

ACCU Nara
International Correspondent
The Second and
the Third Regular Report



(財)ユネスコ・アジア文化センター 文化遺産保護協力事務所

Cultural Heritage Protection Cooperation Office, Asia/Pacific Cultural Centre for UNESCO (ACCU)

The Second Regular Report



ACCU Nara International Correspondents

The ACCU Correspondents periodically send reports on cultural heritage protection in their country. This is a collection of the second reports submitted by nine International Correspondents in the Asia/Pacific region.

The Second Regular Report

Contents

Cambodia	1
Srun Tech	
News from Angkor Archaeological Park	
India	4
Vasant Kumar Swarnkar	
Restoration and Redevelopment of Jantar Mantar, an Astronomical Observatory, New Delhi	
Iran	6
Hooman Sobouti	
The Jameh Mosque of Gherveh	
Malaysia	8
A Ghafar Bin Ahmad	
Celebrating Malaysia's World Heritage Sites: The Historic Cities of Melaka and George Town	
Maldives	10
Aishath Moosa Fikree	
The Present Situation of Cultural Assets in the National Museum	
Nepal	11
Mangala Pradhan	
Heritage Conservation and its Challenges: Focusing on World Heritage Sites of Kathmandu Valley	
Papua New Guinea	16
Naomi Faik Simet	
The Preservation of the Kuk Early Agricultural Site in Papua New Guinea	
Sri Lanka	18
Sujeewa Kaushalyani Peiris Deraniyagala	
Archaeological Research Work of the Central Cultural Fund, Sri Lanka - A Recent Revival	
Vietnam	20
Do Huu Triet	
The Process of Making Traditional Lime Mortar for Conservation in Hue Monument-Vietnam	

1. The Ceremony of Completion of the Conservation Work of the Reclining Buddha, Baphuon Temple

On 4 June 2008, His Majesty Norodom Sihamoni the King of Kingdom of Cambodia attended an official inaugural ceremony for the completion of the conservation work of the Reclining Buddha, on the west gallery of Baphuon temple in Angkor Thom complex. It was accompanied by His Excellency Sok An, Deputy Prime Minister, Minister in Charge of the Office of the Council of Ministers and President of APSARA Authority. The event brought together national and international institutions which had been involved in Angkor as well as local villagers who live in the Angkor Archaeological Park.

On that occasion, the king thanked and highly appreciated French government which has sent the experts to restore the temple since 1960's and this work started again in 1980's up to now through the cooperation work with APSARA Authority for the conservation of the whole Baphuon temple.

Baphuon temple was built in 11th century in the reign of King Udayatyavarman II (1050-1066), dedicated to the Hindu god. In 16th century, the west part of the second gallery was re-built including the huge Reclining Buddha in 60 meters long to be dedicated to Mahayana Buddhism.

2. The Archaeological Research Project on Kulen Mountain

Kulen Mountain was a former Khmer Capital City in 9th century in the reign of the King Jayavarman II (802-850); it is called "Mahendraparapata" (the mountain of Indra). It's also a sacred place of the Khmer Empire at that time up to now. There are 30 ancient brick temples, some ancient inscriptions, ancient dikes, rock shelter with relieve, canals and other archaeological traces on the mountain.

Memorandum of Understanding on the Cooperation Research Project on Kulen Mountain between the APSARA Authority and the British NGO entitled "Archaeology and Development (A&D)" was signed on 3 January 2008. The project is 3 years long (2008-2010) and scheduled to commence on 12 January 2008.

In the first stage of the project, the archaeological excavations were conducted at Thmar Dap temple, Neak Ta temple, Anlong Chen temple, Rong Chen temple, Tbal shelter and Thal Dac ancient dike. In the future, they will continue excavating and conserving Kulen Mountain in order to enhance the value for tourist development in the area and especially they will create buffer zones if it is to be inscribed in the World Heritage List.



Ceremony at Baphuon temple



Reclining Buddha after restoration



Excavation activities at Thmar Dap temple



Excavation trench at Neak Ta temple

3. Introduction to Preah Vihea Temple

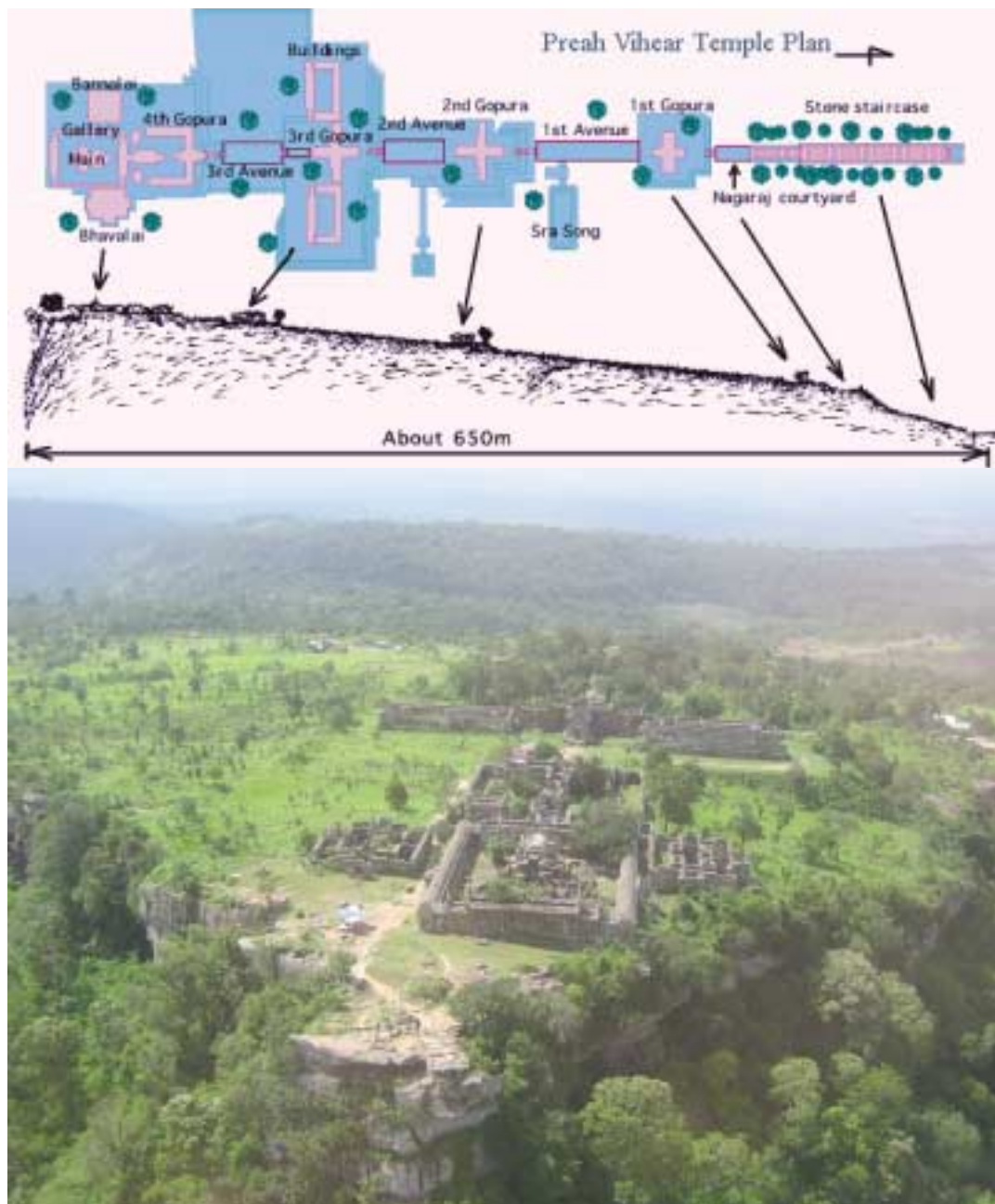
Preah Vihea temple is standing on a promontory of the Dangrek range of mountains about 625 meters above the sea level and face to the north, at the northern part of Preah Vihear Province and 402 km from the Capital City of Phnom Penh. This secluded temple is well-known for its Khmer architecture.

In the period of Khmer Empire, the King Yasovarman I (889-900) built Preah Vihear temple to dedicate to Shiva God as Sikharesvara and Bhadresvara (Great mountain gods). After the reign of this king, the temple was renovated many times by the King Suryavarman I (1002-1050), Jayavarman VI (1080-1109) and Suryavarman II (1113-1150). Nowadays, Preah Vihear temple is dedicated to Theravada Buddhism.

Preah Vihear had a long time dispute over its ownership between Cambodia and Thailand. In its Judgment in 15 June 1962, the International Court in Hague, declared that Preah Vihear was situated in territory under the sovereignty of Cambodia and Thailand was under an obligation to withdraw any military, police forces, other guards and keepers from the temple in its vicinity on

Cambodia territory, by nine votes to three. The Court also declared that Thailand was under an obligation to restore any sculptures, stelae, fragments of monuments, sandstone model and ancient pottery which have been removed from the temple or the temple precincts by the Thai authorities since the date of the occupation by Thailand in 1954.

Recently, Thai government has tried to oppose Cambodia government's proposal to list Preah Vihear temple as World Heritage Site at the United Nations Educational, Scientific and Cultural Organization (UNESCO). However, on 7 July 2008, the World Heritage Committee decided that Preah Vihear temple would be inscribed on the World Heritage List. This decision was made in Quebec, Canada, and it referred to the decision by International Court of Justice in Hague, that the temple belonged to Cambodia. This was a very important event for Cambodian history. All Khmer people were happy with it and celebrated the festival in Phnom Penh City and all provinces especially in Preah Vihear Province.



A bird's-eye view of Preah Vihea temple



Central Tower



First Gopura



Second Gopura



Third Gopura



Fourth Gopura

The Jantar-Mantar, an observatory consisting of masonry built astronomical instruments, was built by Maharaja Sawai Jai Singh II of Jaipur (1699-1734 A.D.) who was keenly interested in astronomical observations and had studied all the contemporary systems, Western and Eastern, before embarking on his constructions.

The observatory at Delhi was the first to be built, and it was followed by construction of similar observatories in various parts of India i.e. at Jaipur, Ujjain, Varanasi and Mathura, the last of which no longer survives. According to tradition, Sawai Jai Singh built the Delhi observatory in 1710 A.D. while Sir Sayyid Ahmad Khan, author of *Athar-us-Sanadid*, takes 1724 A.D. to be the date of its construction. Since Jai Singh himself mentions that he built the instruments by the order of the emperor (Muhammad Shah), who ascended the throne only 1719 A.D. and granted a governorship to him, Sayyid Ahmad Khan's date would appear to be nearer the both.

Built of rubble and brick masonry and finely plastered with fine lime mortar, these instruments have been repaired and restored repeatedly, but without any major alteration. The complex comprises following astronomical instruments:

- The Samrat Yantra (Supreme instrument), a huge equinoctial dial.
- The Jai Prakash Yantra, consisting of two hemispherical structures, just to the south of the Samrat Yantra.
- The Ram Yantra, consisting of two circular buildings to the south of the Jai Prakash Yantra.
- The Misra Yantra (Mixed instrument), north-west of the Samrat Yantra.
- Two pillars, South West of the Misra Yantra.
- A measuring platform, just south of the Misra Yantra.

Samrat Yantra: It is the largest and most imposing, although a considerable portion of it is buried. The essential parts are the inclined edges of the huge triangular gnomon and the quadrants

attached to it. The edges of the gnomon point to the celestial north pole, that is, they make an angle ($28^{\circ}37'$) with the horizon, equal (approximately) to the latitude of Delhi, and are parallel to the earth's axis. The quadrants are at right angles to the gnomon, and, therefore, the circles, of which they form part are parallel to the plane of the equator. According to Jai Singh, the Samrat Yantra was built of stone and lime. But, some of the scholars believe that the edges of the gnomon, quadrants and staircases were of white marble.

