western side another entrance is commonly used by the monks.

The courtyard is stone paved and is surrounded by a series of columns. The eastern, southern and western sides of the courtyard are formed by a wide corridor of one bay in width.

The main assembly hall is reached through a wide gate along a flight of steps on the northern side of this courtyard. Before entering the main assembly hall one reaches a raised platform (Atrium) along a flight of steps on the northern side of the courtyard. The atrium is entirely open towards the courtyard and the ceiling is supported by a series of carved columns. The outside face is flanked by a low open balcony while the walls on the inner side are all covered with murals decorated with symbols and deities of the Buddhist pantheon:

- On the North wall there is a painting showing the four guardians.
- The West wall contains the wheel of life and a cosmic mandala.

The western side of the atrium is raised by 2.35 cm where there is a large drum. A door leads to the western wing of the courtyard.

Along a second flight of steps through a large pair of red-lacquered door-panels adorned with brass bosses one enters the main assembly hall. The jambs and lintel of the door is molded with relief. Over the doorway is a projecting cornice.

The main assembly hall (22.5 x 22.5 m) counts 36 wooden pillars each about 45 cm square of which the eight central pillars reach up to the main roof. The pillars are surmounted by shelf-like capitals on which rest two beams supporting the floor above. On the northern side facing the entrance is the main altar which contains a number of statues.

Behind the altar a flight of steps lead through a large double door onto a small prayer hall behind the assembly hall. This room, which is irregular in shape, houses one of the largest statues. This statue is flanked by smaller statues to the east and a large chorten to the west.

To the east of the second prayer hall a small door leads towards a store room while a narrow staircase leads up to the second floor level.

To the east of the main assembly hall along the covered doorway two doors lead to more rooms. At present these rooms are not in use.

The main kitchen of the monastery is located to the east of the courtyard and counts six wooden round pillars. Large cooking pots are located in the center and along the eastern wall a large shaft reaches up to the roof.

The western side of the courtyard contains a small room. In the south eastern corner a wide wooden staircase gives access to the second floor.

To the east the courtyard a wide corridor gives access to the second courtyard. On either side of this corridor there are large rooms used for storage.

At second floor level the rooms to the southeast of the courtyard are occupied by resident monks, while to the south of the courtyard there is a small prayer hall counting three rows of five columns.

A much smaller prayer hall is located to the east of the courtyard. A narrow corridor to the east leads to the toilet block.

At third floor level the private quarters of the Rimpoche and guest rooms are located.

Second Courtyard Building (B)

The second courtyard building can be reached from three sepa-

rate gates.

- To the north coming from the main courtyard along a flight of steps.
- To the south along a wide double door and
- To the west where another wide double door is located.

The rooms surrounding this courtyard are mainly used for staff quarters, stables, and general storage. There are three levels, with the second floor level at about the same height as the first floor level of main building.

At first floor level a covered corridor is located on the southern side of the courtyard and is used as a stable, with more storerooms behind.

The second floor level can only be reached along a wide staircase located in the center of the southern wing from where a wide open balcony looks onto the courtyard.

To the east of the staircase leading to the second floor, another staircase leads to the third floor level.

3.10.3 Architectural and Historical elements

It is believed that the founder of the monastery is Badengxiangqiunengba. He was originally from eastern Dengke (now incorporated into Dege County). He successfully merged a number of small monasteries, Zala Gomba, Yanong Gomba, Longrong Gomba and Wuqin Gomba (present day Babang) into one big monastery. His successor is called Laranciqingore. Because Badengxiangqiunengba belonged to the Sakya Sect he converted Babang into Sakya. When the monastery was converted back to Kargyu is not known. The most famous Dege King Dengba Tsiren vigorously supported Babang and made the Shidu Qujizhongle Rimpoche the head reincarnation. Babang subsequently became the most important of the five big monasteries under the Dege King's patronage. The Shidu Rimpoche became the oldest and most important line of the four lines of Rimpoches at Babang.

Of the different lines of Reincarnations, the Shidu so far has had five generations of reincarnations; the Gongzhe line, three generations; the Qingze line, two generations; and Wengen, three generations. There are also many famous scholar monks in Babang's history. Some of them are well-known throughout the Kham area and the plateau, for example Jiarankanbu Chobokanbu and Gerukanbu.

Babang is the phonetic translation of the first two sounds of a Tibetan name. There are four possible derivations:

1. The founder of the Monastery is Badengxiangqiunengba thus the first syllable of his name "Ba" is used as the first syllable of the monastery. *Bang* pertains to the monastery is like dust using the lives of many human beings to construct.

2. In the beginning near Babang there were many small *Ridong* (place of meditation) and *Lakong* (prayer halls) like Wuqin, Zhala, Yanong, Longrong, etc. The founder of Babang Badeng-xiangqiunengba was talented in organizing others and succeeded in uniting these smaller monasteries shrines and chapels into one thus forming the Babang Monastery. Therefore Babang means a monastery which is formed by the merging of many smaller monasteries;

3. Based on an interpretation of early Tibetan the name of Babang means a land of good fortune wealth and prosperity a place where talented people are cultivated.

4. Babang is situated at a site where three mountains converge resembling three sacred elephants, therefore its name was derived from "where three elephants meet".

For the last few hundred years Babang has led the surrounding area in painting skills. It is also the founding place of the Karma Kargyu painting style. As a major school of art its murals are grand in style colorful and artistic. Beside stories about the Buddha and Bodhisattvas there is also wildlife, architecture, history, etc. depicted in these paintings. The recent paintings are a departure from the tradition by not being directly painted on the walls. They were first painted on cloth (resembling huge thangkas) before being hung or pasted to the walls. This method, though unconventional, helps avoid damage from the cracks and instability of the wall face.

During the political movements of 1958 most of the monasteries of Ganzi Prefecture were closed and the monks evicted. Within Dege County, Genqing and Babang were retained as protected monasteries. At Babang about 10 older lamas were allowed to remain within the monastery as keepers. Later during the Cultural Revolution the monastery became the administration building of the local village government. Other government agencies that used the monastery were the trading company, food and grains store, health and medical units, etc. Because of its practical use during those turbulent years, the monastery was saved from destruction.

In 1982 the monastery was reopened to religious activities. The Government has twice allocated money for the repair and maintenance of Babang. The total amount is 206,000 yuan (in 1982 the currency exchange was US \$1 = 1.7 yuan). The local people as well as the monks have also contributed money, labor and material for the maintenance of the monastery. Within the last few years, the following repair work has been undertaken :

1. Two meditation halls were rebuilt
2. The main assembly halls *Lakong* and *Xiangkong* within the *Cholakong* were repaired. Some of the deteriorated pillars were replaced. Collapsed roofs were repaired. A new statue of

Xiangba some 20 meters in height was carved. A chorten for the Shidu Rimpoche was constructed.

3. The walls of the main assembly hall was painted with new murals. It was organized and directed by the famous Tibetan artist Tonglazeweng. It took a total of 44 artists three years to finish the murals. The beams and pillars were also re-painted and redecorated.

4. Many missing printing blocks were re-carved and replaced into the collection.

5. Additional religious objects were bought including communal-use items cooking wares and serving utensils.

6. Windows and doors were repaired or repaired.

7. New sutras and books were purchased.

8. Eighteen new pagodas were constructed.

At present two large brass statues are being cast for the *La-kong* one of *Lianhuanseng* and the other of the *Laoma* Buddha. Thirteen blacksmiths were hired from Jiangda County across the Yangtze in Tibet. It will take approximately three months to complete the statues. After the initial casting and detailing, gold will be plated on and decorations added before the work is considered complete.

The next step will be to re-paint the murals of the *Laxongkong* and *Bakong*, two smaller chapels. Buddhist statues will also be re-carved. The *Puba* Hall will be repaired.

3.10.4 Religious Activities

Before the reforms in the 1950's there used to be many religious gatherings throughout the year. They number over 20 various events. Almost every month of the year has some form of activity. Most of these activities only involve some of the monks and lamas. A few of the larger events involve all monks.

The duration of each event varies from seven to fifteen days (list available). Today these activities are cut down to only five main events according to the Tibetan calendar;

Molang during the First Month

Duorisheng during the second month

Ciyicho (with monastic dances) during the sixth month

Choliuduoba during the tenth month

Geqing during the twelfth month

In the early 1950's there were over 500 monks at Babang. It was recorded that at its height the monastery had over 1000 monks. In November of 1984 when the Shidu Rimpoche returned to Babang for a visit from India he gave a set of monk's clothing to each monk at the monastery. At the time the total census and sets of clothing given out was 371. However for the event many monks usually not in residence at the monastery returned for the occasion. At present those in residence number about 140. They came from the local area of Babang and the rest of

Sichuan, TAR, Qinghai, and Yunnan. 30 of them are considered Lama with the remaining being *trapa* (student monks). The oldest monk today is 73 years of age. Six monks are over 60 years of age with the youngest monk being 11.

At Babang it takes usually a *trapa* four to five years of study to become a monk. Another three years and three months and three days of meditation at the Ridong (house of meditation) with much restriction on activity before being conferred the title of a lama. To become a high Lama or Jambu takes many more years.

Babang's monastic ruling committee comprises of 11 members. The present Chairman is Reba, the Vice-Chairmen are Ciqing and Hedanchu Pengcuo. The remaining members are head lamas of Babang. Administratively, Reba is the *Wengze* of the monastery, Ciqing is the *Xiangzi* (head butler), Dengba and Pengde head the religious matters with Pende also being the *Tiepang* Lama who head the disciplining of fellow monks. Kanbu is *Ludo*, with Yama Pengcuo and Qingbo being the leaders in recitation of prayers.

Financially Babang derives its income from three main sources:

1. Offerings from the community. These include money, butter, meat and grains totaling roughly 5000 yuan annually.
2. Babang stipulates that when the monks go out on prayer and other religious services, the income derived would be returned to the monastery since food was pre-dispensed to the monks leaving on such trips. Sometimes a small portion of the income can be retained by the monk.
3. Babang's printing house provides the main source of income for the monastery with an annual revenue of about 50,000 yuan. After deduction of production costs, it generates an income of 17,000 to 20,000 yuan. The printing is performed by about 20 monks and *trapa* of Babang.

When the Shidu Rimpoche visited in 1984 he donated over 40,000 yuan in cash, plus livestock and materials totaling 180,000 yuan. When the Gongzhe Rimpoche returned for a visit he donated over 20,000 yuan to a number of monasteries. Babang was one of the recipients of that sum.

The monk's quarters are built around the main monastery. They are constructed with the resources and labor of each monk's family. Means of livelihood of most monks are derived directly from their own family. Sometimes in individual cases a stipend is provided by the monastery. At present the monastery owns no agricultural land nor pasture for livestock.

In the past Babang was also famous for its collection of relics including seven large gold-plated statues, over 9,000 small stupas, 10,150 *thangkas*, 324,000 Sutras (some with gold and silver), and 129,800 printing blocks. Today there are only 160

gold stupas and slightly over 100 thangkas remaining. A few were painted by the noted Shidu Rimpoche Qujingiula, founder of Babang. The most famous contemporary Tibetan artist Tonglaze-weng was a monk in residence at Babang until his death in 1989. He purportedly painted over 9,000 thangkas during his life and a few of his best works are within Babang's collection. Other items of importance are two complete sets of battle armor from historical times and a carved golden seal from Bashiba's time during the Yuan Dynasty.

3.10.5 Construction

Walls:

All external walls are built of compacted earth set onto a stone plinth. The walls are up to 120 cm in thickness at first floor level and 90 cm at third floor level. The interior walls consist of a timber framework set in between the timber pillars and are spread over with mud mortar making a total thickness of about 20 cm. Wherever there are important rooms, be it prayer halls or an important monk's quarters, the walls consist of timber logs set neatly one on top of the other. In such cases the log surfaces facing inside and outside the building are left round, while the tops and bottoms are flattened.

The most striking example of this kind of construction can be seen in the main guest room on the third floor level where the logs have carved characters of the Han period.

Floors:

The courtyards are covered with stone slates. The floor of the main assembly hall and the other floors are covered with timber boards set onto exposed beams.

Upper floor and ceilings:

The entire structure is carried off a grid of posts set a about 2.8 meters from one another. They support heavy brackets that carry beams spanning across the chapels. The posts are joined with tenons through both the bracket and the beam above. They are carved and embellished with the traditional motifs. The beams in turn carry smaller ceilings joists closely spaced, with boarding over, that run at right angles with them.

Roof:

The roof of the entire building is flat covered with mud. There is no daughter-wall. The roof edge slopes slightly to the center of the roof to prevent water to run off the external walls. The water runs mainly to the east into a lower lying area from where it is diverted away from the building along a

few gutters.

3.10.6 General Repairs & Recommendations

Foundation and Walls:

Although the foundation of the building could not be investigated upon it is anticipated that the building is set upon the rock of the cliff and is solid. Still there are signs that the foundation may be moving to the east due to the deforestation and the inefficient drainage. Many of the pillars also show a lateral movement to the east. This may partly be caused by earthquakes, but the foundation also could be its cause.

The proximity to the steep slope to the east of the building is becoming a serious problem due to the inefficient drainage of and the deforestation of the hill.

It is recommended that as soon as possible tell tales are placed at different places in and around the building to assess its movement and to determine the cause. The slope to the east of the monastic building as well as to the west should be reforested to prevent the soil from being washed away during rainy periods. Also cattle grazing should be controlled to allow the roots to set and to keep the soil firm.

A proper drainage system should be developed around the building as well as within the village to take the surface water down and away from the buildings.

Floors:

The condition of the stone floor within the courtyards at first floor level is satisfactory as well as the timber floors at second and third floor levels.

Upper floor and ceilings:

The entire building clearly shows lack of maintenance. In particular the north-eastern corner of the building is in a very bad structural condition from first floor level to roof level. Many of the pillars have collapsed or are attacked by wet rot. It is recommended that the entire north eastern corner is urgently repaired to prevent further deterioration of the building.

Also the joists are not properly fixed onto the beams causing structural instability with every earthquake or movement of the building. The joists should be properly fixed with wooden pegs on either side of the beams as explained in the general recommendations.

Roof and Roof-coverings:

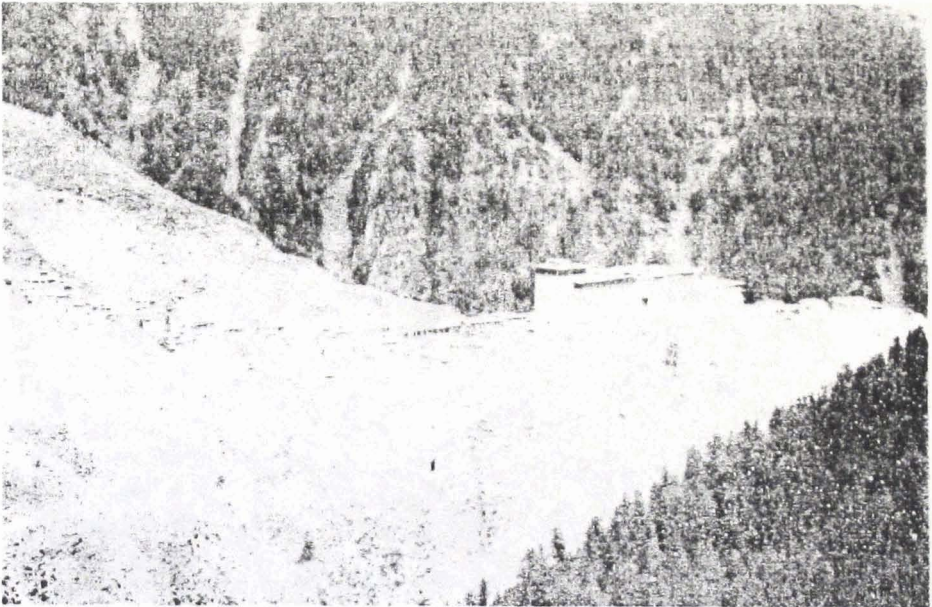
The roof is overloaded. The entire roof shows many leaks affecting the structure beneath. The slope of the roof prevents the water to run off towards the drains and the water running from the roof above the main assembly hall runs all along the other roofs towards the toilet unit on the eastern side. The wooden gutter is badly laid and the rainwater spills onto the lower laying roofs causing more damage. The entire roof should be re-laid at a proper slope using polythene sheet to make it waterproof. More drains should be placed to take the rainwater away from the building.

Wall linings:

The external side of the walls have very much suffered from rainwater running along the walls. The external walls need urgent repair. A proper drainage taking the rain water away from the walls is to be installed.

3.10.7 General services

As this building will serve modern-day requirements for not only pilgrims but also other guests it is vital that the basic facilities such as water, electricity, and sanitation are improved. There also will most certainly be opportunities to develop and use all varieties of appropriate technology in particular solar energy which will serve as a useful demonstration for the local people.



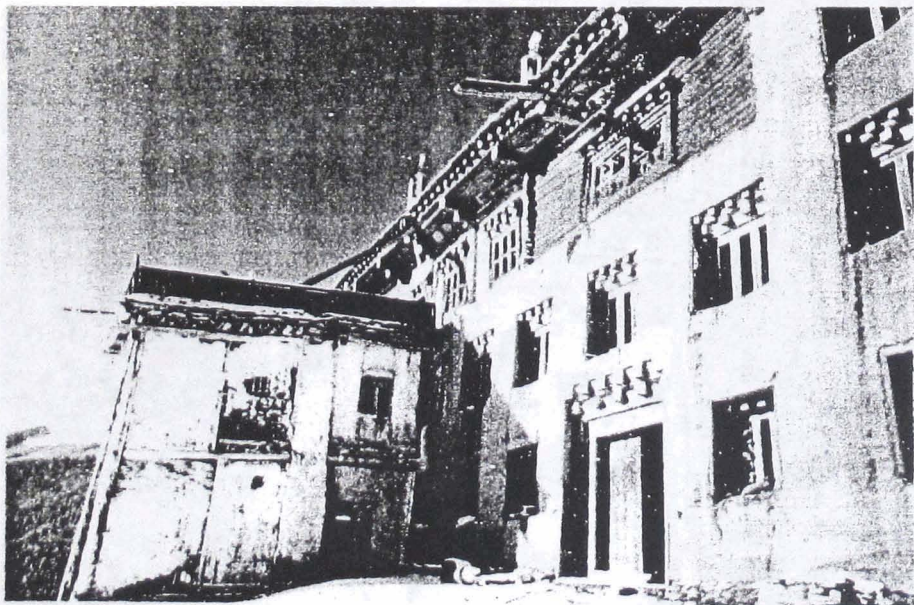
View of Babang Gomba set on a spur between two mountains. Buildings surrounding the Assembly Hall are monastic quarters



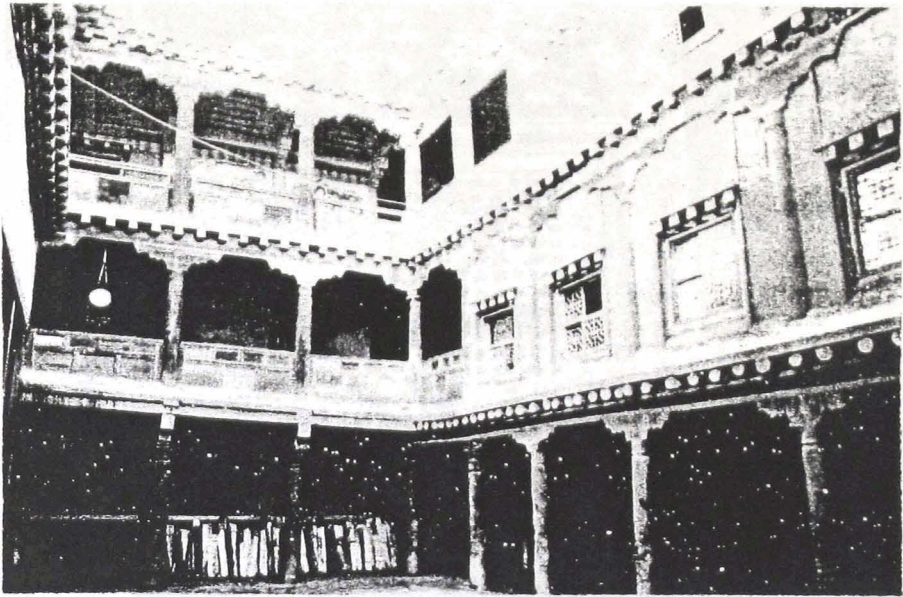
Monastic quarters as seen from the Assembly Hall in Babang Gomba [see via tripadvisor](#)



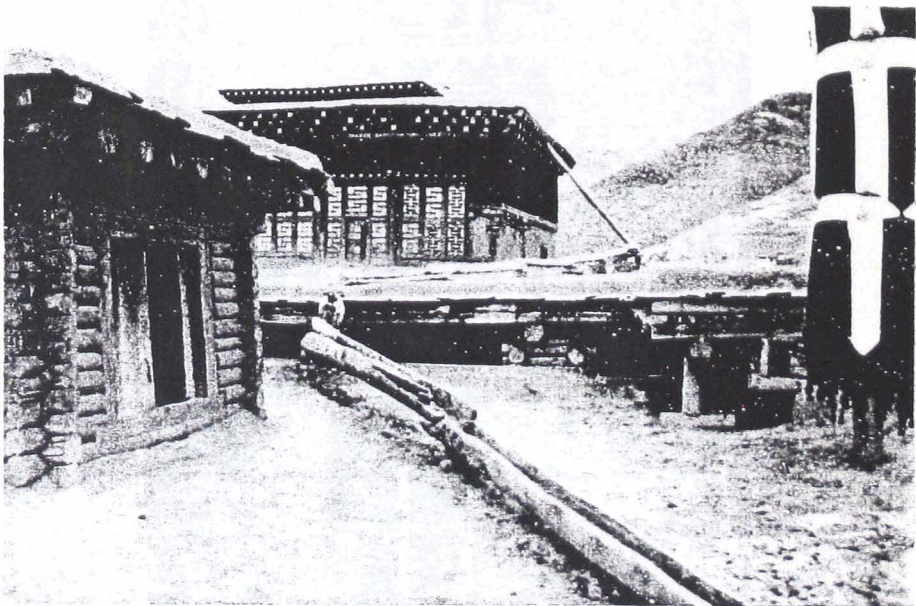
Full view of Babang Gomba with monastic quarters in the foreground



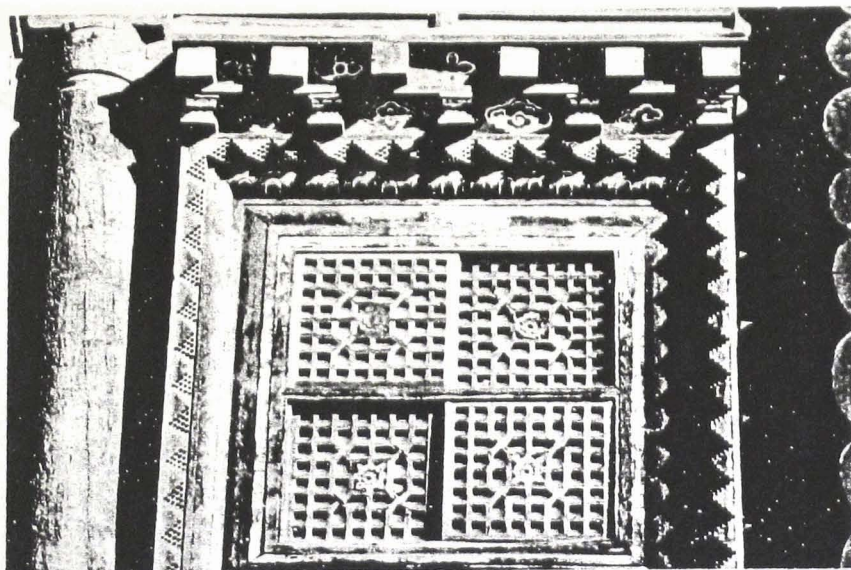
Close up view of Babang Gomba showing one of the two main entrances to the monastery on the side



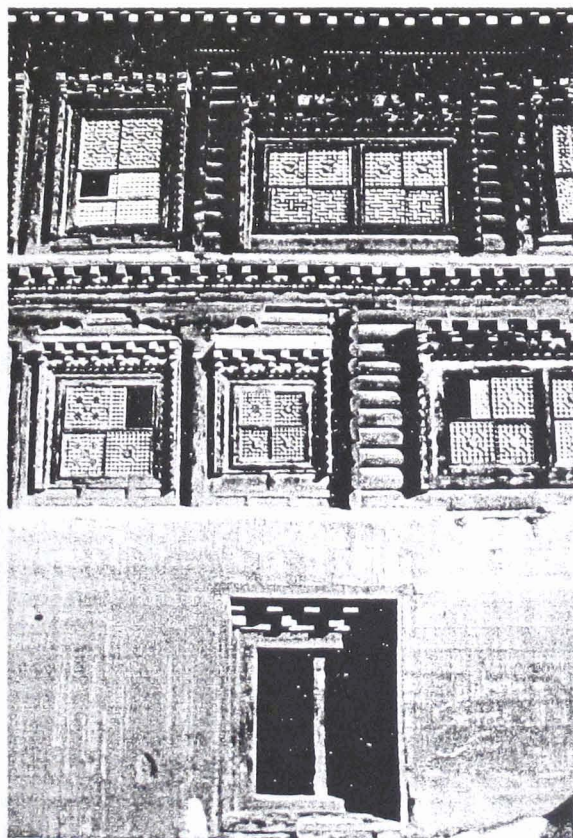
Interior courtyard of the main structure of Babang Gomba



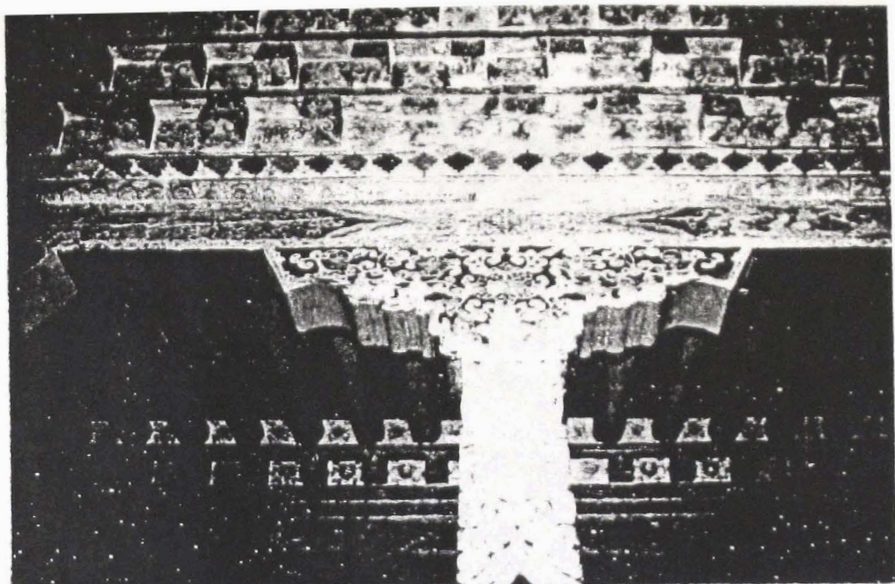
Drainage ducts directing rain water from higher levels to lower roofs and finally out of the building at Babang Gomba



