CHAPTER 4: COMPARATIVE ANALYSIS TO IDENTIFY THE INFLUENCES TO THE ARCHITECTURE OF THE MOSQUE

4.1 Introduction

This chapter is about identification of the influences to the evolution to the architecture of the mosque. It is a comparative analysis to identify the architectural features of the mosque with similar features from the geo-cultural region of Maldives. Once the architectural features of the mosques are identified the next stage would be to understand how the features evolved and to understand the art of making the mosques. Because of limitation of resources, logistics and time this study chose to focus on understanding the influences to the features contributing to its evolution instead of studying the ancient construction methods.

4.2 Areas of the geo-cultural region that influenced the culture of Maldives

Maldives being strategically located in the center of the Indian Ocean was a transit point for some of the greatest seafaring civilizations and was exposed to a great variety of travelers and cultures. Evidence of the importance of Maldives as a transit point is provided in the writings of great travelers like Ibn Batuta and F. Pyrard (Bell, 1940, Mohamed, 2008). The physical characteristics among the people of Maldives are also evidence of the strong cross-cultural influence to the country. W. Duckworth’s analysis of anthropometric data collected in 1899 by J. S. Gardner was the earliest evidence that, Maldives was settled by people from Indian subcontinent with Sri Lanka, the Swahili coast of east Africa, the western shores of Malayan archipelago and Arabia (Mohamed, 2008).
The History of Maldives and analysis of earlier literature reviews confirms that during the period of the construction of the coral stone mosques Maldives was influenced by the cultures of Indian subcontinent with Sri Lanka, the Swahili coast of east Africa, the western shores of Malayan archipelago and Arabia and Persia. The specific destinations of travel in the region during that particular period was clearly understood when compared with the travel destinations of Cheng He who traveled to these important destinations in the Indian Ocean between 1405-1433 (Mills, 1970). Areas of the geo-cultural region that influenced the culture of Maldives:

- **South Asia**
  - Ancient South India
  - Malabar coast of India
  - Other coastal regions of south Asia
  - Minicoy and Laccadive group of Islands
  - Sri Lanka
- **Swahili Coast of Africa**
- **Malacca Straits culture**
- **Maritime regions of Arabia and Persia**
4.3 Comparison to identify the influences to the architecture of the mosque

Properties exactly comparable or similar to the coral stone mosques are impossible to find and it is established that these mosques are totally unique. Comparative analysis not exhaustive but comparisons were made to properties in the identified geo-cultural areas with the features of the mosques.

The biggest influence to the architectural features was from the vernacular architecture of the country and its past cultures. Vernacular architecture and the maritime and boatbuilding skills influence the architecture of the coral stone mosque in every aspect. The fine craftsmanship and carpentry work is a direct result of the skills of the local carpenters. The sophisticated timber joinery is skills acquired from an age-old boat building culture. Buildings techniques such as the coconut-thatching techniques for the roofs are all inherited from the vernacular. The most important influence from the past is from pre Islamic Buddhist culture. It is clear from study and comparison of the archaeological remains that coral stone construction started during the pre Islamic era (Bell, 1940; Mikkelson, 2000) and later evolved to a sophisticated level in the mosques. The decorations are refined later by the replacement of animal symbols with floral and geometric symbols but the origin of the moldings could be traced to the Buddhist structures (Bell, 1940).
4.3.1 Comparison with Ancient South India

The closest examples to the mosque features such as the raised platform are found in ancient India and Sri Lanka, which shows the inheritance of some of the features from the pre Islamic cultures in the Maldives. The coral stone culture originally arrived from the Indian subcontinent and Sri Lanka along with the Buddhist and Hindu cultures. In 1940 H.C.P Bell traces some of the exterior coral decorations such as the moldings of the mosques to Buddhist origins (Bell, 1940). In 2000 Mikkelson traces coral stone construction to regions Indian subcontinent and Sri Lanka (Mikkelson, 2000). Similarities were observed among the ancient structures of south India such the Temple of Ladkhan in Karnataka, India (ASI, 2012; WHC-UNESCO, 2011b). Temple of Ladkhan in Karnataka is an ancient Hindu Temple made from shaped and cut rocks built in the late 17th or early 18th century. Similarities were observed with the raised platform, exterior moldings and shapes of the rising stairs of the coral stone mosques. While there are obvious parallels in form such as the platform base, moldings and few floral decorative elements, the Maldivian mosques stand apart because the Indian counterparts have animal, human and tantric motifs.

Similarities between ancient structures of south India were observed with the raised platform, moldings and rising stairs of the coral stone mosques.

