# TYPOLOGY OF INTERIOR ARCHITECTURE FOR TRADITIONAL MOSQUES IN PENINSULAR MALAYSIA FROM 1700 – 1900 AD

(Tipologi Seni Bina Masjid-Masjid Tradisional di Semenanjung Malaysia dari 1700 – 1900 Masihi)

Oleh:

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#### **Abstract**

This paper is based on an analysis of typological plan and main structures in several traditional mosques in Peninsular Malaysia. Emphasis is given on main prayer area and the main structure which supports the mosques' roof system. Traditional or early mosque was identified by its multitiered pyramidal roofs. Hence, objective of this study is to identify the forms and categories of the mosque on the building structure. Nowadays, the unique characteristic of this mosque has survived the test of time and can still be viewed on various traditional mosques. This exceptional roof system has put the mosques in its own exclusive circle, different from the rest of other mosques in the Islamic world. Thus, this study involves an analysis of 13 mosques which were constructed between 1700 to 1900 AD in Peninsular Malaysia. Finding of this study shows that the main prayer area is square-shaped, supported by four central columns in the middle of it. The four main structures which raised the roof system had influenced the shape and architecture of the multi-tiered pyramidal roofs of mosques in Peninsular Malaysia.

**Keywords**: typology, main prayer hall, traditional mosques

## Introduction

There are various perspectives and scholarly articles in discussing the architecture of traditional mosques in Peninsular Malaysia. However, very few of them have ventured into areas which involved the mosques' interior and structure. Discourse in mosque form and interior often lacks in depth discussion and not backed up with analysis and field study. Thus, the existing general views regarding mosque interior are hardly based on strong data or specific research on mosques in the Peninsular in particular. Currently, most of the researches tend to discuss the issue in general manner without referring in to specific period.

Thus, this research and analysis refer to the Peninsular Malaysia traditional mosque typology between 1700 and 1900 AD based on the basic floor plans and roof structures, of the main prayer hall that has four principle pillars known as (Soko Guru). These characteristics are significant in the development of traditional mosques which remain till today.

The main source of this research is the field data obtained from selected traditional mosques. Data collection was carried out by the researcher in January 2012. Thirteen traditional mosques were selected for this research which all of them were properly measured and taken pictures. The list of mosques stretched to fifty six. Information about them were obtained from states' museums, National

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Heritage Department<sup>1</sup>, Centre for The Study of Built Environment in the Malay World (KALAM) UTM<sup>2</sup>, and Malaysia Heritage Trust<sup>3</sup> and National Archive as listed in **Table 1**. (Refer Table 1)

Unfortunately, most of the mosques listed could not be found or were already dilapidated if they not entirely ruined. More disheartening is that some of these traditional mosques were replaced with new architectural design without having any effort to maintain their traditional features. Consequently, the shape of the main prayer hall and the integrity the structures were not able to be determined.

## **Basic Requirements of Traditional Peninsular Mosques**

Prior to evaluating and analysing the typology and structures of the mosques, this paper will discuss requirements of space in the planning of traditional mosques in Peninsular Malaysia.

# 2.1 Prayer Hall/ Prayer Space

Mosques function as a place for prayers and these activities require basic and most important prayer hall. Most prayer halls are bare and spacious without any barriers so that congregational prayers can be easily performed. A prayer hall is also the most significant, central area and more spacious than other parts of the mosque's interior. In traditional Peninsula mosques prayer halls are barricaded by walls which act as barriers for this area. In the process of collecting data for this task, the researcher found that all of the mosques' prayer halls were secured with walls as boundaries. These walls divide one area to another without bearing the weight of the roofs. Verandas are not original components of traditional mosque architecture, and they became part of the building much later.

## 2.2 Mihrab

Mihrab is a small space at the front of the mosque's interior which marks the qiblah and acts as the place for imams to lead the prayers. As a focal point in mosques, mihrab plays an important role in the process of entering the main prayer hall. Efficient planning of the mosque interior will ensure that the focal point can be clearly seen from the mosque's main entrance. Interestingly, mihrab is not given an emphasis in the architecture and as a component in traditional Malay mosques as compared to the mosques in Java and the rest of the Malay Archipelago or Nusantara<sup>4</sup>. The latter acknowledged the importance of mihrab and have made it as one of the main components<sup>5</sup> in their mosques. For the traditional Malay mosques, mihrab has less importance and in some of the mosques involved in the study, their mihrabs were constructed after the completion the prayer hall.