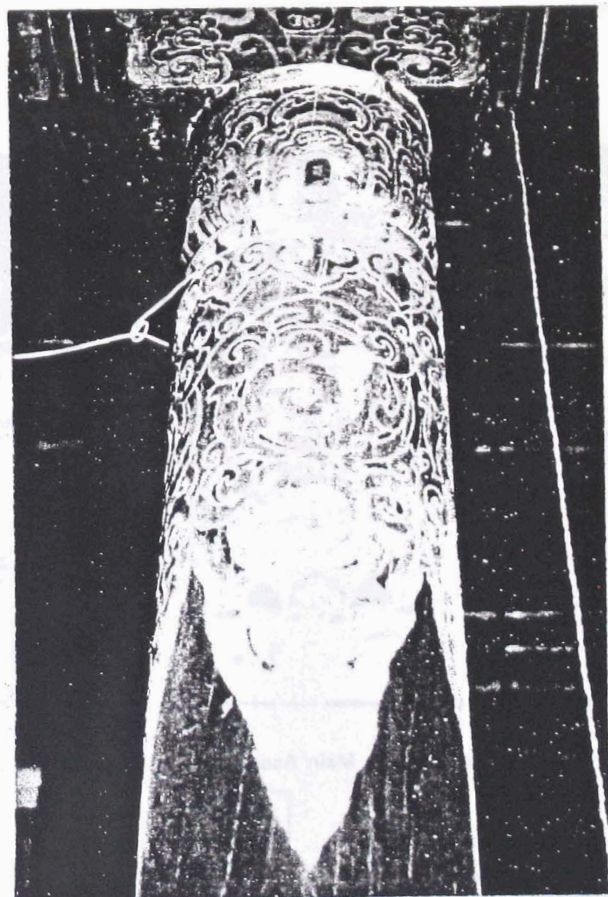
Close up of window on front of the main structure of Babang Gomba



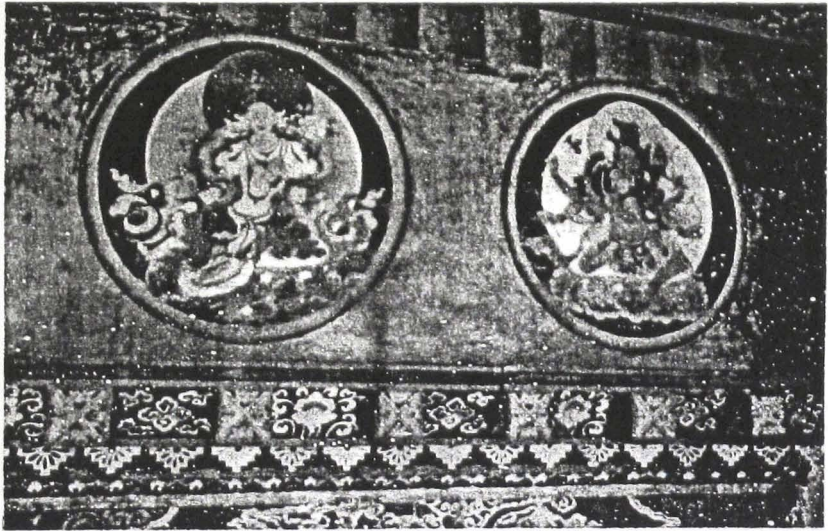
Front view of the main structure at Babang Gomba.
Behind the carved windows is the private chapel
and living quarters of the Rimpoche



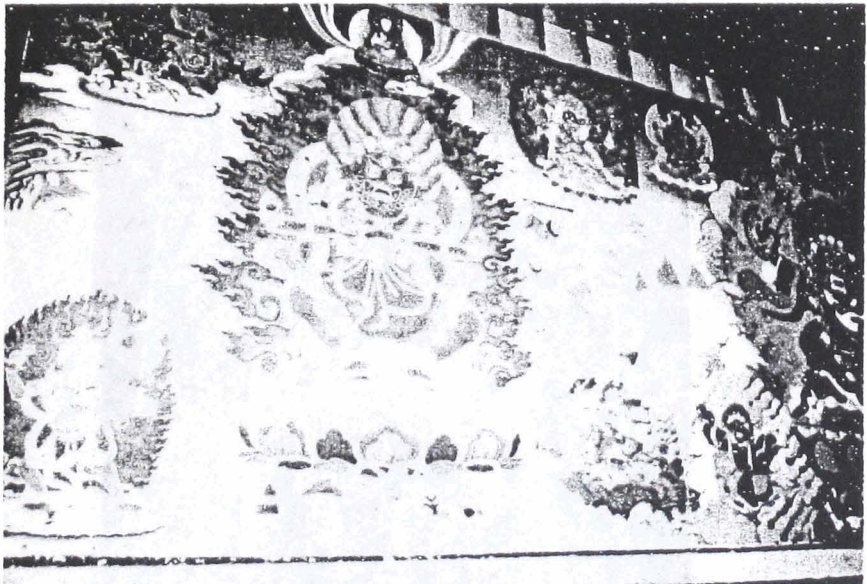
Column and interior eave structure of the Assembly Hall



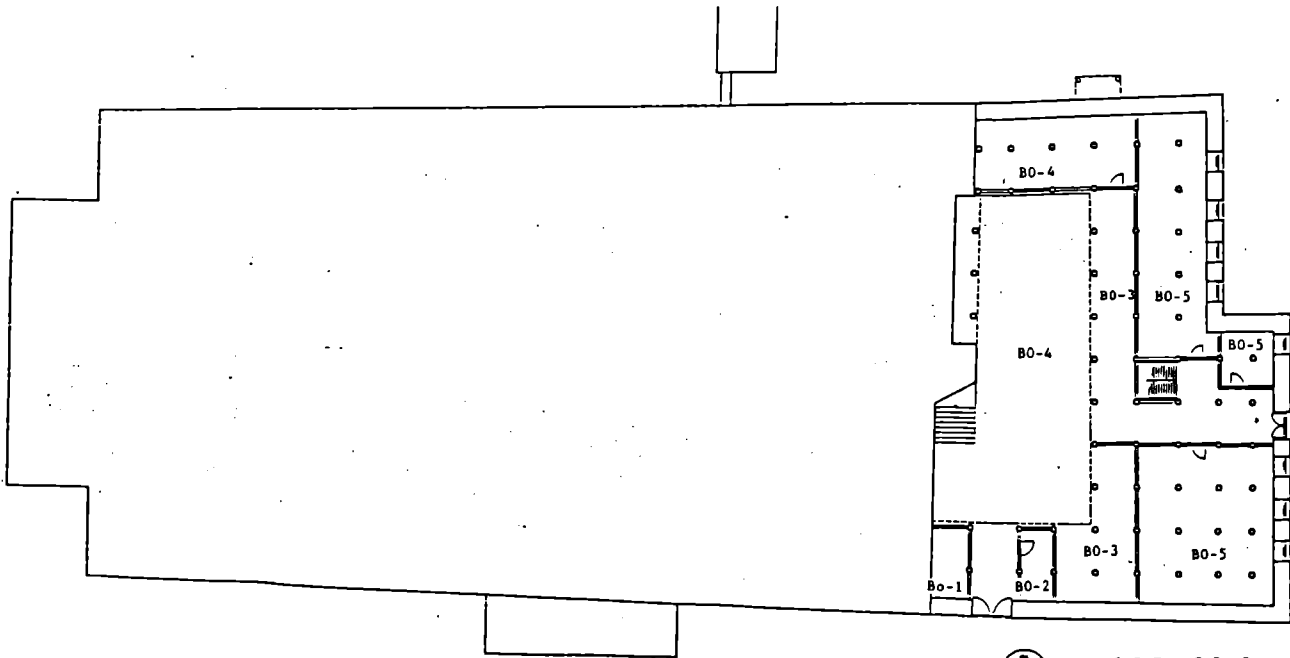
Carved column with colorful paint at Babang Gomba



Wall murals on the upper wall of the main Assembly Hall

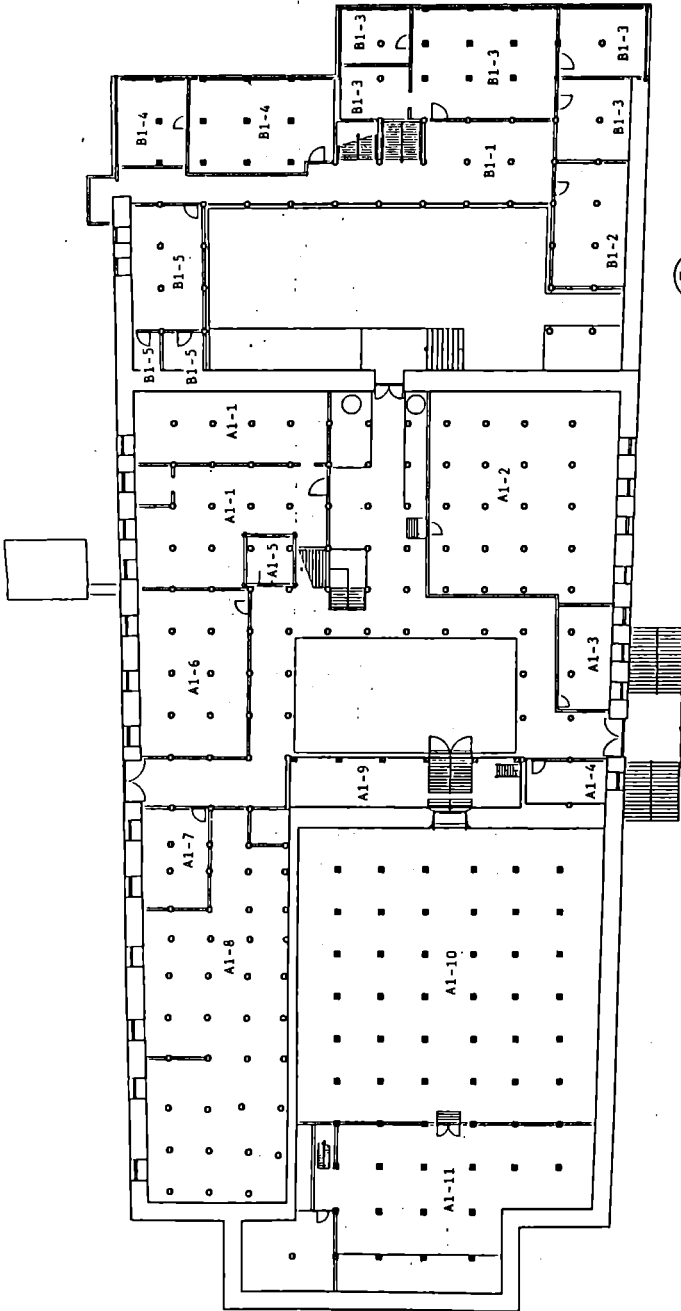


Murals on the lower wall at the Main Assembly Hall of Babang Gomba

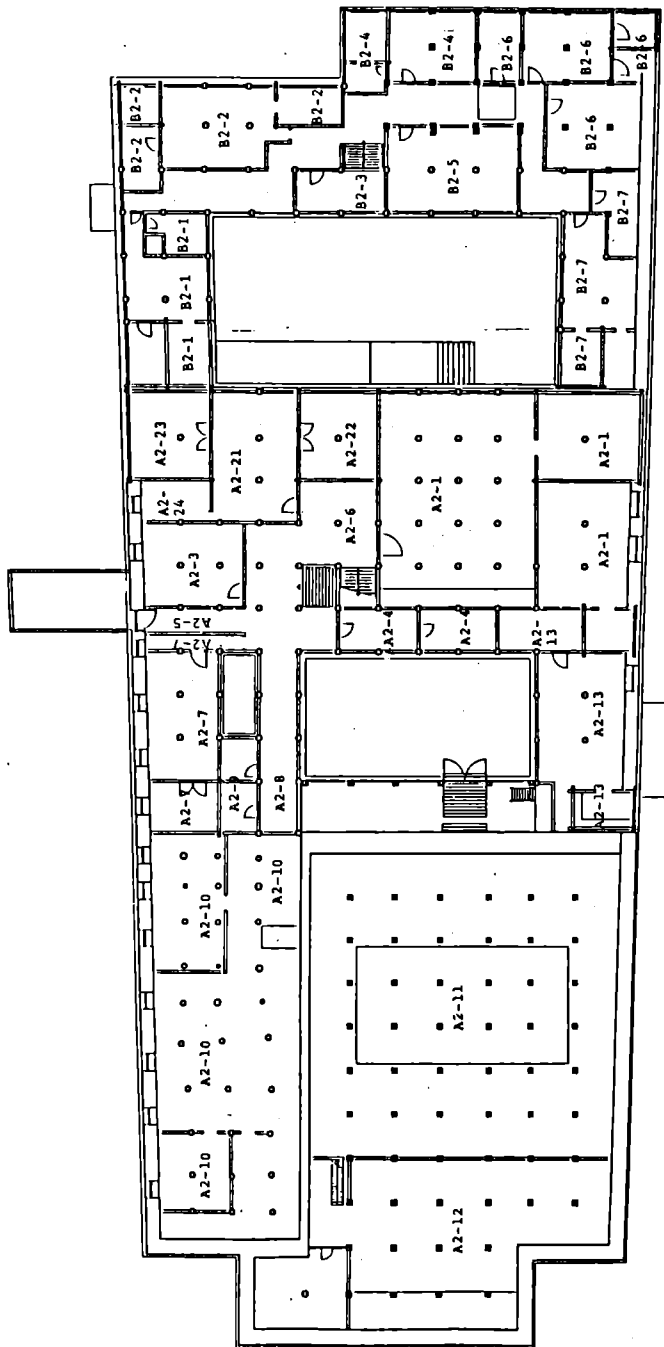



BABANG SHE - BABANG
FIRST FLOOR PLAN

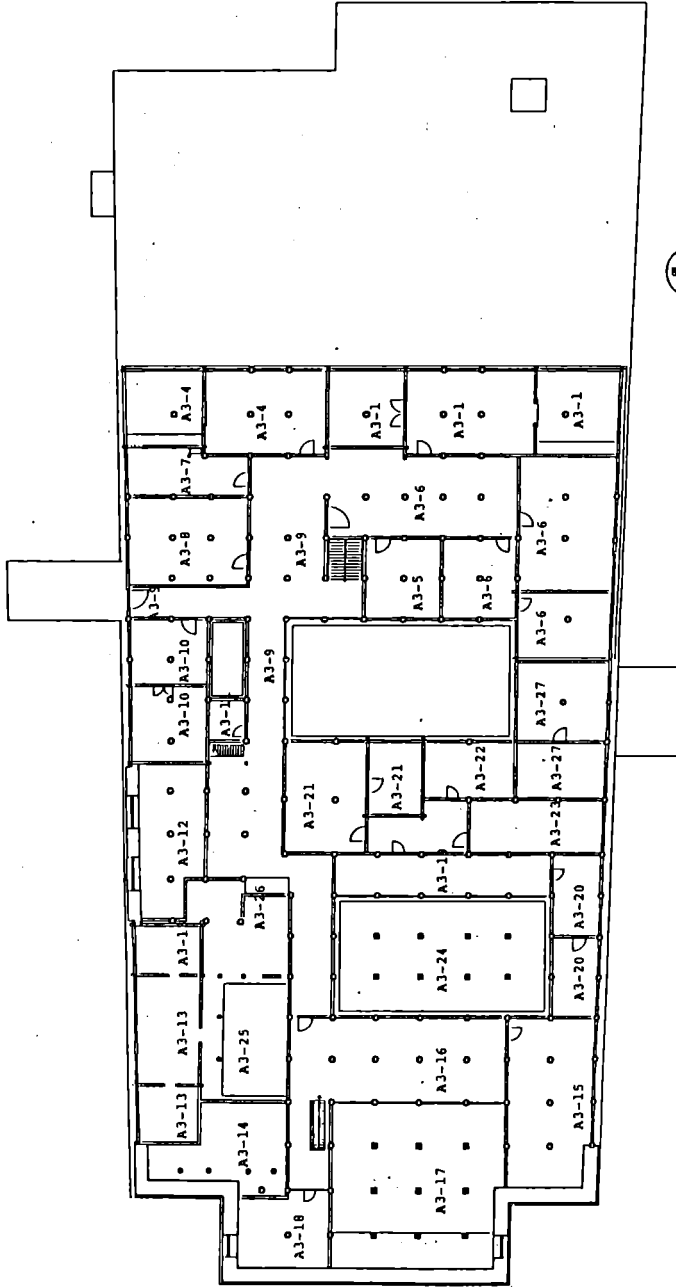




BABANG SHE - BABANG
SECOND FLOOR PLAN




 BABANG SHE - BABANG
 THIRD FLOOR PLAN



BABANG SHE - BABANG
FOURTH FLOOR PLAN



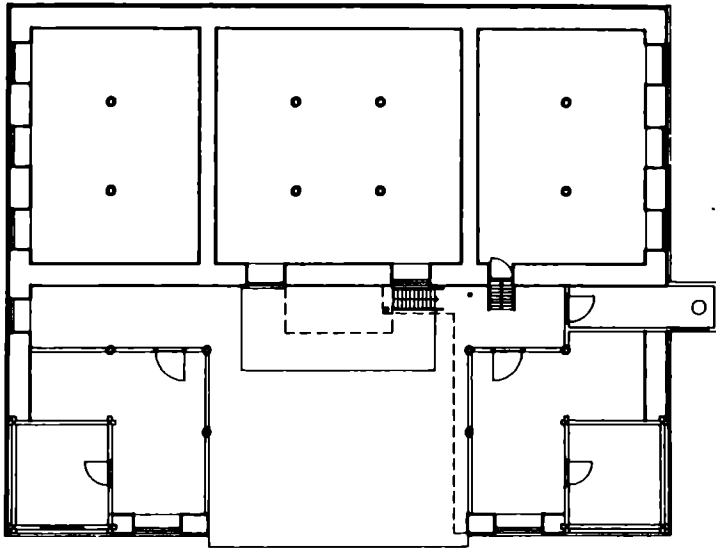
Room Identification Key, Babang Monastery Cholakang

<u>Map Key</u>	<u>Room Use</u>	<u>Tibetan Name</u>	<u>Pronunciation</u>
A1-1	dance practice	ལྷ་ཚེན་མཉུག་མ་མེ	Lhachen Shugsa
A1-2	butter/meat storage	བདག་ཁང་	Dakhang
A1-3	guard house	དག་ཁང་	Gekhang
A1-4	mat storage	གདན་ཁང་	Denkhang
A1-5	grain storage	རྒྱ་ཁང་	Nekhang
A1-6	kitchen	རྩ་ཁང་	Jakhang
A1-7	class room	དམ་ཁང་	Pekhang
A1-8	secure storage room	བདག་ཁང་	Dakhang
A1-9	corridor	སྐྱོང་ཁང་	Korkhang
A1-10	main assembly hall	ལྷ་ཁང་	Lhakhang
A1-11	chapel for Jampa Buddha	བྱམ་སེ་པ་ལྷ་ཁང་	Jampa Lhakhang
A1-12	library for Kangyur	མཁའ་འགྲུང་ཁང་	Kangyurkhang
A2-1	Shidu Rimpoche's rooms	ཇོ་ཚེན་ལྷ་ཁང་	Jechen Lhakhang
A2-2	Shidu Rimpoche's library	དམ་མཚོ་རྩ་ཁང་	Pedzokhang
A2-3	personal storage	གཏོར་ཁང་	Torkhang
A2-4	Shidu Rimpoche's kitchen	རྩ་ཁང་	Jakhang
A2-5	corridor	ཤི་ལྷ་ཁང་	Sil Lhakhang

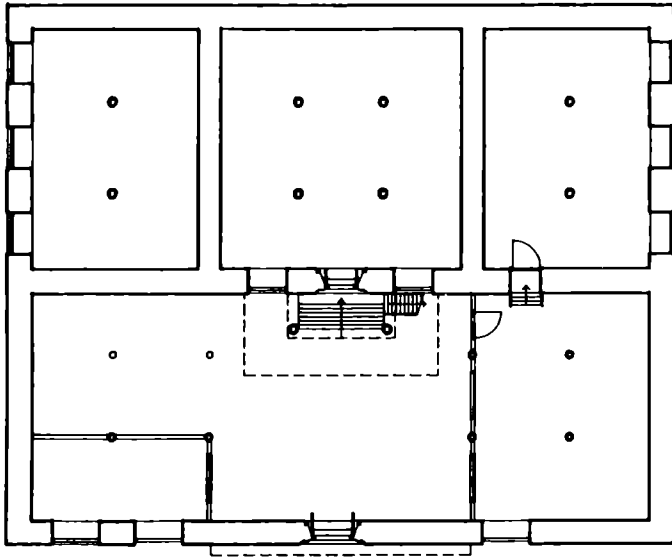
A2-6	corridor along staircase		
A2-7	lamas' reciting room	དགེ་ཁང་	Gekhang
A2-8	outside corridor	བསེལ་ལུ་ཁང་	Sil Lhakhang
A2-9	quarters for tea-makers and water-carriers	ཚུམ་གཡོག་ཁང་	Choyokhang
A2-10	storage for Qingze Rimpoche	རྒྱ་ལྗོངས་ཁང་	Gyunorkhang
A2-11	assembly hall atrium	ལུ་ཁང་	Lhakhang
A2-12	Jampa temple	བུམ་མ་ས་ལུ་ཁང་	Jampa Lhakhang
A2-13	reciting hall	སྐྱུ་མ་གངས་ཁང་	Drupgang-khang
A3-1	chapel of Shidu Rimpoche	གཟེམ་ཚུང་	Simchung
A3-2	exercise room outside Shidu Rimpoche's quarters	གཟེམ་ཚུང་གློ་འཇུག་	Simchung Goje
A3-3	mat storage	གངན་ཁང་	Denkhang
A3-4	Shidu Rimpoche's private chapel	གཡང་སྐྱུ་མ་ཁང་	Yanadrup-khang
A3-5	firewood storage for S.R.	ཤིང་ཁང་	Shingkhang
A3-6	meat storage for S.R.	ཤ་ཁང་	Shakhang
A3-7	toilet for S.R.	ཚུམ་ཁང་	Chapkhang
A3-8	kitchen	ང་ཁང་	Jakhang
A3-9	corridor	བསེལ་ལུ་ཁང་	Sil Lhakhang

A3-10	chapel for reciting		
A3-11	carvers' quarters	ཚོས་གཡོག་ཁང་	Choyogkhang
A3-12	Qingze Rimpoche's library	དུམ་ཁང་	Pekhang
A3-13	Q.R.'s quarters/chapel	གཟེམ་ཆུང་	Simchung
A3-14	toilet	ཚབ་ཁང་	Chapkhang
A3-15	storage for ceremonial objects	སྐྱེ་མ་ལྟ་ཁང་	Lama Lhakhang
A3-16	corridor	སྐྱེ་མ་དགེ་ཁང་	Lama Gekhang
A3-17	atrium of Jampa Temple	བུམ་ས་པ་ལྟ་ཁང་	Jampa Lhakhang
A3-18	tailoring room	གཏོར་ཁང་	Torkhang
A3-19	light collection area	ལྟ་ཁང་རྒྱ་མཐོང་ས་ཁང་	Lhakhang Gyathongkhar
A3-20	meat storage for Wengen Rimpoche	ཤ་ཁང་	Shakhang
A3-21	quarters for W.R.	གཟེམ་ཆུང་	Simchung
A3-22	storage for W.R.	རྒྱ་ལྗོངས་ཁང་	Gyunor- khang
A3-23	storage for W.R.	རྒྱ་ལྗོངས་ཁང་	Gyunor- khang
A3-24	atrium of main hall	ལྟ་ཁང་	Lhakhang
A3-25	empty space	འདྲ་མཁའ་	Barnkhe
A3-26	toilet	ཚབ་ཁང་	Chapkhang
A3-27	reciting hall	ཚོས་ཁང་	Chokhang
B0-1	hay room	རྩ་ཁང་	Tsakhang

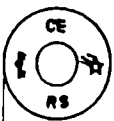
B0-2	stable keepers' quarters	རྟ་མེད་ཁང་	Tapakhang
B0-3	stable	རྟ་ཁང་	Takhang
B0-4	hay room	རྩ་ཁང་	Tsakhang
B0-5	butler's storage	ཟླ་མཁུལ་ཁང་	Socholkhang
B1-1	corridor	འཇམ་འཕྲུལ་མས་	Barkhyam
B1-2	guest room	གཞུང་ཁང་	Gangkhang
B1-3	butler's living room	གཞུང་ཁང་	Nyekhang
B1-4	chapel for reciting	གཡང་མུ་འཁོར་ཁང་	Yangdrukhang
B1-5	butler's kitchen	ང་ཁང་	Jakhang
B2-1	lamas' reciting room		
B2-2	quarters/chapel for Gongzhe Rimpoche	གཟིམ་ཆུང་	Simchung
B2-3	storage for G.R.	འཁོར་ཁང་	Cholkhang
B2-4	quarters/chapel of Doke Rimpoche	གཟིམ་ཆུང་	Simchung
B2-5	guest room	མགྲོན་ཁང་	Dronkhang
B2-6	quarters/chapel for Sirongbo Rimpoche	གཟིམ་ཆུང་	Simchung
B2-7	reciting room for lamas including kitchen/storage	ཚེ་ལི་མ་སྒྲེར་ཁང་	Tshelima Gerkha



SECOND FLOOR PLAN

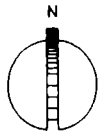
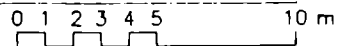


FIRST FLOOR PLAN



UPPER MONASTERY – BABANG

1:200





BAIYA GOMBA

3.11 Baiya Gomba, Baiya

3.11.1 Location, Environment and Present Situation

The elevation of the monastery stands at 3400 meters. It is situated within a narrow gorge-like valley running north-south. Sitting on the western side of the valley, the monastery faces south-east. The hill is called Dadengze, referring to a hill where a tiger leaps. To the monastery's east is Aganada mountain and the river Baiqu which flows into the upper Yangtze. To the monastery's west is Zhongge Mountain.

There is no road to the Baiya monastery but two trails meet at the monastery, one above it and one below. The trail above it allows passage of pack animals all the way to Babang village and Babang monastery. The distance is approximately three hours on horseback, following the river Baiqu upstream. Below Baiya monastery, the going is difficult and does not allow passage of animals, therefore, people coming from the west of the monastery or the Yangtze must either walk or detour to the trail-head for Babang and begin the journey from there. As there is no electricity and access is difficult, the monastery has little contact with the outside world and as a result very little is known about the Baiya Gomba.

3.11.2 Building Description

The monastery of Baiya is a two-storied building facing south with an arcaded two storied timber structure enclosing a courtyard in front. While the main building is painted red on the exterior, the courtyard building, slightly lower in elevation, is painted gray with white and red vertical stripes.

