

**THE STUDY OF PHYSICAL AND FUNCTIONAL CHARACTERISTICS OF
URBAN PUBLIC SPACE:
A CASE STUDY OF KOTA BAHRU TOWN CENTRE, KELANTAN**

**(KAJIAN CIRI-CIRI FIZIKAL DAN FUNGSIONAL
RUANG AWAM BANDAR:
SATU KAJIAN KES DIPUSAT BANDAR KOTA BAHRU, KELANTAN)**

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LAPORAN AKHIR PENYELIDIKAN

TAJUK PROJEK : THE STUDY OF PHYSICAL AND FUNCTIONAL
CHARACTERISTICS OF URBAN PUBLIC SPACES:
A CASE STUDY OF KOTA BHARU TOWN
CENTRE, KELANTAN

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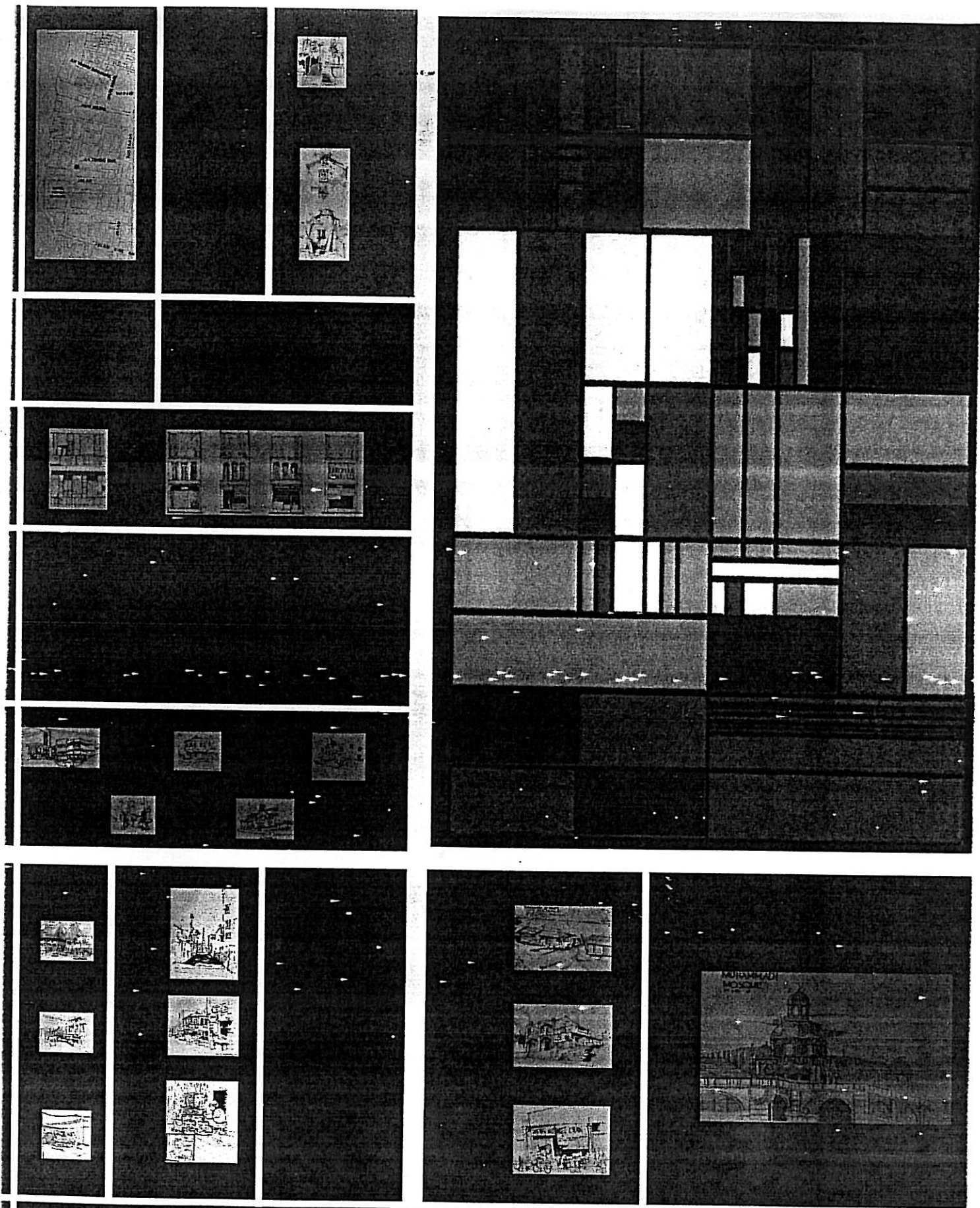

