

Key Conservation Principles of Old Traditional Mosque in Malaysia

S. Johar

School of Housing, Building and Planning, Universiti Sains Malaysia, 11800 Pulau Pinang,
MALAYSIA

A.I. Che-Ani, N.M. Tawil, M.M. Tahir, N.A.G. Abdullah

Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia, 43600 UKM Bangi,
Selangor, MALAYSIA

A.G. Ahmad

School of Housing, Building and Planning, Universiti Sains Malaysia, 11800 Pulau Pinang,
MALAYSIA

suhana1102@yahoo.com, adiirfan@gmail.com, nmtawil@gmail.com, designaar@gmail.com,
akmal.goh@gmail.com, nmtawil@gmail.com, aghafar@usm.my

Abstract: - This paper reviews the conservation activities, particularly on traditional old mosque in Malaysia. It comprise the definition, concept and importance of conservation in general, the present of conservation activities on historic buildings and mosque in Malaysia, and the approaches used for conserving to preserve Muslim's house of worship. The finding of this paper highlights the four key conservation principles namely minimal intervention, conducting scientific research and laboratories testing, documentation of conservation work and applying effective methods and techniques for conservation. Meanwhile for conservation program, the seven approaches are preservation, reproduction, restoration, maintenance, redevelopment, rehabilitation and consolidation. Several approaches are normally adopted for one building conservation project. What most important is the justification in adopting the approaches so that it comply to one of the key conservation principle, namely minimal intervention.

Keywords: Architectural heritage, Building conservation, Building maintenance, Building repair, Building survey, Cultural significance, Historic building, Malaysia, Place of worship, Traditional mosque

1 Introduction

Malaysia stands among the countries with rich diversity of architectural and historic buildings. Commonly known for its' multiracial, and vast cultural diversity, this country is blessed with history and cultural effects which forms its national identity. Malaysia is also a popular country for its fast and rapid developments still remain the remarkable cultural properties such as Sultan Abdul Samad's building, Masjid Jamek in Kuala Lumpur, Tengkeria Mosque in Malacca, statues and other prominent architectural footprints. These old buildings remain strong, clearly shows the unique architectural heritage and priceless of historic buildings (Ahmad 1997; Kamal 2007). Along with the other historic building, traditional mosque has long known for its unique, and history contribution in the nation. Remaining architectural heritage are never exempted from destruction elements hence conservation is a necessary actions to keep the cultural property from being destroyed by process of modernization and architectural facelift.

The word mosque refers to a Spanish term 'Mezquitta', which means Muslims house of worship. In the early days, with the trade activities,

Islam took its stand and continues to spread its teachings to the Malay world in South East Asia and the whole of Malay Archipelago. Furthermore, with the rise of Muslim lead government, it encourages constructions and development of more religious buildings which portray the craftsmanship of its carpentry skills is being polished. Today, numerous wooden mosque is unable to be included in this research as it is too old, unused or has been reconstructed and improved with modern architectural elements. This is where conservation works needs to take place to ensure positive chances is being provided for these mosques.

Heritage conservation is a responsibility that must be carried by each individual in every society. Its importance is undeniable, particularly to maintain the continuity of historical events that took place before. It is also to provide the future generations with the opportunity to experience the unique values of the remaining cultural heritage hence to enhance the spirit of patriotism for the country (Kamal, 2007).

2 Conservation and the Importance

Conservation process is generally known as an action to extend and prolong a life of an object. It practices the importance of value which needs to be determine in preserving a cultural property. It contains two activities; to care and safe guard from being destroyed or changed without careful planning (Harun, 2005). Conservation is also viewed as a process to manage the changes while development, is the mechanism that delivers change (Orbasli, 2008). Conservation also includes activities to prevent decay, which contains all acts to extend the life of a cultural and natural heritage (Fielden, 2000).

The significance of a building or place of historic, architectural and cultural importance is its most defying value. The loss of which will devalue its cultural significance (Orbasli, 2008). Conservation works must preserve and if possible enhance the messages and values of cultural property. These values will systematically help to set overall priorities in deciding proposed interventions, as well as to establish the extent and nature of the individual treatment (Fielden, 2000). It was also stated by Ahmad (2006a), all conservation implementation should consider several factors such as the value of history, architecture, age, function, materials and maintenance and supported from various relevant parties.