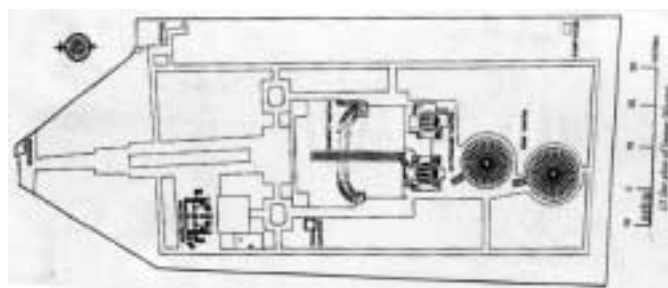
Jai Parakash Yantra: It consists of two complementary concave hemispheres. Jai Prakash is so constructed that the two instruments together show the complete surface. Cross wires were, originally, stretched across the hemispheres north to south and east to west and the shadow of the intersection of these wires on the concave surface of the hemisphere indicated the position of the sun. There are "circles of the signs of the zodiac."

Ram Yantra: It consists of two large circular structures, Complementary to each other. Each consists of a circular wall and a pillar at the centre. The height of the walls and pillar, from the graduated floor, is equal to the inside radius of the structure measured from the circumference of the pillar to the wall. The walls and floor are graduated for reading horizontal (azimuth) and vertical (altitude) angles. The graduated sectors are supported on pillars about a meter high, so that the observer can place his eye at any point on the scale.

Misra Yantra (mixed instrument): It is so named because it combines four separate instruments in one building. Of these, the *Niyat Chakra* occupies the middle of the building, and consists of a gnomon with two graduated semi-circles on either side. These semi-circles lie in planes inclined to the plane of the Delhi Meridian at angles of $77^{\circ}16'$ west, $68^{\circ}34'$ west, $68^{\circ}1'$ east and $75^{\circ}54'$ east. The semi-circles may be said to correspond to meridians at places whose longitudes differ from Delhi by these angles, and tradition names Greenwich observatory and the observatory at Zurich, "Notkey, a village in Japan east of Greenwich", and



Bird eye view of Jantar Mantar



Site plan of Jantar Mantar



Samrat Yantra (1915 A.D.)



Samrat Yantra (2008)



Ram Yantra (1915 A.D.)



Ram Yantra (2008)

“Seriches, a town in the Pic Island in the Pacific Ocean, east of Russia, latitude $48^{\circ} 6'$ and longitude $153^{\circ} 12'$ east.” Instruments of his own invention, such as Jai Prakash, Ram Yantra and Samrat Yantra made of stone and lime of perfect stability etc. The two pillars located on the south-west of Misra Yantra were raised to determine the shortest and longest days of the year. A platform in front of Misra Yantra was probably used for measurements at the time when the instruments were either under construction or repair.

In Jai Singh's time, therefore, the observatory probably consisted of the Samrat Yantra, the Jai Prakash, the Ram Yantra, a mural quadrant and some metal instruments. Of the present structure, possibly, the Misra Yantra was added by Madhav Singh, “who inherited small portion of his father's love of science.”

Restoration and Redevelopment Efforts

The condition of the astronomical structures within the complex was very poor when it was taken over by Archaeological Survey of India in the year 1958. The buildings were seriously damaged by neglect and vandalism during the late 18th century and most of the original marble pieces with their graduations were lost. The stagnant water pooled around the observatory, mounds of garbage and rubble were scattered over the whole area. The walls of the structures were bereft of plaster. The graduations were obliterated, the pavement in herring-bone bricks were accumulated with rainwater, as the level of the road was higher, and also difficulties posed by the tall buildings/structures coming around the monument and casting their shadows on the instruments, the functional restoration of the Yantras was not attended for a long time in the past but efforts were made to preserve whatever is left on the instruments as per conservation ethic practiced world over.

The Archaeological Survey of India, right from the time the Jantar Mantar was notified as monument of national importance, carried out repairs/conservation/restoration of the monument. The decayed plaster has removed and re-laid with lime plaster and a coat of dull terracotta/ochre colour has applied. The graduated portion of the yantras was cleaned. The long tank to the east of Misra Yantra was repaired. The graduation of Rama Yantra, Misra Yantra and Jai Prakash Yantra were restored as per original, after

strengthening the structure. The flooring of tank around Samrat Yantra was concreted after de-silting.

Besides above, the science branch of Archaeological Survey of India provided chemical treatment using organic solvents to remove thick deposits of dust and dirt, greasy matter derived from the repeated touch of visitors, black deposits due to emission from vehicles etc. from the surface of Yantras.

The conservation efforts on the Jantar Mantar since 2000 have been directed at not only conserving the physical structure of Yantras in the observatory, but also at restoring their functional aspects. For the preservation, conservation, beautification and restoration of the Jantar Mantar observatory, the Archaeological Survey of India signed a MOU with M/s Apeejay Surendra Park Hotels through National Culture Fund (Ministry of Culture) under private public participation scheme in 2000 since then the project has actively interacted with astronomers and students of astronomy. As a part of endeavor, preparation of detailed and intensive feasibility report based on archival research with experts input has been prepared. An analysis report of the mortar samples from different parts of the Misra Yantra to investigate the composition of mortar used, has been prepared by Archaeological Survey of India. Analysis of ground water levels and soil conditions has been done by Central Ground Water Board. Detailed measured and condition survey of the Yantras to extensively document its present condition, including areas of replacement of plaster, position of cracks and fissures and areas of damp penetration has been undertaken.

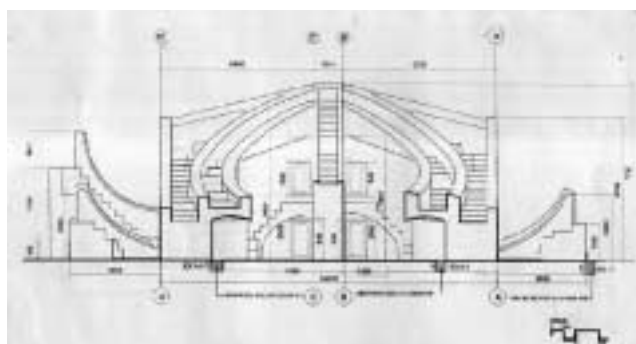
Redesign of information and interpretation facilities of the Jantar Mantar Complex to create awareness and appreciation about the working of astronomical instruments has been attempted. Detailed photo and drawing documentation of the calibration of the yantras also done. An analysis and filed work report on the functional aspect of the yantras at Jantar Mantar observatory has been prepared by expert astronomers of Nehru Planetarium, New Delhi. Trial trenching along the Misra Yantra to ascertain original floor levels inside as well as out side the Yantra has been done by Archaeological Survey of India including Macro Photo and drawings documentation for future planning to restore the Jantar Mantar observatory. The face lifting of the monuments was taken up at large scale including horticulture operations.



Misra Yantra (1915 A.D.)



Misra Yantra (2008)



Elevation of Misra Yantra along with location of trial excavation pits



Ram Yantra



Illumination of Misra Yantra



Illumination of Yantra's

The historical village of Gherveh lies about 120 kilometers east on the Zanjan-Tehran road. Inside this village lies a beautiful mosque named the jameh mosque of Gherveh. This mosque was built in the Seljuk Dynasty and has a Chahar Taghi style. In the structure of building bricks sized $21 \times 21 \times 5$ cm and $31 \times 31 \times 7$ cm have been used. The plan is square shaped and the length of each side is 7.5 m and the entrance are from the north and opposite of that lies the mihrab.

The ceiling of the mosque is of the Khoozi (Roman) dome type that is considered as a single centered arch. Using four tromps and 16 arches. This dome has changed the Shabestan into a circular plan and from this point of view shows an evolution in the making of domes. This is exactly the same change that was made and completed by the architects of the Ilkhani Dynasty, and led to the omission of the dome tromps.

This historical mosque has a very unique wage of ornaments in its structure and great deals of Architectural ornaments are seen in this mosque. One of the inscriptions of this mosque that is written in Sols goes back 800 years to the year 575 A.H. (1200 A.D). The motif design and colorful plaster work and the geometric patterns used in the structure of this mosque, Places this structure among one of the most valued mosques of the Islamic era. As a whole

this mosque is comparable with the Sojas mosque which is 100 km away from it.

In recent years the cultural heritage, handicraft and tourist organization has been paying more attention to the structure and some protective and repairing investigations are taking place which are still at a primitive level.

According to the investigations that have taken place the destructive forces of this structure are as follow:

- 1- Human sources
- 2- Natural sources

In appropriate usage, lack of a maintenance system and essential protection of the structure, the derangement in the human environment (the acidification of the environment, the existence of destructive elements in the atmosphere of the earth, and the presence of machining in the area) have all play a role in the destruction of the structure. The effects of rain, snow and frost, the presence of birds especially storks on top of the dome, and the presence of termites and increasing humidity are all part of the natural destructive forces of the structure.

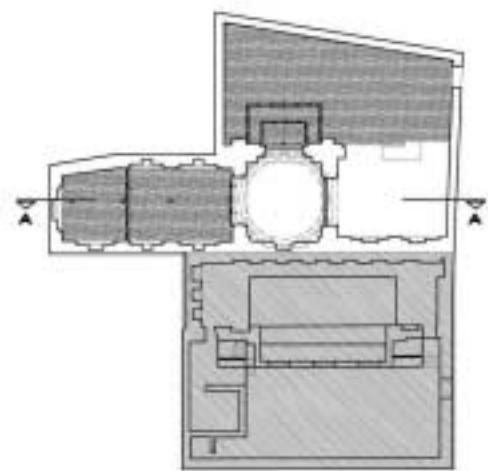
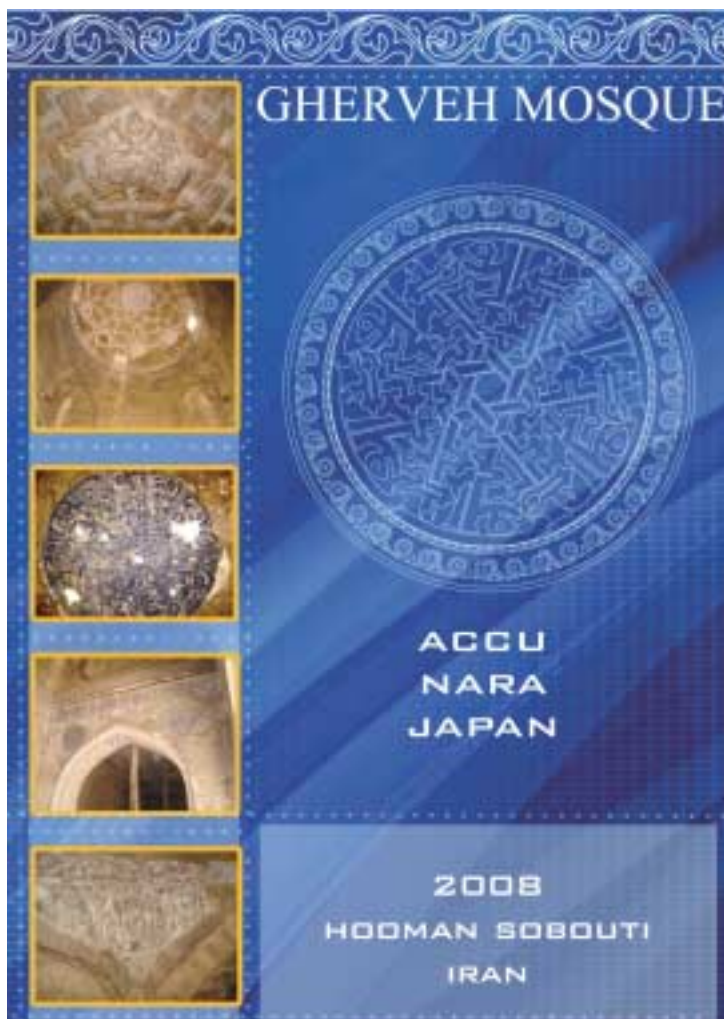


