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MOSQUE CONSTRUCTION: DIFFERENCES BETWEEN THE TRADITIONAL AND MODERN MALAYSIAN MOSQUES

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Abstract

The Islamization of the Malay world since the Melakan Sultanate has transformed almost the entire structures of the Malay society in various aspect of life, from the religious to the social, as well as economic and political. The worldviews of the traditional Malays were transformed into the Islamic doctrine and it became the foundation that shaped their lives including the architectural facet. The mosque architecture has always been regarded as a landmark for the local traditional Islamic community and its cultural expression. However, since the middle of the 19th Century, influence by European colonists and the modern thoughts of the early 20th Century have changed the political, economic and technological fabric of Islamic communities of the Malay Peninsula. It had caused a change in the official institution and the construction of mosques. The modern Muslim world was faced with a new political structure, construction industry and building technology that resulted to the marginalizing of the position and role of mosque in the Malay society. Even though the liturgical function of the mosque remain unchanged since 1400 years, its role and the intention behind its building construction, extensions and maintenance have changed. Therefore, some basic principles of traditional Malay mosque construction differ to that of the Modern mosques. Thus the main endeavor for this paper is to explore the differences between the traditional Malay mosques and modern mosques architecture particularly in the intention (niyya), the design and planning of the mosque, the structural and construction method, choice of building material, alongside community participation on the erection and maintenance of a mosque. Referring to traditional and modern mosques of the Malay Peninsula, some examples will be highlighted to ascertain the differences. It is critical to identify and understand the differences in the aspect of design and construction of traditional and modern mosques in order to design better mosques for the Muslim communities in the future.

Keywords: Mosque, Construction, Traditional and Modern Mosque.

1. Introduction.

The mosque is the most important structure in the Islamic world. It has historically served as a central model and expression of Islamic culture throughout the centuries. Mosques have also been the primary focal points of Muslim cities and have always represented the physical centers of Islamic society in general. It was created as the most sacred place in Islam. In all Muslim societies, the mosque is the important building in the community and certainly acts as a landmark for the townscape. The mosque is defined as a place where one prostrates oneself before God. However, for the five times daily prayer except for the Friday noon prayer, Qur'an does not require or obligate Muslims to pray in a certain place or in a place with specific architectural requirements (Mohamad Rasdi, 1998).

Differ from the traditional time, the early 20th century modern Muslim society was faced with numerous changes in political structure, economic financing and technology advancement that leads to the marginalizing of the position and role of mosque in the Malay society. This scenario resulted to the distinction of some basic principles of traditional Malay mosques and the modern mosques construction. Therefore, this paper tends to discuss some of the mosque construction differences between the two building eras.

2. Historical background of Peninsular Malaysia.

Islam first came to the Malay Peninsula in the early 14th century. This historical evidence has proven by an inscribed stone found in Kuala Berang, Terengganu dated 22 February 1303 (Nasir, 1984). Although Islam reached the various parts of the Malay Peninsula in the early 15th century, it was not until the founding of the Malacca Sultanate that Islam began to penetrate deeply into the life and culture of Peninsula Malay society. The transformations encompassed in all activities including social, political, cultural, economic and religious aspects.

The traditional community continues to live in the traditional way of living despite the Portuguese, Dutch and British rule in the Malay Peninsula. However, British political and administrative control was firmly established in the Peninsula by the Treaty of Pangkor (January 1874) in Perak. The treaty “settled” a succession dispute of the Perak throne and established the office of “British Resident” to assist in administer Perak and the other Malay states. The treaty demanded that the advice of the resident on administrative matters must be asked, except those touching the Malay religion and customs. Since then, the Malay world view was slowly transformed from the traditional to the modern or Western thoughts.

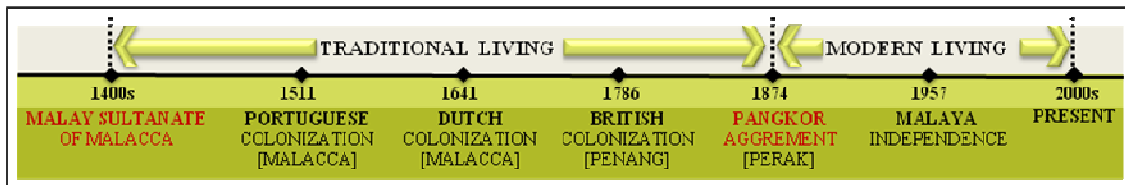


Figure 1: Historical timeline of Malaysia.