The importance of building conservation has long known for its contribution in various sectors and communities. It is well known for keeping history evidence that once happened before. As according to Powell (1994), a heritage building contained an explicit and implicit history values; while as in Orbasli (2008), heritage buildings is an important part of the built environment in which history and cultural evidence can be found by exploring heritage buildings. The importance of conservation categorized as below:

2.1 To Restore and Appreciate the Uniqueness of a Cultural Heritage

Each, historic building has its own uniqueness and this clearly seen in architectural point of view, origin materials, settings and layout and the cultural landscape. It is not a complete built environment without the contribution of historic building, as historic building is an intrinsic part of it (Orbasli, 2008). An architectural style is one of a medium that tells on their origin or influences in which, creates a valuable emotion of appreciating the historical value

in a cultural property. The historic significance in a cultural property is a strong evidence to show era or indicates historical events that once happen (Ahmad, 1994).

Historical buildings are well known for its beautiful design, impressive workmanship and construction. Till now, historic building are still used in commercial sector or privately owned. According to Orbasli (2008), in a time of increasing environmental consciousness, existing old buildings are important resources, in which, with sufficient care, can continue to be useful for a very long time. In fact, the interest, from the architectural significance is one of the benchmark to be an evidence of civilization, fineness art and craftsmanship and construction technology of the past (Kamal et al., 2007). Young (1991) and Orbasli (2008), extending their view on the technical aspects in which the importance of creativity and technology innovation are importance evidence of a creations.

2.2 Image and Identity of Historic City

Historic buildings are known for its contribution in protecting identity values of a place. According to Idid, (1996), identity is variations images of places, to distinguish each of it from another. The component which creates identity in a town or places is by the old existing buildings. As documents of the past, historic buildings are important source of historical materials as the paper and parchment used by historians. Therefore it is important to conserve and preserve historic buildings because it provides a sense of identity and continuity in a fast changing world (Kamal, et al., 2008). The uniqueness of a townscape is one of a cultural value, thus, if it vanishes, replacement will not be the same (Idid, 1996).

2.3 Psychological Value to Historic Building

Historic building creates psychology emotion and nostalgia, particularly for those who has sentimental values with old buildings. The situation creates relevance relationship of a historic building with human psychology. As with Ahmad, (1998a), relates the two psychological approaches of why to conserve historic building which is the sensitivity of historical and aesthetic value; and emotional bonds to the historic buildings. Historic buildings are known as a provider of a symbol of cultural identity and heritage of a society on a particular time. The overview of reality in such of life pattern, environment, architecture and building technology can be associated through observation and assessment of a historic buildings.

One can feel a nostalgia interest when an important event happened and creates emotional psychology (Kamal, et al., 2007). When seeing a historic old building, it triggers the memorable events in which a history can be only happen once. For example, Stadium Merdeka in Kuala Lumpur is one of a priceless building, witnesses the nostalgic moment for independence moment of Malaya. Psychology value born from the effects of sensitivity and emotional reactions that arise when seeing such a memorable evidence.

2.4 To Retain History and Belief

Heritage has a broad definition. It can be a pattern of life, cultural settlement and traditional belief. Old buildings and monuments can tell their own history and event, in which the impact of the event had proved the existence of a civilization, which still under research. Some of the historic building and monuments are still used as palaces and a place of worship or religious buildings; and some are preserved as a monumental heritage in such of statues and ruins (Harun, 2005).

Young (1991) stated that belief is one of the factors created civilization development. Hence, would also mean history and belief are mutually relation, therefore associates of why it need to be conserved. Pyramid, Inca City and monument such as Borobudur gave strong evidence that belief has been creating the development of civilization. Buildings, monuments and tombs have been built for the purpose of worship, tangible evidence against the remnants of past civilizations; require preservation and conservation, so that the history can be passed to new generations. It is interesting and fascinates, of all the ancient building is proving a superior technology used, and still wondered and research till now. The contribution of heritage to the educational development are undeniable in which it's the only tangible evidence exist for any future research regarding on the history and cultural studies.

2.5 Architectural Continuity and the Importance in Tourism Industry

Building conservation is seen as part of efforts to preserve remnants of civilization since heritage clearly evidence that shows the continuity of built environment. According to Antoniou (1981), conservation is an activity involves the improvement of quality in environmental planning. It is a management of limited resources such as historic buildings and places, in which the main objective is to ensure for continuous usage. This can

be explained, the building conservation is not just a restoration but to prolong the function of the building. It is best viewed as reusing back and some improvement may help for the purpose.

The importance of preserving historic building and monuments has been proved to boost economy in a region. According to Ahmad (1998b), highlights the identity and environment through a diversity of architecture transformation of historic building are one of the cultural tourism which contributes for the economy in a country. Another reason for conservation arises from a desire to promote national identity or explicitly to stimulate domestic and international tourism activities (Orbasli, 2008). Cultural diversity and unique architecture style are introduced through heritage tourism activities, hence also enable to generate economies in particular region.