Figure 1: Plan [1]



Figure 2: Entrance view [1]

Reference:

1. Sobouti. H., "Zanjan History", Zanghan (1986), Zanjan, Iran
2. M. E. Weaver, "Preliminary study on the conservation problems of five Iranian Monuments ", 1969
3. Sobouti. H., PhD Thesis, Gazi University, Ankara, Turkey 2008



Figure 3: General view of inside of dome

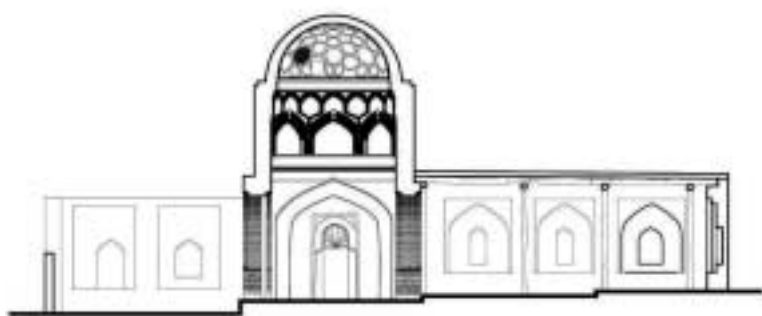


Figure 4: Section A-A

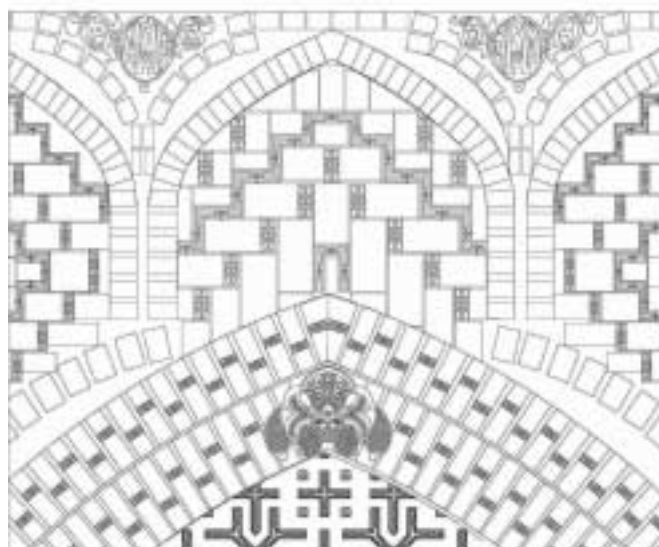


Figure 5: Plaster work example

It was a moment of joy and pride for Malaysians as they welcomed their two historic cities of Melaka and George Town as World Heritage Sites. The United Nations Educational, Scientific and Cultural Organisation (UNESCO) has accorded the two cities the status when the Paris-based World Heritage Council met in Quebec, Canada on 7 July 2008. This recognition is of great importance especially to the Malaysian people because it ensures major historical and cultural properties in both cities are listed on the UNESCO's World Heritage List. This move will subsequently boost multiculturalism and heritage tourism in Malaysia. Other sites in Malaysia already on the World Heritage List are Gunung Mulu National Park, Sarawak; and Kinabalu Park, Sabah, both inscribed in 2000.

World Heritage Criteria for Selection

It is no easy task for any site to be included on the World Heritage List. The site must have outstanding universal value and meets at least one of the ten selection criteria. These criteria are stated clearly in the *Operational Guidelines for the Implementation of the World Heritage Convention* which, besides the text of the Convention, is the main working tool on World Heritage. These criteria are regularly revised by the Committee to reflect the evolution of the World Heritage concept itself.

The historic cities of Melaka and George Town both portray outstanding universal value as depicted in a mosaic of multicultural societies, a phenomenon which have been brought about by regional and global influences from the early 1400s. Their prime locations and functions in the Straits of Melaka have rendered both Melaka and George Town to successfully meet three of the World Heritage Criteria as follows:

1. **Criteria ii** - "to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design".

Explanation: Melaka and George Town represent remarkable examples of multicultural trading cities in the East and Southeast Asia regions. These timeless cities illustrate a fusion of mercantile and cultural exchanges of Malay, Chinese, Indian and European origins.

2. **Criteria iii** - "to bear a unique or at least exceptional testimony to a cultural tradition or to a civilization, which is living or which has disappeared".

Explanation: As cities of living heritage Melaka and George Town bear testimony to a buoyant multicultural Asian heritage and traditions. The coexistence of multiple religious buildings in the cities represents a harmony of religious pluralism in Asia.

3. **Criteria iv** - "to be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history".

Explanation: The culmination of Malay, Chinese, Indian and European influences over 500 years have created a unique ensemble of architecture, culture and townscape in Melaka and George Town without parallel in the East and Southeast Asia. The range and exceptional architecture of shophouses and townhouses of Melaka and George Town are the biggest of such collection found in any city outside mainland China.

Mercantile History of Straits of Malacca

From the 7th to the 11th centuries, the Straits of Malacca had established itself as an important shipping and trading routes under the Srivijaya Kingdom, which had ruled over the northern



Historic cities of Melaka and George Town have developed over 500 years of maritime trading and cultural exchanges between East and West in the Straits of Malacca.



Melaka (left) and George Town (right) have the biggest collection of shophouses and townhouses outside mainland China.

Malay Peninsula. The Srivijaya Empire had attained substantial maritime power in the region due to its capacity to control local native pirates. In the 15th century, the Malay Sultanate of the port city of Melaka came into power. Sea piracy continued to be the main threat to trading ships along the Straits of Malacca.

Western maritime powers also had vested interests in the Straits of Malacca. The Portuguese took power over the Straits following their invasion of Melaka in 1511. During their reign until 1641, the Portuguese had imposed a tax system on all trading ships passing through the Straits of Malacca, a practice which has markedly influenced the maritime history of the Straits. Besides the Portuguese, the Straits of Malacca also succumbed under the rules of the Dutch in 1641-1795 and the British in 1788-1957. Due to incessant sea piracy activities in the Straits, the Dutch and the British, the two dominant colonial powers in the Southeast Asia region, had teamed up to combat sea piracy in the Straits in the 1830s.

Meanwhile in 1788, Captain Francis Light established the port city of George Town at the northern tip of Penang Island and made it the first British settlement on the Malay Peninsula. Since then, George Town had attracted many immigrants from Indonesia, China, India and the Middle East, some of whom had settled in the island.

Heritage Attractions in Melaka and George Town

The historic cities of Melaka and George Town have developed over 500 years of maritime trading and cultural exchanges between East and West in the Straits of Malacca. The dominant influences of Asia and Europe over the centuries have endowed these cities with a myriad of tangible and intangible multicultural heritage. With its government buildings, shop houses, churches, squares and fortifications, Melaka demonstrates the early stages of this history originating in the 15th century Malay sultanate and

later the Portuguese and Dutch periods beginning in the early 16th century.

In Melaka, the historical sites near the St. Paul's Hill, the 17th century Dutch Stadhuys buildings, Jonker Street with its Dutch-era buildings, Jalan Tukang Besi, Kampung Morten and Malacca River have been recognised as part of the world heritage sites. The Melaka's Core Zone covers an area of 38.62 ha, with a buffer zone of 134.03 ha. Melaka's key heritage sites include:

- Fort A Famosa
- St. John's For
- St. Peter's Church
- St. Paul's Church
- Christ Church
- Francis Xavier Church
- Stadhuys Building
- Jonker Street t
- Portuguese Square
- Kampung Morten
- Cheng Hoon Teng Temple

George Town

Featuring residential and commercial buildings, George Town echoes the remains of the British era from the end of the 18th century. Many British colonial buildings such as churches, mansions, schools and government offices can be found in George Town. The Core Zone of George Town covers an area of 109.38 ha with a buffer zone of 150.04 ha. George Town's prominent heritage sites include:

- Lebuah Aceh Malay Mosque
- Kapitan Kling Mosque
- Goddess of Mercy Temple
- Sri Mariamman Temple
- Khoo Kongsi Temple
- St. George's Church
- Assumption Church
- St. Xavier's Institution
- Convent Light Street
- Little India
- Beach Street
- Fort Cornwallis
- Town Hall
- City Hall
- Port areas



Portuguese Fort A Famosa (left) and Dutch Stadhuys Building (right) in Melaka



British colonial architecture in George Town: Town Hall (left) and Fort Cornwallis (right)

ACCU REPORT	The Present Situation of Cultural Assets in the National Museum	Aishath Moosa Fikree
------------------------	--	-----------------------------

The National Museum (NM) of Maldives was opened on 19 November 1952. It received its collection from the government and the public, and owns the most important cultural assets of the country. The NM is housed in the only remaining building of the Sultan's Palace of Maldives. Three-storied, with nine rooms, it was intended to store and display the museum's collection only. The artifacts were stored at normal room conditions and were not given any special attention. The displayed items were cleaned everyday by rubbing with a clean, dry cloth. They were also stored at normal room conditions. The importance to conserve or preserve the artifacts was not felt.

With the participation of the personnel of the museum in foreign seminars, workshops and training programs, the need for conserving and preserving the artifacts in the museum was realized. The importance of a conservation laboratory and such was also felt. Thus requests were made to different authorities several times, however, few of which were ever received. This was due to various reasons; the main one being the unawareness of the concerned authorities and public in general. Moreover the unavailability of funds for such tertiary work contributed to the slow-spaced development of the museum.

The first work to preserve the artifacts in the museum was done in the year 2000. They included mostly cushioned objects such as chairs and beds. The first ever conservation laboratory of the museum was made in one of the rooms of the NM in December 2001. It came into being with the aid of UNESCO, who provided the necessary equipments plus an Indian conservator to get things started. During the three-month stay of the conservator, museum staffs were trained so that they can handle things after that. The major items conserved consisted of copper, bronze, mixed alloy, silver and gold. The most used chemicals were brasso, tamarind solution, ammonia solution, turpentine, NaOH and NaHCO₃. The

procedure used to conserve were very harsh, and the resulting artifacts looked as if they were brand new. It has been pointed out several times by experienced visitors the unsuitability of the methods used.

At the start of year 2002, with the acquisition of a new building for the NM, the laboratory and storage was moved there. Unfortunately, all the personnel who were working at the museum at that time gave up the job for various reasons. After a couple of years work of the conservation laboratory also came to a standstill with this and shortage of chemicals. In August 2002, air conditioners were installed in the museum. From which time onwards the artifacts are stored at a constant temperature of 22-24 degrees Celsius. However, there are no dehumidifiers or devices for pest control yet.

The NM has over 1500 registered artifacts and a lot more in its storage. Still little work has ever been done to conserve or preserve them. It is the only government owned museum in Maldives, and thus the warehouse of the important cultural assets of the country. Although a few tourist oriented museums have popped up recently, they do little to the protection or preservation of the cultural assets of the country. The responsibility of protecting and preserving them rests heavily on the NM.

Now the NM is waiting for its new building, the construction of which is going on with the aid of the Chinese government, projected to be over in the end of 2009. Thus the problem of space for the different purposes of a museum is on the way to be solved, but still there are few experts or trained staff here to take over the NM.



Pretreatment and post-treatment: pictures of coins from early 18th century



Activities of Department of Archaeology

During the fiscal year 2007/8 different conservation and archaeological activities were done by the Department of Archaeology.

1. Discovery of Lichhavi site:

In 2007 with chance, a very important site of the Lichhavi period (5th C. to 9th C. A.D.) was discovered at the east southern habitation site named Nankhel of the Kathmandu Valley. From March to May an excavation was done in that area which revealed water canal system, water reservoir and the extended foundation of the temple, which is still in use. There are many Lichhavi stone sculptures around the temple and in the main sanctum as well. The temple is dedicated to the lord Shiva.