<sup>&</sup>lt;sup>1</sup> National Heritage Department, The Ministry of Information, Communication and Culture has gazetted 16 mosques from 317 buildings under the wing of National Heritage commencing March 1<sup>st</sup>, 2006 under the act of *Warisan Kebangsaan* 2005.

<sup>&</sup>lt;sup>2</sup>Founded in 1996 and able to collect measured drawings of traditional architecture in Malaysia which involves mosques, castles, residential, business premises and others which have high historical values. Collection of drawings began in 1975. It has managed to record 350 measured drawings and 45 of them were traditional mosques.

<sup>&</sup>lt;sup>3</sup>Malaysia Heritage Trust is a non-governmental organization (NGO) which carries out documentation work, educating, awareness and conservation of traditional and historical buildings in Malaysia. This organization has completed documented data on historical buildings in Malaysia for the purpose of conservation.

<sup>&</sup>lt;sup>4</sup> Nusantara refers to Malaysia, Indonesia aand the Phillipines. It is also referred to as the Malay world or Malay islands, Malay-Indonesia Island, *Nusantara* or Malaysia.

<sup>&</sup>lt;sup>5</sup>Masjid Kampung Tuan (1830), Masjid Kampung Laut (1730an) dan Masjid Lama Parit Istana (1796). Masjid Kampung Pantai (1925) do not have any mihrab in their mosques.

		Mosques	Constr	Negeri	C	C	SC
			uction		S	D	
NT.	M		year				
No	Mosque district						
1	Northern	Masjid Batu Uban, Penang	1734	Penang		С	Vt
1	Zone 1	Wasjid Batu Oban, I chang	1754	Tenang			V (
2	2	Masjid Melayu Bandar Taiping,	1893	Perak		Α	Se
_	2	Perak	10,0	1 010			20
3	3	Masjid Kampung Kubang Rotan,	1811	Kedah		F	Vt
		Alor Setar	(?)				
4	4	Masjid Kapitan Keeling, Penang	1802	Penang		В	Se
5	5	Masjid Lebuh Acheh, Penang	1808	Penang		A	Nc
6	6	Masjid Jamek Pengkalan	1808	Kedah	1	A	Nc
7	7	Kakap, Merbok Kedah Masjid Kota Lama Kanan, Kuala	1916	Perak		В	
/	/	Kangsar, Perak	1910	Perak		D	
8	8	Masjid Ubudiyah, Perak	1917	Perak		A	Nc
9	9	Masjid Papan, Perak	1888	Perak	2	A	Vt
10	10	Masjid Tua Kampung Masjid	1897	Perak	†	A	Vt
	10	Tinggi, Perak					
11	11	Masjid Paloh, Perak	1912	Perak		Α	Vt
12	12	Masjid Kuala Dal, Kuala	1936	Perak		A	Vt
		Kangsar					
13	13	Masjid Zahir, Kedah	1912	Kedah		Α	Nc
14	East	Masjid Kampung Laut,	1730s	Kelantan	3	A	Vt
1.5	Zone 1	Kelantan	1057	T7 1 4		Ъ	X 7.4
15	2	Masjid Kampung Tok Pulai Chondong, Kelantan	1857	Kelantan		В	Vt
16	3	Masjid Negeri Muhamadiah,	1867	Kelantan		С	Vt
10		Kelantan	1007	Kelantan			V C
17	4	Masjid Langgar, Kelantan	1874	Kelantan	4	A	Vt
18	5	Masjid Tok Kenali, Kelantan	1936	Kelantan		В	Vt
19	6	Masjid Kampung Pantai,	1925	Kelantan		A	Vt
		Pahang					
20	7	Masjid Tok Selehor, Kelantan	1921	Kelantan		A	Vt
21	8	Masjid Zainal <b>Abidin</b> ,	1808	Trengganu		C	Nc
22	9	Kuala Terengganu Masjid Kg Tok Tuan,			6	<b>A</b>	Vt
22	9	kemaman, Trengganu	1830	Trengganu	U	A	٧t
23	10	Masjid Hiliran Kg Hiliran,	1874	Trengganu		В	Vt
		Trengganu		- 00			
24	11	Masjid Jamek (Tua) Seremban,	1895	Trengganu		С	Nc
		Kampung Besut, Trengganu					
25	West	Masjid Dato Dagang Kg Jawa,	1876	Selangor		В	Se
	Zone	Kelang, Selangor	400		1		~
26	2	Masjid Alhah Alam/ Sg Kandis,	1896	Selangor		B Se	
27	3	Selangor Masjid Sg Gulang, Kuala	1909	Salanger			174
27	3	Selangor, Selangor	1898	Selangor		C	Vt
28	4	Masjid Sultan Alaeddin, Jugra,	1898	Selangor	+	A	Nc
		Selangor					
29	5	Masjid India, Kelang, Selangor	1904	Selangor		A	Nc