3 Traditional Mosque Architecture in Malaysia

During the early arrival of Islam in Malaysia, the mosque architecture are simple, does not have a clear features as what can be seen in the mosques of Middle Eastern. Many mosques of the traditional architectural style were built to hold prayers and other activities associated with the teachings and dissemination of Islam. The architectural style and building materials of the mosques built during 15th centuries were similar to that of the traditional Malay houses. According to Ahmad (1999), there are two types of architectural styles under the vernacular mosques category, namely the traditional and regional influences, differentiated by the design of the roof. The traditional mosques usually reflect the strong influences of the Malay houses, way of life and environment. The roof generally a long shape gable roof. Conversely seen in vernacular mosques with regional influence which can be distinguished by their two or three-tiered roofs with decorative roof ridges and clay tiles. The regional influence mosques in Malaysia are similar with the old mosques built in many parts of Indonesia.

The architectural style of traditional mosque reflects most to the environment which can be seen through the building construction (Ahmad, 1999). Some of building features which were built in response to the warm and humid climatic conditions are pitched roofs to enable rain water to run off quickly and many openings including louvered windows, fanlights and carving panels to allow natural cross ventilation of air. Another design features is build on stilts to raise the mosques above ground level to avoid floods and consequently a

purpose for ventilation comfort and safety precaution are the in response to the environment (Nasir and Teh, 1997; Rasdi et.al., 2004).

3.1 Tree-Stacked Pyramidal Roofs

The design of the earliest mosques in Malaysia which can be detected is the three-stacked pyramidal roof mosque. According to Rasdi (2000), the form was detected in the design of Kampung Laut mosque and Kampung Tuan mosque built between the 16th and 17th century. The forms distinguished by several layers of pyramidal arrangement, and it is understood that in some areas in Indonesia called the roof design as 'joglo roof' as reflects to its original roof design from traditional Javanese house (Nasir, 1995, Budi, 2004). The roof arranged by stacking one above the other and an ornamental features are installed on top of it, which called 'mahkota atap' (Nasir, 1995).

3.2 Two-Stacked Pyramidal Roofs

Another form distinguishes as traditional mosque architectural is the two-stacked pyramidal roof. This form is used in the construction of and Papan mosque in Perak and Lenggeng mosque in Negeri Sembilan which both said to be built in the 18th and 19th century (Nasir, 1995). The construction are as same as three-stacked roof but only use two layer of roof the arrangement.

3.3 Gable Roof Form

The type of form is almost the same used in traditional local houses. In this design, there are two types of roof, using one and two layers of roof arrangement. The roof is long and straight and at the end was a vertical wall with a triangle shape which forms as a gable roof. This form can be seen in the construction of Tok Pulai Condong mosque and Langgar mosque in Kelantan and also found in Java, Indonesia of Sunan Bonang mosques (Nasir, 1995).

4 The Building Conservation Activities in Malaysia

Building conservation in Malaysia has long been practice, although it becomes more familiar in recent time. It started behind relatively with those countries such as in Europe (Ahmad, 1994, Harun, 2005, Kamal, 2007). The beginning of conservation activities was started since the 1960's, around the British ruler, which is focused on excavation and exploration of artifacts in this country. However, the exploration and archeology activities had been seen destroying some important evidence of a cultural property and its surrounding (Ibrahim, , 1972). After

the Malaya independence, Museums Department was established and was assigned for the maintenance and conservation of heritage and conservation work, and among of its earliest project was the excavation and rehabilitation of Lembah Bujang (Ibrahim, 1972). The devastation of the architecture heritage values in Malaysia was realized in the late of 1970's where the construction industry was boom with the rapid development and resulted in destruction of historic buildings due to lack of regulation and protection. Recent large scale urban development continues to threaten pre-war buildings, while other historic buildings are simply deteriorating due to age, neglect and high cost of maintenance (Hong, 2001).

The beginning for building conservation activities was felt around 1980's (Ahmad, 1997, Harun, 2005). It have been seen to well runs and manageable due to the introduction of the Antiquities Act 1976 (Act 168), Town and Country Planning Act 1976 (Act 172), the Local Government Act (Act 171), enactments from state and local government, as well as the National Land Code, which it enacted by the local authority for the name of conservation. The consciousness is also seen by the establishment of ' Conservation Unit and Planning DBKL in 1988, the Conservation Unit of Penang in 1991 and Conservation Unit of Malacca, Malacca Town, as to control and planned development activities in their respective areas. Projects such as conservation of Stadthuys building in Melaka and Pasar Basah Kuala Lumpur (which now known as Central Market) made around 1986 has been recognized as a pioneer for the development of building conservation activities in Malaysia (Ahmad, 1998c, Harun, 2005, Yunus, 1991 and Malan, 1997).