The main entrance to the monastery is from the south-east through a narrow double door leading into the courtyard, which is about 12 meters square and set slightly off center with regard to the main building. Opposite the main entrance is a raised platform from where activities taking place in the courtyard can be observed. The communal kitchen is located in the southeast corner of the courtyard while the general store-room is located in the south west corner. In the center of the southern side of the courtyard a steep wide wooden staircase leads to the first floor.

Facing the central staircase, the main assembly hall is slightly raised with a closed porch reached by a wide doorway. Above the opening there is a simple framed window at the first floor.

The entrance to the chapel is through a central door which is square in form. There are six rows of six columns making the total size of the assembly hall 19 x 19 meters.

The altar is in the center of the room set between the pillars.

3.11.3 Architectural and Historical Elements

Baiya is a place-name in the Kham region and the monastery takes the place as its name. Administratively it belongs to Babang Village within Maixu District of Dege County in Ganzi Autonomous Prefecture of Sichuan Province.

The Baiya Gomba was founded over 700 years ago by the brother of Juebarenqinbai (1143 - 1217 A.D.), founder of the Zhigong Sub-sect of Kargyupa. Co-founder of the monastery was one of the high disciples of Juebarenqinbai by the name of Badeng-xiangaiulunba. Badeng was said to be a member of thirteen disciples who were allowed to parade with a decorated canopy when traveling. By the time of the twenty-second Dege Tushi (regional kings) Laqin Xiangbapingchuo (who also was the first formally authenticated and most powerful of the Dege Tushi in history), the Baiya monastery's administrative power was taken from the traditional hands of the Baili Tushi of Ganzi. It was during the reign of this Dege Tushi that Baiya monastery was changed from Kargyupa to Sakya.

The main assembly hall built by Badeng was named Lageng, meaning Old Hall. It used to have a number of relics including statues and chorten commemorating Badeng. However the Lageng was destroyed during the Cultural Revolution and only a small portion of the rear wall remains today. The assembly hall in existence today is called *Lakong Saba*, or sometimes called *Lasa*, meaning New Hall. This building was constructed in the late 18th century by the forty-second generation the most well-known and powerful of the Dege Tushi, Dengba Tsiren. Some said the building is now 256 years old. Dengba Tsiren is also the Tushi who first founded the Dege Printing House. The ruins of the Old Hall and the existing New Hall are about 60 meters apart.

Lasa is an enclosed building with a central courtyard. The entrance to the courtyard is from the east with the main assembly hall Bengkong in the center facing the courtyard. It is believed that the Bengkong was originally built above the Zhongge which was a place of meditation of the famous general Liangsa Adeng of the legendary Tibetan King Ling Gesar. Remains of the original Bengkong are said to still exist on the nearby Zhongge hill.

The lasa used to have over one hundred gold statues. One particular sacred statue of Sakyamuni was 1.5 meters in height and was generally believed to have opened its mouth and spoken at various times. However, all these statues are lost today. The best remaining relics of the Baiya Gomba are its murals on the walls. They are in a fairly good state of preserve.

The content of these murals include stories about the life of the Buddha, many Bodhisattvas as well as portraits of Dengba Tsiren and his son. Many incidents depicted by the paintings

are extremely lively and vivid. Some are grotesque descriptions of afterlife in purgatory; others are the serenity of Nirvana. There are many paintings of animals and other exotic wildlife.

Behind the big assembly hall is the main room called Chokong, with three statues. In the middle is Sakyatuba which is the same as Sakyamuni. To the left is a statue of Qiangba or Mile while to the right there is a statue depicting Mamian.

The Baiya Gomba used to have five religious halls or Bengkong. Two were above the Zhongge hill at the Bengkong. The other three were in the Lasa. The storied building across the courtyard from the assembly hall today is one of these Bengkongs. Above the main assembly hall is a small prayer shrine called Sheankong. It houses some of the most valuable relics of the monastery including thangkass, ceremonial objects, armor, and is decorated with old murals. The armor, which include helmet, body wear, sword and arrows are said to date back to the time of King Gesar. It is believed they were used by his famous general Liangsa Adeng. The monastery up until the Cultural Revolution possessed a set of printed Kangyur which was said to be the only existing Litang version within the entire plateau. When the present assembly hall was constructed under the Dege King, Dengba Tsiren, some 260 years ago, it was said to be the last major building that he ordered constructed. As a result, all the remaining gold he put aside for these monastic buildings were put to use here, thus these murals have the greatest abundance of gold.

There is only one line of Rimpoche at Baiya and he is closely related to the Ori Monastery. Orqin Gongga Tsampo, founder of the Ori Monastery passed away in the year 1456. His successor, Jiachandangba Gongga Wengxu was the first generation of the Ori Rimpoche. The second generation was Nanjue Xiangba Sangbo. The third generation was Xiangzhong Gongga Tengba Nyima. And the fourth is the present generation who is also the first Rimpoche of Baiya Gomba, Baiya Qimei Dorji, known as the Baiya Rimpoche. He was named by the famous Zhongsha Rimpoche of the big Sakya Zhongsha Gombain neighboring Baiyu County.

In religious relationship, Baiya Gomba is a sub-monastery of Ori Gomba. At its height, it had over one hundred monks. Now there are about 70. Traditionally, the monks and patrons are drawn from west of the Yangtze within Tibet. This is much the same case with Babang Gomba, Baiyu Gomba, Gartog Gomba, Dorja Gomba and others.

3.11.4 Religious Activities

The monastery of Baiya is under direct control of the Sakya monastery in Tibet.

The more important religious activities of the year include the

following:

- 14th day of the 9th moon under the Tibetan calendar. Commemorating the death of one of the five sages of Sakya, Genga Nyinpo. A few days of prayers are performed. Also the monastery is re-painted.
- The day when "winters" arrives, a ritual called Paogema is performed with three days of prayers to one of the sages.
- 25th to 29th day of the 12th moon, ritual of Paogema again for driving away evil. The last two days, 28th and 29th with monastic dances.
- 30th day of the 12th moon, Qiengong meaning the offering of one thousand lamps. Also Choba, offering a thousand objects, meaning one thousand burning incense. The Judorlangja prayer is used.
- 1st day of the 1st moon, offering the founder/teacher using the Daoguo prayer.
- 2nd to 15th day of the 1st moon, prayers and using five colors to construct a Tancheng city in Nirvana.
- 16th day to 20th day of the 1st moon, vegetarian habits observed.
- 23rd to 30th day of the 1st moon, offering of prayers and making of sacred pills. These pills are used as a medicine and made from certain remains of past Rimpoches, added with herb and tsamba and colored with red sandalwood powder. After the offering of prayers, the pills are distributed to the monastery's patrons. The last two days of the 29th and 30th has monastic dances and a big gathering of local people.
- 1st to 10th day of the 4th moon, prayers and teaching everyday. A Tancheng or city in Nirvana with 2-meter diameter is constructed with many people from the community attending.
- there are four religious gatherings after the 4th moon, each lasting for 7 days. Prayers are offered for each.
- 15th of 5th moon to the end of the 6th moon, return home for summer.
- 1st day of 7th moon, end of home-staying by monks with 3 days of festivities camping out.

Since the reopening up of the monastery and resuming of religious activities, the Baiya Gomba has only received 12,000 yuan from the government. This was given in 1990 and was used for remaking some of the statues.

3.11.5 Construction

Walls:

The external walls are built of compacted earth set onto a stone plinth. The thickness of the walls is approximately 75 cm at the bottom. All walls have been rendered. The walls of the rooms at the first floor level, looking onto the front court, consist of timber logs set neatly one on top of the other.

Floors:

The floor covering of the courtyard is covered with random flat stones. The floors of the main assembly hall are built of timber boards laid on exposed beams.

Upper Floor and Ceilings:

The inner structure of the main building is built out of a timber framework supported by six by six round pillars. They are set at about 2.8 meters from one another. They support heavy brackets that carry beams spanning across the chapels. The posts are tenoned through both the bracket and the beam above. They are carved and embellished with the traditional motifs. The beams in turn carry smaller ceiling joists closely spaced with boarding over that run at right angles with them. The floor-covering at the second floor level consist only of compacted earth.

Roof:

The flat roof of the central lantern, giving light to the main chapel, is supported on timber structures consisting of timber beams laid horizontally one on top of each other thus making a square. In between these structures, short but thick wooden pillars help support the roof.

All around the building a parapet wall is built which has a narrow horizontal roof partly supported by timber pillars. The roof of the courtyard building has no daughter-wall and is flat. All roofs are covered with mud and are slightly sloping inwards.

Wall Linings

All internal walls of the main assembly hall have been rendered over and are covered with murals of exceptional quality. The wooden panels on the inside of the lantern at roof level have also been painted with unique designs.

General Repairs & Recommendations

The buildings seem to be in a rather bad structural condition and need urgent repair. In particular the leaking roof needs urgent attention.

Foundation and Walls:

The foundation of the building has not been investigated, but it seems to be in a good condition. The walls show several cracks, partly due to leaking gutters, but also because of structural instability of the timber framework. This is not only visible on the exterior side of the building, but also on the inner walls where many of the mural paintings have been

damaged to this effect.

It is essential that the roof be repaired soon to prevent further damage to the walls and murals. To clearly establish the reason and extent of damage it is recommended that all major fractures are monitored carefully to establish if they are still alive.

Floors:

The floors are in reasonable condition, but show damage due to wet rot caused by leaking roofs. Once the roof has been repaired the floors should be repaired where necessary.

Upper Floor and Ceilings:

About five pillars supporting the upper floor were replaced about 10 years ago but still seem to be unable to prevent further movement of the walls of the upper part of the central lantern. Recently two more pillars have been placed in front of the two central pillars of the fifth row helping to support the upper structure. Also new pegs have been placed to keep the beams and columns together. In spite of these remedies, the building is still in great danger.

All cracks should be carefully inspected and further movement should be followed up by using telltales. Necessary precautions should be taken once the reason and extent of the damage has been established.

At the upper floor level, the floor has often been re-covered with mud to prevent water seeping through along the lantern in the center of the building. Due to this effect, the floors are seriously overloaded causing instability to the entire structure. It is essential that the floor covering be carefully dismantled and rebuilt reducing the overall weight of the structure.

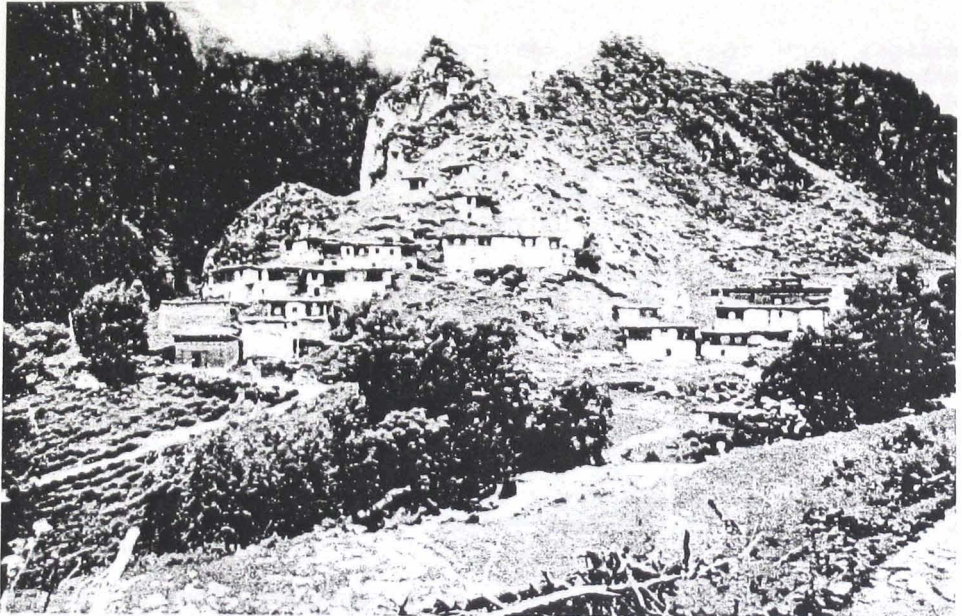
Roof and Roof-Coverings:

The entire upper roof is leaking. Rain water does not run off the building but either penetrates through the roof or runs along the external and internal walls near one of the two gutter outlets. This causes severe damage to the wall linings as well as to the timber structure.

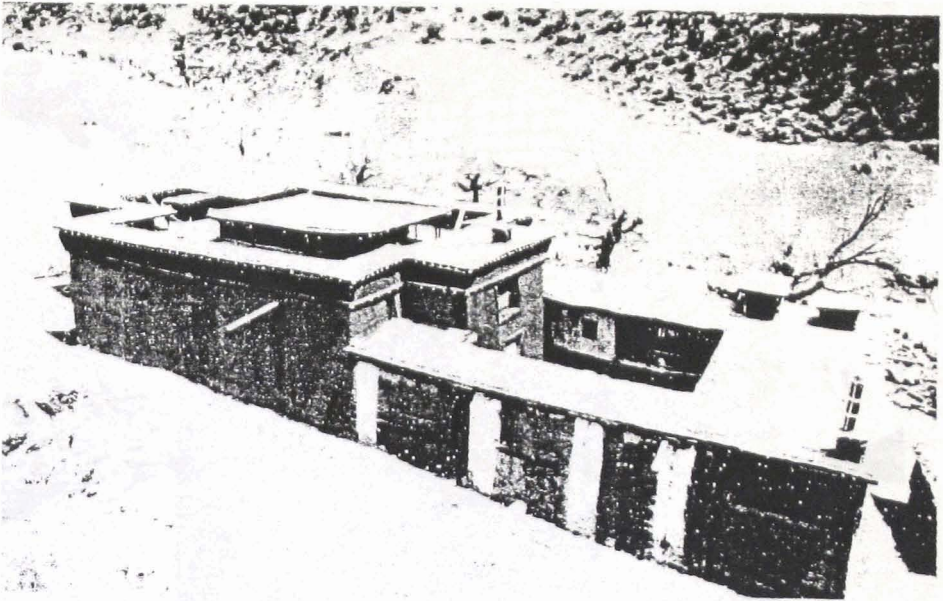
It is recommended that the entire roof be repaired and laid at a proper slope using polythene sheets. The basic principle is to allow the water to run away from the building as quickly as possible. Also more gutters should be placed to take the water away from the building.

Wall Linings:

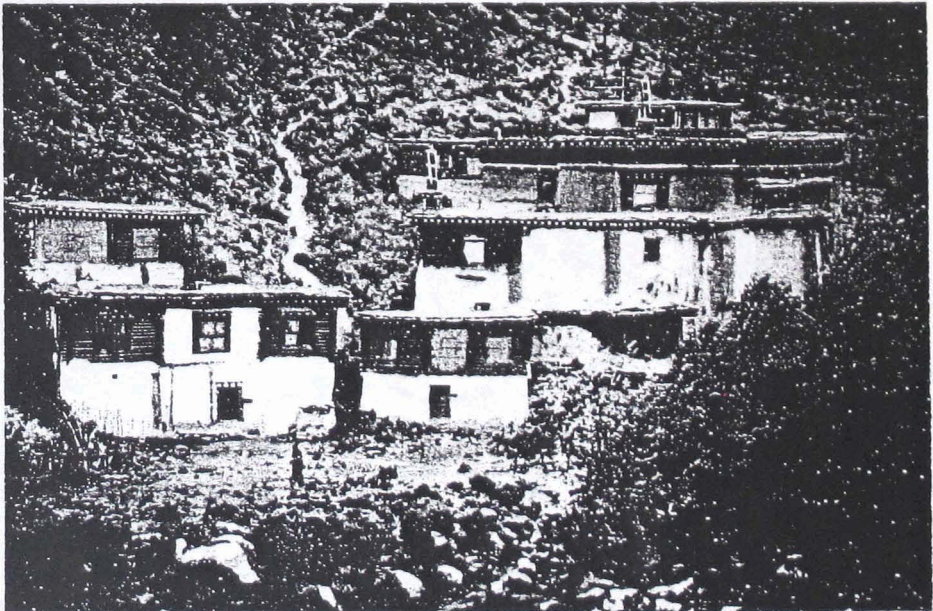
Most of the wall linings have suffered much as most of the plaster has been severely damaged by both leaks and cracks. It is essential that the structural work is carried out as soon as possible to prevent further damage to the paintings. Once the building has been made watertight, a specialized muralist should give detailed recommendations on the consolidation of the murals.



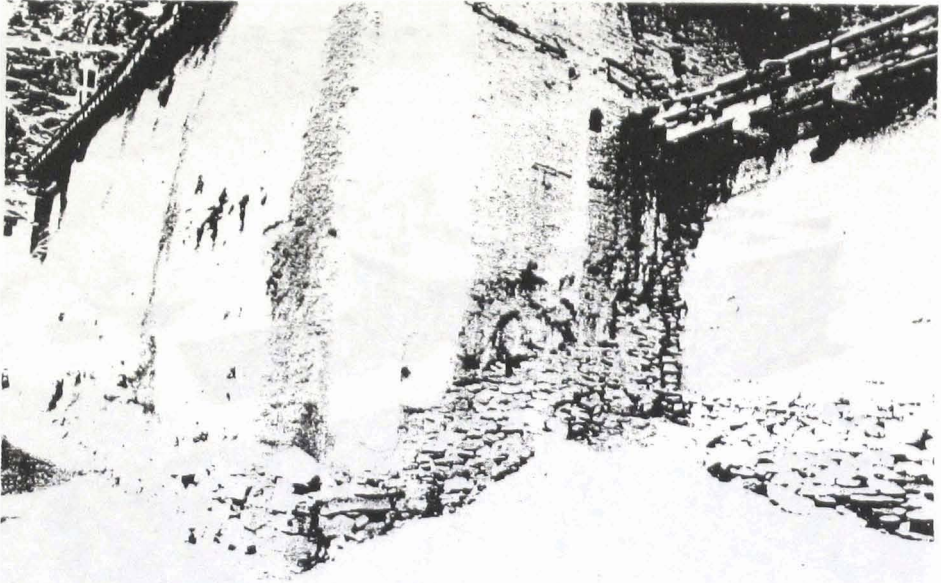
Baiya Gomba at right is set in a valley. A wall remaining of the old Assembly Hall is showing to the left



Exterior view of Baiya Gomba. The tri-color wall indicate that the monastery is of Sakya (Flower Sect)



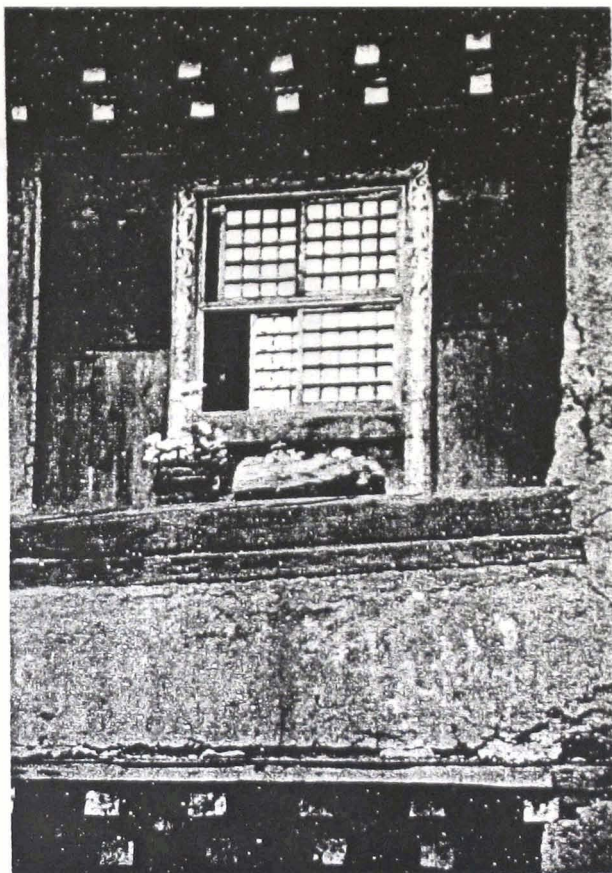
Exterior view of Baiya Gomba.



Foundation along the walls of Baiya Gomba



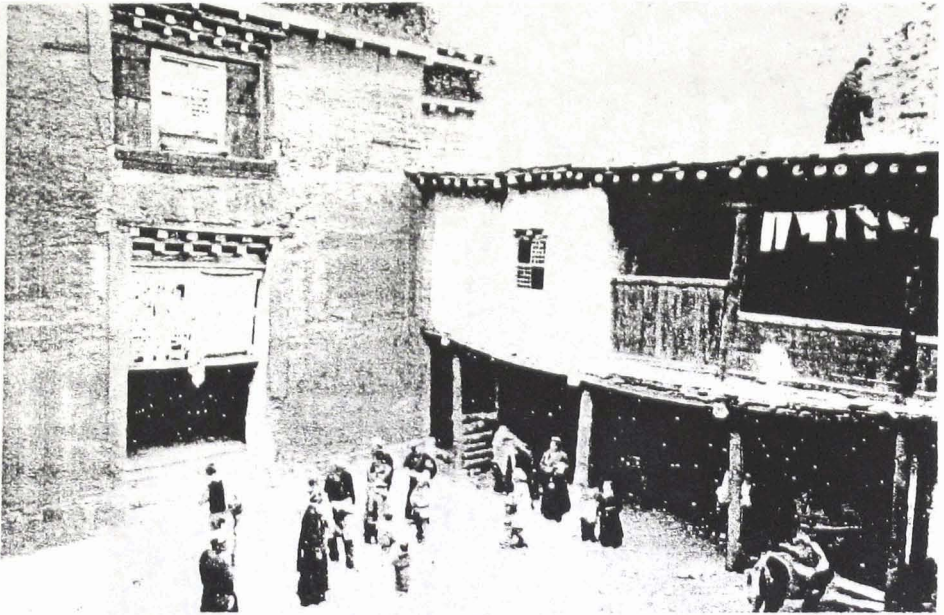
Remains of a clay statue in a side chapel of the Assembly Hall at Baiya Gomba



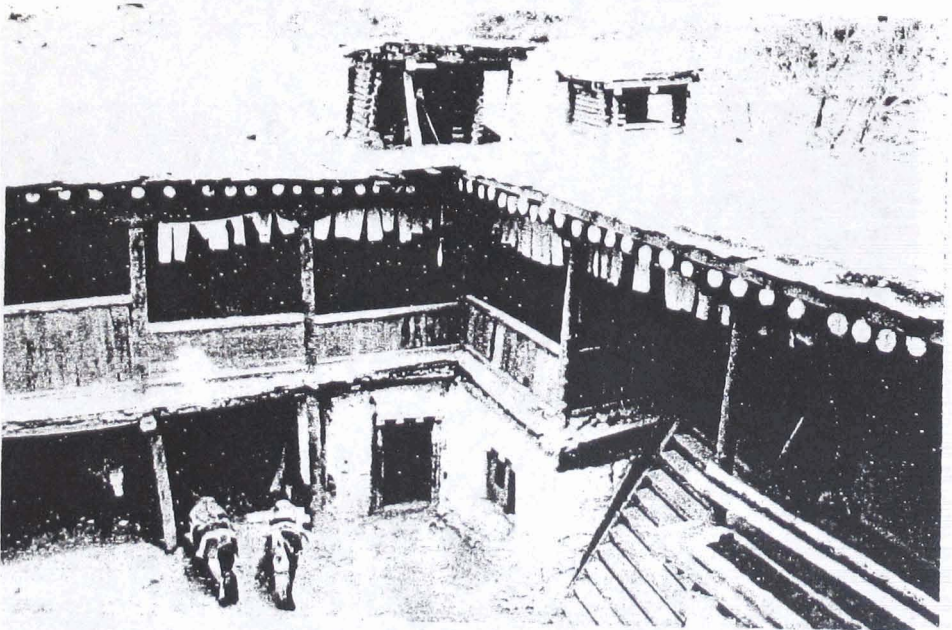
Window structure of Baiya Gomba



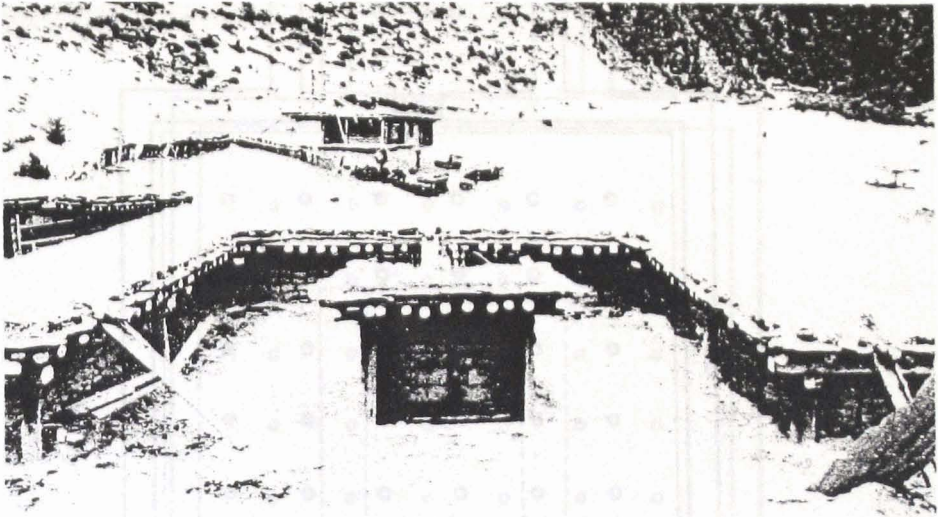
Some of the exquisite murals in the Assembly Hall



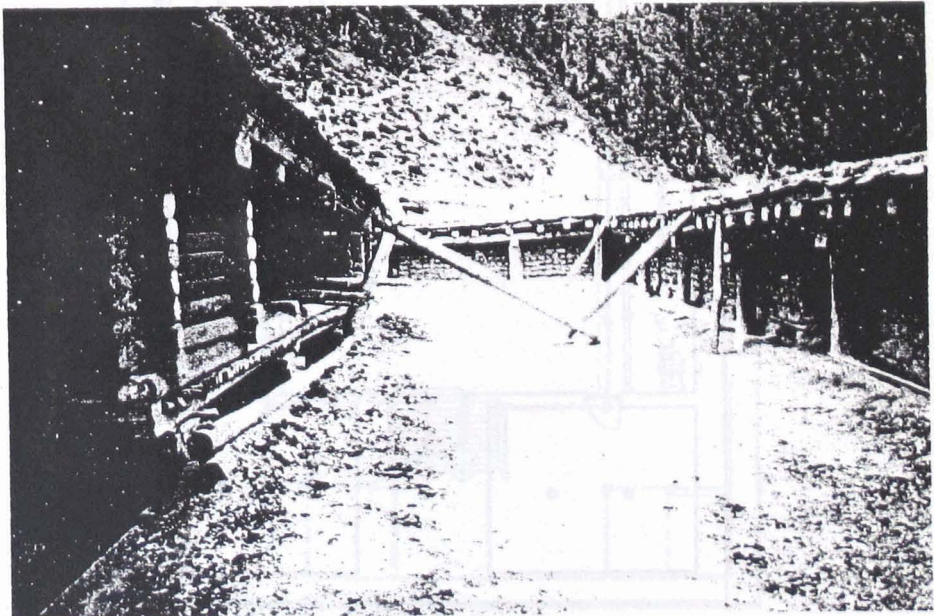
Interior courtyard of Baiya Gomba, Main Assembly Hall with a two story structure attached