30	6	Masjid India Kuala Lumpur	1900s	Selangor		A	Nc
31	7	Masjid Jamek Kuala Lumpur	1909	Selangor		В	Nc
32	8	Masjid Kg Permatang Kuala	1916	Selangor		В	Vt
		Selangor		O			
33	9	Masjid Sultan Sulaimen,	1932	Selangor	В		Nc
		Selangor					
34	10	Masjid Parit Serong, Kuala	1936	Selangor		C	Vt
		Selangor, Selangor	1020	a 1			
35	11	Masjid Raja Alang Selangor	1939	Selangor		В	Nc
36	12	Masjid Lama Parit Istana,	1796	N.Sembilan	7	A	Vt
27	12	Kuala Pilah	1020	N.Sembilan			NIa
37	13	Masjid Jamek Petra Sendeng, Negeri Sembilan	1928	N.Semonan			Nc
38	14	Masjid Kariah Kampung	1928	N.Sembilan		В	Vt
36	14	Mendom	1720	14.Semonan		ט	٧ (
39	15	Masjid Lama lenggeng	1840	N.Sembilan	8	A	Vt
40	16	Masjid Kampung Kuala	1908	N.Sembilan	9	D	Vt
	_ •	Sedang, Tanjong Ipoh					
41	17	Masjid Lama Kg Tanjong	1892	N.Sembilan	1	A	Vt
		Beringin, Sri Menanti			0		
	Southern	Masjid Kg Hulu, Melaka	1728	Melaka	1	A	Se
	Zone				1		
43	2	Masjid Tengkera, Melaka	1728	Melaka		A	Se
44	3	Masjid Kg Keling, Melaka	1748	Melaka	1	A	Se
1.5			1070		2		
45	4	Masjid Kg Duyong, Melaka	1850	Melaka		A	Se
46	5	Masjid Jamek Umbai, Melaka	1852	Melaka		В	Se
47	6	Masjid Tanjung Keling, Melaka	1830	Melaka		A	Se
48	7	Masjid Jamek Teluk Mas,	1826 Melaka			A	Se
		Melaka					
49	8	Masjid Peringgit, Melaka	1720	Melaka	1	A	Se
49	0	Wiasjiu i eringgit, Wiciaka	1/20	Miciaka	3	A	SC
50	9	Masjid Jamek Sultan Abu Bakar,	1894	Johor	5	В	Nc
		Johor	1051	001101			1,0
51	10	Masjid Sultan Abu Bakar, Johor	1892	Johor		В	Nc
52	11	Masjid Assalam Kesang Tua,	1908	Melaka	В		Se
		Jasin Melaka					
53	12	Masjid Sultan Ibrahim Muar,	1927	Johor		В	Nc
		Johor					
54	13	Masjid Pasir Pelangi, Johor	1927	Johor		C	Nc
55	14	Masjid Jamek, Bandar Pontian	1937	Johor		A	Nc
	4-7	Johor	2	× 1		-	**
56	15	Masjid Air Bolai, Pontian Johor	?	Johor		В	Vt

Table 1. Identification of specific characteristics of Peninsular Malaysia's Traditional Mosques between 1700 and 1900 AD

#### Legend:

CS = Case Study CD = Condition

A = original condition with little change (0%-10%)

B = Original condition with minimum change (10%-50%)
C = Original condition with maximum changes (50%-90%)

D = ruined

 $E=\mbox{ruined}$  and new mosque was re-constructed on the same location in  $20^{th}$  Century.