The conservation activities for old mosque were started around 1990's. In those years, tourism industry had seen as a promising economic contributor to the nation. Besides, the launched of Visit Malaysia Year program in 1990 was among the government's efforts of improving the economy through heritage tourism industry. Provisions for preserving the cultural heritage in the Ninth Malaysia Plan-6 (RMK-6) were larger than previously, as to promote Malaysia for tourist destination (Idid, 1996). Ministry of Culture, Arts and Tourism (KKKP) by the time, had allocate fund for heritage conservation projects, which channeled to the Museum and Antiquity Department (JMA), to implement projects such as the conservation Terangkera Mosque, Kampung Hulu Mosque, Pengkalan Kakap Mosque, Masjid Kg. Duyung and so forth. The conservation of Pengkalan Kakap

mosque, in Merbok, Kedah in 1994 was one of successful conservation activities conducted by the Department of Museums and Antiquity, based to the application of conservation principle in the process (Keromo 1999).

The efforts for conservation are now increasingly popular in various parties. Awareness about the importance of conserving cultural property has led Malaysia strives to preserve varieties of local and colonial architectural heritage particularly from the traditional, Portuguese, Dutch and British era. The activities has also become more vigorously with the establishment of the Department of National Heritage (JWN) in 2006 and recognition of Malacca City, Malacca and Georgetown, Penang as a 'World Heritage Site' awarded by UNESCO (United Educational Scientific and Culture of the United Nations) in 2008. Indeed, with the establishment of the heritage department and the allocation funds provided by government, was seen to generate actively for the conservation of the old mosque in each state. Among the mosques that has already through for conservation works is the Old Mosque of Jalan Batu Uban, Penang, Kg. Jenang mosque and Kg. Gagu mosque in Negeri Sembilan, Old Tinggi mosque in Bagan Serai, Perak and so forth, (as in list in table 1), which recognize the uniqueness of it architectural heritage and proves for its contribution in preserving cultural significance.

5 Principles and Approach of Conserving Traditional Mosque

A good conservation is perform based to principles, hence in carrying a conservation work, it is crucial to understand some of its basic principles. The principle act as an important assistant in conserving a cultural property, thus charters are one of the sources to guide for such works.

Conservation has been identified as an action or activity related with repair and maintenance. Each conservation activities involve intervention which effects the 'value' of a historic building. Intervention should be minimal and can be controlled depends on certain circumstances, as it would cause the loss of values in cultural property. Stated in any international charter such as Venice and Burra Charter in purpose to guide in the conserving a heritage. According to Ahmad (2006), a conservation work successfully carried if it complied to the basic principles of conservation. Therefore, conserving a heritage should always apply with the right techniques and conservation methods. Ahmad (2006) also suggests four (4) key

principles that should always practiced in conservation work in Malaysia, which is:

1. Minimal intervention. As in (Burra Charter Article 3, 1979) sets out "... the Conservation is based on a respect for the existing fabric, use, associations and meanings. It requires a cautious approach of changing as much as necessary but as little as possible...".
2. Conducting scientific research and laboratories testing. As contained in the ICOMOS, Article 12, 1998 that outlined ".. conservation should be based on appropriate research and physical investigation which should as far as possible, a non destructive.." and Article 10 (e) .. "intervention should always be preceded by appropriate research, investigation and recording".
3. Documentation of conservation work. This is contained in Article 10 (f), ICOMOS 1998 which outlines .. "Conservation records should always be maintained, kept with the documentation of the building or site and deposited in an appropriate archive..".
4. Applying effective methods and techniques. In Clause 4, Article 4.1 and 4.2, outline in Burra Charter ".. Conservation should make use of all the knowledge, skills and disciplines which can contribute to the study and care of the place.." and ".. Traditional techniques and materials are preferred for the conservation of significant fabric. In some circumstances modern techniques and materials which offer substantial conservation benefits may be appropriate...".

Generally, there are seven (7) approach in a conservation program, used individually or a combination, depend on the circumstances and objectives of a conservation project. The approach are preservation, reproduction, restoration, maintenance, redevelopment, rehabilitation and consolidation (Kamal and Ahmad 2007, Idid, 1996, Fielden 2000).

In preserving religious buildings particularly mosques, several approaches are used to prolong the usage of the building in Muslim community. Conservation, preservation, restoration and maintenance are among the common approach. Conservation of Old Tinggi mosque in Bagan Serai, Perak, as for example had been restored to its original features in which include the building material, design and location. While conservation of Masjid Kampung Laut in Nilam Puri, Kelantan had undergone for restoration work and relocation due to the threat of natural disasters.