Eg: Temple of Ladkhan in Karnataka. Source: (http://asi.nic.in/asi_monu_alpha_list_karnataka_dharwad.asp)

Figure 4.1: Example of a South Indian Structure that is comparable to the mosque.
4.3.2 Comparison with the Malabar coast of India

Similarities between coral stone mosques of Maldives and structures of Malabar coasts of India were observed in the floor spaces, roof form, coffered ceilings and interior timber works. The coral stone mosques have similarities with mosques like the Jami Masjid, Muchchandipalli, in Calicut, and Chembattalpi in Cochin. Jami Masjid, Muchchandipalli, in Calicut is one of the oldest and finest mosques in Calicut. The mosque has a 14th-15th century core, which has been extended over the periods of time. Chembattalpi in Cochin is a large mosque, which is one of the best examples of mosques in South India. The existing mosque was rebuilt in 1520 (Shokoohy, 2003). Both the mosques have tiered roof forms, prayer halls with columns, antechambers, verandas, and coffered ceilings, somewhat similar to the coral stone mosques. Some Interior timber carvings have similar floral and geometric patterns but the intricacy of decorations and calligraphy, is very much different to that of the Maldivian counterparts. The classic Kerala architecture also features similar to the mosque features. Examples are found in the details of coffered ceilings and decorative timber works of the Sree Padmanaphapuram Palace in Kerala built round 1603 (ASI, 2012).

Similarities between structures of Malabar coasts of India were observed in the floor spaces, roof form and coffered ceilings.

Example: Coffered ceiling of Sree Padmanaphapuram Palace, Kerala.

Figure 4.2: Example of a Kerala structure that is comparable to the mosque.
4.3.3 Other coastal regions of South Asia

Similarities between coral stone mosques of Maldives and other coastal regions of south Asia regions were observed in their crafts of stonework, lacquer work, decoration of timber doors and windows of Gujarati region of India and lacquer work of Myanmar. Apart from the pre Islamic origin of the carvings and decorative motifs of the coral stone mosque, the carvings had similarities in Gujarati region of Khambhat, which was well known during the 14th -15th century for it's fine carvings (Naseema, 2008; Lambourn, 2004). The timber carvings and decorations found in the doors of the traditional structures of the Ahmedabad region also have resemblance to the timber door details found in the mosques. The main lacquer works have closer resemblance to the lacquer works of Myanmar (Isaacs, 2000) and lacquer turnings of Gujarati regions of Sankhedar and Vadodara (Wikipedia, 2010).

![Figure 4.3: Example of a Burmese Lacquer work that is comparable to that of the mosque.](http://www.worlddiscovery.co.uk/burma_tours_factfile.htm (retrieved: 16.10.11))
4.3.4 Comparison with the Minicoy and Laccadive group of Islands

Similarities with the Mosques of Minicoy and laccadive group of islands were observed in their general form, use of coral stone and shape of roof forms. Comparing to the mosques in the Laccadives, Minocoy and Amindivi group of Islands, Ujra mosque (the most famous), Mohiddeen mosque, (the oldest), both found in Karavatti Island have some resemblance to the coral stone mosques. The Ubaidullah mosque in Karavatti and Maa mosque in Minicoy are also notable for similarities. Many of them have tombstones of carved coral in the cemeteries of the mosques but the artistry is significantly less elaborate than that of the Maldivian counterpart. None of the mosques were made with meticulous cutting and shaping techniques of coral stone that were used in the Maldives. The timber ceiling decorations are entirely different, and they lack the variety found in the Maldivian mosques. There are 52 mosques in the region but none of them are ancient, and certainly none of them unite the elements of architectural form, design, or the craftsmanship and artistry that accompany the coral stone mosques of the Maldives. (Lakshadweep, 2012; Wikipedia, 2012).

Figure 4.4: Example of a South Indian Structure that is comparable to the mosque.
4.3.5 Comparison with Sri Lanka

Similarities with Sri Lanka were observed in the ancient architectural structures and the lacquer and timber works. Some of the closest examples of architectural form of the mosques are in structures of ancient Sri Lanka, which illustrate the existence of pre Islamic cultures in the Maldives. The coral stone culture had strong links to the coral structures of Jaffna region of Sri Lanka (Mikkelson, 2000). Bell describes in great detail the similarities between the mosque coral stonework and the Buddhist structures of Sri Lanka (Bell, 1940). The mosque compound, use of wells, bathing tanks and the concepts of raised plinths have pre Islamic Buddhist origin. The close similarities of the raised platforms, moldings, rising stairs and stone decorations can be seen in sites such as the Polunnaruwa shrine in Sri Lanka (WHC-UNESCO, 2011d). Thupurma, Polunnaruwa is a vaulted shrine built around 1055-1110 BC There are obvious parallels in form such as the platform base and moldings, but the Maldivian coral stone mosques stand apart with their floral motifs, coral stone building material and finesse, whereas the Sri Lankan counterpart is not made of coral stone and have animal motifs.

Similarities with the structures of Ancient Sri Lanka were observed in the raised platform, its moldings and rising stairs.

Example: temple in Polunnaruwa, Sri Lanka.

Figure 4.5: Example of a Sri Lankan Structure that is comparable to the mosque.
4.3.6 Comparison with Swahili coast of east Africa

Today some of the finest examples of coral stone architecture are seen in the Swahili coast of East Africa. The ancient trading towns of Lamu, Gedi and Jumba of Kenya are built of porite corals. They are the same materials used for the construction in Maldives. Lamu old town, a World heritage site is one of the best, preserved Swahili settlements in East Africa (WHC-UNESCO, 2011e). Horton points out that the first stone mosques excavated in Shanga in Laamu region were constructed of neatly shaped porites coral, bonded with mud with a white plaster face and suggests that the technique was of Red Sea origin pointing to Yemeni connections (Horton, 1991). The stone town of Zanzibar, ruins of Kilwa Kisiwam and ruins of Songo Mnara shows fine examples of coral stone construction of 12th century (WHC-UNESCO, 2011d). The principal construction material is coralline rag stone set in thick lime mortar and then plastered and lime washed which is different technique from Maldives.