Mosque buildings have at times been utilized as an element in establishing a new political identity. Malaysia who gained her independence from the colonial power of Britain in 1957, felt challenged by her new status and by the external world to represent itself as ‘modern’ country through new buildings, particularly mosques (Holod & Khan, 1997). The creation of newly independent Malaysia prompted the new administration to design and fund new buildings of a monumental scale, modern and reflecting a national identity (Holod & Khan, 1997). It became apparent that traditional humble structures could not accommodate congregational gatherings as the population in urban areas increased. The need to built large-scale mosques is now possible with the advances in modern construction technology and building materials. The historical chronology of Malaysia has also represented the development and changes of mosque architecture in Peninsula Malaysia as well. Thus, two samples of case study mosques were chosen to highlight the differences between the traditional and modern mosques.

3. Differences of the Traditional & Modern Malaysian Mosques.

Traditional mosque construction implies more than simply the physical attributes of a building method. It also encompasses the social and religious structure that produces that building method. In this study, an example of a traditional mosque of a totally timber material and construction at Kampung Tuan (circa 1830’s) was chosen. A nearby modern Tengku Tengah Zaharah Mosque (1994) was selected for comparison. Kampung Tuan Mosque is one of the oldest surviving timber mosques in Peninsula Malaysia built in the early 19th century near the town of Chukai in Kemaman. The foundation of the mosque was laid by Sheikh Abdul Rahman, the son of the famed scholar Sheikh Abdul Samad al-Palembangi. On the other hand, Tengku Tengah Zaharah Mosque completed in February 1994 was designed by Seni Bahri Arkitek. It is located on a five acres land and floating on a lake at Teluk Ibai, Kuala Terengganu. The location of both mosques is illustrated in figure 3.1. To ascertain the differences, the study will focus in the intention (*niyya*) of mosque construction, the design and planning of the mosque, the structural and construction method, choice of building materials, alongside community participation on the erection and maintenance of a mosque.

3.1 Mosque Building: The Value of Intention (*Niyya*).

The Islamic understanding of worship allows one’s action to be an act of worship, as long as the intention or objective of that act is solely to attain the pleasure (*rida*) of Allah. A person’s everyday activities are transformed into acts of worship by purifying his or her intention (*niyya*). When a Muslim performs all the activities of his life for the pleasure of Allah, then all his deeds become *ibadah*, including building a mosque for the use of the community. A famous saying (*Hadith*) from the Holy Prophet that quotes: “deeds are measured by the intention”.

Referring to the Kampung Tuan Mosque, the building involved participation from the local community. It was the product of manual aesthetics, based on the subtle interaction of devoted builders and craftsmen and regulated by tradition. This local contribution is regarded as an act of devotion (*ibadah*) towards God. Tengku Tengah Zaharah Mosque construction on the other hand is the product of machine aesthetics, based on a universal system of clients, architects and contractors. Contrary with the traditional intention of building a mosque, besides to gain God's pleasure it is also meant for profit making. Today's construction is more complex, with the scope of works divided into various material suppliers, skills and professions. Each member of the suppliers, skills and professions will gain their percentage of payments and profits from the mosque building project.

Besides, there is an obvious difference between the two systems; the traditional method produces works of architecture slowly, which are highly distinctive and regionally identifiable. Meanwhile the modern method produces standardized or stereotyped mosque buildings quickly, which tend to devoid of any local cultural values and participation. Traditional forms and construction of religious architecture have been neglected over the past few decades in Malaysia due to the absorption of new technologies and building materials and the concept of the monumental mosque.

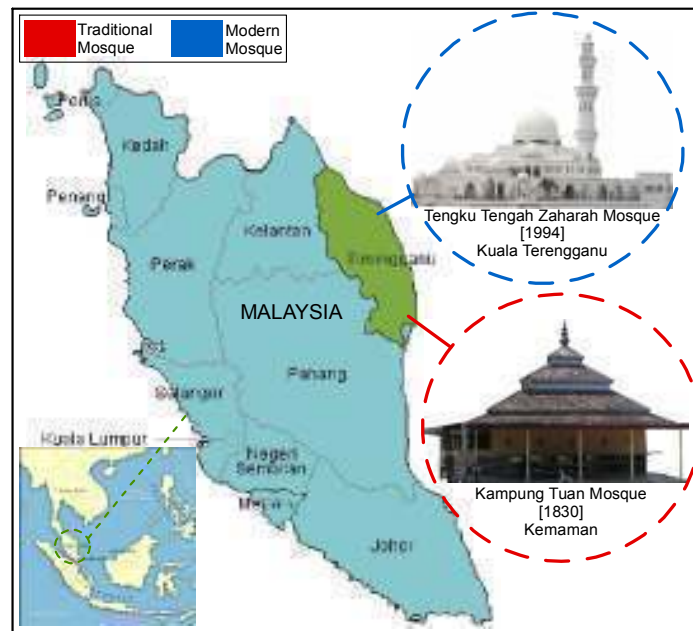


Figure 2: Location of the case studies.