Justification required as some approach is irrelevant in conserving a mosque. The restoration approach as referred in Article 1.7, Burra Charter (1999) "... means returning the existing fabric of a place to a known earlier state by removing accretions or by reassembling existing components without the introduction of new material...". Burden (2004), defined the restoration as an effort to obtain an accurate forms and details of an object through dismantling or replacement of lost with new material. Diversely in conserving old mosque which still in use, particularly, the extension structures can be seen clearly as the concept of a mosque is to invite and encourage the presence of congregation. Structures mostly in the permanently form are discouraged to remove and demolition will affect the basic concept of a mosque. However, its applicable by justifying to which if a presence of a new mosque, or it is no longer used as a main mosque to the community; or by replacing using material which can be differentiate from the original and must be harmony with the building features. As conserving on other older buildings, the methods of repair and replacement of lost or seriously damaged of a building elements in a mosque should based on appropriate approach. For replacing a seriously decay timber element, it should be replace with the same kind of its original material. If in insufficient resources, replacement by using similar character is advisedly applied. The reproduction concept are use in such if an element had been lost by imitate the design, the character and its material. In consistent with the concept of reconstruction according to Article 1.8, Charter Burra (1999) by returning to a known earlier state and is distinguished from restoration by the introduction of new material into the fabric. According to Burden (2004), defined rebuilding as a new construction of what has been lost or destroyed, in the form of the original conditions in terms of its building materials and the details from the original. Any replacement of the missing elements or experiencing severe deterioration must be able to look unite and harmoniously with the overall condition and can be differentiated between the new and original material or elements through a thorough inspection.

6 Conclusion

History is an inseparable part of the environment, living on as physical traces of the past. A Historic building is an intrinsic part of the built environment thus the importance is undeniable for its benefits to the society and nation. Awareness for conserving the precious cultural property had been seen increasingly grows into attention in various parties

in Malaysia. The uniqueness of our local traditional architectural which portray of high skill of craftsmanship and construction should be conserved as to retained the local identity. Besides the desire to promote identity or explicitly to stimulate domestic and international tourism are another reason for conservation arises. The conservation of the old mosques began to be intensified with the establishment of the Department of National Heritage whose authorize for the guide and implementations of conserving the cultural property in this country. To preserve for this Muslim's house of worship, one should a sense of the meaning, applicable principles and appropriate approaches as to achieve and delivered the best in the conservation practice.

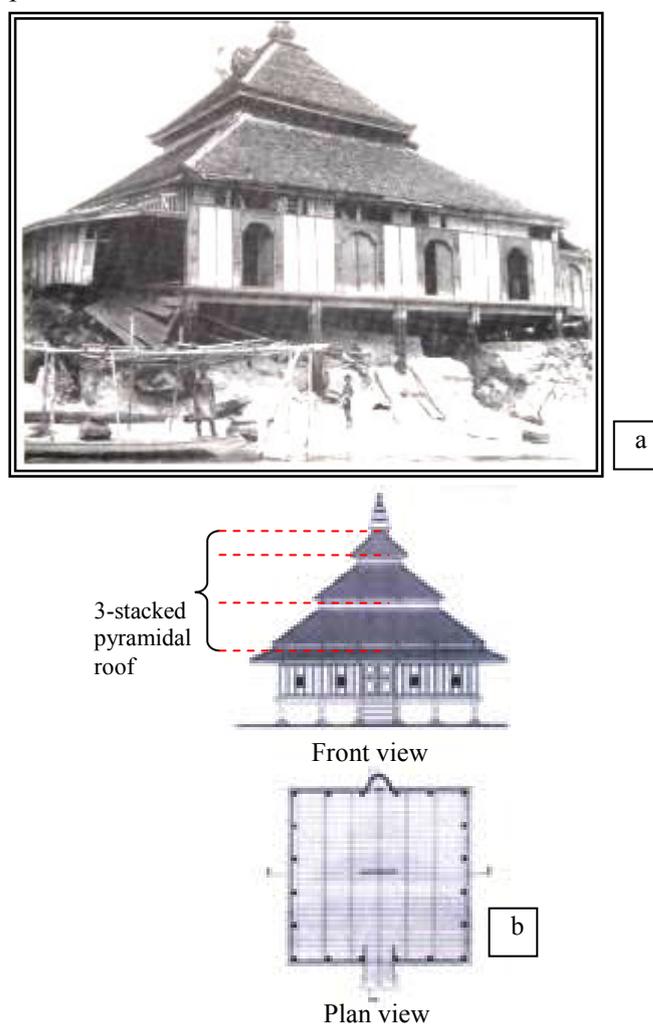


Fig. 1: (a) Kampung Laut mosque before restored to Nilam Puri, (b) Building plan of Kampung Laut mosque (National Archives and Rasdi, 2007).