F = destroyed or missing

SC = Specific characteristics

Vt = Vernacular/ traditional

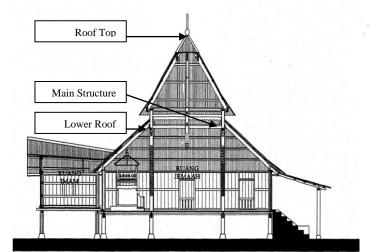
Nc = Neo -colonial

Se = Sino Eclectic

# The Mosque Structure and Roof

Geographical factors have dictated that the design of mosques in tropical areas must come with a roof as protection for the building. Thus, the prayer hall has to come with a roof on top of its area. Compared to the mosques in the Arabia, the mosques in the Malay world have specific characteristics in the design of its roofs. Two or three-tiered pyramidal roofs are common in the traditional Malay mosques in the Peninsula.

The roof design becomes a specific characteristic in the identification of traditional Malay mosques in the Archipelago. Apart from protecting the mosques from rain and heat, the two or three tiered pyramidal roofs have become a significant symbol to the identity of the Islamic communities in this region. The roof structure is supported by the structure of wooden main pillars. Out of this entire support system, there is one main structure<sup>6</sup> that backs the central area of the mosque known as *soko guru*<sup>7</sup> to the Javanese.



Picture 1: Main structure principles of traditional peninsular mosque



**Picture 2**: Axonometric Main Structure of traditional mosque (Masjid Papan)

No	Zone	Mosques	Locati	Year	Type					
			on / state	constr ucted	Pl	Str	Mbr	srb	tkp	Sb
1	North	Masjid Pengkalan Kakap, Merbok	Kedah	1808		•	С		Ts	☼
2	North	Masjid Papan, Pusing	Perak	1803	-	•		Δ	Ts	☼
3	West	Masjid Lama, Parit Istana, Kuala Pilah	N. Sembilan	1796		•		X	Ts	☼
4	West	3	N. Sembilan	1840		•		Δ	Тр	*

<sup>&</sup>lt;sup>6</sup> Masjid Sang Pencipta has unique and attractive mihrab due to its Hinddu-Buddha influence which had established itself earlier. Mihrab's design in *Masjid Sang Pencipta*, *Masjid Kudus* dan *Masjid Gunung Jati*, *Cirebon* exemplify how Islamilization had enriched Islamic art through the process of acculturation. This type of Indonesian Mihrab style can only be found in Javanese mosques.

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<sup>&</sup>lt;sup>7</sup>There are four main pillars that support the roof system. Available in many Javanese mosques.

5	West	Masjid Lama, Kampung Tanjung Beringin,	N. Sembilan	1892	•		۵	Ts	*
6	West	Masjid Lama Kg Kuala Serdang	N Sembilan	1902	•		X	Ts	*
7	South	Masjid Peringgit	Melaka	1720	•			Ts	<b>\(\Delta\)</b>
8	South	Masjid Kampung Hulu	Melaka	1728	•		۵	Ts	☼
9	South	Masjid Kampung Keling	Melaka	1748	•		Δ	Ts	☼
10	East	Masjid Kampung Laut, Nilam Puri	Kelantan	1730an	•	Π	Δ	Тр	☼
11	East	Masjid Kampung Tuan, Kemaman	Trengganu	1830	0	Λ	X	Ts	▼ (?)
12	East	Masjid Tua Langgar, Kota Bharu,	Kelantan 1	1874	•		Δ	Тр	*
13	East	Masjid kampung Pantai, Chennor	Pahang	1925	•		Δ	Тр	☼

Table 2: Specific characteristics of the interiors of 13 mosques chosen for the case study.



## Traditional Mosque Typology based on the Plan and Main Structure.

Data obtained for this study show that most traditional mosques in Peninsular Malaysia which were constructed between 1700 and 1900 AD have square-shaped plan (11 mosques). Only a few (2 mosques) are made of rectangular-shaped plan. There are a very small number of mosques which were built on different shapes of plans.