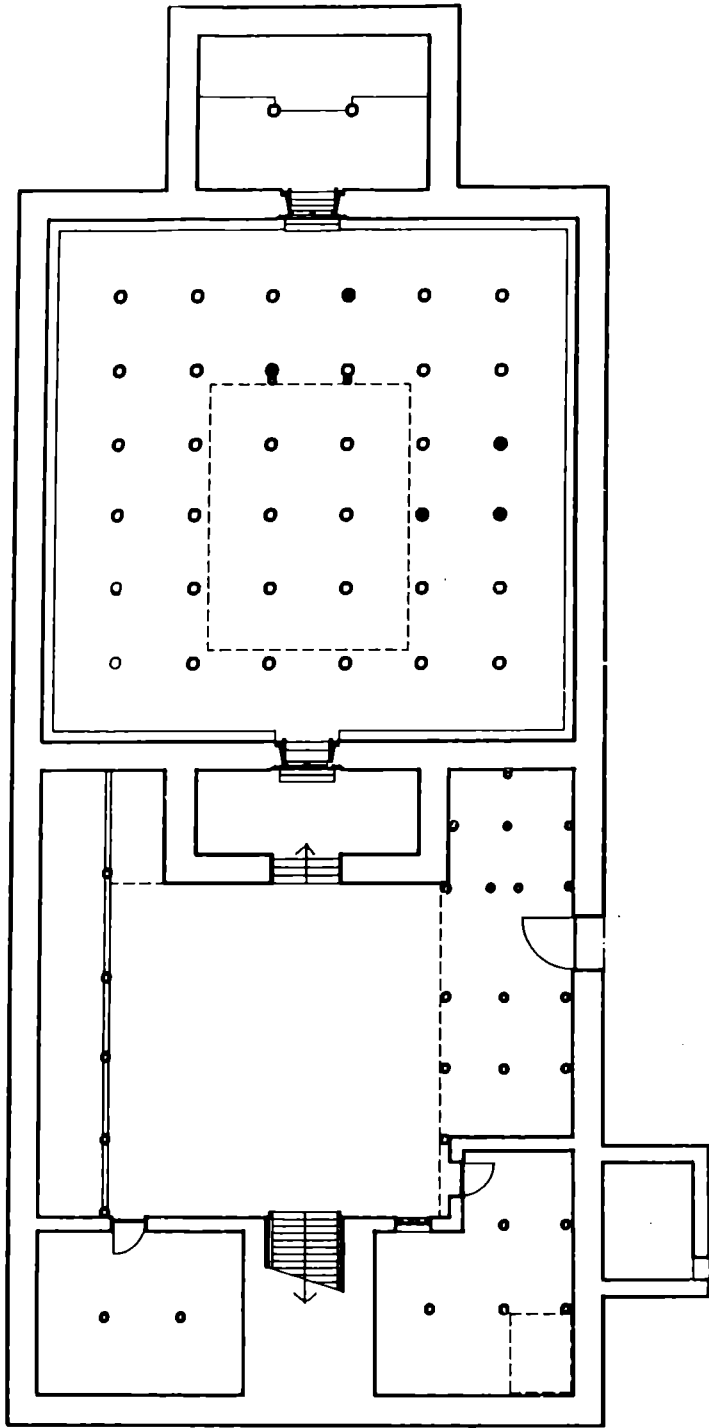
Courtyard and living quarters at Baiya Gomba's main complex



Multi level roof of the Baiya Gomba showing drainage going inward rather than outward

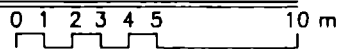


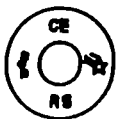
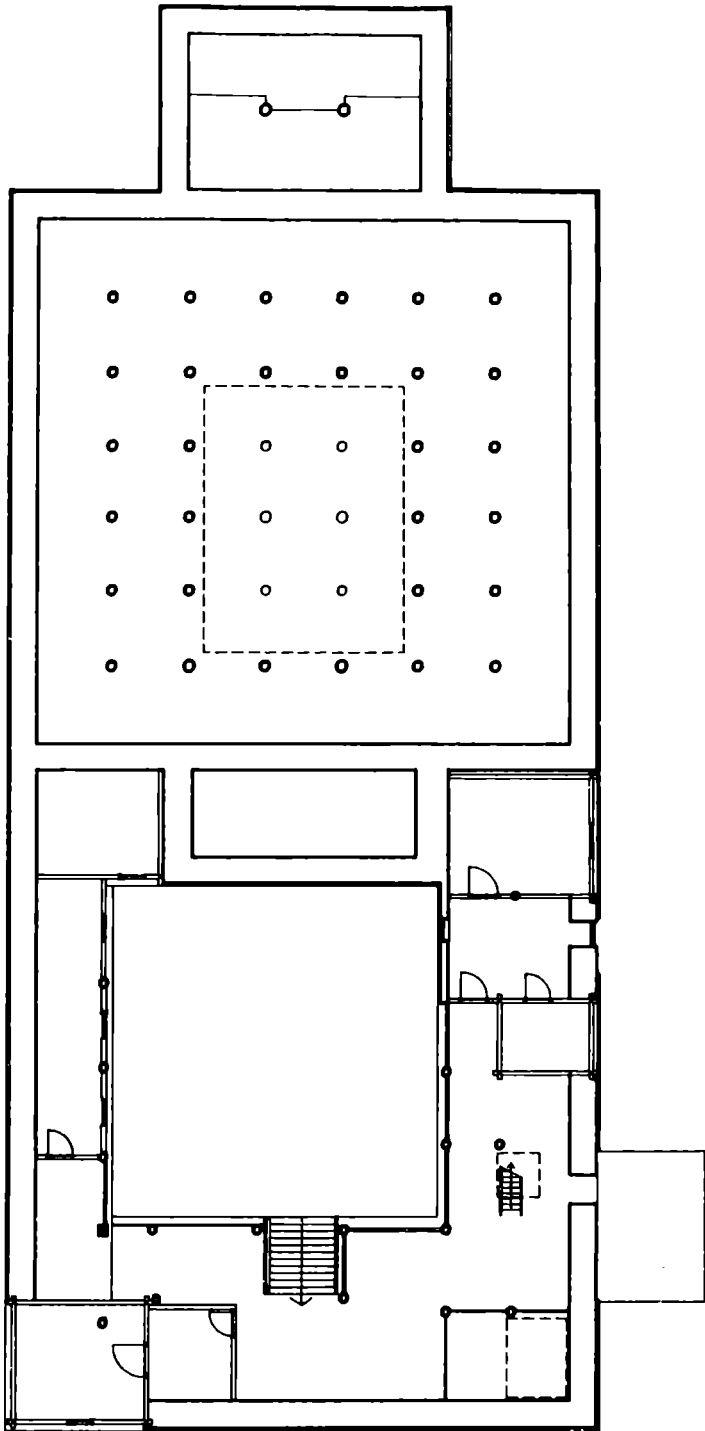
Drainage system on the roof of Baiya Gomba showing drainage inward onto the lower roof



BAIYA SHE - BAIYA
FIRST FLOOR PLAN

1:200



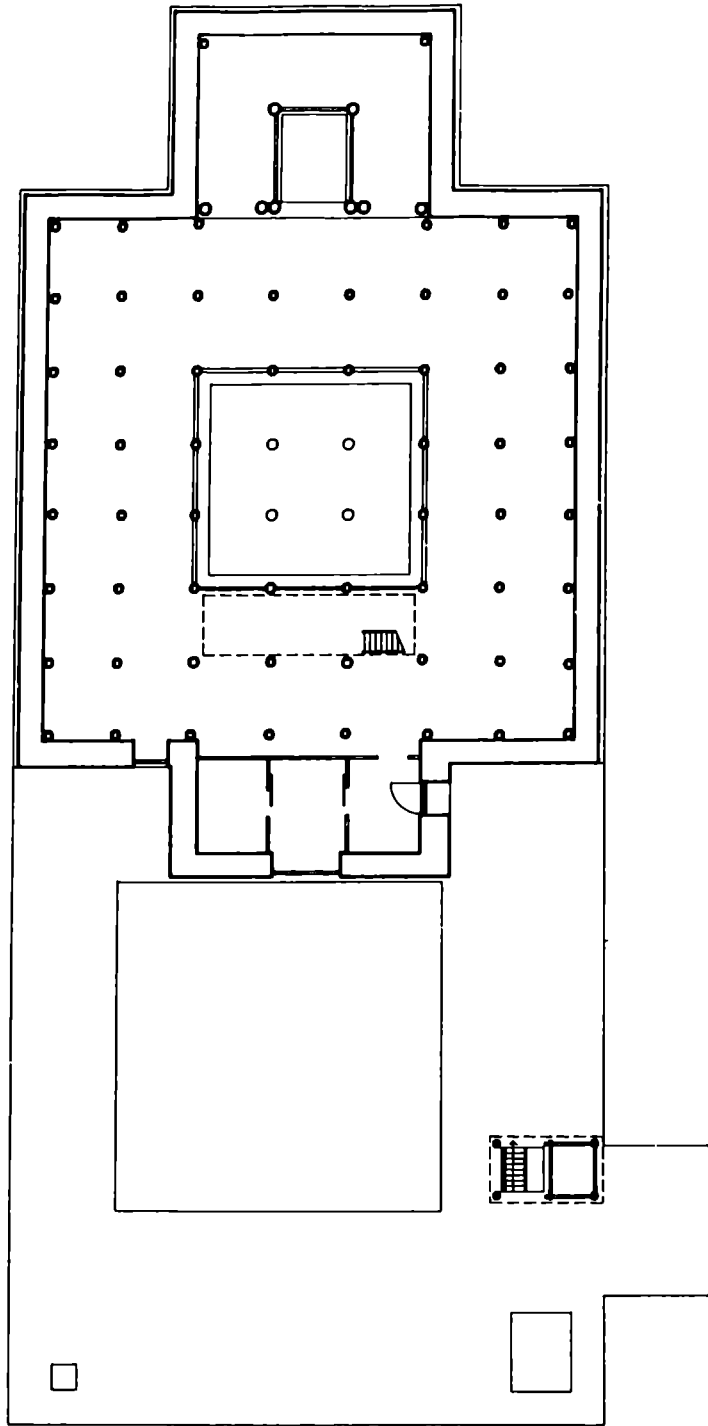


BAIYA SHE - BAIYA
SECOND FLOOR PLAN

1:200

0 1 2 3 4 5 10 m

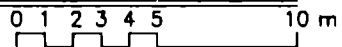




BAIYA SHE - BAIYA

1:200

THIRD FLOOR PLAN





GARTOG GOMBA

3.12 Gartog Gomba, Hebo

3.12.1 Location, Environment and Present Situation

The monastery of Gartog is located at about 20 km to the north of Hebo, about one hour's drive along a steep and winding road. Hebo is a small village close to Baiyu that is well known for the manufacture of knives and blades throughout the Tibetan region. Before 1990, when the head Rimpoche of Gartog extended the access road with the help of local laborers, the hike from Hebo to the monastery required three hours.

Gartog Gomba is located on the spur of a mountain, with the main building facing south, and its main entrance on the west side. The elevation is 3840 meters.

The team was informed that there used to be about many buildings including eighteen assembly halls, forty-two examination and debating structures, five meditation houses and eleven printing rooms. About 513 living quarters for the monks were scattered behind and above the main assembly hall, covering almost the entire hillside.

Right behind the main assembly hall there is a large square pagoda style building with a count of five superimposed diminishing roofs.

3.12.2 Building Description

The main assembly hall looks like a fortified building with a few windows facing south. The overall dimensions of the two-storied building are 28 x 47 meters. To the east behind the building stands a few remaining walls of a ruin which once was the original monastery. A prayer-wheel room is located to the south of these ruins which can be reached from the north.

Further to the east a recently-built multi-story building houses images of Buddha and Buddhist divinities.

Before entering the main assembly hall, a double flight of stone steps leads to a covered atrium raised about 180 cm above the ground level. The entrance has been closed by a large metal grill. The ceiling of the atrium (5.40 x 25.00 meters) is supported by a single row of six free-standing square columns. To the left a timber panel closes off part of the atrium forming a storeroom. To the right a steep timber staircase leads to the second floor.

In the center of the atrium, opposite the entrance, a large double door gives access to the main assembly hall. The hall is about 25 meters wide and 23 meters long counting six rows of six free-standing square columns.

The rear of the hall is formed by another row of columns sepa-

rating the main hall from the second prayer hall by timber paneling of about 14 x 25 meters and counting four rows of seven square columns. Access to this hall is through a double door in the right half of the rear wall.

To the rear of the main hall, opposite the main entrance, there are many bronze and plaster images of divinities set on a raised plinth. All walls are lined with murals painted on cloth. A 9.4 meter high bronze pagoda can be found as well as an 8 meter high Sakyamuni statue and over 100,000 smaller images.

3.12.3 Architectural and Historical Elements

Local legends describe the site being used for religious teachings as early as the Tang Dynasty. The monastery was built during the Sung Dynasty around the year 1132. It is supposed to be the first Nyingma-pa Monastery in the Kham region and counted more than 140 sub-monasteries which were found as far as Bhutan and India. During the long years of reign of the Dege king, Gartog was considered one of his five monasteries of patronage. The last generation of the Shita Rimpoche was considered as one of the teachers of the Thirteenth Dalai Lama even though they are from different sects of Tibetan Buddhism.

In the early 1950s, Gartog had over 600 monks whereas today the number is 280. However, that number does not include *trapa* under the age of 18. Usually monks below the age of 18 are not included in the census but nonetheless are a significant number in most monasteries.

There used to be 14 different lines of incarnate lama at Gartog, but today only five remain. The most important rimpoche returned to China from India several years ago and now lives in Chengdu. He has contributed over 200,000 yuan to the rebuilding of the monastery. The government gave over one million yuan to Baiyu County for monastic reconstruction. Out of that sum, 350,000 yuan was allocated for Gartog. At time of visit, the highest rimpoche in residence was the 41-year-old Langyong Rimpoche who returned from India.

The printing house contains about 27,000 printing books which derives a modest income for the monastery.

3.12.4 Religious Activities

The Gartog legend lives on and today the place is still a center of teaching for many Tibetan scholars. Presently there are 21 lamas and five Rimpoches.

3.12.5 Construction

Walls:

The walls are built of random stone set in a mud mortar with a thickness of 100 cm at the bottom diminishing to 60 cm at the second floor level.

The main facade at the second floor level has in the center a typical timber paneling set between timber pillars with timber logs laid horizontally on either side to form the main guest room behind.

Floors:

The floor of the main assembly hall consist of timber boards laid onto exposed beams.

Upper Floor and Ceilings:

The whole structure is supported by interlocking timber posts and beams. Set into the walls are more timber columns tightening the whole structure together.

Roof:

The flat roof is covered with compacted earth. There is no daughter wall, but there are many small structures giving light, ventilation and access to the rooms underneath.

Wall Linings:

The walls of the atrium as well as the main assembly hall are covered with wall paintings on cloth fixed between timber frames.

3.12.6 General Repairs & Recommendations

Foundation and Walls:

Many of the external walls (in particular to the north) show severe cracks. Also many of the internal pillars have started to twist and are leaning towards the south. It is recommended that the foundation and external walls be carefully inspected. Every new movement should be registered to determine the cause of this defect.

Floors:

All floors seem to be in reasonably good condition.

Upper Floor and Ceilings:

Many of the timber columns, in particular those to the north-east of the main assembly hall, are seriously leaning towards the south. Although the building has been built recently, there are clearly signs that the joints between the posts and beams have not been properly made. It is recommended that a

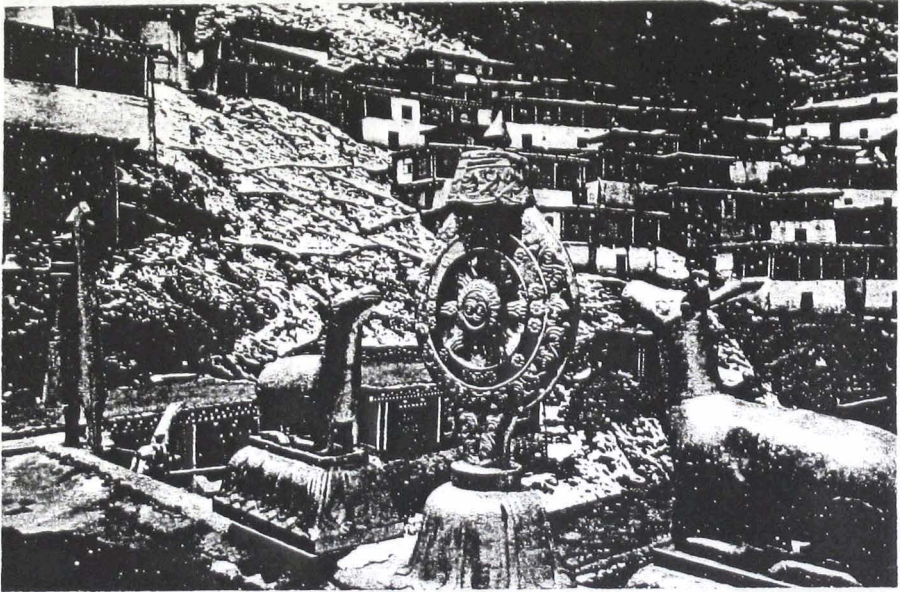
more detailed investigation be carried out regarding the extent of movement.

Roof and Roof-Coverings:

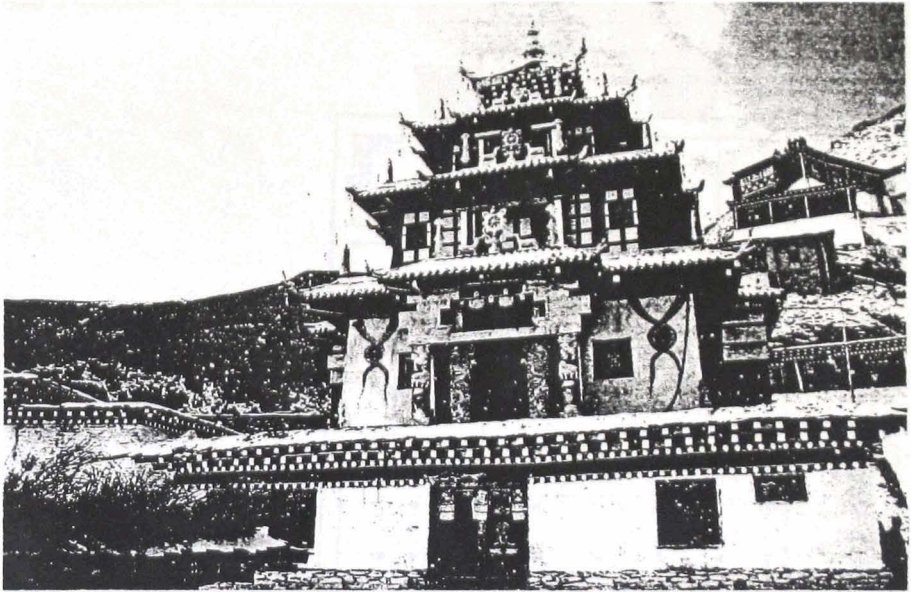
The flat roof shows many signs of defects. There are several places where rainfall is trapped in lower lying pools which may effect the underlying structure. This problem, common for many of the monasteries should be overcome by relaying the roof in a proper slope.

Wall Linings:

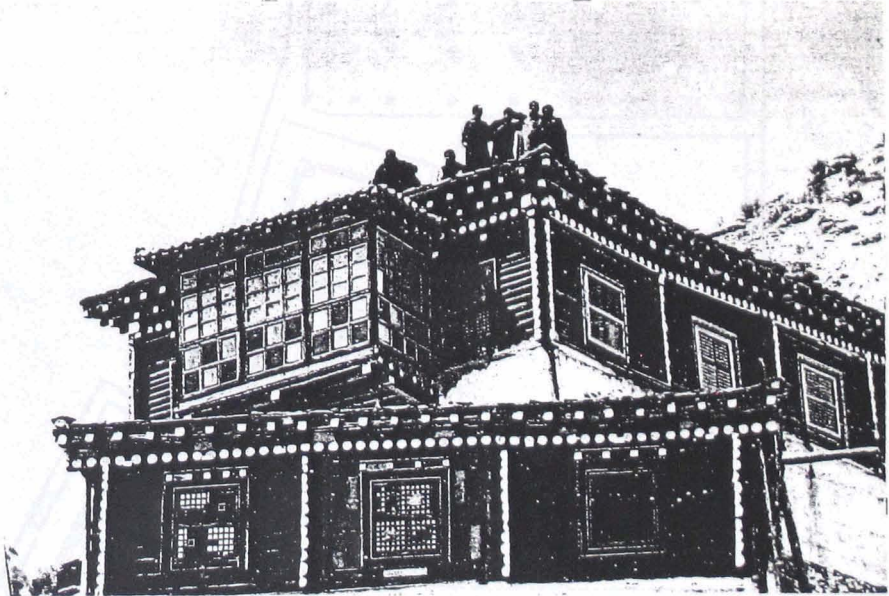
The wall linings have not been properly fixed inside the frames causing them to create waves with possible cracks in the paint. The wall linings should be re-fixed, properly tacking the cloth on to the frame with non-corroding nails.



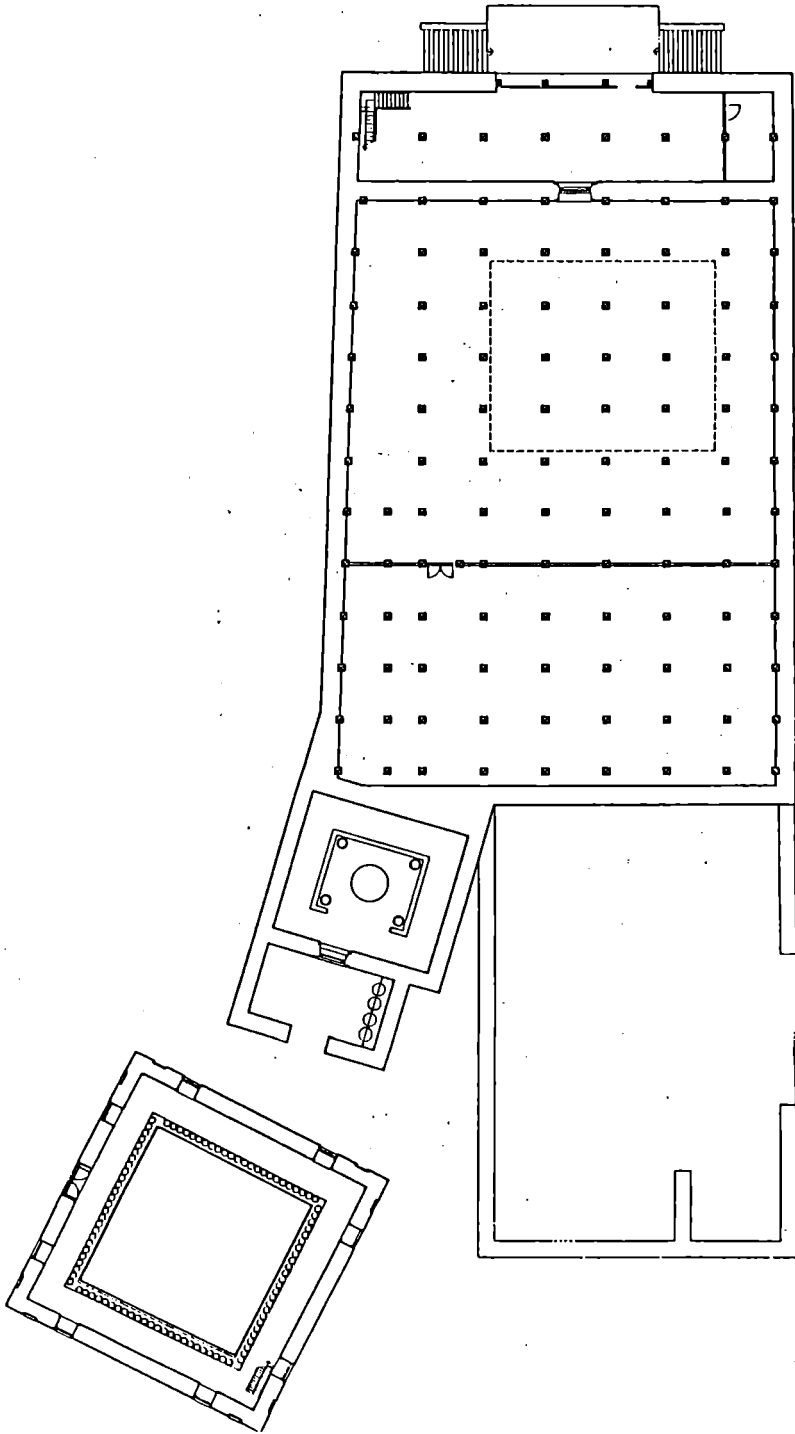
Decoration on roof of the Assembly Hall at Gartog Gomba



Unique style of chorten structure adjacent to Main Assembly Hall at Gartog Gomba



Monastic quarters of Gartog Gomba



GARTOG SHE - GARTOG
FIRST FLOOR PLAN





ANJAN GOMBA

3.13 Anjan Gomba, Changtai

3.13.1 Location, Environment and Present Situation

About 20 km along a mining road northeast of the town of Changtai stands the monastery of Anjan. The monastery is located midway up the hill on the eastern side of the valley. Below is the village of Magong. The whole area shows very little vegetation except for a few trees further up the hill. Before reaching the monastery one passes a small *mani*-room with a large prayer-wheel.

The monastery proper is located further up the hill at an elevation of 3900 meters with the main entrance facing south. To the west there is another building slightly off angle to the main building where the books are stored. Behind this library there is another room holding a large prayer-wheel. To the south of the library stands the kitchen. All around the main assembly building there are monks' quarters. About 100 meters further up the hill stands a second shrine holding the embalmed bodies of important Rimpoches of the past.

3.13.2 Building Description

The main building is about 24.4 x 29 meters in size and is painted red. A wide black tamarisk band with the traditional round false joists above and below runs around the building at roof level. The flat roof is crowned by a small lantern giving light to the main assembly hall.

The Atrium located to the south of the building is reached along a short flight of steps and is closed by a large double door. The Atrium is about 22 meters long and 5.3 meters wide with a single row of six free-standing square columns. To the east a timber panel creates a small storeroom where there is also a narrow staircase leading to the second floor.

Through a second large door located opposite the main entrance one enters the main assembly hall which is 65 cm higher than the floor of the Atrium. The hall is 22 x 19.8 meters large and counts six rows of six free-standing pillars.