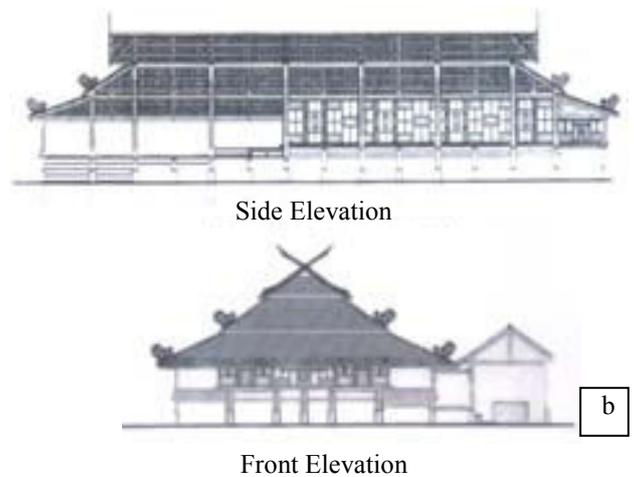
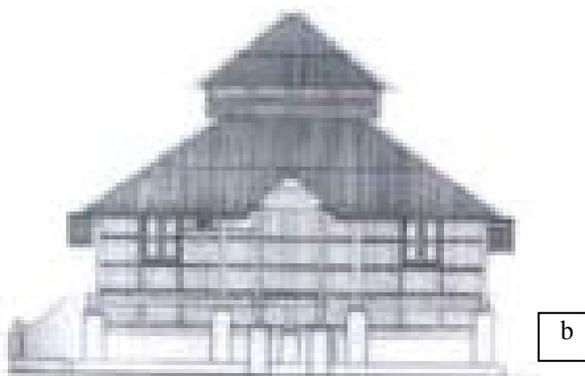
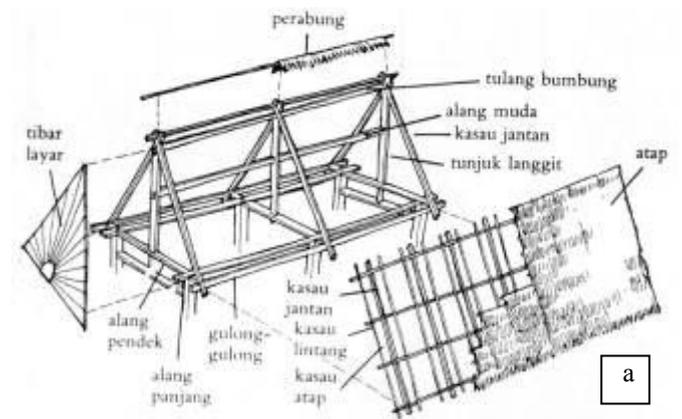
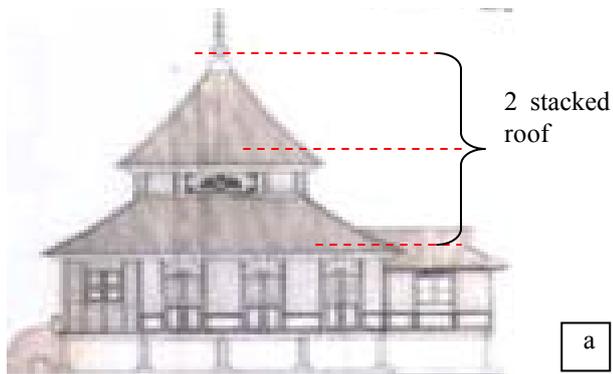


Fig. 2: (a) Lenggeng mosque in Negeri Sembilan (b) Papan mosque in Perak Board (Rasdi, 2007).

Fig. 3: (a) The gable roof form of traditional houses in Malaysia. (b) The Langgar mosque using 2 layer of long gable roof arrangement. (Lim, 1987; Chen, 1998).



Image 1: Old Tok Pulau Condong mosque, Pulau Condong, in Kelantan



Image 2: Old Tinggi mosque, in Bagan Serai had been conserved to its original state.



Image 3: Old mosque of Kg. Mendun, in Negeri Sembilan, were nearly 100 years, stood still with some renovations and extensions which can be easily recognized.

Table 1: List of the conservation and repair works of old mosque monitored by JWN from 2006 to 2010 (source: Jabatan Warisan Negara).