According to its structural principle, traditional mosques have four (4) main central pillars at the prayer hall (6 mosques) and the rest are supported by more than four main pillars. In addition, some

mosques do not have any supporting pillars in the main prayer hall (Masjid Kampung Tuan, 1803). In Negeri Sembilan, there is a mosque which has only one main pillar (soko tunggal) <sup>8</sup> providing support to all the centre of the prayer hall. Masjid Lama Parit Istana (1796) has four main pillars which were finely carved by four different tribes. Unfortunately, these exquisite pillars and the entire mosque are in bad shape due to neglect. A new mosque was constructed adjacently to replace it. Another mosque with beautifully carved pillars can be found in Masjid Tanjung Beringin (1892)<sup>9</sup>.

Based on the research, traditional mosques in Peninsular Malaysia are divided into two categories of main plans: one is square-plan and the other is rectangular-plan. The square-plan can be divided into four types of plans namely: (1) square-plan with single pillar (Masjid Kampung Mendon, 1928), (2) square-plan without the support of main pillars (Masjid Kampung Tuan, 1830), (3) square-plan with four main supporting pillars (Masjid Kampung Hulu, 1728), (4) square-plans with more than four supporting pillars (Masjid Kampung Laut, 1730an). As for the rectangular-plans, it can be found in two categories: (1) rectangular-plans with four main pillars (Masjid Kampung Bukit Bayas, 1873), (2) rectangular-plan with more than four main pillars (Masjid Kampung Hilirian, 1895). Most mosques which were constructed on a square-plan were completed with pyramidal roofs. As for rectangular-plan mosques, they are usually completed with five-ridge roof shape (Bumbung Lima) or "Bumbung Perak" (also known as Dutch style roof ridge), a more complex gable.

#### 4.1 Main Plan

Based on the analysis of plans and structures, traditional mosques in Peninsular Malaysia are square-plan and supported by four main pillars at the prayer hall. Conclusively, this is the most common original design of these traditional mosques since they are built in the same period and share the same typological patterns. Early mosques such as Masjid Kampung Laut (1730an), Masjid Kampung Hulu (1728), Masjid Peringgit (1720), Masjid Kampung Keling(1748), Masjid Lama, Parit Istana (1796), Masjid Kampung Tuan (1830), Masjid Lama Lenggeng (1840), Masjid Lama, Kampung Tanjung Beringin (1892), Masjid Papan (1888), Masjid Lama Kampung Kuala Serdang (1902) dan Masjid Kampung Pantai (1925) have similar basic shapes.

It is believed that the original plan of Peninsular Malaysia's traditional mosques has square-shaped prayer hall without any veranda. Any veranda found in these early mosques were constructed later and attached to the existing prayer hall<sup>10</sup>. Another part of the mosque which was added during post-construction was the mihrab upon analysis of original plans which was not part of its initial development (as found in Masjid Kampung Tuan and Masjid Kampung Laut).

# 4.2 Types of Plan

## 4.2.1 Square-plan

# a. Without the structure of main pillars

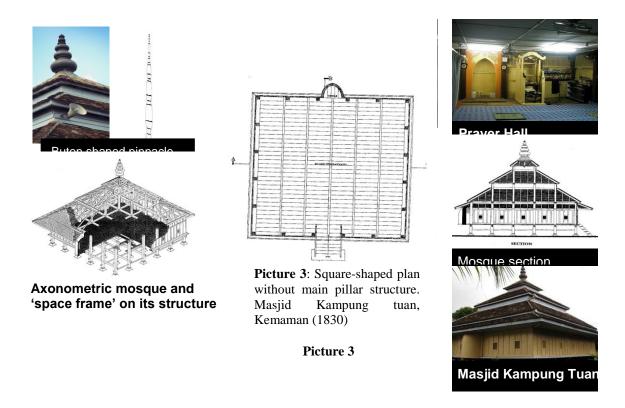
This type of mosques is square-plan and the prayer halls were not supported by four main pillars. This type of mosque can be found in Masjid Kampung Tuan, Kemaman (1830). This mosque uses "space frame" to support the mosque's roof load and distribute it to the wall on the sides of the building. Although it is being used today, the mosque is not considered as the place for Friday prayer. The

<sup>&</sup>lt;sup>8</sup>Masjid Kampung Mendon, 1928. Negeri Sembilan. Renovation work done in 2010 has changed the original structure.