3.2 Design and Planning.

The construction of Kampung Tuan Mosque is influenced by four major factors including climatic condition, availability of building materials, craftsmanship and community participation. This traditional mosque was very simple and functional structures. It consists basically an open space enclosed by the wall panel made from timber and shades with clay tile roofing. The mosque is a small scale building able to cater 100 congregants at one time, enough to encourage the local congregants to get to know one another. The idea is to nurture Muslims brotherhood in the village. The arrival of modern architecture has resulted in the breakdown of local building traditions. The scale of Tengku Tengah Zaharah Mosque is monumental, intended to accommodate 1000 congregants at a time. The dramatic volume of the prayer hall allows the separation of individual. The congregants no longer know each other, not even the one who prays next to them. From the rule of thumb in architecture, the size of the mosque should be determined and depending on the size of the community. Unfortunately, in some cases, a modern mosque with a capacity of a thousand has been built in a location with a population of a few hundred.

Kampung Tuan Mosque blends very well with the surrounding vegetation and local houses. This traditional mosque, which is the biggest and highest building in the settlement, did not result in the physical isolation from the rest of the village. As the focus center of the area, this traditional mosque mingles nicely with the surrounding setting. It is sited right in the center of a community's activities and integrated with the society lifestyle. Many modern mosques in Malaysia nowadays sit in isolated sites. The sites chosen for modern mosque constructions usually on the hilltop, on man-made lake or even on a man-made island. It can be said that the modern mosques construction lacks consideration in the aspects of accessibility, urban silhouette or

compatibility with the settlement's fabric. Modern mosques became a freestanding monument. In the case of Tengku Tengah Zaharah Mosque, although located at the centre of a city, it no longer appears to belong to a specific locality or connected to the surrounding urban fabric. Figure 3 shows the summary of differences between the Kampung Tuan Mosque and Tengku Tengah Zaharah Mosque in terms of location, spatial planning, design and scale of the mosque.