No	Project	State	Year
1	Repair and Refurbishment of Surau Haji Ahmad, Kg. Makam Langgar	Kedah Darul Aman	2006
2	Repair and refurbishment of Masjid Pengkalan Kakap	Kedah Darul Aman	2006
3	Repair and refurbishment for Masjid Melayu Lebu Aceh	Pulau Pinang	2006
4	Upgrading for Toilet and Ablution area of Masjid Dato Panglima Kinta, Daerah Kinta, Ipoh	Perak Darul Ridzuan	2006
5	Repair and refurbishment of Masjid Tinggi Bagan Serai	Perak Darul Ridzuan	2006
6	Repair and refurbishment of Masjid Kampung Hulu	Melaka	2006
7	Repair and refurbishment of Masjid Tok Janggut, Masjid Tanah	Melaka	2006
8	Repair and refurbishment of Masjid Setapak	Wilayah Persekutuan	2006
9	Repair and refurbishment of Masjid Lama Qariah Bunga Tanjung Kg. Tembung, Kuala Klawang, Jelevu	Negeri Sembilan Darul Khusus	2006
10	Repair and refurbishment of Masjid Kg. Kuala Dulang, Jelevu	Negeri Sembilan Darul Khusus	2006
11	Upgrading fence and retaining wall construction of Masjid Kg. Geylang, Jelevu	Negeri Sembilan Darul Khusus	2006
12	Repair and refurbishment of Masjid Abdullah, Pekan	Pahang Darul Makmur	2006
13	Repair and refurbishment of Masjid Kampung Tuan, Chukai, Kemaman	Terengganu Darul Iman	2006
14	Repair and refurbishment of Masjid Kampung Laut, Nilam Puri, Kota Bharu	Kelantan Darul Naim	2006
15	Conservation Works of Konservasi Masjid Jamek, Jalan Tun Perak	K. Lumpur	2007
16	Conservation Works of Masjid Lama Sg. Relai, Simpang Gelami, Jelevu	N.Sembilan	2007
17	Ceiling Installation, Painting Works and Electrical Wiring of Masjid Kg. Dulang, Jelevu	N.Sembilan	2007
18	Conservation Works of Masjid Dato' Machap, Alor Gajah *	Melaka	2007
19	Conservation Works of Masjid Kg. Kling *	Melaka	2007
20	Conservation Works of Masjid Kg. Duyong *	Melaka	2007
21	Repair Works of Roof and Minaret of Masjid Tengkerah *	Melaka	2007
22	Repair Works of Masjid Lama Jemapoh, Kuala Pilah *	Negeri Sembilan	2008
23	Conservation Works of Masjid Gagu, Jelevu *	Negeri Sembilan	2008
24	Conservation Works of Masjid Kg. Jerang, Simpang Durian, Jelevu *	Negeri Sembilan	2009
25	Conservation Works of Masjid Lama Kg. Dal, Padang Rengas *	Perak	2009
26	Conservation Works of Masjid Mulong, Kota Bharu *	Kelantan	2009

Reference:

- [1] Ahmad, A.G. *British Colonial Architecture in Malaysia 1800-1930*. Museums Association of Malaysia, Kuala Lumpur. 1997.
- [2] Ahmad, A.G. *Color in Building Conservation*, Paper presented at the Seminar on Colour For Sale, USM 20 June 1998. 1998b.
- [3] Ahmad, A.G. *Pemuliharaan Masjid Melayu Lebuah Acheh, Georgetown, Pulau Pinang, "Penang Past & Present"* Disember 1998. 1998a. pp. 27-29.
- [4] Ahmad, A.G. *Pengenalan kepada bangunan dan monumen lama di Malaysia*, Pembentangan Kertaskerja di Bengkel Menangani Masalah Pemuliharaan Bangunan Lama Di Malaysia Kota Ngah Ibrahim, Taiping, Perak pada 19 - 22 Disember 1994.
- [5] Ahmad, A.G. *Rangka Kerja Pemuliharaan Bangunan Warisan di Malaysia*, Bengkel Konservasi Monumen dan Tapak Tanah Bersejarah, 27-29 November 2006, Hotel Mahkota, Melaka. pp.1-12.
- [6] Ahmad, A.G. *Restoration of the Fort Cornwallis*.
<http://www.hbp.usm.my/conservation/ConsProject/Fortarticle.htm>, September 2006. 2006a.
- [7] Ahmad, A.G. *The Architectural Styles of Mosques in Malaysia: From Vernacular to Modern Structures*, Proceedings of the Symposium on Mosque Architecture: The Historic and Urban Developments of Mosque Architecture, King Saud University, Riyadh, Saudi Arabia, Vol. 2, 1999, p. 147-163) 31 Jan. 99 - 3 Feb. 1999.
- [8] Ahmad, A.G. *Urban Tourism In Malaysia : Heritage Cities Of Georgetown, Malacca And Kota Bharu*, 2nd. International Seminar on European Architecture and Town Planning Outside Europe (Dutch Period), Malacca 2-5 November 1998. 1998c.
- [9] Antoniou, J. *Islamic Cities and Conservation*, The UNESCO Press, Paris. 1981.
- [10] Budi, B.S. *A Study on the History and Development of the Javanese Mosque Part 1: A Review of The Theories on the Origin of the Javanese Mosque*, Journal of Asian and Building Engineering, JAABE Vo.3, No.1, May 2004.
- [11] Burden, E. *Illustrated Dictionary of Architectural Preservation*. McGraw-Hill, New York. 2004.
- [12] Fielden, B.M. *Conservation of Historic Buildings*. Architectural Press, Oxford. 2000.
- [13] Harun, S. N. *Amalan Kerja Pemuliharaan Bangunan Bersejarah Di Malaysia*, Phd Thesis USM, 2005.
- [14] Hong, C.C. *Program pemuliharaan dan Dilema Pemilik Bangunan Warisan*, MSc Thesis, USM 2001.
- [15] Ibrahim, A.M. *Conservation in Malaysia*, JMA, Malaysia. 1972.
- [16] Idris, S.Z.A. *Pemeliharaan Warisan Rupa Bandar: Panduan mengenali Warisan Rupa Bandar berasaskan Inventori Bangunan Warisan Malaysia*. Kuala Lumpur: Badan Warisan Malaysia. 1996.
- [17] Jabatan Warisan Negara. www.warisan.gov.my. Accessed on Jun 2008.
- [18] Kamal, et. al. Proceedings of The 2nd International Conference On Built Environment in Developing Countries 2008 "Sustainable Built Environment : Bridging Theory and Practice", 3-4th. December 2008, University Science Malaysia, Malaysia. 2008.
- [19] Kamal, et., al. *Kecacatan Bangunan dan Kepentingan Pemuliharaan Warisan di Bandaraya Ipoh*, Proceedings: National Conference On Malaysia Cityscape, 28-29 November 2007, Lumut, Malaysia, pp. 432-441, 2007.
- [20] Kamal, K.S & Ahmad, A.G. *Pendekatan dalam Kerja Pemuliharaan Bangunan Bersejarah di Malaysia: Satu Tinjauan Umum*, Post Graduate Research Colloquium 2007, 30-31 January 2007, Penang, Malaysia. 2007.
- [21] Kamal, K.S. *Kecacatan Dan Kerosakan Umum Pada Rumah Melayu Tradisional: Kajian Kes Rumah Kutai*, Proceedings 2nd Asean Post Graduate Seminar in Built Environment, 4-6 December 2006, Kuala Lumpur, pp. 189-198.
- [22] Keromo, P. *Konservasi Bangunan Masjid kg. Pengkalan Kakap*, Merbok, Kedah, Buletin JMA, pp. 72-80. 1999.
- [23] Malan, I. *Tapak-Tapak Sejarah dan Bangunan-Bangunan Lama di Negeri Melaka*. Melaka. Jabatan Muzium dan Antikuiti (Wilayah Selatan). Tidak Di Terbitkan. 1997.
- [24] Nasir, A.H & Teh, W.H.W. *Warisan Seni Bina Melayu*, Penerbit UKM, Malaysia. 1997.
- [25] Nasir, A.H. *Seni Bina Masjid di Dunia Nusantara*, Penerbit UKM, Malaysia. 1995.
- [26] Orbasli, A. *Architectural Conservation Principle and Practice*, Blackwell Publishing, Blackwell Science, USA. 2008.
- [27] Powell, R. *Living Legacy*, Singapore, Singapore Heritage Society. 1994.

- [28] Rasdi, et al. *Warisan Seni bina Dunia Melayu*, Penerbit UTM, Johor, Malaysia. 2004.
- [29] Rasdi, M.T.M. *The Architectural Heritage of the Malay World: The Tradisional Mosque*, Penerbit UTM, Malaysia. 2000.
- [30] Rasdi, M.T.M. Mosque Architecture in Malaysia, Classification of Style and Influence, *Jurnal Alam Bina*, Jilid 9, No. 3, Pp. 2-37. 2007.
- [31] Young, G. *Authenticity in Cultural Conservation*, Australia Planner, Vol 29, 1991, pp. 3-5.
- [32] Yunus, A.H.M. *Conservation Strategies For The Historic Cities Of Melaka, Malaysia, With Respect To Cultural Tourism. Edinburgh*. Tesis Sarjana Sains (Pemuliharaan Senibina), Jabatan Senibina, Fakulti Pengajian Alam Sekitar, Universiti Heriot-Watt. 1991.
- [33] Chen, V. (1998). *The Encyclopedia of Malaysia: Architecture, Volume 5*. Kuala Lumpur: Archipelago Press.
- [34] Lim, J. Y. (1987). *The Malay House; Rediscovering Malaysia's Indigenous Shelter System*. Pulau Pinang, Malaysia: Institut Masyarakat.
- [35] Charter, Burra. (1999). *ICOMOS, Burra Charter*. Retrieved 2008, from International Council for Monuments and Sites: <http://www.icomos.org/australia/burra>.