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The Study Of Physical and Functional Characteristics Of Urban Public Spaces - A Case Study Of Kota Bharu K E L A N T A N

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Abstrak

Bandaraya-bandaraya dan pekan-pekan di Malaysia sangat cepat membangun dan berubah dalam usaha untuk memenuhi keperluan-keperluan semasa penduduk yang senantiasa bertukar-tukar. Dengan perubahan yang terjadi kepada tempat-tempat kerja, kualiti hidup (iaitu persekitaran-persekitaran kediaman dan keperluan-keperluan rekreasi) dan keadaan persekitaran yang lain, bandaraya-bandaraya dan pekan-pekan akan berubah kepada satu keadaan baru. Dalam proses perubahan, keadaan sediaada akan di ubahsuai untuk menepati penggunaan baru mereka dan kebiasaannya didapati banyak kesan-kesan cirri-ciri sediaada telah terhakis. Keadaan ini merupakan satu kehilangan yang besar kepada tempat tersebut dimana persekitaran binaan tradisi telah diganti dengan yang baru dimana terlalu sedikit suasana kesinambungan dengan keadaan lampau, sehingga memisahkan tempat tersebut dari asal-usul dan juga suasana tempatnya.

Ruang-ruang awam bandar adalah komponen utama untuk mana-mana pekan-pekan dan bandaraya-bandaraya yang merupakan salah satu dari elemen-elemen utama yang membentuk suasana tempat. Dengan itu ianya sangat penting untuk mengkaji dan mencadangkan atau mengunjurkan bagaimana ia boleh dikekalkan atau diubahsuai untuk rujukan masa depan dan penggunaan-penggunaannya. Adalah penting untuk memahami prinsip-prinsip teras mengenai organisasi dan rekabentuk dalam usaha mengubah dan mengadaptasikannya agar bersesuaian kepada penempatan baru dan sebagai rujukan dimasa depan.

Perkembangan pekan-pekan dan bandaraya-bandaraya selalunya dipengaruhi oleh banyak aspek-aspek atau cirri-ciri yang berlainan seperti fizikal (samada semula jadi atau dibina), faktor sosio-ekonomik, corak penggunaan tanah, system pengangkutan, psikologikal, perlakuan dan banyak lagi. Semuanya saling berkait (secara langsung atau tidak langsung) yang mana berhubung kait dengan sejarah dan budaya mereka yang tinggal didalam bandar tersebut.

Kajian ini menunjukkan bahawa corak perbandaran di Malaysia adalah secara umumnya berdasarkan kepada corak system sirkulasi dan pembahagian milik tanah. Dengan itu walaupun bangunan-bangunan sediaada akan dibina semula, kebiasaannya tiada banyak perubahan kepada corak sediaada melainkan dalam bentuk binaan (iaitu ira dan tekstur) yang mungkin melalui banyak perubahan dramatik. Dengan itu ianya adalah penting untuk merekod dan menentukan corak perbandaran disamping ciri ruang-ruang bandar dipekan-pekan dan bandaraya-bandaraya sediaada untuk rujukan masa depan.

Abstract

Cities and towns in Malaysia are fast developing and changing in their effort to meet the current demands of the people that is ever changing. As workplaces, living quality (that is residential settings and recreational facilities) and other environmental condition changes, the towns and cities will evolve into new situation. In the process of change, existing situation will be modified to meet their new uses and frequently it was found that many traces of the existing characteristics are erased. This situation is of great loss to the place where traditional built environment is replaced by a new one that is showing very little sense of continuity from their past situation, depriving the place of its roots and hence their sense of place.