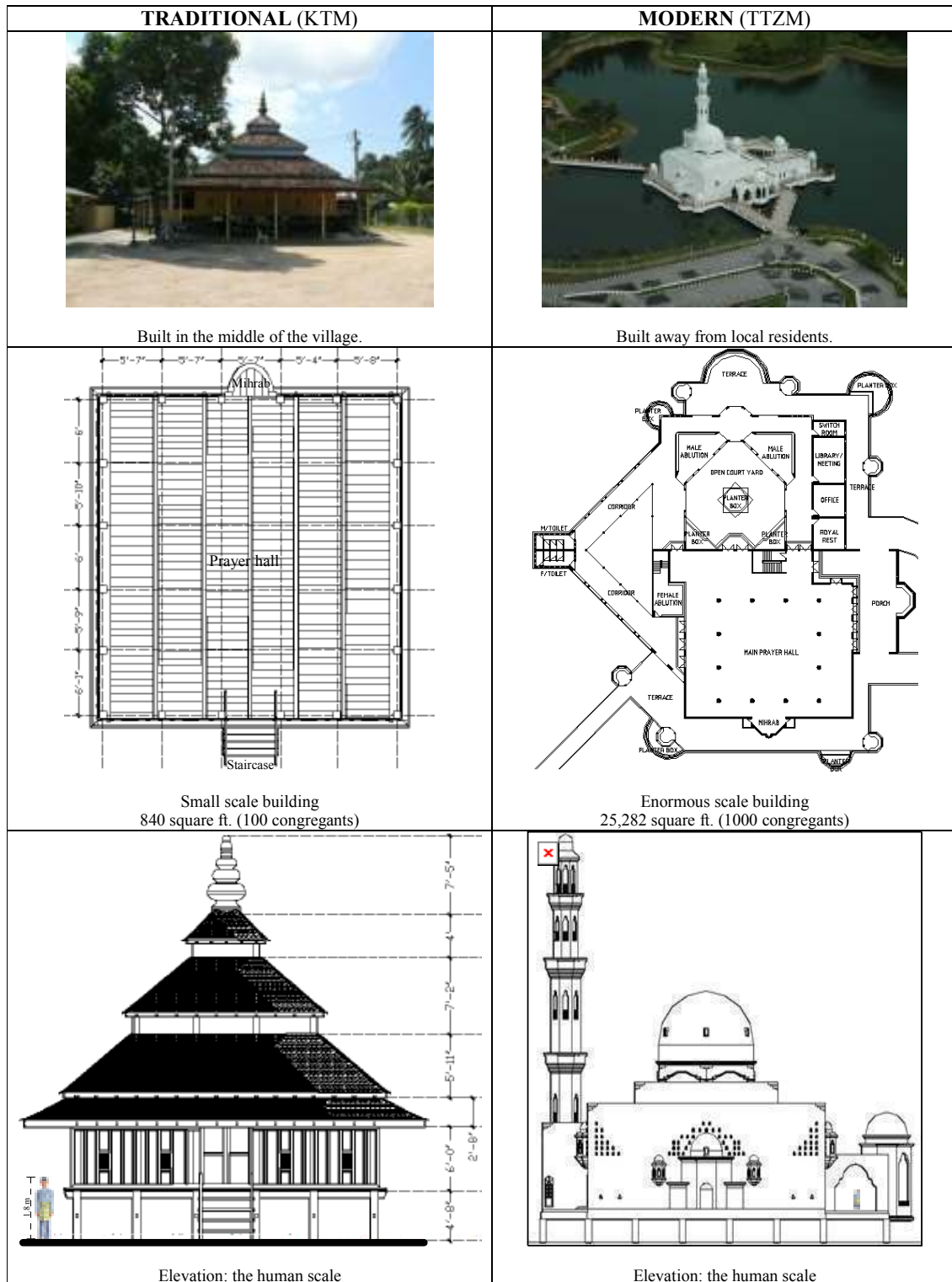


Figure 3: Location, spatial, design and scale of the mosques.

3.3 Structural and Construction Method.

A traditional mosque construction was engineered to adopt with the Malaysian climate because it becomes a part of nature once it is constructed. Climatic balance was taken into account in most traditional buildings. The construction respected the site especially when it comes to digging, filling up and uprooting trees. The traditional mosques usually harmonize with the surrounding nature and people's lifestyle. Traditional builders considered environmental factors when they designed their buildings. Most Malaysian traditional mosque structures lie within the powerful tradition of tall, multi-roofed, open halls with timber columns as structural supports. These types of structures are especially notable as they reflect the region's abundant diversity of natural sources as in the Kampung Tuan Mosque.

The traditional builders learned the building skills through apprenticeship. They make use of local materials and have evolved to cope with local climatic conditions. The building methods will have been developed to use the most economical materials available that will give adequate standards of performance. Traditional Malaysian mosque especially emphasized the regional expression of architecture. To give an example, the Kampung Tuan Mosque roof form which known as *Meru* roof, shaped in pyramidal pitched roof was evolved by the use of the local clay roof tiles to deal with the problems of excessive rainfall. Another characteristic feature was the utilization and incorporation of special traditions of local craftsmanship and the indigenous arts of the area. The stages of this traditional mosque construction differ from the modern mosque construction process.

Table 1: Stages of construction in Kampung Tuan Mosque and Tengku Tengah Zaharah Mosque.

STAGES OF CONSTRUCTION	TRADITIONAL (KAMPUNG TUAN MOSQUE)	MODERN (TENGGU TENGAH ZAHARAH MOSQUE)
Preliminaries work	Selecting the site	Tendering
	Acquiring materials from the jungle	Pricing of bills of quantities
	Site clearance/preparation	Project awarding
	Preparing building components	Possession of site
	from local raw materials	Ordering materials
		Mobilization of plants and materials Site preparation
Erection of the building	Preparing the columns grid	Piling
	Perimeter columns	Work below lowest floor finish
	Supporting columns	Building frame
	Floor beams	Upper floor
	Cross-beams	Staircase
	Roofing components	Roofing
	External and internal joist	Wall and partitions
	<i>Bendul</i>	Windows
	Roof tiles	Doors
	Wall and wall openings	Internal finishes
	Floor boards	External finishes
	Staircase	Plumbing and sanitary fittings
	Erection of the building	Roof finial
		Building services
		Soil drainage
		Minaret
		Roads, car park and walkway
		Bridge
		Embankment treatment
Completion of building	<i>Kenduri</i> (socio-religious feast)	Handover
		Defect liability
		Final payments

The small traditional Kampung Tuan Mosque is comprised of building components and construction method that can be produce and assembled by the local community. The basic construction method of a traditional house and its local mosque is the same. In the case of the Kampung Tuan mosque, the local builder "invent" of new roof structure that was supported entirely by perimeter columns. The internal columns were eliminated to provide a column-free prayer hall. Internal columns were found in the construction of local houses.