2. Discovery of Medieval water channel and conduit:

A medieval water system with the water channel and water conduit was discovered when digging a foundation of a building. Probably the site was buried after the great earthquake of 1934. The site was excavated for the further findings. The original walls and other sculptures belonging to the water system were discovered. All the findings were documented and in the interest of the local people it will be reused to fulfill the problem of water scarcity in the Kathmandu valley.

3. Conservation of 55 Window Palace:

This project, jointly organized by the Department of Archaeology and Bhaktapur Municipality, has been continuing from the last few years. The work was formally commenced on 27.08.2003. Almost 100% of the total work has been completed and the project is in its final finishing stage. The palace is going to be used as a museum in the future.



Shiva Linga Enshrine in the temple



Water conduit with the medieval stone image of Avalokiteshwar



Water collecting tank



Excavated walls encircling the present temple



Water channel



Water reservoir



Terracotta water channel surrounded by brick masonries



Water is still flowing.



Before the earthquake of 1934



After the earthquake of 1934



55 Window Palace was reconstructed after the earthquake of 1934.



After the Conservation of the 55 Window Palace



Wall paintings in the 55 Window Palace



Exterior and interior of the 55 Window Palace

4. Excavation of Khapatedanda

Geographically Khapatedanda is located at $26^{\circ} 47' 30''$ N and $86^{\circ} 26' \times 30'$ E above 168 meters from the MSL. A new village called Dandatole of Govindapur village council in ward no. 8 in Siraha district of Nepal has been more popularly known as Khapatedanda than its official name after the discovery of profuse quantity of potsherds scattered on top of many mounds. The site is surrounded by the villages of Kusmaha Musahari and Ranaha in West, Mushari in East and Khesara in South and irrigated by the rivers Khutti Khola on North and East then Sarre Khola on the South and West of the site.

It is a new name given to the site by local new settlers from hilly areas, which meant a ridge containing terracotta potsherds. The site bears the archaeological deposit of at least two cultural periods. Among the earliest period belongs to the Neolithic assemblage (which can be dated between 2000BC-18BC) and the rest period is associated to the PG ware (Polished Grey Ware) and

NBP (Northern Black Polished Ware)(600-300 BC). The Neolithic antiquities (i.e. gold ornaments, four faceted and round butt, polished Neolithic cells) are found on the south-west corner of the Khapatedada village. The antiquities belonging to PG ware and NBP are consisted of Grey ware and NBP potteries with black and silver shades. This site can be taken as the first NBP Grey ware site so far discovered in eastern region of Nepal.

5. Conservation of Guheshwari Sattal:

The Guheshwari Sattal (Public rest house) of the Pashupatinath Protected Monument Zone was conserved this year. The rest house is used for the purpose of different religious activities. The building was in dilapidated state due to lack of maintenance and from the human and animal activities.



Before conservation of Guheshwari Sattal

After conservation by the Department of Archaeology

6. The Patan Royal Palace Restoration and Conservation Project:

The Patan Royal Palace Complex, located in the World Heritage Site of Patan Darbar, is one of three urban palace precincts created by the Malla kings of the Kathmandu Valley. The main palace quadrangles were constructed at an ancient crossroads in the seventeenth century during a significant period of architectural patronage by King Siddhinarasimha Malla (r.1619-1661) and his son, Srinivasa (r.1661-1684). As a backdrop to the 17th century royal buildings, the site contains a continuum of the building activity from the 6th to the 20th centuries, an intimate and richly layered assemblage of courtyards, temples, sculpture, water features, and garden space. Mirrored by the multi-tiered roofs and towers of Darbar Square's royal temples, the Palace Complex contributes to one of South Asia's finest historic urban compositions. In spite of its rich historical fabric the Palace Complex remains largely unused and poorly maintained. While the highly acclaimed Patan Museum has brought life to Keshav Narayan Chowk (built around 1734 and restored between 1983-1997), the remaining spaces of the complex are derelict, filled with debris, and used inappropriately to house guards and squatters. With the decline of ritual use, site activity is now limited to the display and procession of a royal sword, and the rites associated with the worship of Taleju. To the east of the palace courtyards, in the two acre Bhandarkhal Garden, are the 17th century Bhandarkhal Pukhu constructed contemporaneously with the Tusha Hiti of Sundari Chowk, three historic open air shrines, and a collection of buildings occupied by administrative offices of the Department of Archaeology.

The history, function, and adaptive reuse of the Bhandarkhal must be studied in order to assess its present and historical relationship to the palace precinct and to understand its development potential. The archaeological investigation of the garden will be an important step in this process, to be undertaken prior to any further development of the garden. Research and documentation for the Patan Royal Palace Complex project comprise six major components, presented chronologically in order of their construction. They are Sundari Chowk & Tusha Hiti; the Bhandarkhal Pukhu; Mul Chowk & Nasal Chowk; Bahadur Shah's Palace; the Court Building & Kot Pati; and the Bhandarkhal Garden, or "Treasure Garden." Work is underway to produce a detailed documentation for each component.

The conservation note was submitted to the Department of

Archaeology to form a part of KVPTs (Kathmandu Valley Preservation Trust) request for the permission of the Department of Archaeology to approve the plan for the Patan Royal Palace Complex. KVPT is in agreement with the Department of Archaeology, to expand the Patan Museum as one appropriate and well functioning reuse of the complex. An expanded museum would provide exhibition space for the exploration of topics relating to Nepalese architecture, arts, and crafts. The restoration and conservation of the Patan Palace Complex will not only expand the world class Patan Museum but make accessible to visitors and locals alike Patan's most underutilized cultural resource, showcasing the historic buildings themselves as the primary exhibition.

Conservation strategies is developed to retain as much historic fabric as possible, intervening as little as possible, while also recognizing the modern needs of an expanded museum space. A balance between compatibility and practicality must be maintained. Close partnership between KVPT (Kathmandu Valley Preservation Trust) and the Department of Archaeology are crucial to the development of the highest standards of conservation and the development of appropriate adaptive reuse and management. Research, documentation, and the production of a detailed historic structures report are necessary for each project component.

KVPT have started the conservation and restoration project starting from the Sundari Chowk and Tusha Hiti, constructed by King Siddhinarasimha Malla (1627 and 1645). Sundari Chowk is the earliest and most intact surviving royal quadrangle of the Patan Royal Palace Complex and is regarded by many scholars as the most important example of Malla-period palace architecture for the richness of its largely intact façade carvings and for its pleasing proportions.

Management Issues

Different organizations including Department of Archaeology are involved in the management of PMZ with overlapping responsibilities, which causes confusion and resistance to taking responsibility, besides offering loopholes to citizens who want to avoid the law.

The Department of Archaeology (DoA) guidelines tend to be rigid, and do not address the demand for modernization and change of houses, which occurs in residential areas. The current bylaws do not consider the needs of the inhabitants. There is



Patan Palace Area



Exterior of Sundari Chowk

insufficient guidance on proper and economical renovation practices to address these problems. The guidelines mainly focus on the new constructions, not conservation of old buildings, repairing and restoration of houses.

Moreover the bylaws are only concerned with facades facing the main street and not consider those facing the courtyards. The Government gives heritage awards and subsidies to the owners building new Reinforced Concrete Structures (RCC) with traditional facades. This encourages people to dismantle their old houses instead of maintaining them. This type of new traditional looking architecture, or “Disney- Architecture”, is also a threat to the authenticity of the area.

The management is mainly focusing on the buildings, and not on the structure of the overall urban fabric. The courtyards and open spaces within the PMZ are also of historical value. There is a significant difference between the approaches to conserve monuments and those to conserve residential buildings. House

owners have needs and personal requirements, which means that the urban fabric will never stop transforming.

Analyzing the above issues, the question is therefore not necessarily how to conserve the urban fabric as it is, but how to control the transformation of them in a way that ensures coexistence between transformation and conservation. To keep people living in the area one needs an approach which as much as possible addresses modern life requirements. It is important that the cultural heritage is given back to the people.

People I talked to in the area of World Heritage Site expressed frustration towards the question of conservation, because they feel powerless in questions about the future of their own living environment. People should be included in the process of conservation and development, so that they regain their feeling of identity and responsibility for the area. Conservation needs to be treated as an issue of culture, not morally that of monuments.



Sundari Chowk



Interior of Sundari Chowk and Tusha Hiti (Royal Bath)



Papua New Guinea

ACCU REPORT	The Preservation of the Kuk Early Agricultural Site in Papua New Guinea	Naomi Faik Simet
------------------------	--	-------------------------

Papua New Guinea (PNG) has ratified the World Heritage Convention in 1972. The World Heritage Convention came into force in 1972. Over the last few years, some work has been done towards providing a tentative list for possible inscription on the World Heritage list in the name of preservation. One of the second oldest sites found in Papua New Guinea which was included in the listing is the Kuk Early Agricultural site. This site is also known as 'Kuk site' or 'Kuk'. The Kuk is an archaeological site evidencing early agricultural practices in New Guinea dating to at least 7000 - 6400 years ago and potentially to 10,000 years before present.

On the 6 July 2008, the Kuk Early Agricultural site was inscribed on the World Heritage List.

Location

Kuk is located in the upper Wahgi Valley swamps, near the town of Mount Hagen, in the Western Highlands province of Papua New Guinea. The archaeological evidence at Kuk indicates that Papua New Guineans were among the world's earliest farmers. The Kuk World Heritage site is located on state land, although currently occupied by the traditional Kawelka landowners. The Western Highlands provincial government of PNG and the Kawelka landowners have agreed to work together to provide long-term protection for the area.

Protection History of the Kuk

The Kuk site is protected in Papua New Guinea under the National Cultural Property (Preservation) Act (1965). Additionally, protection and management of the site have been overseen at various levels within the country, including:

- a case officer for the site since 1999 in Archaeology Section, PNG National Museum and Art Gallery;
- a Kuk Heritage Management Committee established in 1999, sponsored by the Western Highlands Provincial Government, comprised of Kawelka leaders, provincial representatives (including past Provincial Governor and Administrator), and representatives of national institutions (variously National Commission for UNESCO, PNG National Museum and Art Gallery, Department of Environment and Conservation, University of Papua New Guinea, National Research Institute); and
- local Kawelka leaders and landholders have formed a Kuk Local Heritage Committee and since 1998 have consistently expressed a desire to ensure the protection of the site under customary landholder and land-use arrangements. A number of initiatives regarding the management of the kuk site have recently occurred, or are planned, at the national, provincial and local levels.

Present State of Conservation

Archaeological remains associated with former cultivation, as well as evidence of past environments, are well-preserved at Kuk. These include:

- features - bases of mounds, ditches, pits, stake holes, post holes.
- house sites - associated with Phases 5 and 6, and potentially Phase 4.
- artefacts - stone tools and wooden digging implements
- deposits - soils, sediments, palaeosols and feature fills
- plant remains - microfossil (pollen, phytolith, starch grains) and macrofossil (seeds, wood).



A Photograph of Kuk site by courtesy of Dr Joseph Ketan: The photograph was taken by Prof. Jack Golson and Dr Philip Hughes in 1972 and supplied by Ms Pamela Swadling.

Factors Affecting the Property

The Kuk site is currently threatened by several processes and factors within the boundaries of the proposed core area and buffer zone. The proposed core area and buffer zone are occupied by hundreds of villagers. Some of the activities and practices of crop and land management by the villagers, but not all, do or can potentially negatively affect the archaeological value of the site.

Natural Disasters and Risk Preparedness

The Kuk site is not exposed to major natural disasters, other than climate-related disasters. The most likely natural disasters are:

1. Minor earthquakes that periodically cause tremors and occasional landslides in the Upper Wahgi Valley.
2. Volcanic eruptions that have periodically deposited tephra at Kuk during the Holocene; however, these eruptions occurred at volcanoes hundreds of kilometers away off the north coast of New Guinea or potentially, in the Owen Stanley Ranges to the east.