<sup>&</sup>lt;sup>9</sup> Main structural pillar of this mosque is believed to have been taken from Masjid Bakar.

<sup>&</sup>lt;sup>10</sup>Masjid Kampung Tuan (1830), Masjid Parit Istana (1796) dan Masjid Lama, Kuala Serdang (1902) do not have any veranda but square-shaped prayer halls can be found in the mosques.

uniqueness of this mosque lies in its wooden structure. Due to its non-existent support, this mosque has a measurement scale that is small to average.



# b. Single-pillar main structure

With only one main pillar structure at the prayer hall, the diameter of the pillar is usually bigger than other pillars in the mosque. The Javanese name it as *Soko Tunggal*. Masjid Kampung Mendon, Negeri Sembilan (1928) (Picture 4) shares the same characteristic and it still functions to this day. According to Ezrin Arbi, to the Minangkabau, the pillar is known as *Tiang Macu*<sup>11</sup>. This mosque has a small scale design and average space because of its single-pillar support system.



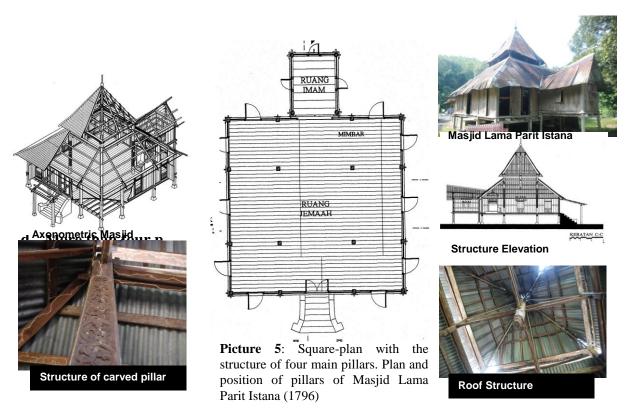
**Picture 4**: Masjid Kampung Mendon, Negeri Sembilan (1928) with the pillar is known as *Tiang Macu* 

# c. Four main support pillars

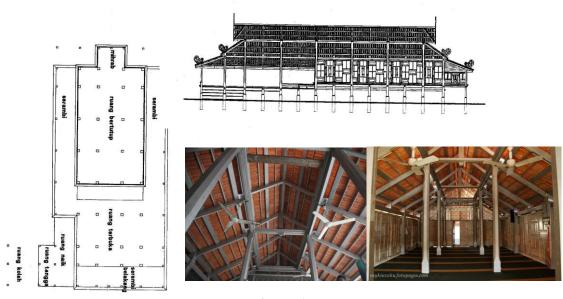
This category of mosque is found mostly among traditional mosques in the Peninsular Malaysia. Most of these mosques have four main structural pillars which support the mosque's roof system. Mosques

Discussion with Prof.Emeritus Ezrin Arbi, Department of Architecture, Faculty of Built Environment, Universiti Malaya on 26 June 2012 at The Faculty of Built Environment, Universiti Malaya. Time: 10.30am – 1.00pm

of this particular category are usually found in average and big scale space. Masjid Kampung Hulu (1728), Masjid Lama Parit Istana (1796), Masjid Papan (1888) dan Masjid Lama Kampung Tanjung Beringian (1892) are among the traditional mosques with for main pillars. They are also known as Community Mosque since they are common places and easy to be located among the locals.



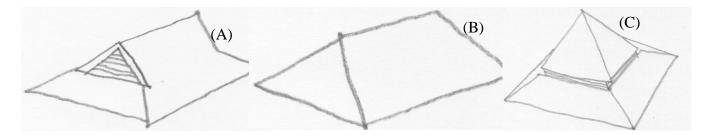
Traditional mosques which fall under this category have more supporting pillars at the roofs and come with bigger space scale compared to the other types of mosques. Sustaining pillars of these mosques are smaller compared to the size of the four-pillar type. Masjid Kampung Laut (1730s) is one the square-shaped mosque with more than four pillars. Altogether, this mosque has sixteen (16) pillars and also known as the Leader's Mosque.