Urban public spaces made up the main component of any towns and cities that represent one of the major elements that create its sense of place. It is therefore very important to study and propose or recommend how they could be maintained or adapted for future reference and uses. It is also important to understand the underlying principles of their organisation and design in order to be modified and adapted to be relevant to new and future settlement.

The development of towns and cities are normally influenced by many different aspects or characteristics such as physical (either natural or built form), socio-economic factor, land-use pattern, transportation system, psychological, behavioural and many others. They are interdependent (directly or indirectly) which is related to the history and culture of the people living in the town.

The study established that the urban pattern in Malaysia is generally based on the pattern of the circulation system and land ownership division. Thus even though existing buildings were rebuilt, generally there were not many changes to the existing pattern except in the built form (that is the grain and texture) that may have experienced some dramatic alteration. Therefore it is important to record and determine the urban pattern as well as the character of the urban spaces of the existing towns and cities for future references.

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CHAPTER 1

INTRODUCTION

1.0 Introduction

This research is part of the on going study done by the researchers into the typology of urban form in Malaysia. The main aim of the study is to record and identify the physical development of towns and cities in Malaysia mostly related to their morphology, pattern and their visual quality.

The design or forms of towns and cities in Malaysia have their own unique characteristics from social, physical and historical perspective. At present there are no detail studies that have been done to record their changes, which may result in a total loss due to unrecognizable urban development. As an example the new urban development may erode the characteristics of the old towns that existed in the place before new uses were found for it. Many new urban developments are discarding the old places that were built responding to the socio-cultural needs of their time as well as responding to the climatic condition of the locality.

The development of towns and cities normally influenced by various aspects such as physical or built and natural form, socio-economic factor, land use, transportation system, political system and many others. All these factors are interdependent either directly or indirectly that is related to the history and culture of the town (Sulong, M., 1985).

It is observed that the pattern of new development is the main factor that is causing the diminishing arts and cultural values of the old towns in Malaysia Even

though the emergence of the new and modern buildings indicates the progress of a given towns and cities, however, it must be understood that old building and pattern reflects the heritage and the culture of a given place. Currently attention was not given to the conservation and preservation of buildings and historical and cultural significance areas even though they contribute greatly to the tourism sector of the economy. Tourism is one of the major contributors to foreign exchange of the country's economy and should have been carefully looked at by relevant agencies in dealing with the issues.

This study is carried out to identify and characterize the urban elements of an existing town by looking at the arts, quality of the development (i.e. spatially and physically), visual quality and differences between the old and new built form.

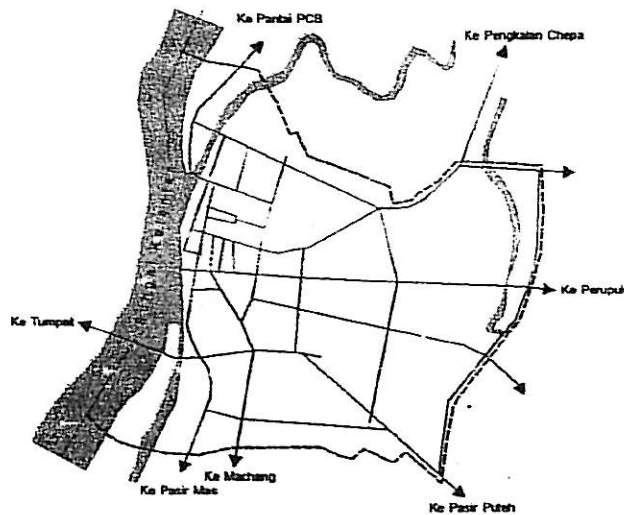
The urban pattern in Malaysia normally based on the circulation system and land ownership division. Therefore even though existing buildings were rebuilt, generally there were not many changes to the existing pattern except the form (i.e. the grain and texture) that may have experienced dramatic alteration. Therefore this type of study is crucial before the old urban form is slowly eroded away through time. It is essential to record and determine the design and urban pattern as well as the character of the urban spaces of the existing towns for future references. At the same time the character that is essential to identify the towns and cities as being Malaysian could be put forward as precedence for future designers and planners. It is hoped that other towns and cities will form part of the ongoing research in the future.