Both these natural disasters would impact heavily on people living in the area, but would have no negative impacts on buried archaeological remains. It has been hypothesized that the wetlands were periodically abandoned in the past following ash-fall events during the Holocene. Volcanic eruptions and landslides would only contribute material to the site aiding its preservation.

Conclusion

Since the nomination of the Kuk Early Agricultural Site in June 2006 for World Heritage Listing, there has been constant rejection of the nomination document by the World Heritage Office in Paris. However, Kuk is now inscribed on the World Heritage Listing. The announcement of the good news for Papua New Guinea was released by the World Heritage Committee convened on the 6 July 2008 during the 32nd Session in Quebec City, Canada. The significance of this achievement is the fact that it is

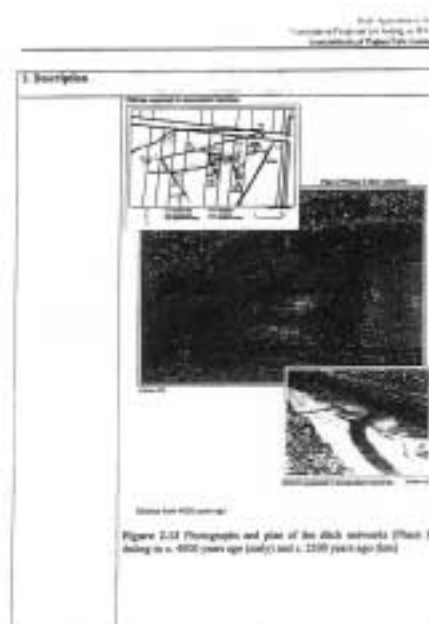
the first world heritage site in Papua New Guinea.

Note:

The sources from which I gained information on the Kuk site are as follows.

- (1) John Muke, Ph.D, Social Research Institute, Port Moresby, Papua New Guinea
- (2) Tim Denham, Ph.D, Monash University, Melbourne, Australia
- (3) Joseph Ketan, Ph.D, University of South Pacific, Suva, Fiji
- (4) Leonardo A. Salas, Ph.D, The Wild Conservation Society.

I would like to acknowledge Dr Tim Denham for the diagram and photograph, cited from *The Kuk Early Agricultural Site - a cultural landscape*, published by the Government of Papua New Guinea's Ministry of Environment and Conservation.



Archaeological research and excavation is not a new concept to the Central Cultural Fund (CCF), which successfully completed several such research programmes in 1980's. Exploration, research and excavation programmes have been completed at the gigantic ancient stupas; the Jetavana and Abhayagiri at Anuradhapura and other ancient historic sites. Most of Sri Lanka's hidden historic sites were discovered and unearthed during such expeditions carried out. One fine example is the recent excavation carried out at the old Courts Complex in Kandy in search of the buried Palace of the King. The programme was highly successful as it has been able to shed light on medieval city plan and the arrangement of Palace buildings, where the excavated ruins exactly coincides with the 16th century Dutch map of Kandy.

The Central Cultural Fund was mostly concentrated on conservation activities during last decade and it has completed several major conservation works like the Jetavana Stupa and its outer buildings, ruined monastic buildings at the Abhayagiri Complex, ruins at the medieval capital Polonnaruwa, famous Sigiriya rock and its landscaped gardens, Kandy Palace Complex and Temples, the Dutch Reformed Church and the newly conserved Dutch Ware House at Galle Fort etc.

But with the start of this year, the Central Cultural Fund is more focused on the archaeological research aspect and the possibility of using digital application to the work. The Department of Archaeology of Sri Lanka has set the example by leading several major excavations to reveal pre-historic human settlement sites in the island. They have been able to discover megalithic cemetery with cist burials scattered over 15 acre area at Horowpathana near Anuradhapura, and evidences for organized burial rituals. In another such expedition the excavators have been able to find large shell midden layer and a complete human skeleton, which date back to 10,000 years near Hambantota in Southern Sri Lanka.

With the revival of excavation activities the Central Cultural Fund was entrusted to carry out rescue archaeology work at an ancient site called Veheragala, which was about to be submerged by a new reservoir. The CCF carried out a hurried rescue operation to

salvage artifacts and other historic materials. It provided an ideal opportunity for the young archaeologists to experience what rescue archaeology is and get onsite training while recovering the materials. During the exercise they have been able to document and record the site and build a chronology of the region. Among the artifacts found were pottery belonged to 7th - 8th centuries, bricks and tiles, iron tools etc. The site was transformed into a Buddhist Monastery later and there were remains of shrine room, Bodhi tree shrine and a monk's residence. One adverse fact about the whole thing was that the time limit. The archaeologists were given only 28 days to complete the work and remove the material they collected. Hence most valuable ones were salvaged and excavations also carried out at selected points.

This reveals another sad facet about the poor recognition given to such work in the Island. Lack of coordination between institutions involved in building the reservoir and their total ignorance of the historic value of the ancient site was clearly evident during the exercise. The authorities were merely fulfilling the legal requirement of conducting an Archaeological Impact Assessment only to get the clearance for the reservoir. But it was highly successful in terms of training and recovery of valuable artifacts, which will be exhibited in newly constructed museum at Kataragama - a socio-cultural and religious haven for all communities in the Island.

A major exploration and excavation activity was commenced at Vessagiriya - a rock monastery complex south of Anuradhapura. This new research programme focused on revealing the nature of human activity of the region and its cultural landscape and understanding the social/archaeological background. The excavations revealed several cultural layers existed at the site dating from pre-historic times. Large number of artifacts which included red ware, black and red ware, bones, rock and clay artifacts were found. The team of archaeologists has been able to experiment the computerized digital documentation method during the activity.

The most important success story in reviving the archaeological



Ancient megalithic cemetery site near Anuradhapura, Sri Lanka



Surveying the Vessagiri site



Newly found shell middens site near Tissamaharama, Southern Province, Sri Lanka

activities is the Maritime Archaeology unit of the Central Cultural Fund. Maritime Archaeology is relatively new field not only in Sri Lanka but the whole South Asian region. Being an island lay on important sea trade route between East and the West, Sri Lanka has rich collection of shipwrecks around her coast. The discovery of silver wreck near Great Basses reef off south coast of the island stirred up the activity in 1960's. A leading personality engaged in this was late Sir Arthur C. Clark, who pioneered the diving activities. But it was not sufficient to ignite enough interest among the masses.

The present project commenced recently with the involvement of the UNESCO to train the CCF archaeologists in exploration, excavation and conservation of marine archaeological sites; salvaging artifacts and their restoration. They have selected several shipwrecks inside Galle Harbour and already conserved one major wreck, the VOC* ship "Avondster", which sank in Galle in A.D. 1659. Several artifacts including ship's anchor, cannon, cannon balls, ropes, ship's bell and human skeleton has been found at the wreck site and restored. The ship itself is also conserved in situ.

The UNESCO's Asia Pacific Training School for Marine

Archaeology was established in the Maritime Archaeology Unit of the CCF and already two teams of archaeologists have been trained. The work is guided by the maritime archaeologists from Australia, India and the Netherlands.

The Government of Netherlands gave valuable help to maintain the project in terms of technical and financial assistance. Several experts have been to Galle marine site and given on site instructions. They have also assisted in recovering the artifacts washed away by the 2004 Tsunami.

In addition to these major works, the Central Cultural Fund is focused on digital mapping of ancient cities and updating the data, revitalization of the museum concept by introducing new three dimensional open exhibitions and digital experiences etc. Future work will also be very interesting and much looked forward to by the archaeologists as there are several new sites identified in the North Western and Eastern Provinces of the Island.

VOC*: *Vereenigde Oostindische Compagnie* (Dutch), which means Dutch East India Company.



Plan of the Fort end indicating the harbour



Galle Fort and harbour aerial view



State of the shipwreck after excavation



Cannonballs retrieved from the Avondster wreck at Galle harbour



Excavation plan and cross section of the Avondster



Wooden barrels with pine resins, salvaged from the Avondster

Traditional lime mortar was used long time ago in common people in Vietnam; it was the basic inorganic adhesive in construction for thousands of years. Most of buildings in Hue monuments of Nguyen Dynasty (1802-1945) were constructed by traditional lime mortar. Lime mortar in Hue is different from other traditional plaster of another country because its manufacturing process is very special. It needs a special process because the weather in Hue is very humid that is not good condition for lime mortar to be hardened. Traditional lime mortar in Hue needs long time for setup so that it is very convenient for decoration work, especially the relief and mosaic-ceramic decoration but it makes difficult for the construction when we want to do quickly.

Hue Monuments Conservation Center-Vietnam, researched and applied successfully lime mortar for conservation. In the scope of this article, I would like to introduce the basic process of making traditional lime mortar of Vietnam and its physical properties.

1. Material:

- Lime $\text{Ca}(\text{OH})_2$: Two kinds of lime were used for plaster: One is from the stone and the other is from the sea-shell.
- Sand: From river
- Paper: Traditional paper was made from *Do* tree (*Rhamnoneuron balansae* in *Thymelaeaceae* family). Its function is to avoid the crack of lime mortar
- Rice tree: Its function is to avoid the crack of lime mortar and it also supplies the active sodium oxide.
- Glue: From *Boiloi* tree (*Litsea glutinosa* var. *brachyphylla*; *Litsea glutinosa* var. *glabraria*; *Litsea glutinosa* var. *longifolia*; *Litsea glutinosa* var. *Normalis*).
- Sugar cane: Molasses from *Mia* tree (*Saccharum* of *poaceae* family).
- Buffalo glue.
- Charcoal: From rice tree. It supplies the active sodium oxide and is used as black pigment.
- Pigments: Natural and man-made.

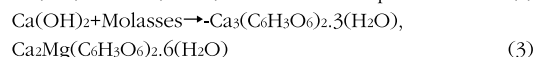
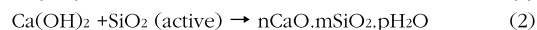
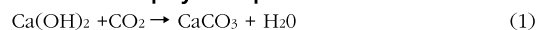


Picture 1



Picture 2

2. Chemical and physical process:



The main chemical process of lime plaster is carbonation (reaction 1). The best condition of this reaction is dry environment in about 50 -70 % RH (Relative Humidity), but the humidity of Hue is always high with 90 -100% in the rainy season. So that the reaction (1) of lime mortar in Hue is not complete, it is the reason why the lime mortar in Hue has different properties and has special making process.

The reaction (2) supports for hardness process. Sodium oxide must be active and it can be got in charcoal when we fire rice tree.

The function of molasses is not only the glue but also the adhesive in reaction (3). Some organic acid is contained in molasses and reacts with carbonate canxium to support stronger and easier during the hardness process.

In table 1, this is the X ray diffraction diagram of some lime mortar samples.

3. Main process of making traditional lime mortar in Hue - Vietnam

The raw material of lime mortar is the natural material of calcium carbonate (lime stone or lime-shell), after firing and hydration it become hydrate lime and after hardness process of lime mortar it changes to calcium carbonate. This process is the circle and very natural, so that it is stable with the time and suitable for



Picture 3

Picture 1: Minh Lau building in Minh Mang Tomb - Hue Monuments -Vietnam, built by traditional lime mortar with wooden frame structure.

Picture 2: The main gate of The To Mieu in Imperial City in Hue after restoration, built by traditional lime mortar with relief and ceramic decoration.

Picture 3: Thien Mu Pagoda in Hue after restoration, built by traditional mortar

environment.

On the other hand, because the reaction (1) of Hue's mortar is not complete, it is important that this plaster contains amount of hydrate lime, Ca(OH)_2 and it can continuously consolidate the structure when the lime plaster appears cracks. So, this kind of

plaster is very flexible and can exist for a long time.

In table 2, I would like to introduce the main process of making traditional mortar.