It's interesting to note that the designs from boatbuilding skills and certain maritime cultures of Maldives have clear parallels in the Swahili coast of Africa, which can be observed in Lamu in the coast of Tanzania. Coral construction is common there, and the stone carvings - such as those of the tombstones that stand in every accompanying graveyard of the Maldivian coral stone mosques - are clearly related. The African similarity can be observed in the tombstones of the mosque complex in Kilifi, Kenya (Kirkman, 1959). The immediate difference is that the Maldivian tombstones designs are smaller in size and the designs are more elaborate and varied.
One of the most comparable examples found in the Swahili coasts of Africa are mosques like the Kizmikazi mosque in Zanzibar. There are similarities in form and layout but there are major differences such as the absence of the coral stone platforms on which the mosques of Maldives are built. The fundamental difference is the way coral stone is used. Coral stone used in Swahili Africa is set in plaster or with masonry techniques, whereas Maldivian coral stone 'carpenters' shaped blocks to fit, and assembled the buildings. The carvings are different and used very sparingly in Kizmikazi. The Kizmikazi mosque also displays a Mihrab niche, whereas the coral stone mosques of Maldives mostly have a Mihrab chambers and intricate carvings (WHC-UNESCO, 2011i; Wikipedia, 2012).

Similarities with the Swahili coasts of Africa were observed in use of coral stone, coral stone carvings and roof form.

Example: Coral carvings in tombstones from Kilifi, Kenya. 
Source: (Kirkman, 1959).

Figure 4.6: Example of coral stonework in East Africa that is comparable to the mosque.
4.3.7 Comparison with Malacca straits regions

Comparing the architectural form of the coral stone mosque of Maldives, there are sites, which can be compared to the Malacca straits cultures. Similarities could be found in the tiered roof form and raised platforms. The roof forms and raised platform of Masjid Kampung Kling in Melaka, Malaysia, are examples appropriate for comparison (WHC-UNESCO, 2011e; Fee, 1998; Frishman, 2007). Masjid Kampung Kling in Melaka was originally built in 1748 using timber. It was later rebuilt in 1872 using bricks. The mosque is built in regional style with pyramidal tiered roof and raised platforms. The Maldivian coral stone mosque is similar in roof shapes and raised platforms, however there are fundamental differences when compared in detail.

Figure 4.7: Example of a Structure in Melaka that is comparable to the mosque.
4.3.8 Comparison with the Middle Eastern maritime regions of Arabia and Persia

Similarities between coral stone mosques of Maldives and the maritime Arab and Persian regions, which are the source of religion, were observed in many features such as the window lattice details and in the interior calligraphic works. Mosques construction and Islam was a direct result of the presence of Arab and Persia traders in the Indian Ocean. Religious scholars from Yemen, Egypt and Shiraz had major influences in the culture of Maldives. One of the features of the coral stone mosques that are comparable is its diagonal timber lattice works in the windows to the timber works of the Mashrabiya. Of course the timberworks of the Mashrabiya are much more sophisticated and elaborate than its counterpart in Maldives (Frishman, 2007; Michel, 2009). It is noteworthy that the Arabic calligraphic decorations used in all the mosques are derived from Thuluth influenced from this region.

Figure 4.8: Example of a calligraphic work that is comparable to the mosque.
4.4 Conclusion of analysis

Upon comparative analysis of architectural features of the geo-cultural region and the features of the coral stone mosque it is concluded that the architecture of coral stone mosque is a representation and fusion of many maritime cultures of Indian Ocean and is altogether unique, rare and cannot be found in any other part of the world. The features of the mosque are influences as marked in the following table.

Table 4.1: Comparative analysis of the features

<table>
<thead>
<tr>
<th>Geo-cultural regions of the Indian Ocean</th>
<th>Architectural features of the coral stone mosque</th>
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<tbody>
<tr>
<td>Tiered, hipped roof / steep slopes</td>
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<td>Raised platform/mouldings/rising stairs</td>
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<td>Coffered ceiling / Ledge / Thanu</td>
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<td>Coral stone wall / post and beam</td>
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<td>Arched, sliding, timber doors</td>
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<td>Diagonal lattice timber windows</td>
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<td>Exterior coral stone decoration</td>
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<td>Interior lacquer work and carvings</td>
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<td>Calligraphy</td>
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<td>1 Ancient South India</td>
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<td>2 Malabar coastal region of India</td>
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<td>3 Other coastal areas of south Asia</td>
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<td>4 Minicoy and Laccadive group of Islands</td>
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<td>7 Malacca Strait region</td>
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<td>8 Maritime Arab and Persian regions</td>
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