The widespread adoption of western building methodology and technology made for speed and efficiency was adopted in the modern mosque like Tengku Tengah Zaharah Mosque. Modern architecture offers the architect virtually limitless possibilities in the choice of form and structure. However, modern building technology is impartial and inert often without proper understanding of the empathy for the cultural, social and

religious characteristics of a country. Modern building technology cannot respond to the cultural needs or the need for the individual expression of a community. The results are architecturally gigantic scale modern mosques that appear perfect in symmetrical and balance layout but lacking in human scale and community participation. Table 1 shows the contrast of work and task at the same stage of construction. The Figure 4 and Figure 5 show the different stages of construction of Kampung Tuan Mosque as well as Tengku Tengah Zaharah Mosque.

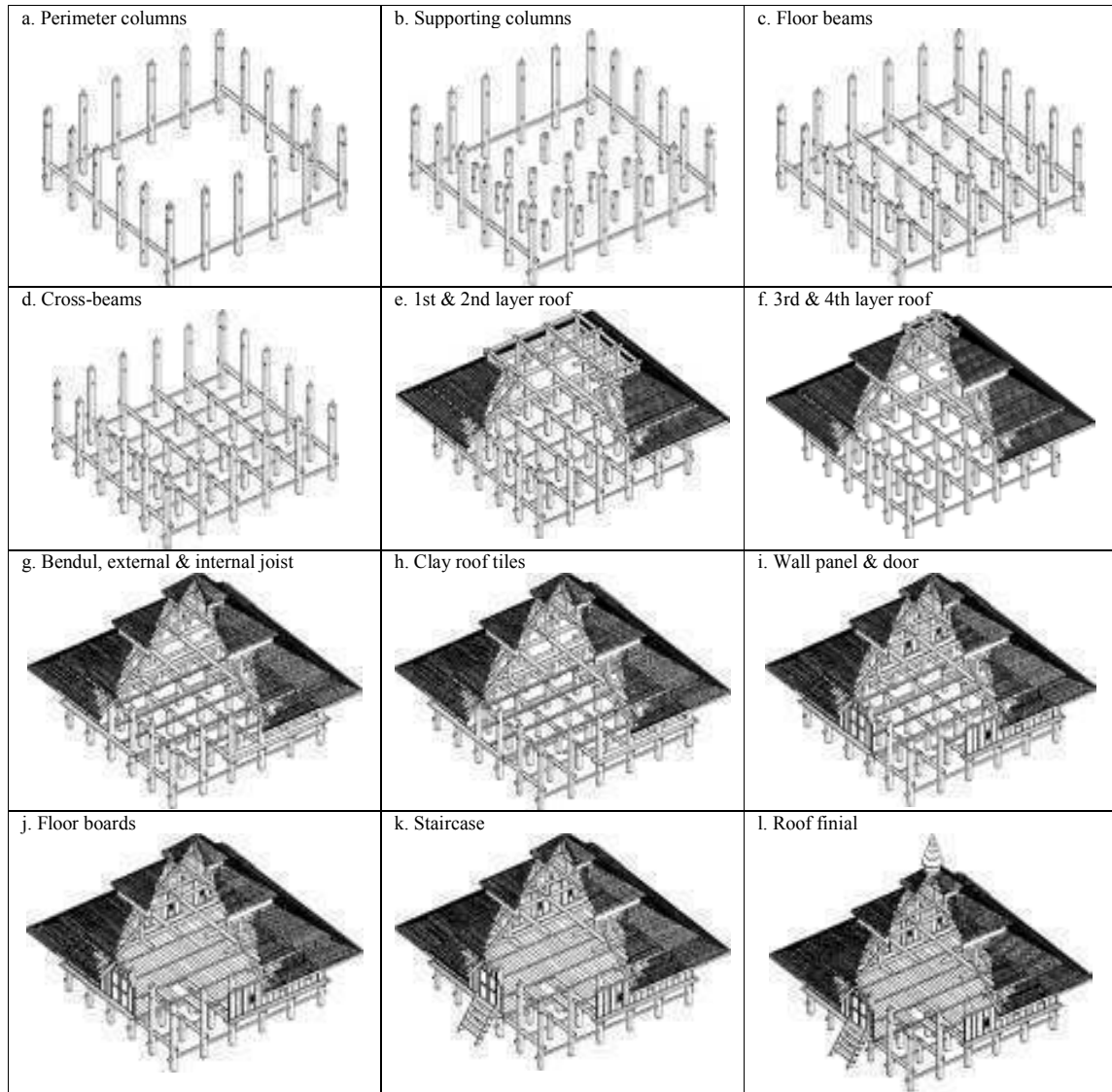


Figure 4: The Kampung Tuan Mosque's stages of construction.

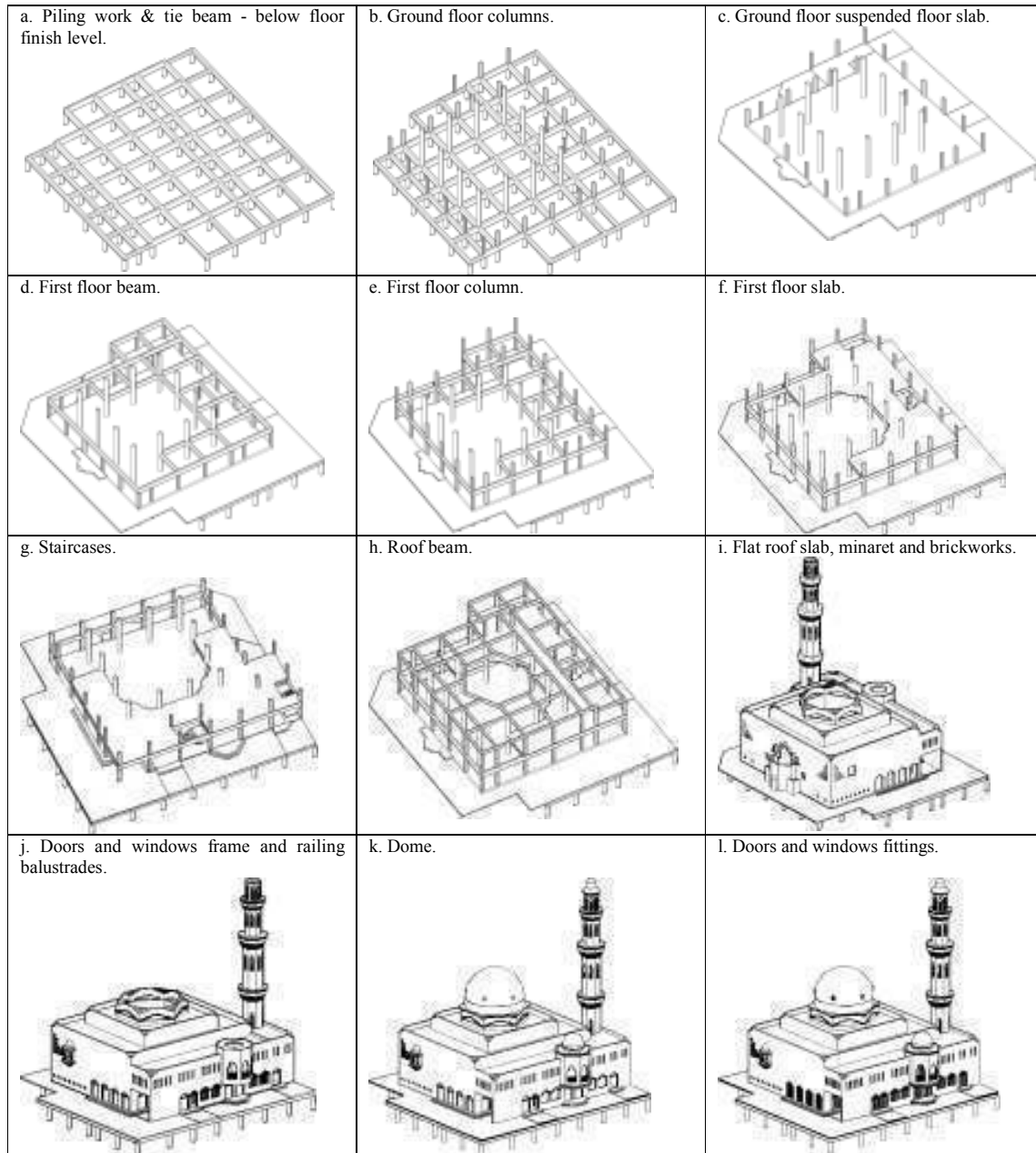


Figure 5: The Tengku Tengah Zaharah Mosque's stages of construction.