**Picture 6:** rectangular - plan with more than four structural pillars. Masjid Langgar (1878)

Picture 6

Most mosques with rectangular-plan are usually built with Lima roof (bumbung Lima) or Dutch style roof-ridge (Bumbung Panjang). A mosque that has for main pillars at the prayer hall normally is on a small or average space scale. The pillars which put the wall together carry most of the load from the roof. Masjid Kampung Bukit Bayas (1873) was originally designed as such. As mosque architecture goes through phases of development, the wall section was removed, revealing the pillars. Consequently, the prayer hall became more spacious. This type of mosque is considered as early mosques for it is ability to retain its roof shape that resembles the Malay house gable.



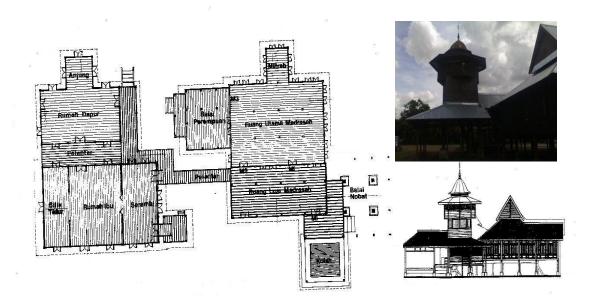
Picture 7: Types of roof (A) roof-ridge (Bumbung Panjang) (B) Lima roof (bumbung Lima) (C) Pyramidal roof

#### **b.** More than Four Pillars

Many rectangular-shaped mosques are found to have more than four pillars as their main structure. Masjid Hiliran (1895), Masjid Kampung Kubang Semang (1873), Masjid Pengkalan Kakap (1808) dan Masjid Kampung Kubang Rotan (n.d) are among the mosques that were built with this structure. These mosques have bigger space scale as compared to other traditional mosques. In fact, it is believed that most of them belong to the local leaders of that time. Masjid Kubang Rotan, for instance, is elevated to a high scale and it was reported that an elephant <sup>12</sup> was used as the main transportation to the mosque.

Based on field research, there are some mosques designs were originally made for Malay houses and later they were developed into mosque plans. The plan and structure of this kind of mosque resembles the arrangements and components of the traditional Malay house. Masjid Makam Langgar (circa 1925) contains *Balai Nobat* hall, the main house called *Rumah Ibu*. *Selang* (interval), *balai perempuan* (female hall), veranda and *rumah dapur* (kitchen area) all of which were common in the Malay house design (Picture 8). In addition, there is Surau Langgar Tuan Guru Abdullah in Kedah which was designed to be rectangular-shaped without any structural pillar in it. Previously, it is believed that this *surau* was a mosque and had changed its status after the development of new mosques around the areas.

<sup>&</sup>lt;sup>12</sup> Elephant owners at that time had high social status, only royals and noblemen used elephants as means of transportation. The same applies to Masjid Kampung Laut.



**Picture 8:** Masjid Makam Langgar (circa 1925) contains *Balai Nobat* hall, the main house called *Rumah Ibu*. *Selang* (interval), *balai perempuan* (female hall), veranda and *rumah dapur* (kitchen area) all of which were common in the Malay house

#### Conclusion

Based on research and analysis of traditional Peninsular Malaysia's mosques' various plans, the researcher concludes that, there are two main mosque plans which were developed among traditional mosques namely the square-plan and the rectangular-plans. Both designs were supported by main structural pillars of varying number. The designs of the roof were identified to have a link with the shape of the mosque plan. Square-plan comes with pyramidal roofs where the rectangular-plan mosques were constructed with *bumbung lima* (Dutch style roof ridge) or *potongan panjang*. In terms of dominance, it was found that square-plan mosque plan and pyramidal roofs seem to be central to the shaping of traditional mosque architecture in the Peninsular Malaysia. This type of design can be found in almost all zones in Peninsular Malaysia.

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