Table 1: X-ray diffraction diagram of lime mortar samples

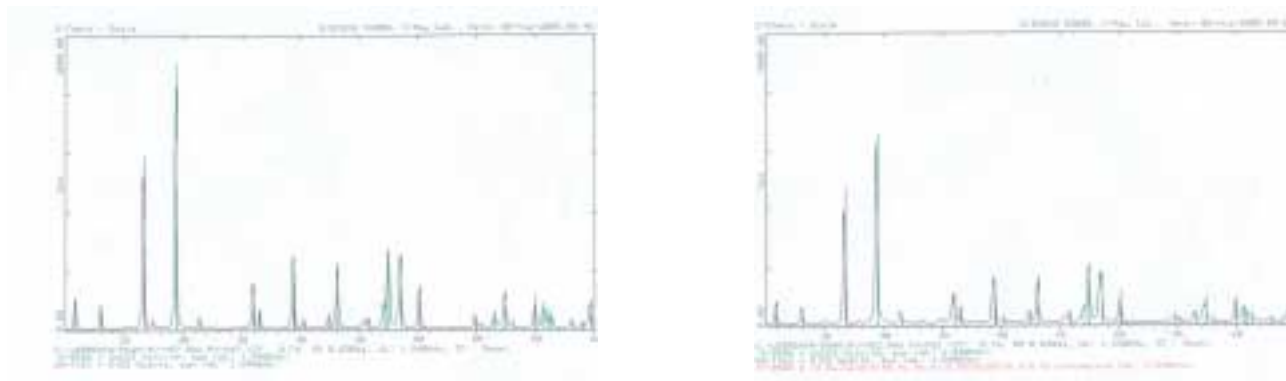


Table 2: Main Process of Making Traditional Mortar

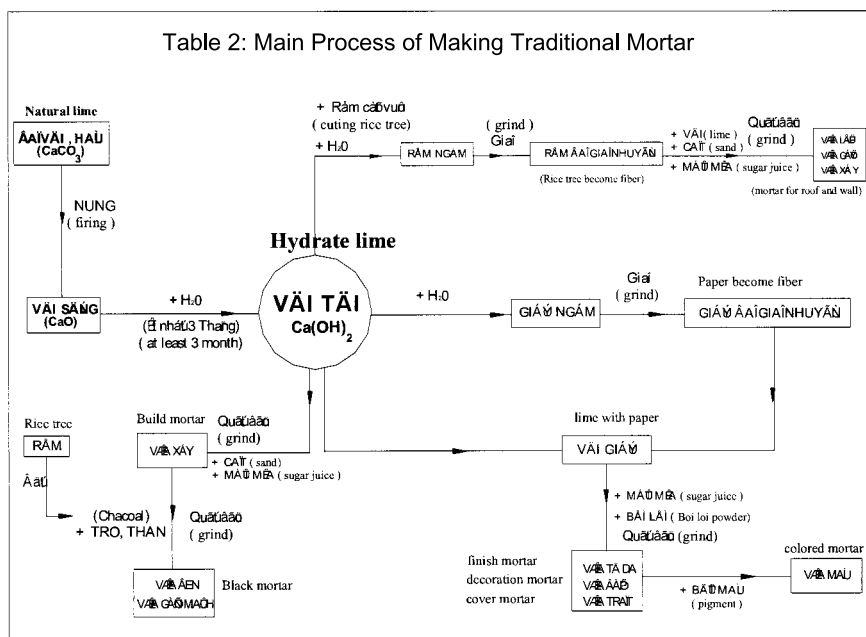


Table 3: Composition of traditional lime mortar (1m^3)

Kinds of plaster	Hydrate lime (kg)	Sand (m^3)	Ricetree (kg)	Molasses (kg)
Wall-plaster with rice tree	1100	0.67	10	10
Wall-plaster without rice tree	1000	0.8		10
Foundation-platter	1000	0.7		12
Roof-top-plaster	1000	0.7		12
Roof- plaster	1100	0.67	12	12
Wall-cover-plaster	1100	0.67	10	10

Table 4: Composition of traditional lime mortar (1kg)

Kinds of plaster	Hydrate lime (kg)	Paper (kg)	Pigment (kg)	Gluc (kg)	Molasses (kg)
Decoration plaster with paper	0.9	0.02		0.005	0.04
Decoration plaster without paper	0.95			0.005	0.04
Colored plaster with paper	0.9	0.02	0.03	0.005	0.04
Colored plaster without paper	0.93		0.03	0.005	0.04

Explanation:

1. Firing lime process: $\text{CaCO}_3 + \text{Q} = \text{CaO} + \text{CO}_2$; the temperature is about $1000 - 1100^\circ\text{C}$ in the kiln.
2. Hydrate process: $\text{CaO} + \text{H}_2\text{O} = \text{Ca(OH)}_2 + \text{Q}$
This process is very important for preparing of material, and needs the time for storing in water at least 3 month; The longer the better for storing in water.
3. Grind: Make the paper and rice tree to small line and make the plaster more flexible.

4. Conclusion:

The experience of traditional method is very important for conservation; it connects with the scientific knowledge to do

better the conservation work. Application of the traditional lime mortar was the good way in consolidation and reconstruction for monuments, and also contributes for cultivation of the traditional work.

The lime mortar in Hue is special surviving in high humidity, and now the old mortar in some building is still strong and very flexible. It surprised many specialists in building materials when they came to Hue. Conservators in Hue Monument conservation are now trying to get more experience and knowledge to understand clearly the characteristic of this material.



Picture 4



Picture 5

Picture 4: Making the lime mortar by traditional method

Picture 5: Making the ceramic decoration for the roof-top by traditional lime mortar

The Third Regular Report



ACCU Nara International Correspondents

The ACCU Correspondents periodically send reports on cultural heritage protection in their country. This is a collection of the third reports submitted by eight International Correspondents in the Asia/Pacific region.

The Third Regular Report

Contents

Cambodia	25
Srun Tech	
News from Angkor Archaeological Park	
India	27
Vasant Kumar Swarnkar	
Restoration of Cells at Purana Qila	
Malaysia	29
A Ghafar Bin Ahmad	
Treatment of Salt Contamination at the Old Town Hall, Penang, Malaysia	
Maldives	31
Aishath Moosa Fikree	
Excavation Status: The Kaashidhoo Archaeological Site	
Nepal	32
Mangala Pradhan	
Heritage Conservation Work by the Department of Archaeology	
Papua New Guinea	34
Naomi Faik Simet	
The Preservation and Maintenance of <i>Kundu</i> in Saidor Area of Papua New Guinea	
Sri Lanka	35
Sujeewa Kaushalyani Peiris Deraniyagala	
Restoring the Past: Artefact Conservation in the Central Cultural Fund	
Vietnam	37
Do Huu Triet	
Preserving the Art of Vietnamese Traditional Decoration on the Royal Architecture of Hue, Vietnam	

1. Inauguration Ceremony of Stone Inscription "ANGKOR, WORLD HERITAGE" in front of Angkor Wat Temple

On 1 December 2008, His Excellency Samdech Hun Sen, Prime Minister of the Kingdom of Cambodia and His Excellency Sok An, Deputy Prime Minister, Minister in Charge of the Office of the Council of Ministers and President of APSARA Authority attended an official inaugural ceremony of the Stone Inscription with the word as follows:

"ANGKOR, WORLD HERITAGE. The Inscription on this prestigious list has confirmed the Outstanding Universal Value of a unique set of Art, Archaeology and History. This jewel of the Khmer civilization is protected for the benefit of all humanity".

This inscription was installed in front of Angkor Wat temple. It was accompanied by His Excellency Sou Phirin, the Governor of Siem Reap Province and together with representatives of national and international institutions which are involved in Angkor as well as local villagers who live in the Angkor Archaeological Park and all students. On that occasion, HE Samdech Hun Sen acknowledged to International Coordinating Committee which helped the national authority prepare the document for inscribing Angkor on the World Heritage List. On 14 December 1992, Angkor was inscribed on the World Heritage List. He also thanked and expressed his sincere gratitude to all international institutions

for their cooperation of safeguarding, restoration, conservation and development of the Historic Site of Angkor. In the near future, the same stone inscription like this will be installed at Preah Vihear temple (Preah Vihear temple was inscribed on the World Heritage List on 7 July 2008).

2. The Ceremony of Completion of the Restoration and Conservation Work of Chau Say Tevoda Temple

On 5 December 2008, His Excellency Sok An, Deputy Prime Minister, Minister in Charge of the Office of the Council of Ministers and President of APSARA Authority and His Excellency Jia Qinglin, high rank officers of the Government of the People's Republic of China attended an official inaugural ceremony for the Completion of the Restoration and Conservation Work of Chau Say Tevoda Temple. It was accompanied by the Governor of Siem Reap Province, Madame Ambassador of China, His Excellency Him Chem, the Minister of the Ministry of Culture and Fine Arts together with national and international institutions which are involved. On that event, H. E Sok An thanked and highly appreciated the Government of the People's Republic of China which has sent the experts (Chinese Government Team for Safeguarding Angkor, CSA) to restore the temple since 2000 and cooperation work with APSARA Authority for the restoration and conservation of the whole Chau Say Tevoda temple.



Excellency Sok An made a speech.



His Excellency Samdech Hun Sen attended the inauguration ceremony.



Stone inscription of "ANGKOR WORLD HERITAGE"



Excellency Sok An and Excellency Jia Qinglin inaugurated the ceremony.

Chau Say Tevoda temple was built at the end of the eleventh to first half of the twelfth century in the reign of King Suryavarman II (1113-1145), in Angkor Wat style and dedicated to Hindu god. This temple is located on the east of Gate Victory of Angkor Thom about 500 meters, across the road south from Thommanon Temple.

According to the official signing of the agreement between the government of Cambodia and China in April 2006, the Chinese government will continue to assist in Angkor Safeguarding project, which is "Ta Keo Protection Project". In the first step, the research activity will be conducted in 2009.

3. The 100 years Anniversary of Angkor Conservation Office, in Siem Reap-Angkor

On 17-18 December 2008, Madam Men SamAn, Deputy Prime Minister and the higher representative of the Prime Minister of the Kingdom of Cambodia presided over the 100 years Anniversary of Angkor Conservation Office in Siem Reap Province. On that time, the Governor of Siem Reap Province, the Minister of the Ministry of Culture and Fine

Arts, the Director of APSARA Authority, Director of EFEO (French School of the Far East), and UNESCO together with national and international guests also attended this ceremony. The 100 years Anniversary of Angkor Conservation Office was celebrated for two days followed by the both Brahmanism and Buddhism ceremonies.

Angkor Conservation Office was established in 1908 in Siem Reap Province by Mr. Jean Commaille (French) while Cambodia was under French colonial rule. This Office was in charged of cleaning and cutting grasses and small plants growing in the temple and its surrounding, maintenance and restoration of most of the temples in Siem Reap. They also worked closely with EFEO and other French researchers to investigate on archaeology, history and Khmer arts.

Presently, Angkor Conservation Office is one of the departments of Ministry of Culture and Fine Arts in Phnom Penh, but still being situated in Siem Reap and has a big responsibility for artifact collection, maintenance and restoration of all the temples in Cambodia except Siem Reap Province (responsible by APSARA Authority).



Local villagers attended the event.



Excellency Jia Qinglin received the letter of appreciation from the Government of Cambodia



Madam Men Sam An, local villagers and national guests offered foods to Buddhist monks.