3.4 Building Materials.

The Kampung Tuan Mosque was built in harmony with neighbouring houses and of the same construction materials. Timber as the main material, were available in surrounding area of low technology needed to produce, fabricate, replace and maintain the building components. In Malaysia, timber was considered the most acceptable building material, primarily because it did not retain heat during the day to radiate it back in the evening. Its use in traditional architecture provided a sense of coolness during daytime. This traditional mosque were built for human comfort in response to the warm and humid climatic conditions by using pitched roofs to enable rain water to run off quickly and to control the thermal heat inside the building. In order to avoid floods and other reasons, it was built on stilts to raise its floor above ground level. Besides, additional floor extensions could be easily incorporated with different floor levels after completion. The local materials chosen adapt changes such as modifications of the layout plan and increasing spans for both roofs and floors. These dynamic changes were compatible with the local traditional craft skills and materials.

Tengku Tengah Zaharah mosque used materials such as concrete, brick and plaster, mild steel and glass. Modern mosques are no longer subservient to the local climatic conditions with the use of mechanical ventilation system, where a specific micro-climatic building environment can be artificially created. The modern mosques are designed as an enclosed building with high walls and without appropriate openings, which cannot function properly without the active support of such modern services as artificial lighting and cooling system tools. Energy consumption and cost factors are often not considered for building occupancy and maintenance. Table 2 below shows the material differences between the two mosques.

Table 2: Kampung Tuan Mosque and Tengku Tengah Zaharah Mosque construction materials.

BUILDING COMPONENTS	MATERIALS/FINISHES	
	TRADITIONAL (KAMPUNG TUAN MOSQUE)	MODERN (TENGKU TENGAH ZAHARAH MOSQUE)
Structure (column, floor beams, piling)	Timber	Reinforced concrete, steel bar
Floor	Timber	Reinforced concrete, steel bar, ceramic & p.v.c tiles, timber
Roof (internal, external)	Timber, wood shingles	Reinforced concrete, steel bar, timber, glass fibre r.c, gypsum plaster, aluminium, marble
Wall (internal, external, partition)	Timber	Reinforced concrete, steel bar, brick, paint
Openings (doors, windows, air-hole)	Timber	Reinforced concrete, steel bar, glass, timber, paint
Staircase	Timber	Reinforced concrete, steel bar, timber, ceramic tiles, paint

3.5 Community Participation in Building Erection and Maintenance.

In Islam, aside from daily prayers, the fulfillment of the social responsibilities such as participating on the process of erection of a mosque will help to create conducive religious environment. As for Kampung Tuan Mosque, the method of building construction and materials were similar to the local house architecture, thus it allows participation of local craftsmen and the community at large. So do in the future maintenance of the mosque. Consequently, building a mosque is a community responsibility that involves the local community. Though the master builder was the one who leads, assistance from the apprentices and the local community is still needed during buildings construction. Generally, the master builder possesses almost all the basic knowledge about the building. However, some component parts of the building may require specialized services of others, such as the preparation of the roof finishes, walls, staircases and decorative components. Due to the modular concept of construction, some of the components were prepared in advance. Figure 6 portrays the differences in construction working flow of both mosques.