1.1 Place of Research

The town that was chosen for this case study is Kota Bharu, Kelantan. As a whole the town is located on the northern part of the east coast of Malaysia. It is a historical town that is the seat of government as well as being a royal town. The state and therefore the town folks are strongly identifiable by their unique dialect apart from their way of life. The town is very popular for tourist (local and foreign) mainly

for their commerce and the unique characteristic of the people that maintain many of their traditional way of life. The place is also strongly associated with Islamic believes and is known as “*Serambi Mekah*”, that is the platform for the journey to the holy land, Mecca, Saudi Arabia. The town is positioned so far north of the peninsular that it experiences many foreign influences such as China, Siam and others.

1.1.1 The Study Area of the Kota Bharu Town Center



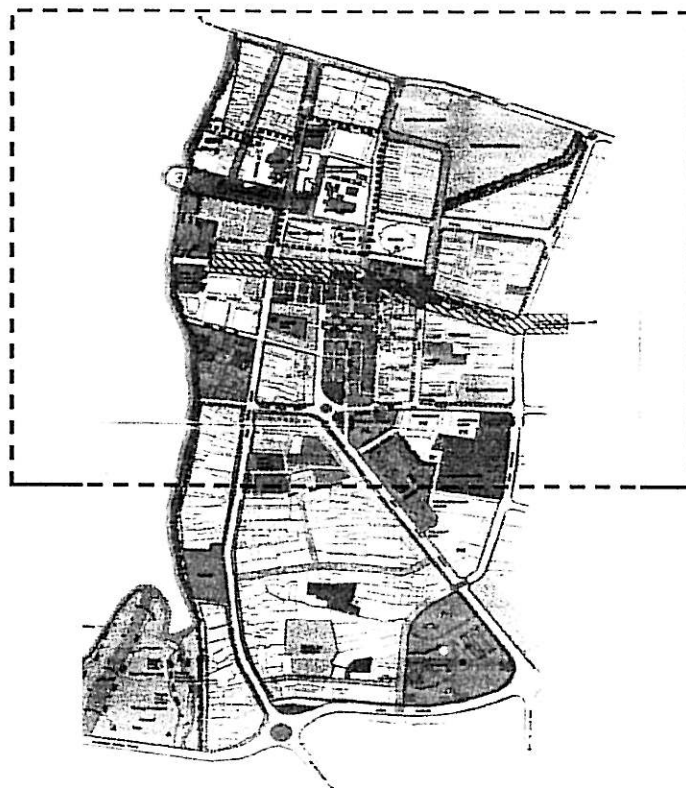
Map 1.1.1a: The yellow area is the Central Commercial area of Kota Bharu Town.

Source : MPKB in association with JPBD (Peninsular Malaysia). Local Plan of Kota Bharu:

Proposed map 2; Location Plan [not to scale].

The study area of Kota Bharu town, which is subjected to the research investigation, is the area that is defined by the Kota Bharu Town Council (MPKB) as ‘*Kawasan Perdagangan Pusat*’ or “Central Commercial Area’. According to Whitehand (1987: 112), although commercial cores are of limited extent if compared to residential areas; they have an importance out of proportion to their size. The central commercial area of Kota Bharu town is bordered by *Jalan Merbau* (Merbau Street) on the north, *Jalan Mahmud* to *Jalan Kebun Sultan* on the east, *Jalan Hamzah* on the south, and The Kelantan River on the west. This central area has two distinct areas, which are axially marked by the streets of *Jalan Gajah Mati* and *Jalan Hospital*

that run east-west. Most of the area to the south of these streets consists of dense traditional residential houses that are mixed with small commercial premises, and the division of the land ownerships at best is haphazard. Although the local authority already has an overall development plan for this southern area as indicated on the master plan (Kota Bharu Local Plan, 2002), the process is very difficult, lengthy and expensive since it involves reclaiming the lands from individual land owners. The area to the north of the streets is where the actual commercial center of the town exists. It consists of the core area of the town, which has been classified as a Cultural Zone, commercial center, administrative center of the town, and the original residential settlement area of the town. Due to the different characteristics of the two areas as clarified, therefore, the research focuses on the more significant northern portion of the Central Commercial Area, which is defined by Jalan Merbau on the north, Jalan Mahmud to Jalan Kebun Sultan on the east, Jalan Gajah Mati to Jalan Hospital on the south, and The Kelantan River on the west.