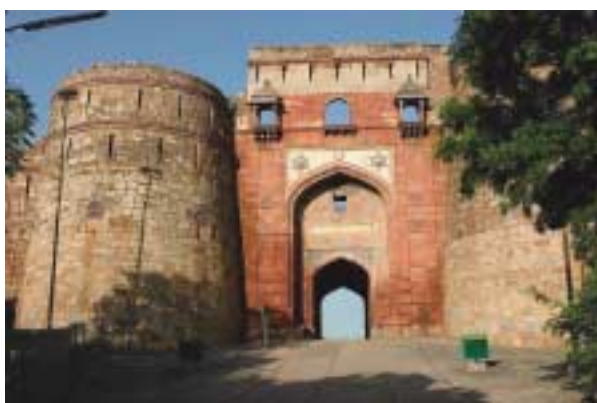
Significantly, until the beginning of the present century a village named Indrapat, obviously derived from *Indraprastha of the Mahabharata* fame, lay within the Purana Qila, itself. Sher Shah Sur (1538-45 A.D.) demolished the city of Dinpanah built by Humayun and on the same site raised this citadel. It is irregularly oblong on plan, with bastions on the corners and in the western wall. Its ramparts cover a perimeter of nearly 2 km. It has three main gates on the north, south and west, the last one functioning as the entrance now. The gates are double storied, built with red sandstone and surmounted by chhatris. On the inside, against the enclosure wall run cells in two-bay depth.

Among the three main gates, the northern one is called the Talaqi-Darwaza (forbidden gate). Why and when the entrance through it was forbidden is not known. Above the oriel windows on its front are carved marble leogryphs engaged in combat with a man. The exterior of the gate was originally decorated with coloured tiles, and the rooms with incised plaster-work. It is believed that Sher Shah left the Purana-Qila unfinished, and it was completed by Humayun. Among the scribbling in ink that existed in a recess of the gate, there was a mention of Humayun, and it is possible, therefore, that if the gate was not constructed by Humayun, it was at least repaired by him. In the southern gate, which is called the Humayun-Darwaza, there existed a similar inscription in ink mentioning Sher Shah and the gate 950 A.H. (1543-44A.D.).

Purana-Qila, originally lay on the bank of the Yamuna. The general depression on the northern and western sides of the fortress suggests that a wide moat connected with the river existed on these sides, which were approached through a causeway connecting the fortress with the main land. Built by

Sher Shah in 1541 A.D. the **Qal'a-i-Kuhna** Mosque is one among the few buildings extant within the Purana Qila. The prayer-hall is fronted by five openings with horse shoe-shaped arches. The central arch, higher than the other framed within a projection, is flanked by narrow fluted pilasters. The recessed surface of the arch, thorough which there is an opening, is beautifully decorated with inlay of marble and other stones and contains a small oriel window at its apex. The two arches on either side also have similar treatment, but with lesser ornamentation. The mihrabs inside the prayer hall are exquisitely decorated with concentric arches providing further scope for ornamentation. The rear corners rise with double-storied towers and oriel windows. Staircases lead to a narrow gallery on the second storey from both the ends in the hall. The central bay of the hall accommodates a dome, with traces of chhatris on either side. The courtyard, at the ground level, has a shallow tank. This mosque occupies an important position in the development of the mosque, exemplifying the transition from Lodhi to Mughal styles.

The double-storied octagonal tower of red sandstone relieved by marble with recessed arch at the level of ground and the first floor on each of its sides, is known as **Sher Mandal**. The tower is surmounted by an octagonal chhattri. The central chamber on the second storey is cruciform with recesses on its four sides, while the dados of interior are decorated with glazed tiles, the upper portion contains incised and painted plaster work. The structure believed to have been built by Sher Shah as pleasure pavilion was used by Humayun later as his library. As recorded in the Akbarnama, Humayun came to his library in 1555 A.D. to see Venus, which was about to rise in the evening. While he was descending, he slipped on the stairway injuring his right temple and died after a few days.



Main Entrance, Purana Qila



Damaged cells



Digging of the foundation



Raising of pillars in R.R. Masonry

A large **stepped well** (baoli) which was used by the villagers as refused pit for a long time, is located on the south-west of Qal'a-i-Kuhna mosque. It has eighty nine steps and eight landings. Each landing is marked by recessed niches in the side retaining walls. The northern extreme of the stepped well terminates into a circular well with a series of gradually receding arches. Another interesting structure dateable to Mughal period is hammam (bath) of a square room, which was made by Lakhauri brick masonry and located on the south-west of Sher Mandal.

Due to long course of time the walls of the fort and other structure were damaged and in dilapidated condition. Specially the cells of south western fortification wall were totally damaged and fell down and turned into a heap of debris. In other structures, cracks were developed and some veneering stones were also missing. The decayed, dead and pulverized lime plaster is also a big problem for the structures because it allowed water percolation and seepage which caused damages to the structures. The Delhi Circle of the Archaeological Survey of India had taken up the task to conserve and restore the monument and accordingly the scientific studies had been done before starting of the work.

The most of the cells along the fortification wall were damaged and only few survived. The restoration work of the cells of south-western wall started in the year 2005 with scientific debris clearance to find out the old foundation line/pit. Since there are few cells existed in the alignment so that no major difficulties occurred. After clearance of debris, the foundation was dug up in the old alignment and the rubble masonry pillars were raised with lime mortar as per the original composition. According to the

Mughal records and texts the composition and process of preparation of lime mortar were followed by the Archaeological Survey of India and the small workshop was also established at the site. For the restoration work, the Delhi Quartzite Stone was used since the same was used by the founder of the fort. After raising the pillars, the arches of the cells were restored. For this work, wooden frames were made as per the shape of the arches available in the cells of other part of this fort. A great exercise has been done to obtain the size and shape as per original. Over the wooden frame, the fine masonry work was done on rubble masonry with the lime mortar. After obtaining the shape of arches the wooden frames were removed and a thick layer (approx. 1ft.) of lime concrete was laid to provide a terrace and walk way. The fine chiseled veneering stone and lime plaster on the terrace were also provided to avoid the water percolation.

Besides, the Archaeological Survey of India has also undertook the conservation of other structures of the fort i.e. gateways, fortification walls, Sher Mandal, Qal'a-i-kuhna mosque. These structures provided with lime concrete flooring, filling of cracks, providing of missing and damaged veneering stones, water fighting of structures. Simultaneously chemical cleaning/treatment was also taken up to remove the suite marks, dust and dirt which form a greasy layer over the structures. A beautiful landscape was also provided with the horticulture operation in the area. Recently, in the January 2009, the Purana Qila Complex was illuminated by providing the low intensity lights, in a good manner under a project with Ministry of Tourism. Presently the Purana Qila is well preserved & standing with showing the grandeur of Cultural Heritage of India.



Wooden frame to obtain the shape of arch



Laying of lime concrete



Work in progress



Cells after restoration



View from Inside Western Gate, Purana Qila

Introduction

Amongst the common building defect occurrences in the heritage buildings in Penang, Malaysia, salt contamination is considered as the most challenging, particularly in building conservation practices. The problem of salt contamination is closely related to rising damp. Sodium chloride and calcium sulphate are commonly found in masonry walls of these heritage buildings, although other forms of salts including calcium carbonates, chlorides, nitrates, magnesium, potassium and sodium may be the culprits. Sources of such salts may be from saline soils, groundwater (rising damp), sea-spray, air-borne (meteoric), cleaning compounds (detergent), urine, air pollutants and natural salts found in stone, brick clay or mortar sand. High salt concentrations in masonry walls may cause extensive fretting and crumbling of the lower parts of walls. Most of the old buildings in Penang especially the colonial buildings are of masonry construction and are vulnerable to salt decay through water absorption via capillary effects during rising damp. The damage due to salt contamination usually occurs in several ways. The salt contamination can cause masonry walls to deteriorate. The wall plaster will eventually become soft and suffer from peeling paints. Such condition was diagnosed on the ground walls, pilasters and columns of the Old Town Hall during its restoration works in 2003-2005. Laboratory tests were carried out to determine the level of salt content prior to any treatment. The salt contamination was treated through the application of the Cocoon method.

Brief History of Old Town Hall, Penang

The Old Town Hall is the oldest Municipal Building in Penang and its foundation was first laid on 1st January 1879 by Lt. Governor Sir Archibald Edward Harbord Anson. Located at The Esplanade in George Town, Penang, the building occupies a land area of 70,711 square feet. Upon completion in 1880, the building was officiated by Frederick Weld, the Governor of the Straits Settlements. The Old Town Hall once housed the Municipal offices where Council meetings and elections were held regularly. In 1903, the Municipal offices were moved to the newly built City Hall in view of an increase in taxes and assessments collections, resulting from the rapid expansion of George Town as a port city.

The Old Town Hall was primarily used as a social venue for the town's European community, also known as the European Club amongst the local Chinese. The building became a premier place for George Town's social events, balls, public speeches, theatre performances, art exhibitions and amateur concerts. Apart from administrative and social functions, the Old Town Hall housed the Penang Library for more than 20 years and a private college for 8 years. Due to its immense historical and architectural values, the building was gazetted on 29th July 1982 under the (then) Antiquities Act 1976. In 2003-2005, the building had undergone extensive restoration work, in which the Cocoon method had been applied to solve the problem of salt contamination mainly in its masonry walls, pilasters and columns.

Salt Analyses and Laboratory Tests

As salt contamination was diagnosed at the ground level of the Old Town Hall, samples of its masonry walls were sent to the laboratory for salt analyses. Such laboratory tests were aimed to investigate the level of salt content accumulated in the building over the years. Results of the salt-content level tests would indicate the seriousness of the building problem, as well as the types of remedial treatment necessary to resolve salt contamination in all brick walls, particularly before the treatment

of rising damp. Two walls on the ground floor of the building were identified for the laboratory tests. Each wall was drilled at 1 meter above the floor level in 3 stages, involving the depths of 0-10 mm, 10-20 mm and 20-40 mm. All 6 drilling samples (in the form of powdery substance) extracted from the two locations were secured in plastic bags labeled by reference codes. In August 2003, the 6 sample drillings were sent to the Commonwealth Scientific Investigation and Research Organisation (CSIRO) in Australia for analyses.

Results released by the CSIRO showed the level of salt content in each sample tested in the percentage of total ions. Salts in the form of chloride, nitrate and sulphate deposits in the brick walls were found to be at an unacceptable level as the process of crystallization and hydration had caused considerable damage to both plaster walls and brick faces. All percentage of salt exceeding 0.5% of total ions is considered unsafe and could cause serious damage to the brick walls and lime plaster. The CSIRO results indicated that the percentage of total ions for SO₄ in all drilling samples had exceeded the safe level of 0.5%, with the highest level recorded at 6.270%. As for the percentage of nitrate total ions, the highest percentage registered was at 0.455%, while the chloride percentage of total ions was recorded at 0.100% at the highest.

Results from the laboratory tests have clearly shown that the Old Town Hall was contaminated with salt deposits at an alarming rate, particularly in its brick walls on the ground floor. It was also confirmed that the level of salt content, particularly the sulphate deposits, was at a high-risk level which had caused much deterioration, not only to the conditions of the existing plasterwork and mortar joints but also the old bricks. During the restoration works of the Old Town Hall, the problem of salt contamination on brick walls had been resolved by the application of the Cocoon method.

Treatment of Salt Contamination

Problems of salt contamination at the Old Town Hall were treated by the application of the Cocoon method. The Cocoon method involves the application of a damp-absorbent material that dries out progressively, drawing the mineral salts out of the building materials. The damp-absorbent material uses a high-technology creamy paste in distilled water surround made of pharmaceutical grade cellulose fibers. This creamy paste, in a form of poultice, is applied onto wall surfaces at 5mm to 10mm thick. The poultice is left to suck up all the mineral salts over the period of at least 2 weeks. It becomes dry like a cardboard mould before it can be peeled off and disposed. The Cocoon method does not damage walls as it contains no reacting chemical compound. It is also non-toxic and non-flammable. During the process of salt desalination of the Old Town Hall, treatment of rising damp was also applied to stop the capillary effect that had caused destructive soluble salts to travel up the masonry walls, pilasters and columns. The Cocoon method was proven to be successful and effective not only at the Old Town Hall but in several restoration projects in Penang including the City Hall, Governor's House (Seri Mutiara), Old High Court, Nordin Mausoleum, Alimshah Waley Mosque and the rows of shophouses on Acheen Street.