Above the main entrance there are three large windows of which the outer windows have two bays while the central one has three bays. To the east there are four smaller windows and to the west only three windows give light to the second floor level, which unfortunately could not be visited.

In contrast to the main building and the room holding the prayer-wheel, which are painted red, the library is painted white. While the northern, eastern and part of the southern walls are built of compacted earth, the western wall is built of timber logs. This room is reached from the south along a diminishing flight of steps.

A double door leads to the first hall (10.4 x 10.4 meters) where three rows of four slender columns support the roof. To the right, set against the wall are the racks storing the religious books. After climbing a short flight of steps one reaches a second room through a sliding door. This room is closed off by timber paneling set between the fourth row of columns and is 10.4 x 5.4 meters large and counts one row of four free-standing columns.

On the northern side, set on a raised plinth are dozens of small and larger images of Buddha and religious artifacts.

3.13.3 Architectural and Historical Elements

The Anjan Gomba was first built in 1742 by descendants of Mongol tribes from Qinghai Province. It used to be a sub-monastery of Gartog Gomba but in 1855 became independent due to the powerful leadership of its rimpoche. It established its own specialty in Buddhist studies and became an internationally known religious center. Perhaps with exception of the Gelugpa, monks from all other sects throughout the plateau, India, Ceylon (Sri Lanka), Nepal and Bhutan came here for studies. It was also made famous by the visit of the king and queen of Bhutan at one time.

The monastery was reopened in 1982 and at present has three rimpoches, ten lamas and about 120 *trapa* (student monks).

3.13.4 Construction

Walls:

The walls of the main assembly hall are built of compacted mortar and are about 175 cm thick at the bottom.

Floors:

Both the atrium and the main assembly hall have wooden floors consisting of wide boards laid between exposed beams.

Upper Floor and Ceilings:

The rows of columns are set at 250 cm from each other with each column set at 275 cm center to center. Large beams which run parallel to the south wall on top of the first, fifth and sixth rows of columns support smaller joists running perpendicular to these.

The height of the outer bay is 5.05 cm. The second bay (except for the outer sides) has a height of 10.95 cm while the third fourth and fifth bays have a height of 9.45 cm.

Roof:

The roof is flat without a daughter-wall. All surface water runs towards one of two gutters located on the eastern and western side of the building. In the center of the roof there is a small clear-story window covered with a metal hipped roof and glazed windows which give light to the main assembly hall. To the south of the clear-story window an opening in the roof gives light to and enclosed area at the second floor.

Wall linings:

There were no murals observed.

3.13.5 General Repairs & Recommendations

Foundation and Walls:

All walls are rather patchy, but there are no signs of any serious structural weakness. There are several places where the external rendering has been ragged, in particular around the windows and under the gutters. It is recommended that the walls be repaired as soon as possible to prevent future damage to the interior structure due to water infiltration through the walls of the building.

Floors:

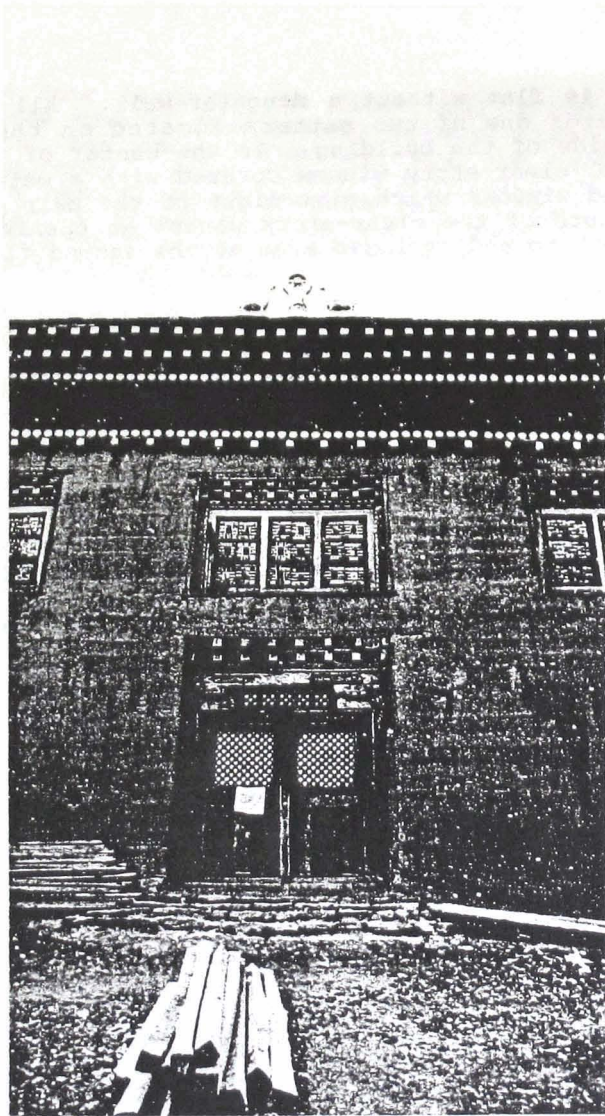
The floor is dry and seems to be in good condition.

Upper Floor and Ceilings:

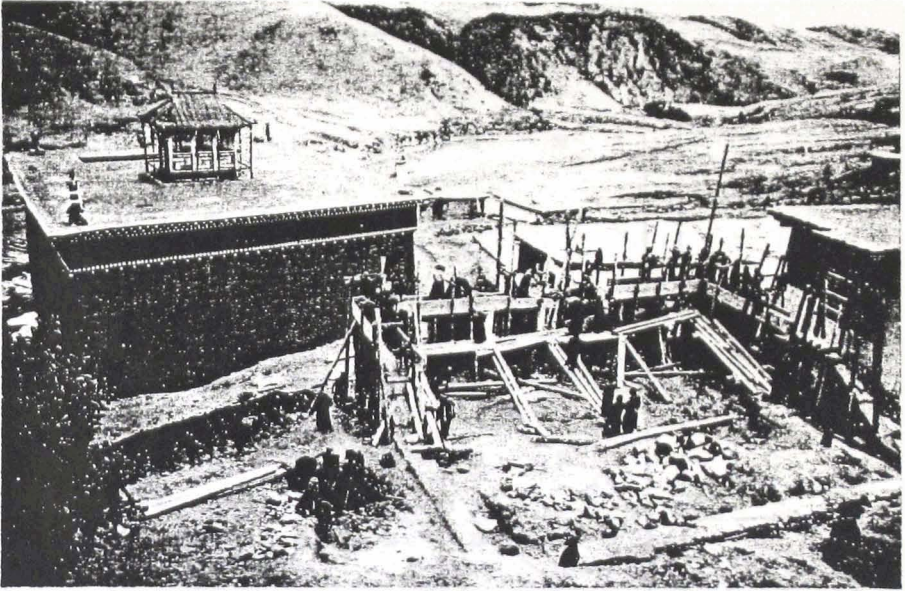
The inner structure stands solid with no major defects.

Roof and Roof-Coverings:

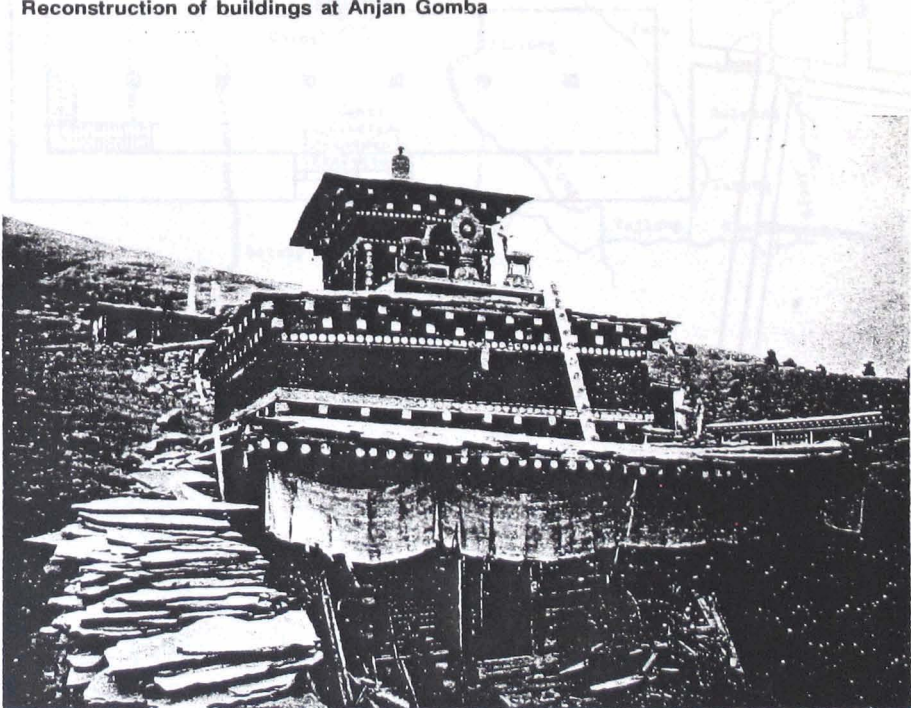
The roof and the small lantern are sound.



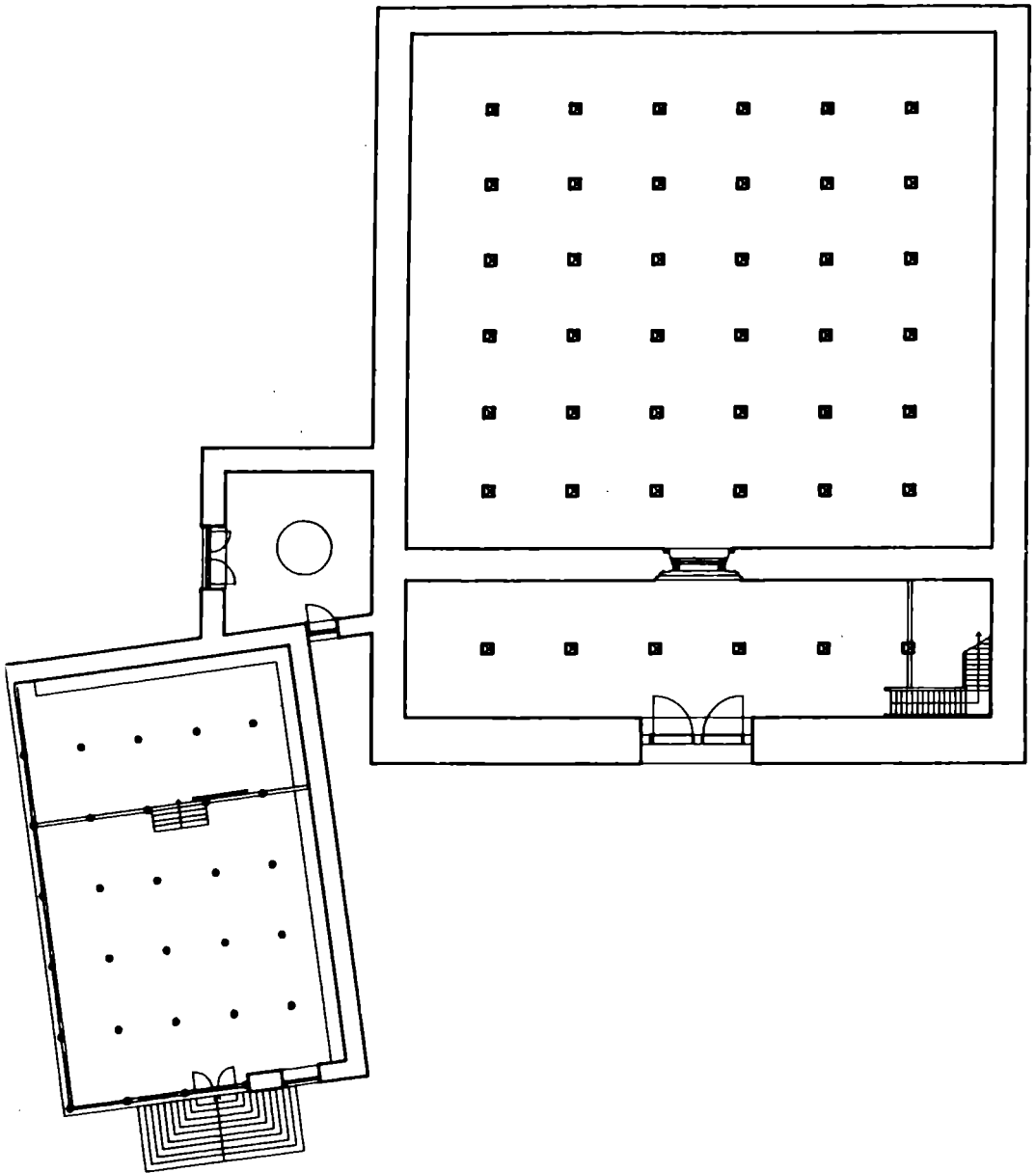
Front view of Main Assembly Hall at Anjan Gomba



Reconstruction of buildings at Anjan Gomba



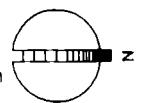
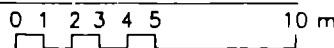
Oldest chorten structure at Anjan Gomba



ANJAN SHE – CHANGTAI

1:200

FIRST FLOOR PLAN





DORCOR GOMBA

3.14 Dorcor Gomba, Changtai

3.14.1 Location, Environment and Present Situation

The Dorcor monastery is located along the southern road from Baiyu to Ganzi, to the eastern side of the main road in the small town of Changtai at an elevation of 3750 meters. It is set at the bottom of a small hill overlooking a wide large valley.

One of the problems the monks of the monastery are facing is the restricted land around the monastery and ownership of the buildings. The team was informed that originally many of the neighboring structures belonged to the monastery but today have been taken over by different organizations such as a department store, post office, bank, bus station etc. Consequently the monastery has difficulty expanding.

At its height, the monastery had about 1200 monks. Today there are about 500 monks residing near but not within the monastery under the guidance of five rimpoches.

3.14.2 Building Description

Although there are several structures located along the road-side originally belonging to the monastery of Dorcor, there is only one building of any importance, the main assembly hall. The building is almost square in plan measuring 26 x 32 meters. The entrance to the main assembly hall is from the main road through a double door with a canopy supported by two square columns. Here one enters first into a covered atrium (11.4 x 5.2 m.)

On either side of the entrance there is a single story room holding a large prayer wheel. The main building itself has two floors.

To the left of the atrium a timber staircase leads to the first floor. In the center, opposite the main entrance, a double door leads to the main assembly hall. The square hall (23.8 x 24.2 meters) counts seven rows of seven free-standing square columns with another row set into the walls on the northern and southern walls. The pillars are set 290 cm from one another.

The ceiling of the central part (4.8 x 4.8 meters) of the hall is raised (height 12.5 meters) where a clearstory window gives light to the room. The surrounding bays have a ceiling height of 8 meters. At second floor level, a glazed window, set between the columns gives more light to the assembly hall.

All the walls are rendered with plaster and contain painted murals. The timber paneling at the second floor level and the clear-story window have are also painted with religious motifs.

At the second floor level one arrives at a verandah open to the sky where the rooms surrounding the central part are taken by the assembly hall. The main guest room is located above the atrium, while the kitchen is situated in the southwestern corner. On either side of the building three windows give light to the rooms at this floor level. In the southern corner a narrow staircase leads to the rooftop level.

At second floor level, above the main entrance there is a large window set into the wall. On both sides of the western facade there are smaller windows above the mani rooms giving light to the rooms behind.

The entire building has been painted red and the roof eaves have the traditional black tamarisk band, with a rather large projecting band consisting of a double layer of false joist above. On all corners there is a prayer banner and in the center above the main entrance are the symbols of the deer and the wheel.

3.14.3 Construction

Walls:

The walls are about 110 cm thick and are built of stone plastered over with ochre clay.

Floors:

The floor of the main assembly hall consist of timber boards running between exposed beams.

Inner Linings:

The walls of the floor have been plastered over and are painted with religious motifs and divinities.

The internal walls of the clear-story are lined out with painted cloths and fitted to a frame that is set between pillars.

3.14.4 General Repairs & Recommendations

General:

The monastery of Dorcor has been recently repaired using new timber columns and beams. Consequently, the structure of the building is in fairly good condition.

Foundation and Walls:

Although limited time has been spent on the building there were no immediate defects observed.

Floors:

The condition of the floor is satisfactory.

Upper Floor and Ceilings:

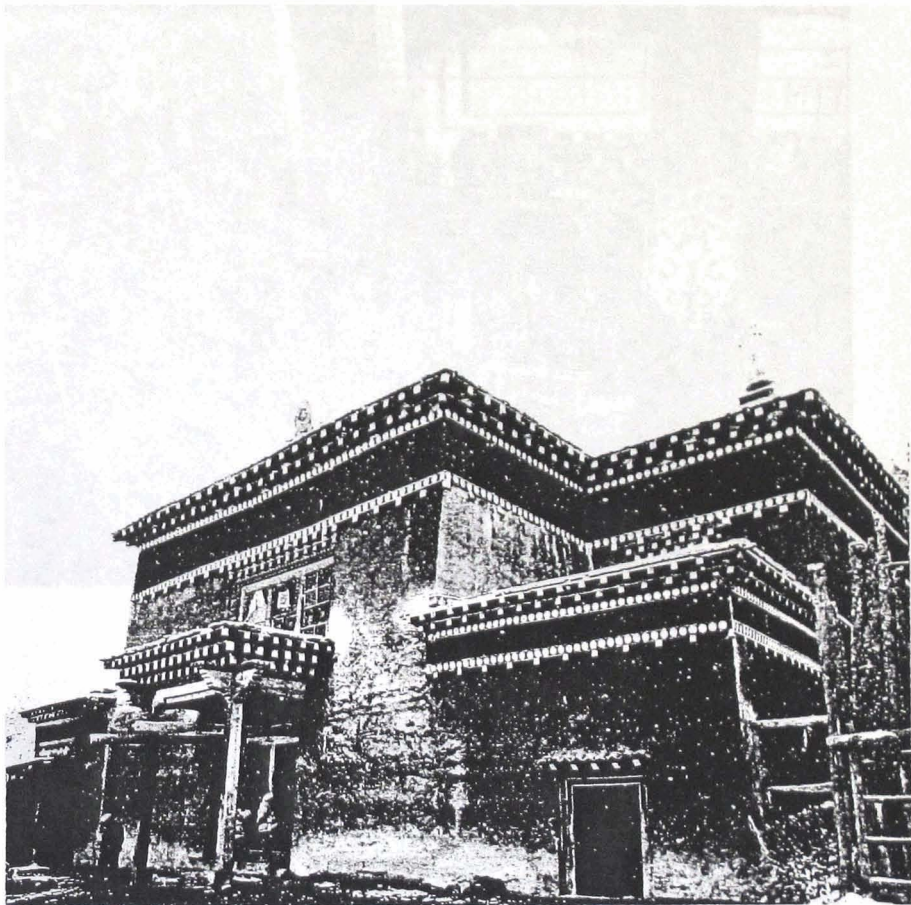
The condition of the timber of the chapel is satisfactory. During the visit the ceiling of the clear-story was being re-painted and is also in good condition.

Roof and Roof-Coverings:

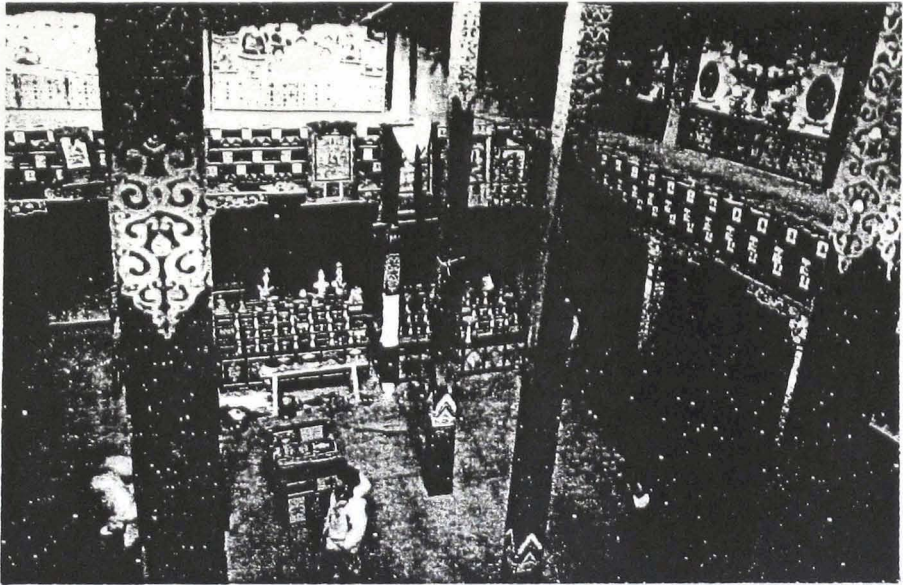
In spite of the fact that the roof has recently been repaired, there were several signs that it may be leaking. In particular, near the walls where the murals have suffered very much due to water seepage. It is recommended that a layer of polythene sheet be laid over the roof to make the roof water-proof.

Wall Linings:

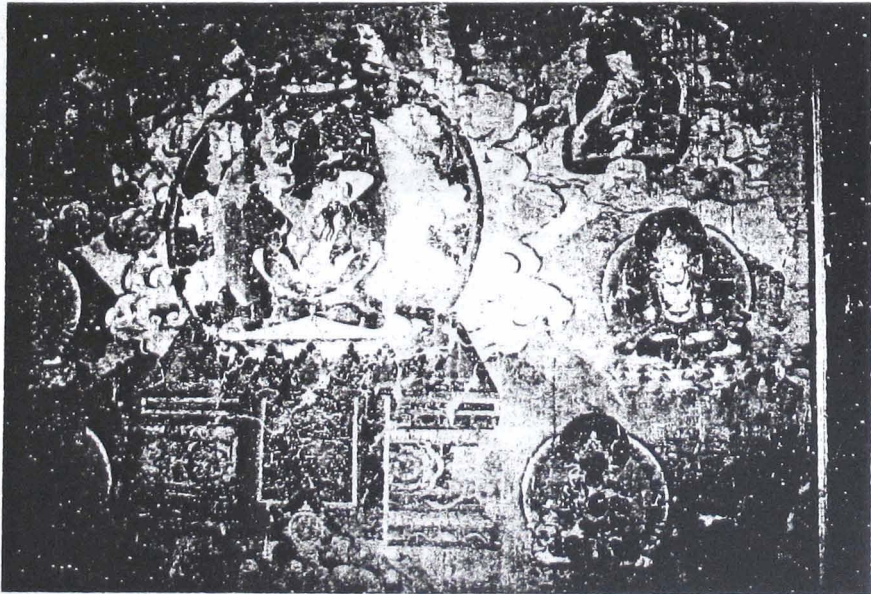
The wall paintings have been severely damaged due to the repair work. There are several places where water has eroded the paint. At other places, in particular where the beams are set into the walls, repair work with crude cement plaster has damaged the wall-paintings. The damage done to the wall-paintings, in particular around the beam ends, seems irreversible. The wall-paintings should be cleaned of cement and repaired according to recommendations given by a specialist.



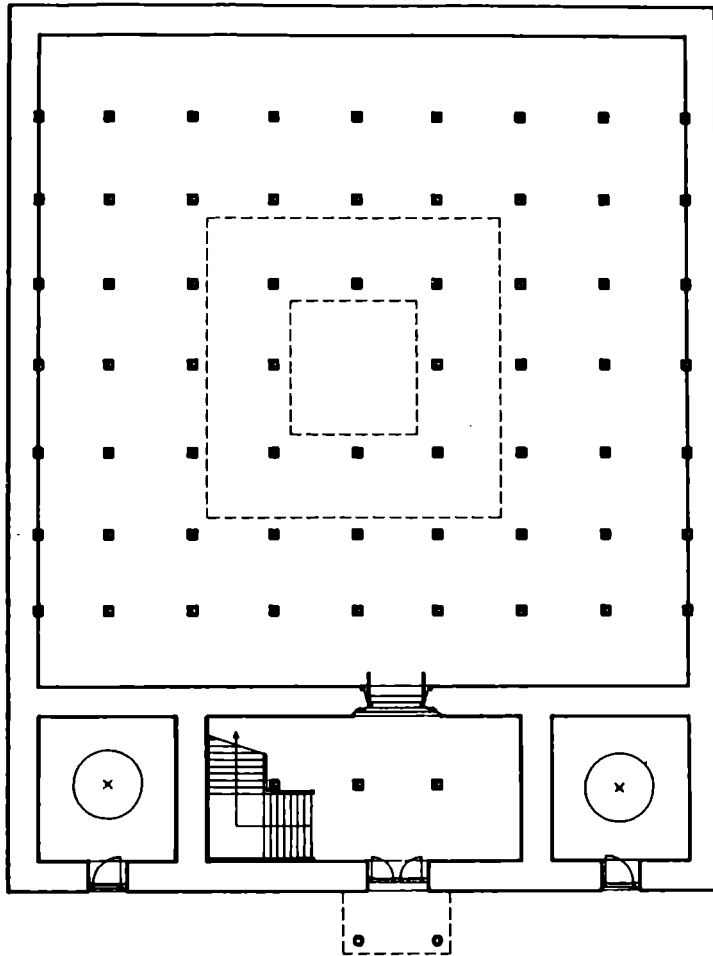
Front view of Dorcor Gomba



Interior of Dorcor Gomba



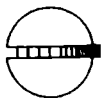
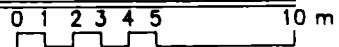
Old murals on the walls of Dorcor Gomba

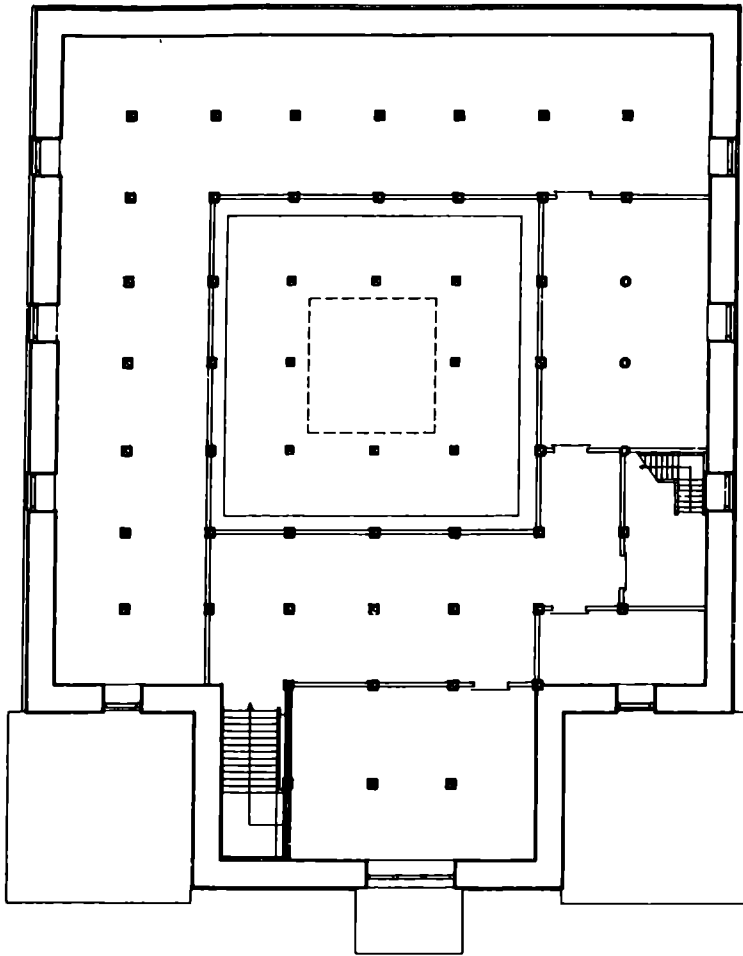


DORCOR SHE - CHANGTAI

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FIRST FLOOR PLAN

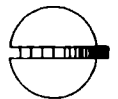
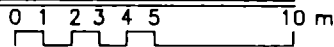




DORCOR SHE - CHANGTAI

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SECOND FLOOR PLAN





TUMU GOMBA

3.15 Tumu Gomba, Dayi

3.15.1 Location, Environment and Present Situation

About 100 km north of Xinlong is the monastery of Tumu, perhaps one of the most impressive monasteries of the region. The monastic complex is situated a few hundred meters on the northern side along the main road between Changtai and Xinlong, set at the bottom of a hill covered with pines. The elevation of the monastery is 4000 meters above sea-level.