Map 1.1b: The study area of Kota Bharu Central Commercial Area.

Source : MPKB in association with JPBWD (Peninsular Malaysia). Local Plan of Kota Bharu:
Proposed map 2; Central Commercial Area

1.2 Research Questions

There are various questions that will be discussed in the chapters that follow:

- i. What are the elements that can be found in the old town centre that contribute towards its unique character?
- ii. How was the town formed?
- iii. What are the factors that influenced the town morphology?
- iv. What are the types of urban spaces in the old town centre?

1.3 Research Aim

In general the intention and aim of the research is to identify and characterize the typology of urban form of old towns in Malaysia by studying the morphology and the 3 dimensional design of the town. Kota Bahru was chosen as the case study based on the cultural and historical significance as well as due to the urban pattern that is still intact, maintaining its original character.

1.4 Research Objective

In order to achieve the aim of the research, a few objectives have been formulated, these are:

- i. To identify the physical development of Kota Bahru old town centre.
- ii. To identify the typology of urban spaces in the Kota Bahru town centre.
- iii. To study and identify the design characteristics of Kota Bahru town centre.

1.5 Scope of Research

This study is a continuation of the past studies by adding another case study to the overall research. This, is also an attempt at visualizing the typology of town development relating to the form and pattern of towns in Malaysia. The characteristics of the spaces and the typical elements that make up the old town centre will also be recorded in general.

The research is limited to the quality of space and the urban pattern of old town centres. It is done for the purpose of strengthening the knowledge on the typology of town formation from its original beginnings till the present day.

Old town centres in Malaysia including Kota Bharu has gone through a lot of physical changes due to new developments. It is with this scenario that it is crucial for existing dominant characteristics to be recorded before it is replaced by new development. It is hoped that this attempt will be made as a resource for design in the future. Furthermore it could be used as evidence in maintaining the character of the town and their buildings, which has become dominant elements of the old town forms.

The characteristic of old town centres has its distinct differences from the development of new towns; moreover it can be looked at as one centre, place/area or a part of a certain town. According to Speiregen (1978), the pattern of a certain area relates closely with its pathway pattern. Moreover it is quite difficult to divide the towns into districts and that being the case, the division of a given town to several districts can only be made subjectively whereby observation will be conducted to make sure that the borders or edges of an old town centre be made as one of its core areas.

1.6 Research Technique

Several techniques were adopted for this research. Among those techniques are:

1.6.1 Literature Review

A literature review on the history of the town's development was done. The sources of information are in the form of books, printed documents, thesis, newspaper clippings, pamphlets and seminar papers. The various sources of information were obtained from the library, the museum, archives, the department of city and town planning (*Jabatan Perancang Bandar dan Desa*), research findings and photo shops.

1.6.2 Content Analysis

A content analysis was done on old maps, photos, drawings, and old postcards. These sources of information were obtained from '*Jabatan Ukur dan Pemetaan*', National Archive, Museum, Department of City and Town Planning (*Jabatan Perancang Bandar dan Desa*), research findings and photo shops. Comments from old maps, charts and photos were a help in pointing out the formation of the given town.

1.6.3 Interviews

Interviews were also conducted with several historians, the museums artefact maintenance officer, history club, officers from the local authorities, librarians, and particular individuals.

1.6.4 Field Work

This technique is used in researching the visual quality besides recording the development of a given town in order to establish the characteristics and form apparent in the old town centre itself. According to Worskett (1969) there are two basic methods that are used in this technique:

- i. Subjective- this observation was done as a result from experiencing and perceiving, done by an individual by relying on his intuition. The visual quality and history could also contribute to establishing the image and characteristics of a town.
- ii. Objective- visual quality was done through the testing of the public's reaction by census of opinion about what was seen as appropriate or not towards their town.