Conclusions

The restoration of the Old Town Hall in George Town, Penang can be considered as an example of good building conservation

practice in Malaysia. A dilapidation survey conducted at the project onset had diagnosed severe problems faced by this historic building including salt contamination, leaking roof, termite attack, broken floorboards, rising damp, crumbling plasters, peeling paint, structural cracks, poor rainwater goods, broken ornamental elements and balustrades as well as missing window leaves. Results from the dilapidation survey had prompted the conduct of various scientific studies and laboratory tests to gauge the extent of building defects and their causes. Scientific studies conducted in the Old Town Hall restoration were archaeological excavation, bricks and roof tiles, local temperature and relative humidity; timber species and strength group, paint colour scheme and tasselled floor tiles. Whilst the laboratory tests include level of salt content, component elements of building materials and Schmidt hammer rebound test on new wall plaster. Results from the scientific studies and laboratory tests

had secured pertinent information on the state of the building structures and materials; and their remedial measures. Such information, presented in detailed technical reports and information sheets, had provided critical inputs in decision-making and cost estimations, especially in selecting appropriate building materials, identifying proven methods and techniques of repair; and in structural modifications. Based on the experiences of the Old Town Hall restoration, it is most timely that the actors and players involved in building conservation practices in the country appreciate and understand fully the importance of incorporating appropriate scientific studies and laboratory tests in conservation works. Such effort is vital to champion the cause of retaining the authenticity of building structure and fabric; protecting the historical and architectural significance of buildings, as well as in assisting the cyclical building maintenance programme in the future.



Old Town Hall before (left) and after (right) restoration.



The Cocoon method uses creamy paste, in a form of poultice, to solve the problem of salt contamination mainly in the masonry walls, pilasters and columns.



The poultice is left to suck up all the mineral salts over the period of at least 2 weeks. It becomes dry like a cardboard mould before it can be peeled off and disposed.

ACCU REPORT	Excavation Status: The Kaashidhoo Archaeological Site	Aishath Moosa Fikree
------------------------	--	-----------------------------

The Kaashidhoo Archaeological Site, locally known as Kaashidhoo Kuruhinna Tharaagandu, is the only excavated site in the Maldives. It is also the largest pre-Islamic remnant yet uncovered in Maldives. The site is a huge Buddhist Monastery dating back to 7th to 8th century AD and foundations of various buildings still remain intact.

In 1996, a Norwegian team of archaeologists led by Professor Egil Mikkelsen and Professor Solbrit Bennet started an excavation project of the site. Their work spanned from 1996-1998 and in three phases they excavated an area of 1,880 square meters, although it is only believed to be a part of the site and there still remains to be excavated a much larger area of the monastery.

The structures uncovered were almost entirely of coarse coral stone with lime plastering and mouldings. Inside they were filled with stone or sand. During the excavation many archaeological findings such as sacrificial bones of fishes, bones of tortoise one of which found to be extinct now, burials, pottery, beads and such were found. In addition large amounts of cowry shell deposits and some clam shells were discovered.

Sadly after the excavation, the site was left open without any means of conservation, management or interpretation. Exposure to the sun, rain and air pollution has brought the site to a serious state of deterioration with moss infestations, coral discoloration and other damage from natural and human elements. The site

had no boundary wall to prevent unwarranted intrusion into the site and there is no visitor or site management. There is an urgent need to carry out a conservation project and to implement visitor and site management concepts at the site.

The Heritage section of the National Centre for Linguistic and Historical Research has devised a plan to address the problems faced by the site, and with the aid of US, the project has started and conservation work is projected to begin at mid-year 2009. This project will focus on conserving the excavated area within the Kaashidhoo Archaeological site and providing a continued protection from the agents of erosion and weathering. The site is almost entirely built of coral stone and the conservation work is essential for the longevity and preservation of the material fabric. In addition there is also a need for the continued protection of the site and better means of interpretation.

After the conservation, the site is to be covered to prevent any further damage until such a time came when local archaeologists and conservators are able to excavate the site to get more information on the history of the country. It is devised to setup an interpretation area adjacent to the site to provide enough interpretation to harness public interest so that the future of the site will be secure. Awareness programs are also to be carried out simultaneously to educate the locals about the importance of the site, so that the site is in better hands after the project.



The following is the conservation and restoration work done by the Department of Archaeology, Government of Nepal.

1. CONSERVATION OF SATA-TALLY DURBAR AT NUWAKOT

This Sata-talay Durbar (palace) was one of the famous palace buildings by the late king Prithivi Narayan Shah. It was built more than 250 years before. It is an old specimen of Shah dynasty. Therefore, it is a historical building which we should maintain in good condition to safeguard our history. But due to its old age and other environmental causes the wooden members of the roofs decayed and they collapsed at some portion of roofs. So DOA (Department of Archaeology) started the conservation work of this roof on its own regular budget in fiscal year 2008/2009. During conservation work all decayed wooden members were replaced with new ones. Then, two layers of tar felt were laid before placing tiles to prevent further decay of wooden members through water leakage. The total cost incurred in this project was Rs. 370,000/-.

2. CONSERVATION WORK OF DHAAMI GHAR AT NUWAKOT

This Dhami ghar (priest house) was made for residential purposes of the priest who did ritual work of Bhagavati Temple which was standing in front of Dhami ghar and this house was also used for storing other goods related with temple. The roof of this Dhami ghar has suffered water leakage from 2-3 years before and it caused great damage to the building. So DOA made a plan for its conservation from their regular budget and started the conservation work in fiscal year 2008/2009. In this project DOA spent Rs. 350,000/-.

3. CONSERVATION WORK AND GOLD PLATING OF SWAYAMBHUNATH STUPA

Undergoing conservation and gold plating of the Swayambhunath Stupa (one of the World Heritage sites of Kathmandu) were conducted by the matching fund of the Department of



Before conservation



After conservation of Sata-taly Durbar



During conservation



After conservation of Dhami ghar



Before conservation



After conservation of Swayambhunath Stupa



Archaeology and the Swayambhunath Development Committee (Local committee). The estimated cost is Rs. 4,610,000/-.

4. RECONSTRUCTION WORK OF NASIKA REST-HOUSE AT SANGA, KAVREPALANCHOWK DISTRICT

This Nasika Rest House located at the Ward no. 6 Sanga Kavrepalanchowk district. This temple was built by a Newar who lived at the Kathmandu Valley 200-250 years before at his own expense. But it was going through a deteriorating state for the last few years. Due to its old age, and situated at the Arniko Highway and other human activities, DOA initiated reconstruction of this rest house with participation of the local community both physically and financially. During its reconstruction work, the entire structure of the rest house was dismantled up to the ground level and resumes the construction work from the ground level. In the reconstruction work, more than 40 % of the old bricks and other materials were reused as far as it was possible.

This is the local community participation project so all the construction work of this project was done by the local community however DOA gave them some technical assistance. Moreover, more than half cost of the project was contributed by the local community. The total amount of this project was Rs. 1,125,000/ and DOA contributed only 5 lakhs (Rs. 500,000) and the rest was managed by the local community.

5. CONSERVATION OF 55 WINDOW PALACE IN BHAKTAPUR WORLD HERITAGE SITE

This project, jointly organized by the Department of Archaeology and Bhaktapur Municipality, has been continuing for the last few years. The work was formally commenced on 27 August 2003. When the conservation work is completed and the palace is going to be used as a museum in the future. This is one of the World Heritage site of Bhaktapur Durbar WHS.



Before conservation



Reconstructed Nasika Rest House



After the conservation work of 55 Window Palace



ACCU REPORT	The Preservation and Maintenance of <i>Kundu</i> in the Saidor Area of Papua New Guinea	Naomi Faik Simet
------------------------	--	-------------------------

Introduction

Papua New Guinea (PNG) remains to be the most culturally diverse country in the world. Cultural diversity is found in the many tangible and intangible cultural forms that exist amongst different ethnic groups. Each ethnic group is responsible for their cultural heritage.

This report focuses on a particular cultural group in PNG that has taken measures to protect its heritage from deterioration and extinction. The Dugu Roots Growers Association Cultural Group was formed in 2005 with the main aim to preserve and protect their diverse intangible and tangible cultural heritage through live performances and the construction of a mini cultural museum.

Dugu Roots Growers Association

The Dugu Roots Growers Association consists of members from different villages in Saidor District in the Madang Province of Papua New Guinea. Saidor is located in one of the remote areas of Madang province and can be reached by boat or by road. It is located along the Northern coast of Papua New Guinea. Given the remoteness, many of the people's traditions and cultural practices in this part of the country remain intact. The Dugu Roots Growers Association is based in Bandit village and therefore has constructed their first cultural museum in this village. This museum was completed in 2007 and was opened to the public for viewing. *Kundu* is a prominent cultural property in this area and is one of the cultural properties kept in the museum for preservation amongst other items.

The Importance of *Kundu* in the Performance of *Konggap*.

In the past, staff of the Music Department of the Institute of Papua New Guinea Studies undertook research trips as part of their on-going musical survey work in the Saidor area. It was discovered from this trips that this particular area was rich with musical traditions. The most distinctive type of vocal music found in the Yupno/Nankina area of Saidor is *konggap*. The *konggap* is performed using vocal sounds that communicate a certain message with different groups of people. This performance is also

referred to as the 'black dance' which is a night performance. Performers who perform the *konggap* are painted all over in black charcoal. The dancers move in counter-clockwise, bending alternate knees. The performance is done with the *kundu* as the main traditional instrument. It was also discovered that the *kundu* from this area is so unique compared to *kundus* found in other parts of PNG. The traditional skin used for the rim of the *kundu* is taken from the skin of the wallaby. Sometimes the skins of dogs, cuscus or cats are also used as substitutes. These skins are glued to the body of the *kundu* using moist clay. They are then tied around the rim of the *kundu* with strong bush vines. Prior to a dance performance, the performer uses clay to tune the *kundu*. He simply does this by rubbing moist clay on the skin to give him the perfect beat for a good performance.

The Role of the International Correspondent in the Preservation of *Kundu*

The International Correspondent undertook a field-trip to Bandit village on Thursday the 30th of October 2008 to video record dance performances associated with the *kundu*. Video recordings of the *konggap* (black dance) and other related ceremonial performances were recorded and documented. Still-photographs were taken of the newly established mini-museum and the preserved cultural properties. The video recordings and still-photographs are kept in the Institute of Papua New Guinea's Archive for preservation and research purposes.

Conclusion

Various cultural groups in Papua New Guinea are now taking ownership of their cultural heritage. This is evident in the increase of newly established cultural centers. The formation of the Dugu Roots Growers Association Mini-Cultural Museum is in line with the PNG Organic Law on Provincial Governments and Local-Level Governments, Sec 42, part (e) and (f) which encourages the establishment of cultural centers, museums and libraries within the provinces. Many cultural groups in PNG are taking advantage of this Organic Law and are preserving their cultural heritage through the establishment of such cultural institutions.



Saidor Mini-Cultural Museum



The *kundu*, an important cultural property associated with the Saidor people's traditional performances

(財)ユネスコ・アジア文化センター
文化遺産保護協力事務所

Cultural Heritage Protection Cooperation Office,
Asia/Pacific Cultural Centre for UNESCO (ACCU)

Published by

Cultural Heritage Protection Cooperation Office,
Asia/Pacific Cultural Centre for UNESCO (ACCU)

Nara Prefectural Government "Horen" Office 1F
757 Horen-cho, Nara 630-8113 Japan

Phone : +81-742-20-5001 FAX : +81-742-20-5701

E-mail : nara@accu.or.jp

URL : <http://www.nara.accu.or.jp>

©Cultural Heritage Protection Cooperation Office,
Asia/Pacific Cultural Centre for UNESCO (ACCU) 2009