The monastic complex covers a total area of about 10,000 square meters with the main assembly hall set in the center of the compound, and several dozens of two-story monks' quarters make up the boundary. To the right of the monastery stands a two-story kitchen.

Behind the monastery one can still see the ruins of the old monastery which was entirely destroyed. Between this ruin and the main building there is a large stone resembling a phallus.

3.15.1 Building Description

The monastery is facing south and is set in the gentle sloping plane of the small valley. The building is almost square in shape (42.6 x 35.4 m) and has three floors. The building is set into the hill creating a circumambulating path around the external wall.

The main entrance is along a wide flight of diminishing stone steps leading into a covered atrium. Access to the atrium is controlled by a large double door. On either side of the entrance grilled windows give light to the atrium. Above the main entrance a wide black band consisting of three layers of square false joists project out of the wall. Above the projected canopy there are six timber columns with five glazed three-bay windows. On top of the columns there is again a black band with white protruding false joists.

The entire building has been rendered with a sand colored mud mortar at first floor level. The front part of the second floor level consist of a double black band of tamarisk branches while the back parts of the side walls and the rear wall are rendered white. The third floor, only at the rear of the building, has a wide black band. Set into this band are several smaller windows.

On all four corners of the building there are large projecting dragon-like figures supporting the projecting canopy. From all sides long projecting gutters take the rain water away from the building.

The main assembly hall can also be reached through a wide door set in the southeastern wall and through a smaller door in the

center of the western wall.

The atrium is about 18.8 x 6.1 meters large with a single row of four round pillars supporting the second floor. The walls all contain murals of excellent quality. In the center of the atrium a wide double door (2.8 x 4 m) leads into the main assembly hall. Above the door there are seven carved lions. The floor-level of the hall is raised 60 cm. The hall is square (32.2 x 32.2 m) and counts eight rows of eight free-standing round pillars. To the north, opposite the main entrance there is a raised plinth about 160 cm above the floor level on which several Buddhist divinities are placed.

The height of the central part (19.4 x 16.4 m) of the assembly hall measures 8.9 meters and reaches up to the roof. At second floor level a narrow corridor encloses the central space. The outer two bays of the hall have a ceiling height of 5.23 meter. To the south a clear-story window running the full length of the building gives light to the assembly hall.

The second floor can be reached from the eastern side of the building along a timber staircase crossing the circumambulating path. The main guest-room, located above the atrium is reached from a covered verandah overlooking the main assembly hall. A clear-story window set into the southern wall above the verandah gives light to the second floor. The outer bay of the building encloses the assembly hall and consist basically of three wings each running the full length of the building.

The third floor is reached along the timber staircase in the eastern wing. This floor consists of an open verandah enclosed by three wings used by residing and visiting monks. The fourth wing to the south is part of the assembly hall.

3.15.2 Architectural and Historical Elements

The history of the monastery of Tumu goes back to 1890 when the complex counted two large assembly halls and three minor halls. The largest one, 3350 square meters in size and having more than two hundred pillars, is now entirely in ruins.

The second most important assembly hall has not only become the pride of the monastery but of the whole of the province as well. It is said that the carvings on the columns resemble those of the Potala. What is probably meant is that they contain small niches which hold small images of the Buddha.

The wall paintings, of the finest qualities seen during the mission, are said to be copies of those in a Sakya monastery in TAR. Some of the murals are very clean because local monks recently used detergent to clean them. But there are remaining sections which are blackened by soot and age and require more careful restoration.

The monastery not only has significant architectural value but is also a study center where religion and meditation are still practiced. Since 1907 each season up to 100 students (50 from the local community and 50 students from outside) are admitted to the monastery to attend special courses in medicine, culture and religion. Each course takes five to eight years. Since 1912 over 1600 students have graduated from the Tumu monastery of whom 360 graduated in special medical care. Many of the Rimpoches from other monasteries are also trained at Tumu She before taking on their responsibilities at their proper monastery. The Rongren Rimpoche was the teacher of the Twelfth Dalai Lama.

3.15.3 Construction

Walls:

The walls, up to 160 cm thick at the first floor level, are built of compacted earth set on a stone plinth. They are all plastered and decorated on the interior. On the exterior the walls are rendered over with mud mortar. The upper part of the walls are much slender - about 50 cm - as the rest of the wall thickness is taken up by a wide band of tamarisk branches.

Floors:

The floor consist of boards between exposed bearers.

Upper Floor and Ceilings:

The round pillars, approximately 50 cm diameter are set at 230 cm center to center. They are squared off at the top and support fairly large brackets that carry the beams which run east-west. Over these the round ceiling joists are laid running north south with parallel boarding over them. The central columns supporting the raised ceiling are double the height of the outer ones. They support beams running in both directions. In each square, nine panels make up the ceiling.

Roof:

The flat roof is built up the traditional way without a daughter wall. The water from the central raised roof runs along extended timber gutters and away from the building.

Inner Linings:

The entire building is decorated with wall-paintings on cloth. They are fixed with nails into the walls. On the second floor the walls are lined with timber panels framed up and set between the pillars.

3.15.4 General Repairs & Recommendations

Foundation and Walls:

The problem of soil erosion is not unique to this monastery, but here it is most threatening. Because of the need for timber, the trees around and above the monastery are being cut. At several places the structure has started to collapse due to leaking roofs and soil erosion. In order to prevent future damage it is essential that a forest development program be set up to control erosion.

The gable to the southwestern end of the building, near the main entrance, is also full of fractures. A recently placed pillar is temporary supporting part of the exposed joists, but the wall is clearly still moving. Also fractures on the other walls have been noticed. These various sections of defective walling should be taken down carefully and reconstructed, bonding in across the fractures with long sections of timber and stone. The walls, in general, should be cleaned, re-plastered and re-painted.

Floors:

Due to several leaks in the roof, the floor has been damaged by wet rot. The entire floor should be checked and repaired where necessary. Also chemical treatment against beetle and fungi should be applied.

Inner Structure and Ceilings:

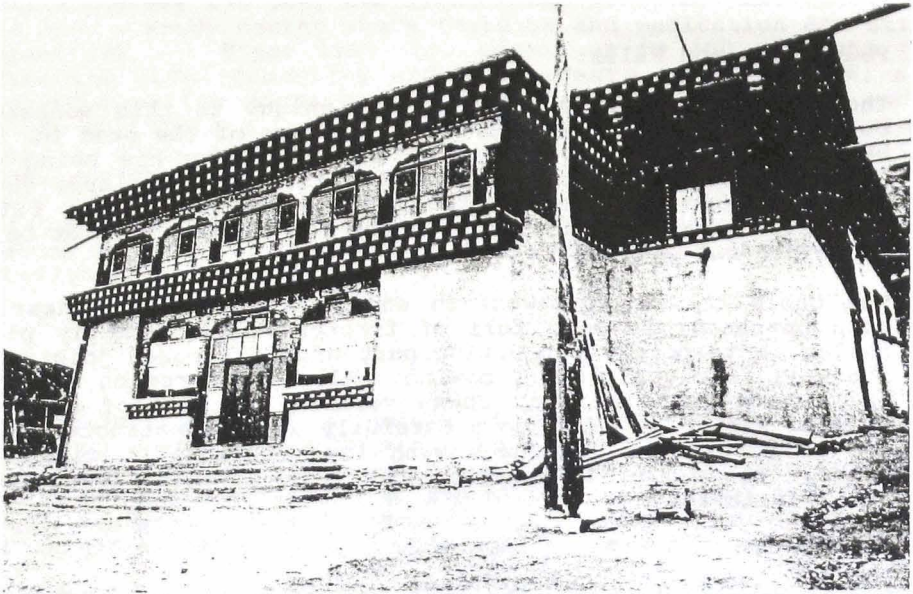
The general condition of the inner structure is sound, although there is evidence of degradation from the presence of moisture where the beams are set into the walls. The cause lies with the poor condition of the roof, which should be repaired as soon as possible. Only then can the timber framework be repaired.

Roof and Roof-Coverings:

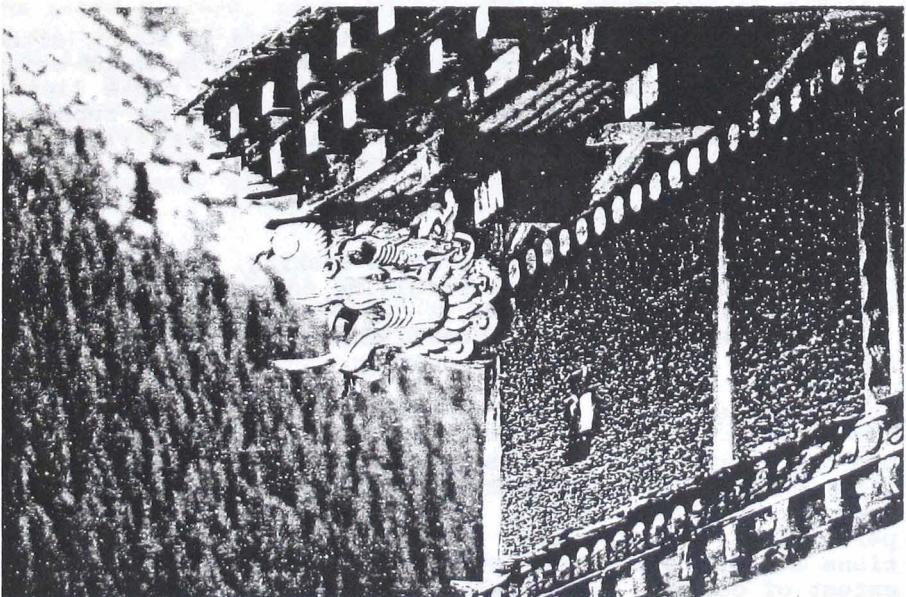
At many places the roof has started leaking, most probably due to poor drainage of rainwater falling on the flat roof and the ineffectiveness of the gutters. The whole roof should be carefully checked. It is recommended that a new roof be constructed together with a new roof covering.

Wall Linings:

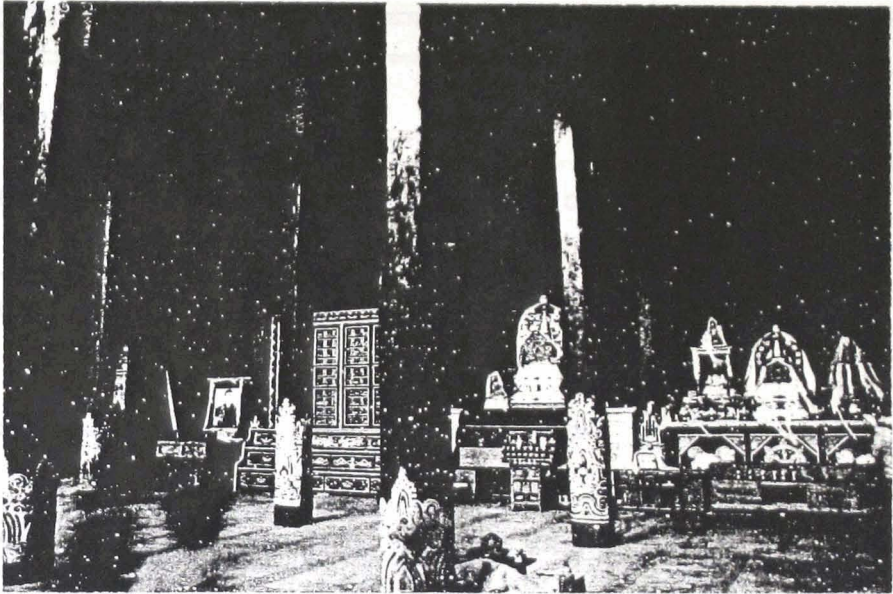
The wall coverings on timber appear generally in good condition. However on the western wall the murals on cloth were found to be badly rotten. This is probably due to rainwater percolating from the roof covering above. Careful investigations should be carried out along the walls to establish the extent of damage. A specialist in mural conservation should be called upon to assist in the repair of the murals.



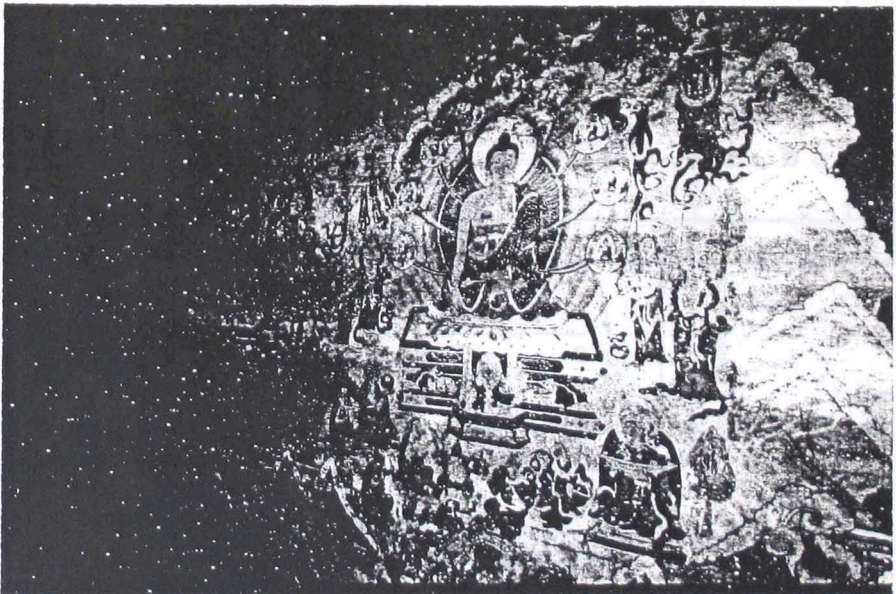
Exterior view of the Main Assembly Hall at Tumu Gomba



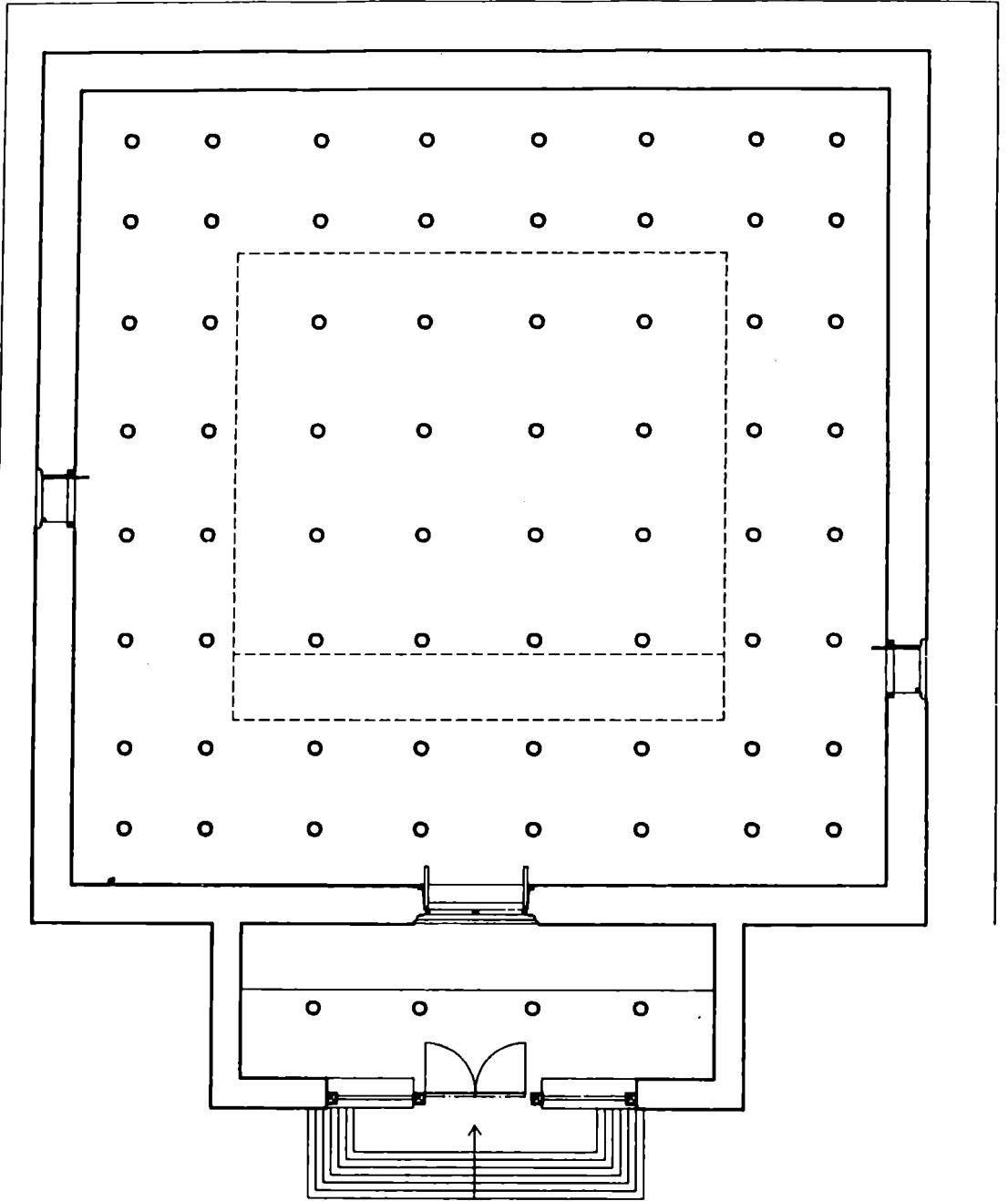
Eave detail at Tumu Gomba



Interior of Main Assembly Hall at Tumu Gompa

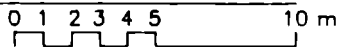


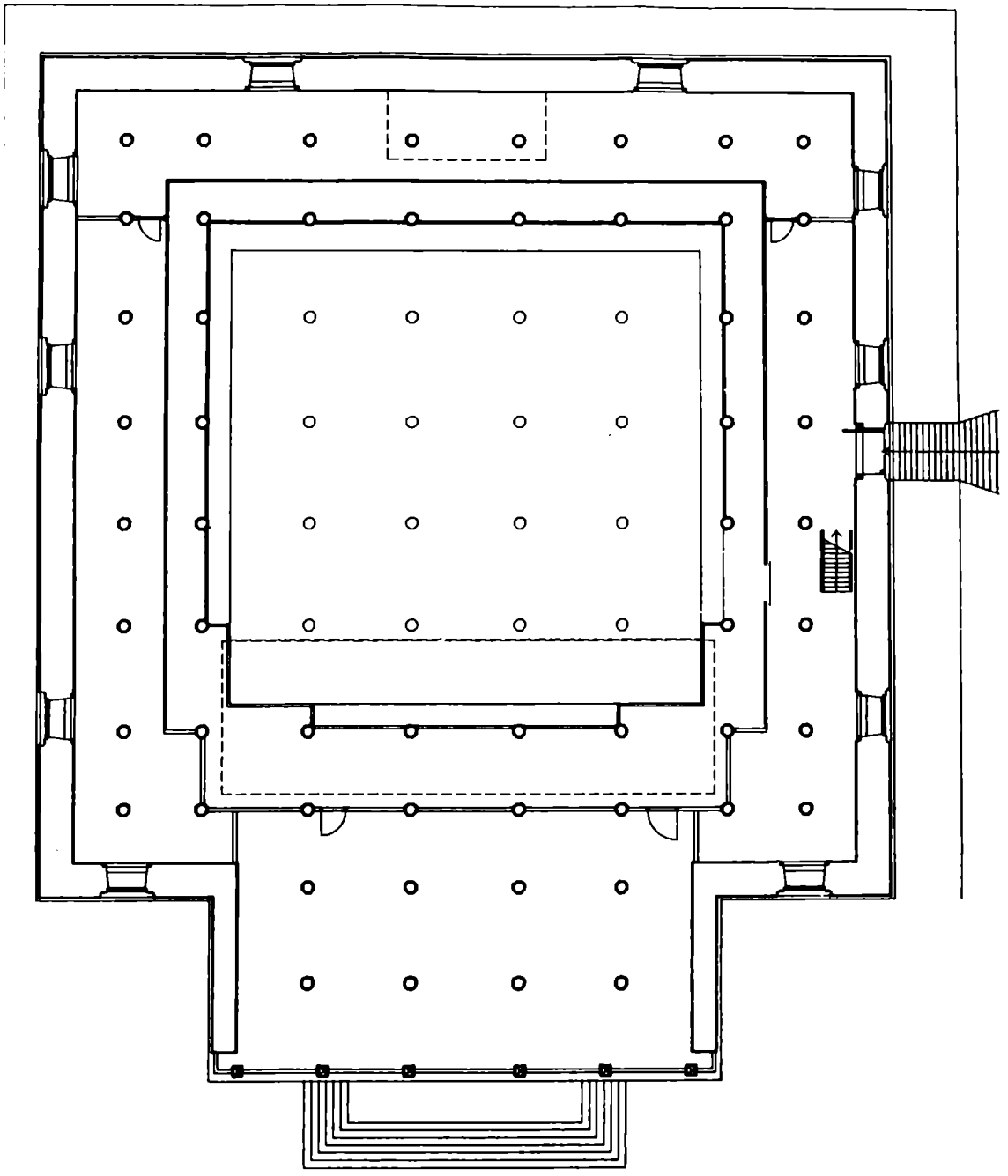
Exquisite murals at Tumu Gompa



TUMU SHE -
FIRST FLOOR PLAN

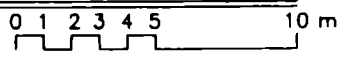
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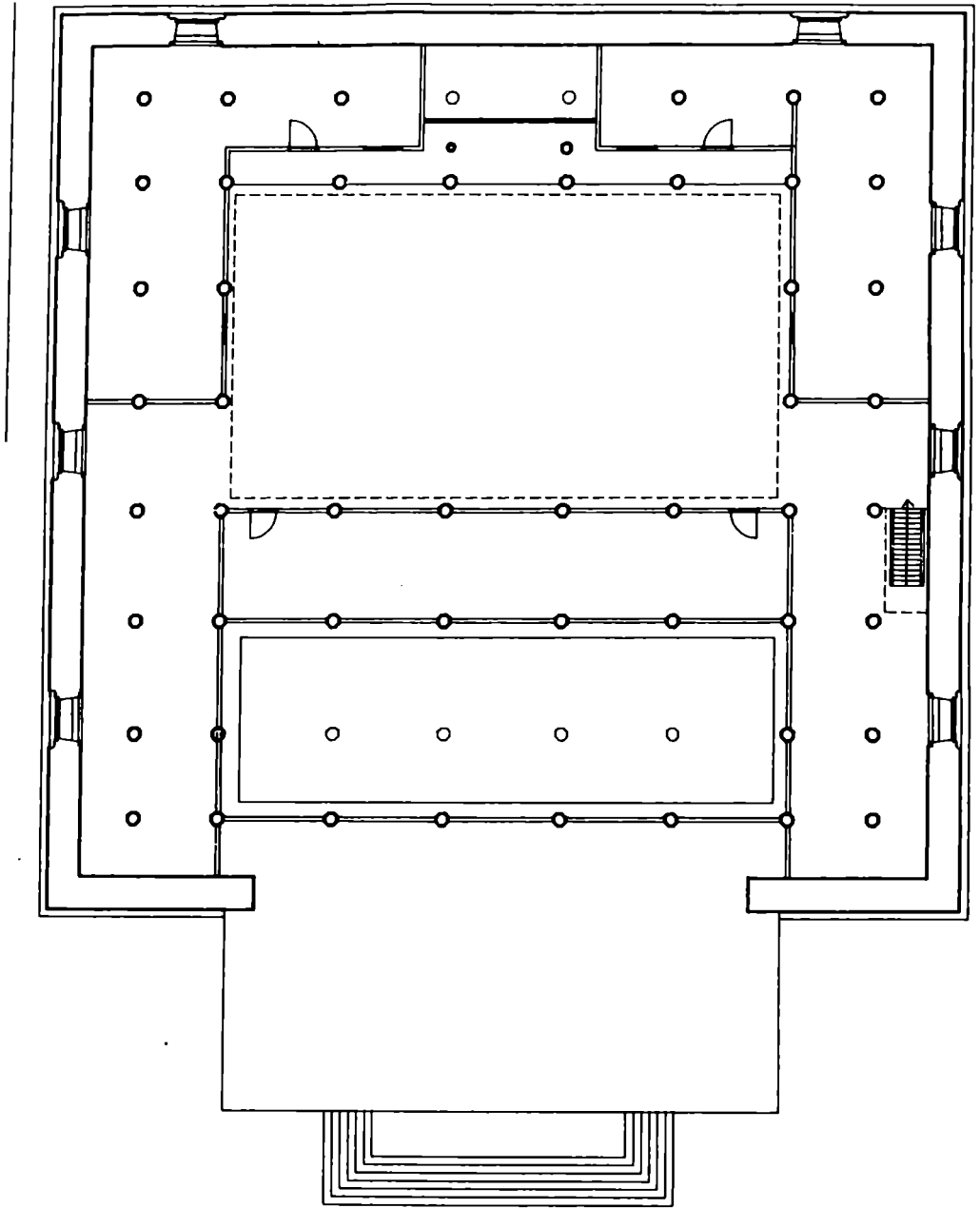




TUMU SHE -
SECOND FLOOR PLAN

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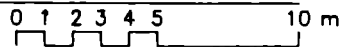




TUMU SHE -

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THIRD FLOOR PLAN





JIRE GOMBA

3.16 Jire Gomba, Xinlong

Reconstruction of this monastery has already begun, consequently it cannot be considered as a candidate for conservation funds. Nevertheless it is included here as a reference.