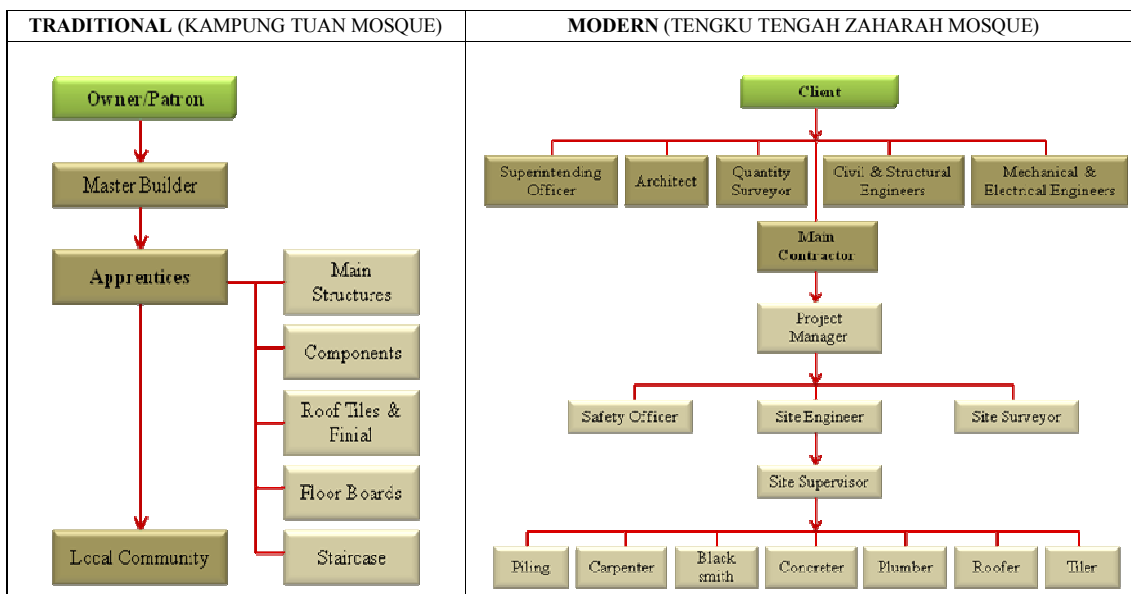


Figure 6: Traditional and modern mosque construction working flow.

The construction method of Tengku Tengah Zaharah Mosque however requires professional services of architects, contractors, suppliers and builders. Thus, it hinders the opportunity for the local community to contribute for the mosque building. The directions in which modern mosque architecture is heading, in addition to other factors are determined in the final analysis by client demand. Frishman and Khan (1994) stipulate, that the design and construction of the mosque throughout history have been affected in the modern society by several important elements; the expression of place, the appearance of ‘pan Islamic’, the ambition of clients and designers and the manifestation of modernism and internationalism. It is quite clear that modern client groups are going to continue to have the major say with respect to trends in mosque development. It also heavily depends on the architect that plays a key role in the formation and realization of their contemporary clients’ aspirations, as what happened in the Tengku Tengah Zaharah Mosque.

4. Conclusion.

Mosque architecture is not a concept with unchangeable elements and it does not contain formalist expectations. Modern development has offered new horizons but has also meant the disruption of tradition. This is especially pertinent to the Malaysian mosque architecture where the religious functional requirements and constraints are minimal but the building form and symbolism aspect is paramount. The resultant cultural discontinuity and loss of identity, created by the dramatic intervention and global technology, are manifest in the present modern mosque architecture. However, it is almost impossible to return to the traditional methods of building. These modern forms of construction were certainly introduced for some good reasons. What we can learn from the traditional construction is their use of local and sustainable building materials, their small scale structure and the community participation. Traditional Islam sensibility saw the world in its transient aspect, hence the architecture erected sought to avoid the grandiose and the worldly (Nasr, 1978). Modernized Muslim has forgotten the transient quality of human life on earth and the importance of peace and harmony with nature. Table 3 summarizes the concept of the two mosques building.

Table 3: Traditional and modern mosque concept of building.

CONCEPT	TRADITIONAL MOSQUE	MODERN MOSQUE
Concept of mosque building.	Act of worship (<i>Amal jariah, ibadah</i>).	Profit making motives.
Concept of site selection	Blend with site surrounding. Close to the community (<i>qariah</i>).	Isolated, secluded from the community (<i>qariah</i>).
Concept of building components	Modular system, human scale, simple assembly and replacement.	Permanent structure, enormous scale and specialized trade.
Concept of materials	Low maintenance, local materials and craftsmen.	Machine produced industrial materials.
Concept of working system	Communal contribution, society participation	Profit making consultants and contractors paid by government agencies.
Concept of Ownership	Sense of belonging and community responsibility	Belongs to and maintained by the Government.

It is for Muslims of today to apply their creative minds and not to copy blindly both the traditional forms and structure of the past or the reproduction of modern construction of the West without understanding the logical basis of Islamic design principles and local traits. It would be a real test and task of our ingenuity to combine the beauty and spirit of the traditional Islamic architecture, interpreted in a modern idiom consistent with the technological advances of today.

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