3.16.1 Location, Environment and Present Situation

The small village of Xinlong is located along the western bank of the river Yalong. The monastery of Jire is set on the spur of a hill to the north located above the monastery overlooking the village.

Access to the monastery is either along the motor road from the west or along a steep and narrow path from the east.

The communal kitchen is located in a two-story building to the south of the monastery. To the west of the monastery proper, in front of a large open dancing ground, there stands a long sheltered structure from where the religious activities can be observed.

3.16.2 Building Description

The design is based on the original monastery which was destroyed during the Cultural Revolution. In plan the building has an irregular form. It is built up from a square, holding the main assembly hall, with two annexes - to the southern and western side - used as entrance. The main entrance to the monastery is from the south.

The building has two stories with a third floor-level only over the main assembly hall. All external walls are painted white. Each entrance block is built up the same way and consists of three bays. The outer bays are built in mud mortar and are painted white while the central bay consist of timber paneling set in between pillars. At present none of the windows are painted, but it is planned to paint the woodwork.

At the second floor level the central bay is built up in timber with a four-bay window set in between the two square pillars. On both sides of the pillars one more smaller window is placed. To the left and right another window of the same size as the one at first floor level is set in a black band which runs all around the building. This band is bordered at the bottom and top with a band of false square joists. Above this band a second band runs around the building and is bordered at the top with another row of false joists.

At roof top level, a daughter wall with a projecting flat roof runs around the building. On the external side the roof is partly supported by a trunk-shaped bracket system set at regular intervals. On all external corners these brackets are replaced by dragon-like brackets.

The main entrance porch to the south of the building is 16 x 4.4 meters large while the porch leading to the dancing ground measuring 17.6 x 5.2 meters. The entrance is through a large double door set between large free-standing pillars. Parallel to the exterior walls there are four pillars in the center of the room. Opposite the entrance a double door leads to the main assembly hall.

The main hall counts four rows of five square columns with the main shrine set against the northern wall and measures 21.6 x 17.6 meters. In the north western corner the last hand is being laid on the construction of a second smaller hall (5.8 x 17.6 meters). Here a raised plinth will hold some larger statues.

The second floor level is reached along a wide timber staircase in the southwest corner of the main entrance. Above both porches there is an equally large room with square free-standing columns. A gallery runs all around the main assembly hall with a clear-story window on the southern, western and part of the northern walls giving light into the hall. Also the smaller prayer hall on the third floor level is built within the main assembly hall and is closed off by windows on the southern and western sides which makes the room look like a room within a room. On top of the wall dividing the two assembly halls a row of timber pillars supports the third floor.

Opposite the staircase, in the northwest corner of the second floor another staircase leads to a roof-top verandah on the third floor. The space to the north of this verandah - above the rear assembly hall - is closed off by a clear-story window running the full length of the verandah. To the west a covered arcade gives access to the third assembly hall, which is located within the main assembly hall.

3.16.3 Construction

Walls:

The walls are built of stone set in mud mortar and have a thickness of about one meter.

Floors:

The floor is covered with a cement finish.

Upper Floor and Ceilings:

The entire timber structure is complex. The pillars support heavy brackets that in turn support the beams. Over the beams a second composite beam is placed on which the round ceiling joists are laid. Above the joists thick boards are laid over upon which the floor finish is placed.

Roof:

The roofs are flat and are built the traditional way. At some places the roof coverings has been covered with a layer of cement.

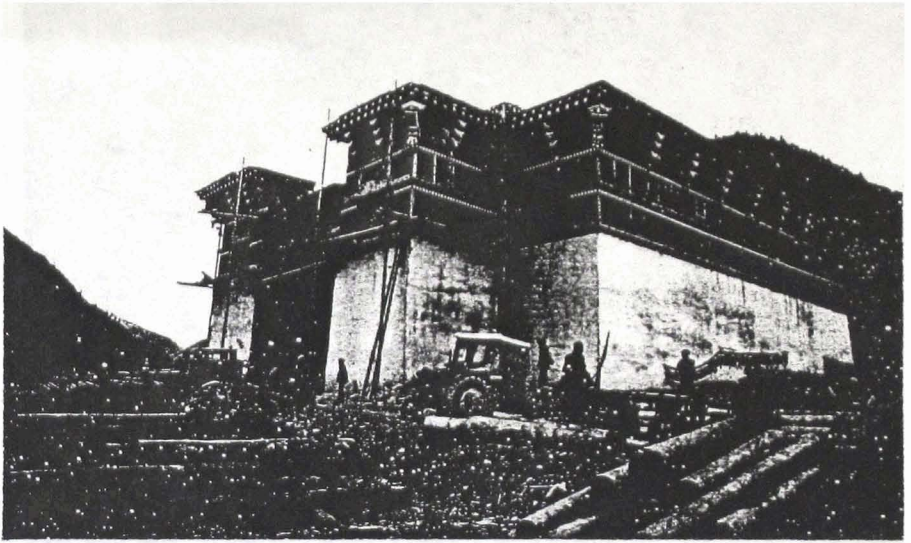
Inner Linings:

No wall linings have been completed yet, but the intention is to have the internal walls covered with murals painted on cloth.

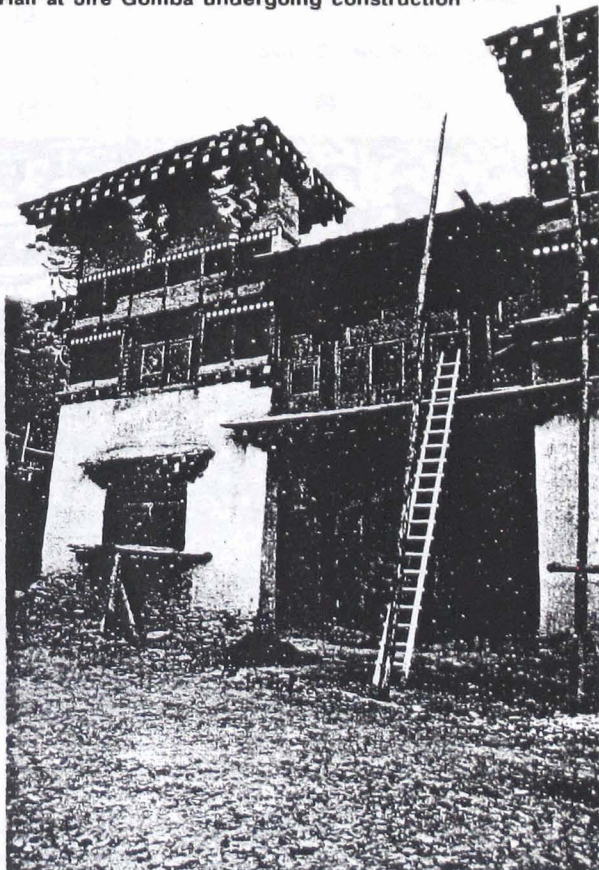
3.16.4 Remarks

Although the structure has been entirely rebuilt with new materials, it became evident that the structural stability could be improved. In particular the timber joints should be carefully checked and strengthened as it was observed that many of the joists (at roof-top level) are not jointed to the beams. These beams, in turn, are supported on pillars that do not line up, one on top of another, making the distribution of the loads very uneven.

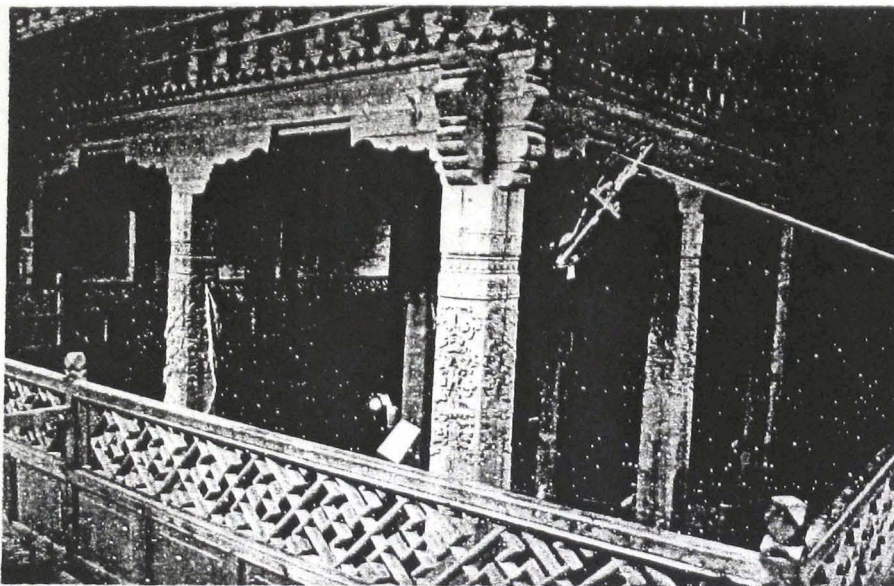
Also the roof coverings should be re-laid using polythene sheets to ensure the longevity of the building. The use of cement should be prevented as it is not an adequate water barrier.



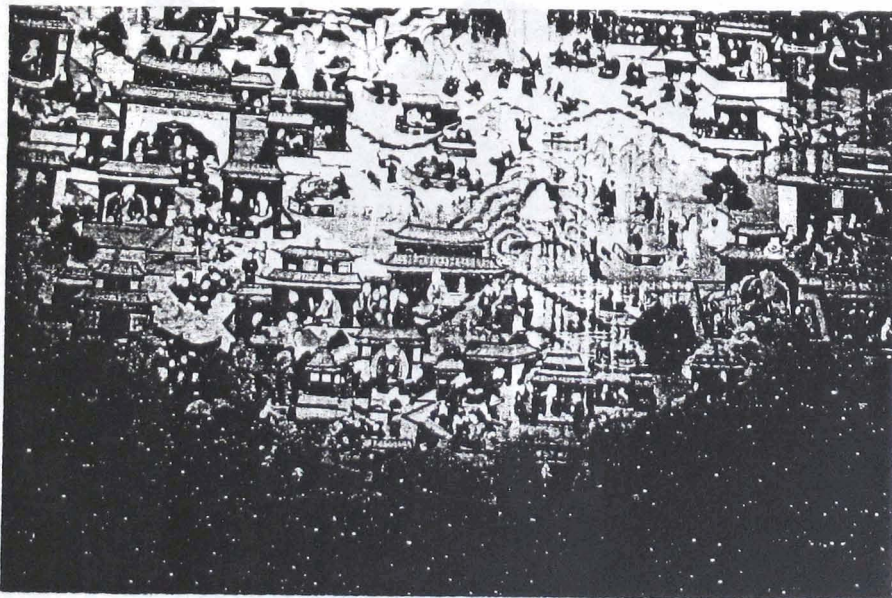
Main Assembly Hall at Jire Gomba undergoing construction



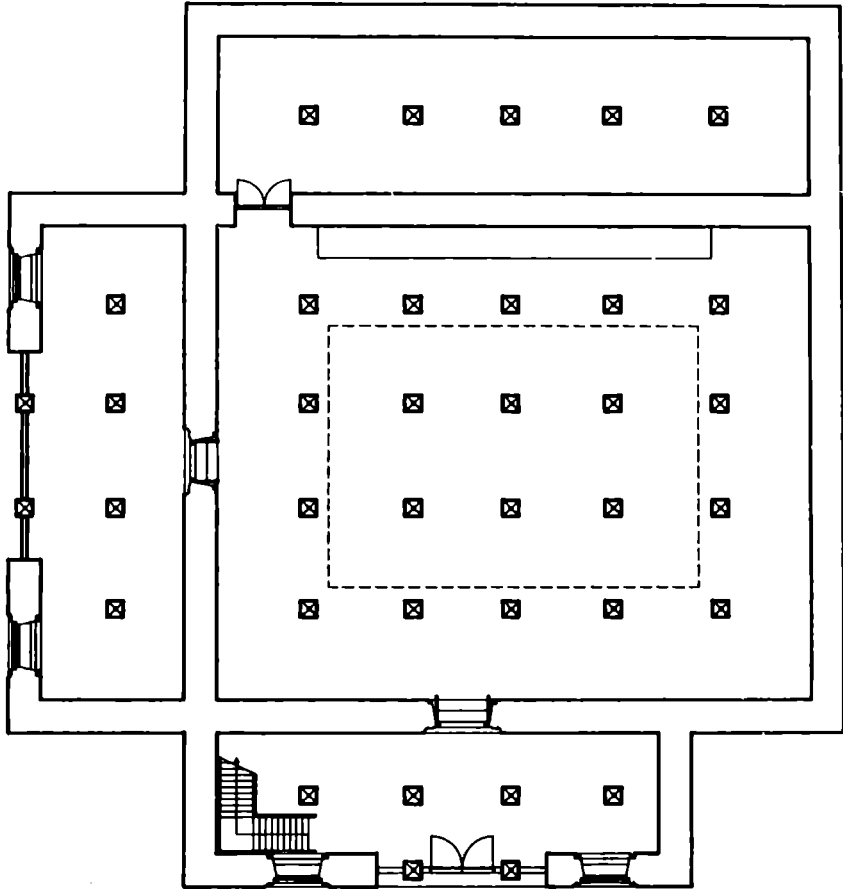
Front view of Jire Gomba



Interior of Main Assembly Hall at Jire Gompa



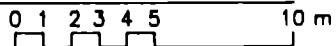
Partly damaged murals inside Jire Gompa

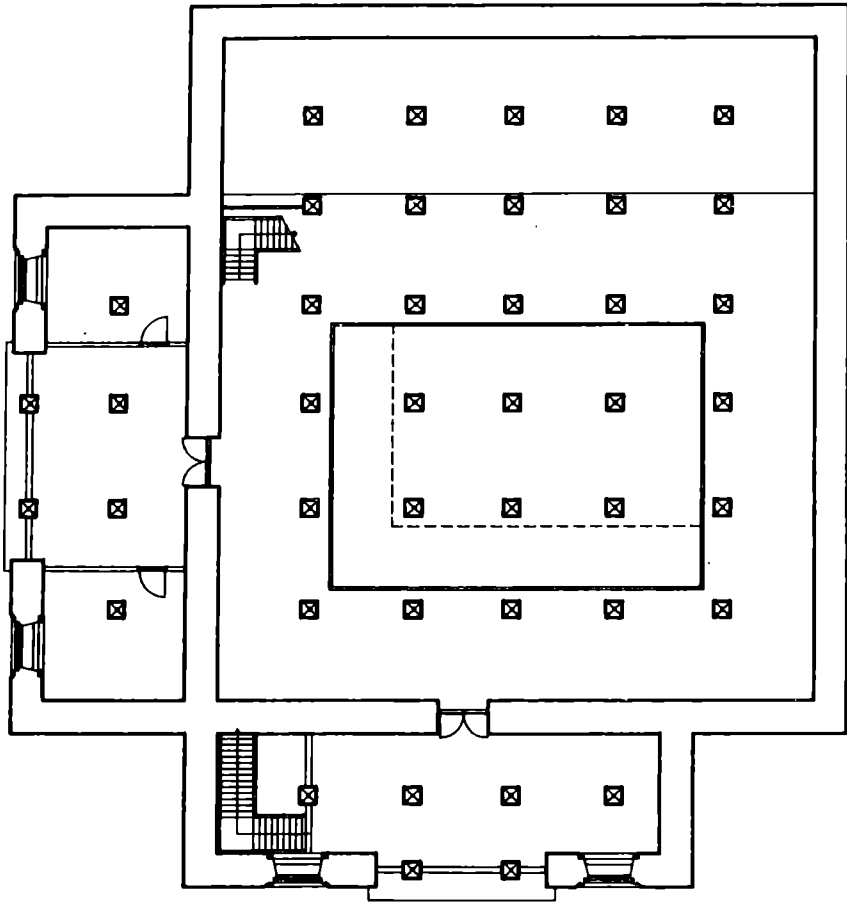


JIRE SHE - XINLONG

FIRST FLOOR PLAN

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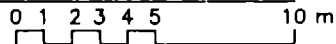


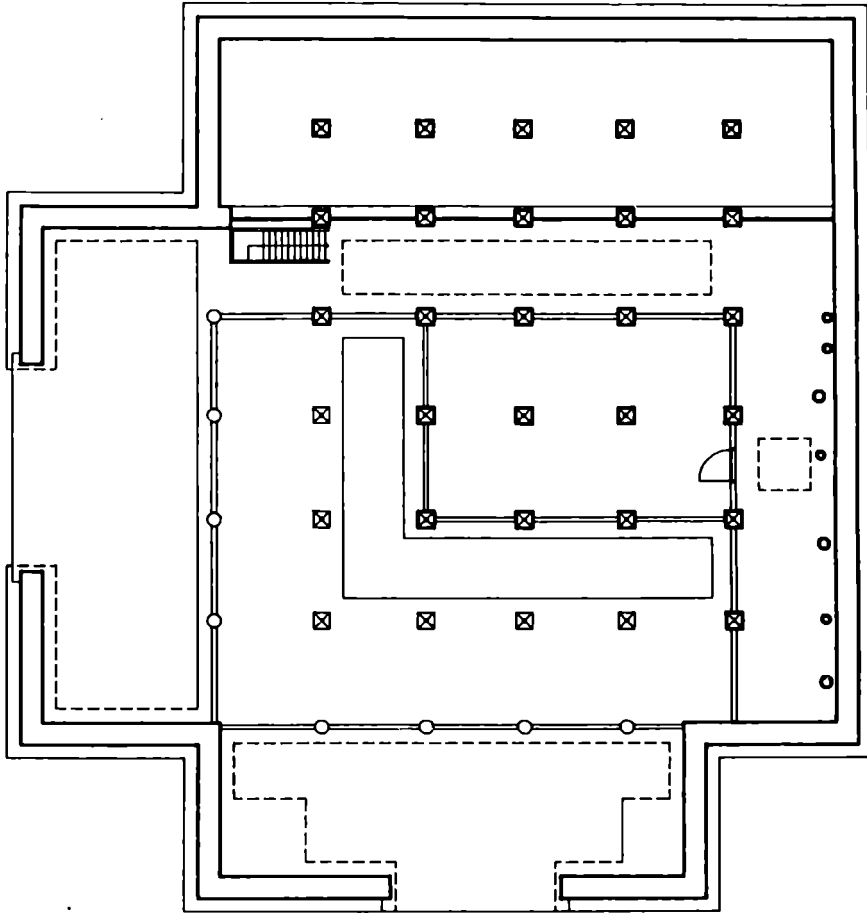


JIRE SHE - XINLONG

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SECOND FLOOR PLAN

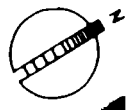
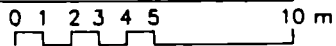


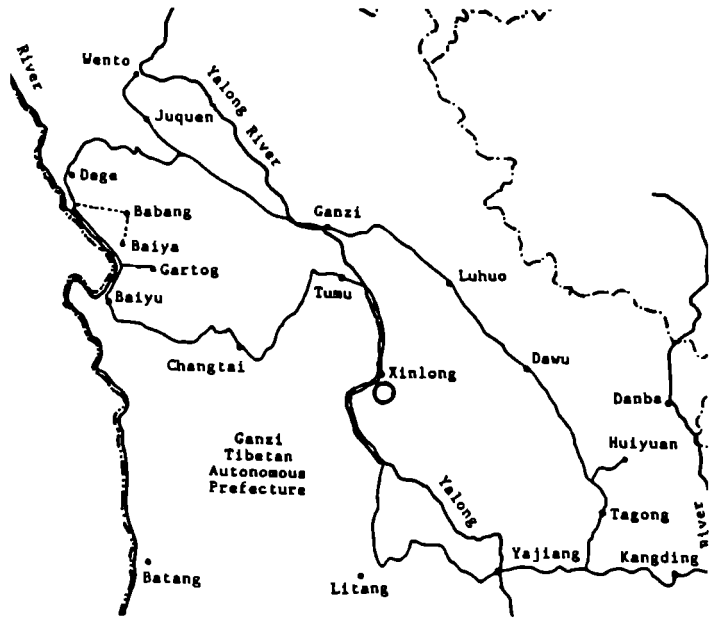


JIRE SHE - XINLONG

1:200

THIRD FLOOR PLAN





AGA GOMBA

3.17 Aqa Gomba, Xinlong

3.17.1 Location, Environment and Present Situation

A few kilometers outside the town of Xinlong towards the north a motorable road reaches a very narrow valley which leads eventually to the monastery of Aqa. The monastery is located on the west bank of a small river. Both hill-sides are thinly covered with pine trees. The monastic complex is built on a piece of land that is sloping gently towards the hill behind and is about 75 meters square and is entirely surrounded by a single row of double story houses. All houses face towards the open center of the compound. The main access to the compound is in the center of the eastern side through a gate set between two houses.

3.17.2 Building Description

Opposite the entrance a two meter high raised platform is reached along a wide flight of steps on both sides. The main assembly hall is located behind this stone paved platform facing east. The building measures 17.8 x 24.2 meters and counts two floor levels. The main entrance to the building is from the east through a wide double door set in a timber frame with trellis-work leading to the porch. Above the entrance a projecting canopy supports the large four-bay window of the second floor. The central part is slightly projected toward the front and is painted red which is in contrast to the white painted main building. This central window is flanked by a small window on both sides. On both sides of the central part two prayer-wheels are set under a covered timber structure. A circum-ambulating passage with 163 prayer-wheels runs all around the building. At roof-top level a daughter-wall runs all around the building except above the central window.

To the left a large timber staircase leads to the second floor. Through a large pair of ornate doors opposite the main entrance, the main chapel is reached. The hall is 15.6 meters wide and 13 meters long and counts four row of four free-standing round pillars. The ceiling of the central three bays of the hall is raised to 7.1 meters above the floor-level while the outer bay has a ceiling height of 3.8 meters. Two small skylights are set into the roof to give more light to the hall. To the left and right a short timber staircase leads through a single paneled door to a second smaller hall. This hall runs the full length of the building and is 4.8 meters wide. The floor is raised for 1.2 meters. In the center a single row of four columns support the roof set at 8.65 meters above the floor. A clear-story window is set in the eastern wall (above the central spine-wall dividing the main hall from the second hall).

At the second floor level the staircase leads to a small enclosed verandah running north-south and is open to the sky.

From here one can enter the main guest room located above the porch and the small gallery overlooking the main assembly hall. The northern and southern wings are used as storerooms with two small window set into the exterior walls.

A single timber log used as a staircase leads to the flat roof-top level where a daughter wall runs around the building.

3.17.3 Architectural and Historical Elements

All interior walls have murals painted on plaster. A one meter raised plinth of about 60 cm is set against the exterior walls.

To the rear of the main chapel, a statue of Sakyamuni is set on a raised plinth on both sides flanked by volumes of the Kangyur and Tengyur.

3.17.4 Construction

Walls:

The walls are built of compacted earth set on a stone foundation and are plastered over. They have a thickness of about 1 meter. The windows are simply framed and follow the traditional method of construction. The porch with its bracketed canopy and the central window above have unobtrusive decoration. The decorative wall band above follows the traditional construction. Above the daughter-wall a short projecting flat roof is partly supported by a beam and pillar structure.

Floors:

The floor is boarded out with wide boards that are supported on exposed bearers leaving an air space below.

Upper Floor and Ceilings:

The structure continues on the same grid as below. In the main chapel the pillars support fairly extensive brackets with a composite beam over. These beams supports the ceiling joists that are closely spaced with little branches laid in fish-bone shape over them. Small twigs hold the compacted earth together that form the floor covering of the floor above.

Roof:

The roof is flat and is built up the same way as the floor below with the only difference that a much thicker layer of compacted earth makes up the roof coverings.

Inner Linings:

All walls are almost entirely lined with rendering or with racks to hold the religious texts. The western wall containing

the altar with the deities, is flanked by racks with religious texts. Beneath the paintings there is a plinth.

3.17.5 General Repairs & Recommendations

Foundation and Walls:

The structural condition of the walls is reasonable but there has been some movement in the northern and southern walls. It is difficult however to ascertain their exact condition as they are all plastered. Telltales should be fixed across the fractures to see whether the movement is still active. If it is found to be so then proper bonding will have to be built across the fractures to prevent further movement. This is a skilled job and requires careful supervision.

Floors:

The floor is covered with timber boards and appears in reasonable condition except for some places where, due to the leaking roof, water has been affecting the timber. The floor should be repaired wherever necessary, proper ventilation to the floor space is essential.

Upper Floor and Ceilings:

The condition of the structure is not satisfactory in spite of recent replacement of some joists in the first bay. The entire structure is moving towards the north, not only causing structural instability but also causing damage to the floors above. It is recommended that the structure be carefully examined to determine the extent and exact cause of movement. A thorough check of the bearing ends on the northern and southern walls should be made and all suspect areas should be strengthened with proper joints.

3.17.64 Roof and Roof-Coverings:

The main structural failure of the building is caused by severe leakage of rainwater through the flat roof coverings. This has caused considerable structural failure as well as irreparable damage to the painted murals along the walls. It is essential to completely reconstruct the roof and to ensure the surface water to run away from the building as quick as possible. The roof should be build in a proper slope with a polythene sheet to prevent water penetration.

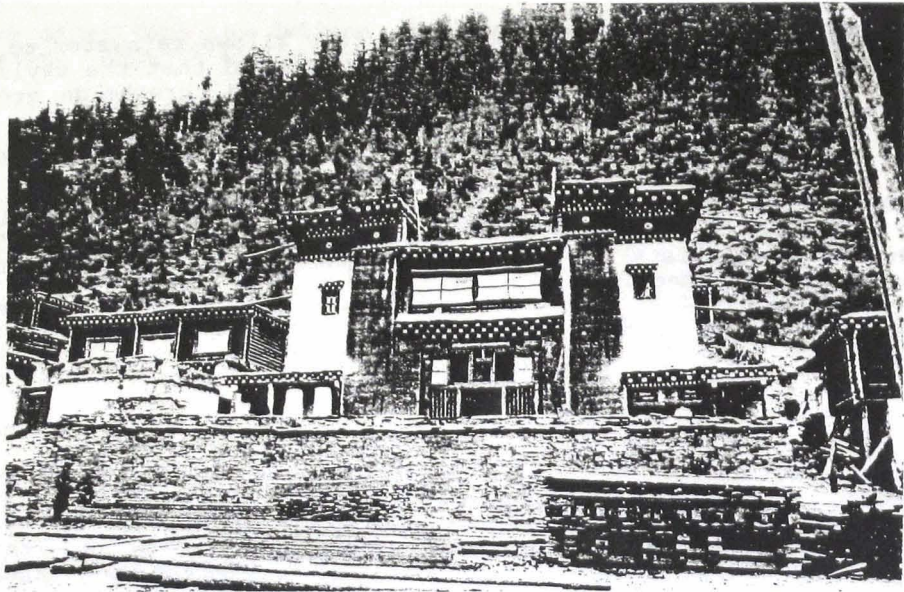
In the southeast corner the structure was found to be badly rotted - probably due to rainwater percolating the roof coverings above. Careful investigations should be carried out along the entire roof and all defective timbers should be replaced after the whole area has been chemically treated.

Both skylights have been covered with translucent corrugated

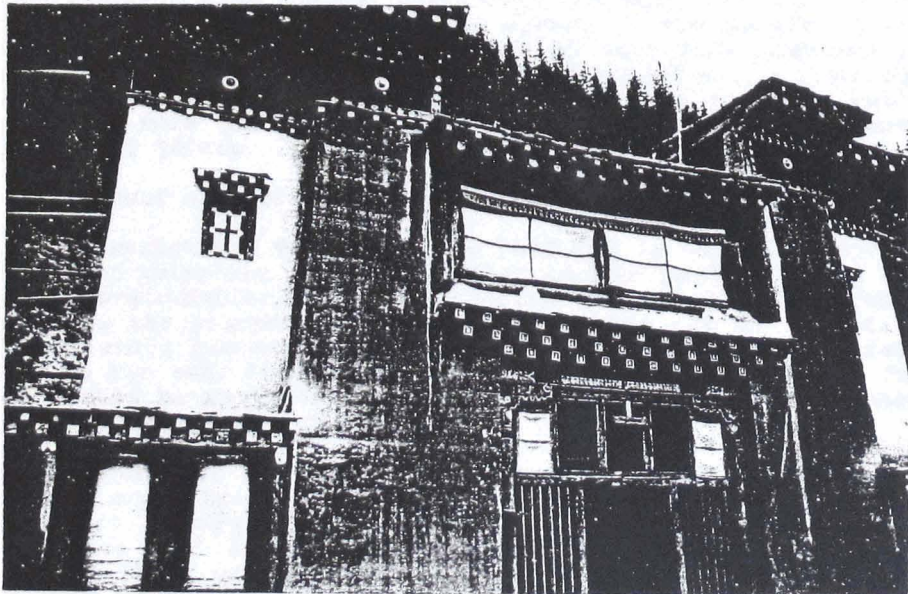
sheets, but without a threshold this allows rainwater to percolate into the building. It is recommended that the skylight be placed at a proper slope and that raised thresholds are built to prevent water penetration.

Wall Linings:

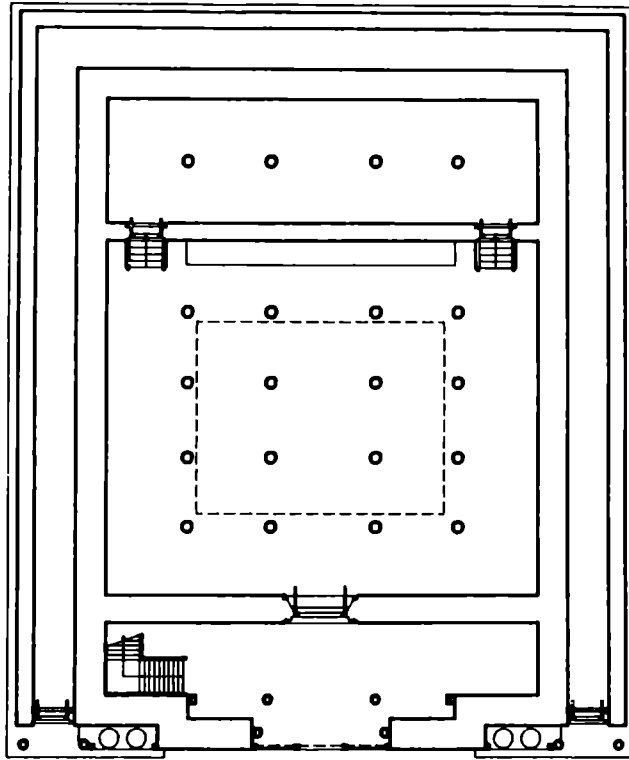
The wall linings, which are of very good quality, are in poor condition, mainly due to leaking roofs. Careful investigation by specialists is necessary to establish a way of preventing further damage.



View of Aga Gomba under repair

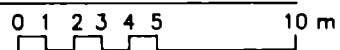


Close up of front of Assembly Hall at Aga Gomba



AGA SHE - XINLONG
FIRST FLOOR PLAN

1:200





NISHI GOMBA

3.18 Nishi Gomba, Xinlong

This Bonpo monastery was entirely repaired following the design of the original monastery. Due to limited time and access, the survey of this monastery has been limited to a few points of interest relevant to this report.

3.18.1 Location, Environment and Present Situation

About three kilometers to the south of the village of Xinlong a narrow valley leads to the west following a small river. After a fifteen minute walk one reaches the monastery of Nishi Gomba. A few hundred meters to the east of the monastic complex there is a small mani-room measuring 5 x 5 meters. Its main entrance faces west and it holds a large prayer wheel.

The main assembly building is located to the north of a small courtyard set in the center of a cluster of about 90 double story quarters. To the south of the courtyard there is a covered arcade with ten free-standing pillars from where the monks observe the religious activities.

3.18.2 Building Description

Access to the main building is along a wide flight of steps leading onto a raised platform, about 2 meters above the level of the paved courtyard.

The building itself has two stories and is square in plan measuring 24.8 x 24.8 meters. To the south a covered porch with a large window above is set in front of the main block building. The entrance to the porch is through a large double door but was at the time not completed. To the east a wide staircase leads to the second floor.

The entrance presently used to the main assembly hall is through a large double door in the southeast corner of the building. The hall counts five rows of six columns and measures 24.4 x 17.8 meters. The ceiling height of the outer bays is 4 meters while the bay in the center of the ceiling is raised to 7.8 meters. A clear-story window is set above the southern wall to give light to the main hall. Set against the northern wall a set of new statues are placed on a raised plinth. To the north on both sides of the hall a short stair leads through double door to the second prayer hall. The floor of this hall is raised to 1.8 meters above the floor-level of the main hall. The ceiling height of this hall measures about 8.3 meters. This hall is 24.4 meters long and 4.6 meters wide with a single row of six free-standing pillars in the center. The northern side of the room have a raised plinth on which new statues are placed.

At the second floor level a circumambulating gallery runs around the main hall. The ceiling height is 3.2 meters. In the center a raised lantern gives additional light to the hall.

The central lantern is entirely of timber and has a hipped Chinese style roof covered with galvanized iron sheets and crowned by a pinnacle. The other roofs are all flat including the short roof over the projecting daughter-wall running around the building above each roof.

3.18.3 Architectural and Historical Elements

It is said that this Bonpo monastery was first built around the year 750 during the reign of King Trisong Detsen of Tibet. A famous Bonpo monk Muyadashen came to Kangding area to spread the religion and asked his son Songda Langka to preach near Xinlong. Subsequently a location was chosen at Jamadoija of Jalaxi Village. Later the monastery was moved to the present location.

There used to be over 700 resident monks, but after the Cultural Revolution very few remained. In 1982, it was reopened and at present there are one Rimpoche, seven lamas and over 70 traps (student monks).

3.18.4 Construction

Walls:

The walls are built of compacted earth which are rendered on both sides. Their thickness varies from 1.2 meters at the bottom to 60 cm at the top. The windows and doors are of traditional design with a slight projecting canopy. At roof top level a black wall band runs around the building.

Floors:

The floor of the main assembly hall is covered with exposed boards laid between large beams creating a space underneath.

Upper Floor and Ceilings:

The pillars are set at 2.85 meters from one another and carry heavy brackets that in turn support beams running both ways. These in turn support joists that support the floor covering above. The floor structure at the second floor level follows the same pattern as below.

Roof:

The roof is flat except for the central tower which has a hipped roof. The entire roof is surrounded by a daughter-wall that supports a short projecting flat roof. The roof coverings consist of compacted earth.

Inner Linings:

All walls are plastered over and covered with murals painted on

cloth.

3.18.5 General Repairs & Recommendations

Foundation and Walls:

The walls seemed in reasonably good condition.

Floors:

The condition of the timber floor is satisfactory.

Upper Floor and Ceilings:

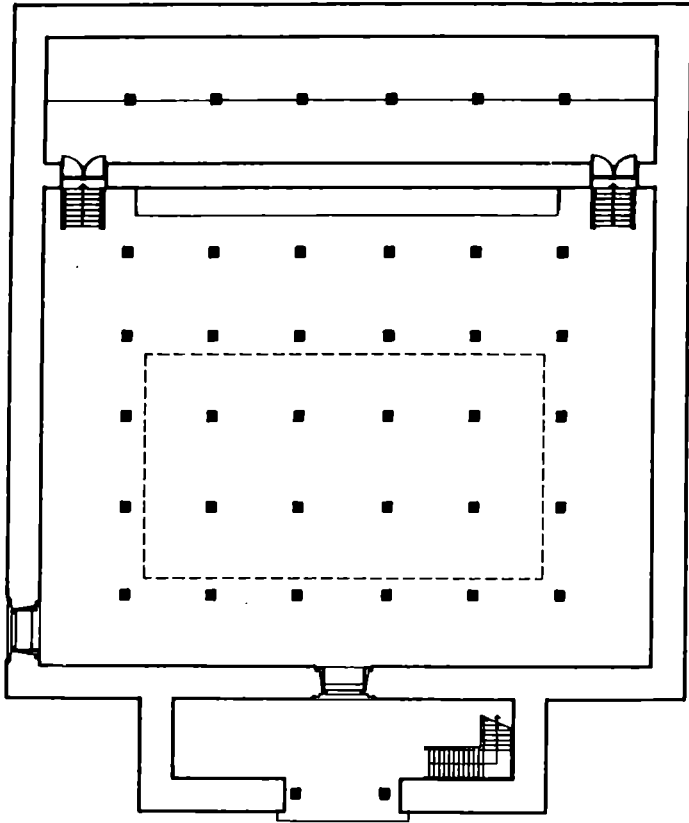
The inner structure stands reasonably solid.

Roof and Roof-Coverings:

The roof which maintains its former heavy structure is sound. In the center a new lantern has been built. The surface water is taken away from the hipped roof to the flat roof below by polythene pipes of about 1" diameter. This does divert the problem of possible percolation through the roof, but the size of piping also seems to be insufficient to take away all of the rain water. The use of polythene pipes may be a solution to take the surface water away from the building but it should be properly placed in order to take the water immediately away from the building and its foundation.

Wall Linings:

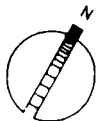
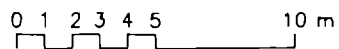
Many of the murals are in bad condition. For this reason they will be covered with new murals painted on cloth and set in a timber frame. Although the condition of the murals is very bad, their quality is rather good. Therefore it is recommended that they be repaired or at least protected against future damage. The frames holding the new murals should be fixed to the walls with the least possible damage to the existing murals.



NISHI SHE - XINLONG

1:200

FIRST FLOOR PLAN



IV CONCLUSION

Although the original intention was to survey and investigate the Dege Printing House, it became clear during the visit that assistance to that monastery would be inappropriate as local restoration has already reached a very advanced stage. Therefore the project goal became to perform a survey of other monasteries in the region, identifying those that are in equal need of conservation, but have not been provided with equivalent financial and technical assistance.

During our survey of eighteen different sites, we found that over the last few years many of the monasteries are being restored by the local community--sometimes with the aid of the local government. In many cases the monasteries are repaired and rebuilt according tradition using local materials and designs. But in spite of these efforts, the team observed some of the more remote or lesser known religious buildings in a disturbing state of neglect. Also, integration of new materials such as cement, glass and concrete has not always proven to be effective or aesthetically satisfying.

Consequently we are proposing to assist the local authority with the restoration of one of those monasteries most in need of preservation, and to use this site as a training ground for other conservation projects. The monastery of Babang was identified as being the most suitable site for carrying out this work. The building is not only of great historical and cultural significance, but it is also in urgent need of preservation. The fact that it has 138 sub-monasteries throughout the plateau means that introduction of new conservation techniques will have potentially a great impact. In addition, the local community has the space and logistic facilities to accommodate a work force of skilled and unskilled labor. When final restoration is accomplished, Babang has the financial resources to maintain the building on its own.

To allow other monasteries to benefit, we also recommend that the monastery of Baiya be considered as part of the project. This monastery is in great structural danger if nothing is done about the leaking roof. Its proximity to Babang makes it an ideal satellite project.

In summary, we recommend Babang monastery as the primary site for preservation, with Baiya monastery as a satellite project. We strongly feel that resources applied to these two locations will provide maximum benefit to the Sichuan's Tibetan people--both in preserving their heritage and bettering their current lives.

V APPENDICES

5.1 Qualifications of Team Members

BIOGRAPHY: HOW MAN WONG

Born in Hong Kong in 1949 and educated at the University of Wisconsin in Journalism and Art, How Man is an explorer/Scholar specializing in China's remote regions and minority areas. His work in China began in 1974 and since the 1980's has led dozens of expeditions including six for the *NATIONAL GEOGRAPHIC*. His 52-page article in that magazine on China's minorities was nominated for the Overseas Press Club Award of America.

Between 1985 and 1986, he led a 10-month *NATIONAL GEOGRAPHIC* expedition tracing the Yangtze from mouth to source. A subsequent book, *EXPLORING THE YANGTZE* was written and he was credited with the discovery of a new source to the river. Another expedition to western China resulted in a book *ISLAMIC FRONTIERS OF CHINA - Silk Road Images* supported by the Royal Family in Kuwait and published in London in 1990. Currently he is working on a long term project on conservation of Tibetan architecture under a grant from the Getty Grant Program.

His work has been featured in many books and leading magazines including the *NATIONAL GEOGRAPHIC*, *GEO*, *READER'S DIGEST*, *ARCHAEOLOGY*, *LOS ANGELES TIMES MAGAZINE*, *ASIA*, *ARCHITECTURAL DIGEST* and many others. He has received numerous awards including the Academic/Scholar Achievement Award of the 1989 Asian Pacific American Achievement Awards in Washington, D.C. His work is selected for inclusion in the Rolex Award of Enterprise Book. He is a Research Fellow at the Yunnan Geographic Institute and a Visiting Associate at the East Asian Studies Center of the University of Southern California.

As Co-Founder and President of the China Exploration and Research Society, a non-profit organization based in Los Angeles, the projects he is directing are multi-disciplinary. They range from geography and geology to anthropology and archaeology, zoology and botany to conservation and ecology. One of his upcoming projects is to locate lost cities along the Silk Road using NASA's Shuttle Imaging Radar (SIR-C), an instrument to be flown on the Space Shuttle on three separate flights beginning 1993. Another ongoing long term project is the survey and study of the Altun Mountain Nature Reserve in Xinjiang of western China, the largest inland Reserve in the world with a size larger than that of Taiwan. Over the years, he has made observations and written on many endangered wildlife including the Black-necked Cranes, the Black Gibbons, the Yangtze Sturgeons, Yangtze Alligators, Wild Ass, Tibetan Antelopes and Wild Yaks.

His work emphasizes innovative approach with modern techniques in the handling of old and new problems. His projects are supported by noted institutions, corporations and individuals.

CURRICULUM VITAE: PATRICK TROCH

ACADEMIC RECORD

- 1982 Diploma in Architecture from the St. Lucas
 Institute of Architecture, Gent, Belgium
- 1980-1982 Post Graduate course in Conservation of
 Historic Monuments at St. Lucas Institute of
 Architecture, Gent, Belgium

FIELD OF SPECIALIZATION

- Product research and materials evaluation in the field of historic monument preservation
- Architectural design
- Preparation of cost analysis and feasibility reports

EXPERIENCE IN THE CONSERVATION OF HISTORIC MONUMENTS

1982-1990 Firm: John Sanday, Kathmandu, Nepal

(Apprentice Architect)

- Repair and Conservation of the Gokarna Temple Complex in the Kathmandu Valley, Nepal for the International Fund for Monuments (USA)
- Preparation of a survey for the restoration of the Chandeshwar Mandir, Banepa, Nepal for the Department of Archaeology, HMG Nepal.
- The Repair and Conservation of the Keshab Narayan Chowk - part of the Royal Palace of Patan, Nepal for the Austrian Government.
- Preparation of a survey with recommendations for the repair of Bhuddist Monuments in the Sagarmatha (Everest) National Park, Nepal for UNESCO.

(Junior Architect)

- Consultant architect restorer for the survey and preparation of a report for the renovation of the Great Mosque in Xi'an, Peoples Republic of China for the Aga Khan Award of Architecture.

(Senior Architect)

- The repair and conservation of the Raddha Balabeshwore Mandir in Gorkha, Nepal for the Save the Children Federation (USA).
- The repair and conservation of the Krishna Mandir, Patan, Nepal, for the Nepal Heritage Society.
- Consultant for the repair and conservation of the Chiwong Gompa, Solu, Nepal for a private institution.

(Executive Director)

- Consultant for the design and reconstruction of the Tenpoche Monastery in the Khumjung Region, Nepal.

1990 - present Freelance Architect, Antwerp, Belgium

- Unesco Consultant to the Government of Bangladesh for the development of the Cultural Heritage Programme including the Bhuddist Vihara at Paharpur and the Historic Mosque City of Bagerhat, Bangladesh.

PUBLICATIONS

- 1983 A report on the Conservation and Repair of the Chandeshwar Mandir, Banepa, Nepal.

YANG JIAMING

Nationality: Tibetan

Age: 47

Address: Department of Tibetan Languages
Kangding Normal School
Guja, Kangding
Sichuan 626001

Since the age of 19, Mr. Yang has been employed in construction-related business. He headed a Tibetan construction company in Ganzi prefecture as manager for many years and is fully acquainted with Tibetan-style architecture as well as all aspects of construction from materials acquisition to labor organization.

He spent many trips traveling throughout the Ganzi region studying monasteries and their structural design. He is a student of the renowned Chinese Tibetologist, Professor Yin Niachang of the Sichuan Normal University at Chengdu.

Over the years, Mr. Yang has published many papers and articles in academic journals of China. These include *TIBET STUDIES*, *SOUTHWEST NATIONALITIES RESEARCH*, *NATIONALITIES*, etc. At present, Mr. Yang heads the Tibetan Language Department at the Kangding Normal School, a para-collegiate university in Ganzi prefecture.

BIOGRAPHY: PAMELA LOGAN

Dr. Logan's professional training was at the California Institute of Technology where she received Bachelor's (1981) and Master's (1982) degrees in Mechanical Engineering, and at Stanford University where she earned a Doctorate (1987) in Aerospace Science. Additionally, she was employed for three years at UCLA as a lecturer and research engineer in experimental combustion.

Parallel to her career as a scientist she has developed and exercised a talent for photojournalism, publishing both articles and photographs in The California Tech, Shotokan, as well as a number of scientific journals. She has documented the landscape and traditions of inhabitants of ten countries scattered across the globe, and maintains a library of more than seven thousand slides.

Her most recent accomplishment was an in-depth study of the Tibetans of western Sichuan. The field study was conducted in 1991 and was funded by the Durfee Foundation through an American/Chinese Adventure Capital Program Grant. The results are currently being written up as a book (working title: Shang Shan), to be published in 1993. In preparing for this project she studied both the Mandarin and Tibetan languages, acquiring a working knowledge of both, and did a thorough review of literature related to Tibetan history and customs.

At present she is expanding her work in Asia to include a study of the Silk Route that will make use of the Shuttle Imaging Radar to identify man-made artifacts under the sand of the Taklamakan desert. Later in 1992 she will travel to China to undertake a four-month study of Chinese cadres.

BIOGRAPHY: ILDIKO CHOY

Ildiko Choy, AIA, Architect, received her Bachelor's degree in 1980 at University of Redlands and her Master's degree in Architecture in 1984 at the Southern California Institute of Architecture.

Presently she is the principal architect of her firm Choy Design, and teaches at California State University, Northridge.

With her architectural expertise she is a participating member of the home team of the China Exploration and Research Society project "Preservation and Restoration of Tibetan Monasteries," sponsored by the Getty Foundation.

Her 25-year experience in textile design and technology and ten years in exhibit design enabled her to co-curate exhibits at the Mingei International Museum of World Folk Art in La Jolla, and at the Pacific Asia Museum in Pasadena, "From the Roof of the World." She has also designed and installed several exhibits presenting Chinese minority artifacts at such places as the Hsi Lai Buddhist Temple, Hacienda Heights; the Main Street Gallery, Santa Monica; and the Lotus Festival in Los Angeles.

Ildiko Choy is a Director of the Board at the China Exploration and Research Society, and curator of the Chinese Minority Artifact Collection. She has been collaborating with Wong How Man for the last four years.

5.2 Notes on the Sichuan Tibetan Region

Most people in the western hemisphere think of Tibetans as being a homogeneous group of plateau-dwelling people. In fact, Tibetans are divided into many sub-groups speaking a variation of dialects and spread over an extensive region. Nor are Tibetans confined to Tibet Autonomous Region (Tibet "proper"); in reality, only 1.9 million--about half--of the 3.9 million Tibetans in China live in TAR. Sichuan province to the east of TAR has about one million Tibetans, or over one-quarter of all Tibetans in China. Qinghai province has about 750,000; Gansu, 300,000; and Yunnan, 100,000. From these figures it is clear that Tibetans from Sichuan represent a significant portion of the Tibetan population, and that Sichuan Tibetan culture is should not be relegated to the sidelines when considering the entirety of Tibetan tradition.

Tibetans of Sichuan live mainly in western Sichuan within two regions, Ganzi Autonomous Prefecture and Aba Autonomous Prefecture. Together these prefectures cover 230,000 square kilometers (about the size of Oregon State), or two-fifths the total area of Sichuan. Geographically, these areas are considered an extension of the Tibetan plateau with an average altitude of 3,500 meters (11,500 feet). The highest peak is the Gongga Shan, rising to 7556 meters (24,800 feet) with icefields and glaciers.

Many great rivers including the Yangtze, the Yalong and the Min flow through this region. There are agricultural lands along the river basins and gorges, pastoral areas along the hillsides and mountain slopes, and nomadic grazing grounds on the highland. Throughout this extensive and diverse terrain is an abundant variety of flora and fauna. Many rare animals and plants are to be found only in the Tibetan region of Sichuan. For example, the giant panda, golden monkey and takin are treasured by zoologists and attract worldwide interest. The high marshland sustains a unique ecosystem with its variety of cranes and birds. Likewise, the rhododendrons, camellias and alpine poppies make the region a botanist's haven.

The ancient cultures of Sichuan's many different Tibetan ethnic tribes has always fascinated scholars, explorers and other travelers. Besides larger groups like the Khampa and Amdo Tibetans, there are also less known groups like the Xifan, Washi Golok, Jiarong, Golok and White Horse Tibetans. The printing house at Dege with over 210,000 printing blocks is by far the largest Tibetan printing house in existence today. Batang songs and dances are renowned throughout Tibetan regions, with Batang drama being one of the four major schools in Tibetan theater.

Geographically far away from Lhasa (which is dominated by the Gelugpa Sect) Buddhism), Sichuan's Tibetan region has more diversified sects of Buddhist religion. Nyingmapa (Red Sect),

Sakya (Flower Sect), Kargyu (White Sect) and Bonpo (Black Sect) not only still exist, but prosper in this region. These sects are all well represented by many active monasteries, some with a far longer history than that of the better-known Gelugpa Sect led by the Dalai Lama in Lhasa. For example, among the fifty-three active monasteries of Xinlong County, all sects of Tibetan Buddhism are represented, with the exception of Gelugpa which has no monastery in this area.

This region figures into Tibetan history in many other ways. The legendary King Gesar, close to the hearts of all Tibetans, was said to have been born in Dengke, between today's Serku and Dege in northwestern Sichuan. His empire, which extended throughout the plateau, was ruled from Dengke. With its long heritage and present diversity, Sichuan's Tibetan region provides an ideal research environment for the studies of Tibetan culture, history, and religion.

5.3 Expedition Timetable, with Distance and Elevation

Distance (km)	Place name	Arrival date	Elevation (m)
0	Kangding	08 Apr	2485
112	Tagong	11 Apr	3670
29	Qianning	11 Apr	3585
76	Dawu	12 Apr	3000
62	Luohuo	13 Apr	3250
*51	Donggu	13 Apr	3395
93	Ganzi	14 Apr	3295
92	Mannigango	15 Apr	3760
*120	Manjin	15 Apr	3540
111	Dege	17 Apr	3220
*40	Babang	18 Apr	3855
*12	Baiya	20 Apr	3420
107	Baiyu	23 Apr	2820
*48	Gartog	23 Apr	3840
112	Changtai	24 Apr	3750
*15	Anjan	24 Apr	3900
135	Xinlong	25 Apr	2990
390	Kangding	27 Apr	2485

Altitude was set at Kangding. Distance was measured on vehicle odometer, except for the horseback legs, which were estimated from a map. Dates given are in the year 1991.

* Side trip.

5.4 Notes on Residential Architecture

Among the common people of Ganzi, houses generally adhere to the following plan.

The first floor of the buildings is used for sheltering livestock; the second floor is used for storage and living. Due to the coldness of the climate, fire is used for heating as well as cooking, and is the focal point of family life. Consequently, the kitchen and living room are combined, and the room is usually also used for sleeping. Important guests such as lamas stay in a separate room, sometimes the same room where the shrine is located. If the building contains three floors then the shrine is on the third floor, and on the upper deck there is a chimney where juniper is burnt. The toilet facilities are usually located on an upper floor in an overhanging balcony attached to the main structure.

The residences of the wealthier families are larger and have additional rooms such as a separate kitchen, servants' quarters, extra storage, and more space given over to religious use. For important officials, the home may include an audience room or trial court, and living quarters for guards. Access to the building may be by a single ladder, which can be hauled up in case of attack.

The structural layout of the residences is as follows:

Beams and pillars :

Usually 15 to 20 cm in diameter set at a regular interval of 2.3 meters.

The main building has only square pillars set on a stone foundation. Above the columns, beams are placed that are usually 15 x 20 cm. The load of the beams is distributed by a bracket which is set onto the pillars and held together with wooden pegs. These brackets are mostly set in the same line as the beams. In some cases when the beams are laid next to each other the bracket is set across the beams.

On these beams, round joists of 10 to 15 cm in diameter are placed at about 15 to 20 cm intervals. The joists then support smaller branches set close to each other wherein the gaps are filled with clay. Eventually a well-compacted layer of approximately 15 cm of earth is laid which then is covered with about 2 cm of fine gravel. In most rooms this floor covering is the final finish except for the more important rooms such as the bedroom and chapels which have wooden floors. Here a series of larger boards are laid at regular intervals of 120 cm in between which the floorboards are fitted. As the boards are of different thickness the cavity underneath is filled with gravel.

The structure of the sun deck and flat roofs is built up the same way as the floors except that the layer of earth can be as thick as 20 cm and laid at a slope onto which a thin layer of clay is laid to take the water away from the building along wooden gutters. In spite of this additional protection against water penetration and because of the usage of the roof, regular repair and maintenance is needed every year before the onset of the monsoon.

In Ganzi county the earth is mixed with 30 to 40% with cowdung.

In Batang county the upper surface of the roof is covered with a layer of crushed red stones which are well compacted and which are covered with branches and leaves. After the rainy season this layer of stones will have solidified and the branches are removed. Then the surface is smoothed out with the end result of having a waterproof surface.

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