The technique that was used in primary data gathering for this research is the subjective method whereby subjective visual observation was performed. Examinations on historical records and ancient artefacts of the given town will be executed. Photographical records of buildings and spaces are also used in visualizing the quality of spaces found in the given town. Visual observation is given more emphasis via examining the anatomy of old town centres. This observation is also done using an examination list containing every visual aspect which needs to be recorded through typology observation of the town form and space. The examination list includes certain aspects such as:

- i. Physical form and town structure from three dimensional views:
 - a. Density and characteristics of buildings
 - b. Spaces between buildings
 - c. Building pattern
 - d. Pattern of space
 - e. Topography

- f. Texture grain
 - g. Solid and void
- ii. Characteristics:
 - a. Nodes
 - b. Landmark
 - c. Vista
 - d. Centre of place
 - e. Edges
 - f. Districts
- iii. Pathways:
 - a. Network pathway
 - b. Physical dimension of pathways
 - c. Type of paving and conditions

1.7 Research Methodology

In searching the aim and objective of this research, certain aspects need to be studied. Among them are:

i. Town Morphology

The physical formation of an old town centres will be traced through the documentation of the towns forms at certain time frames. The development of the town form will be studied through old maps, old photos, and through past events which are related to the development of a certain town. Besides that, the physical condition of the research area is also recorded.

ii. Town Form

According to Evans (1979), the primary attention of the town's formation is towards the public's movement pathways and its road system. The town's network consists of solids, voids, and its relation between various physical elements, which form the urban fabric, is usually defined as morphology. Therefore, the existing old town centre network will be studied to establish the network's characteristics. Therefore these aspects will be researched:

- a. Form and size of a town
- b. Grain and texture

iii. Spaces in Towns

Spaces, which are created in urban areas according to Spreiregen, can be divided to two generic types:

- a. In a formal manner albeit open spaces
- b. In a natural state albeit open spaces

iv. Townscape

According to Cullen (1971), townscape is an art, which can explain the existence of buildings from something that is monotonous to something that is alive and can be understood. It is about the relationship between the physical elements of a town to form a meaningful composition. The apparent townscape characteristics of an old town centre will be studied to obtain the form typology of the researched town.

CHAPTER 2

MORPHOLOGICAL DEVELOPMENT OF OLD TOWN CENTRES

2.0 Introduction

In general, this chapter will explain the meanings and definitions of the terminologies that were used in the research. The factors that encouraged the development process of a town will also be identified in addition to the theory of town development and urban polarization which will be further discussed to find out the development trends.

A section below also presents a historical study of Kota Bharu town centre. It morphologically recaptures and reconstructs Kota Bharu town development from its inception in a chronological manner. The study investigates elements of cultural influences that contribute to the formation of the urban structure and composition toward establishing morphological development patterns of the town centre. The historical investigation is important in order to understand the ways different socio-cultural groups expressed their preferences in developing the town, particularly in term of physical-spatial structure.

The purposes are to better understand physical-spatial development and evolution of the urban environment, the resultant public space typologies, their associated physical components and functional characteristics, and changes through time. Although the study is cultural-specific to a Malaysian context of Kota Bharu town centre, nevertheless, an understanding and awareness of urban evolutionary process as a whole will undoubtedly bolster the effort to create better urban environments, and their appropriate public spaces, in general.

Urban morphological approach can be a very effective tool in understanding environmental evolution of a town (Sandalack, 1998). Urban morphology, which has been clarified by Anne Vernez Moudon (in Whitehand (Ed.), 1997:3), at its most elemental level, is based on three principles of *form*, *resolution* and *time* representing buildings, open spaces and streets, the scale of buildings to spaces, the city or the region, and the continuous historical transformation and replacement processes respectively. It seeks to understand historical development, at least in the physical term, by recognizing a town genesis, and follow its subsequent changes. Previous urban studies such as by Conzen (1960), Whitehand (1987), Butina (1993) and Sandalack (1998) classify and examine different morphological elements, constituting physical form and spatial structure components (Mijan, 2000:21). While physical form elements of buildings, plots, blocks, streets and public open spaces are clearly defined, the definition of the spatial structure components entails wider scope engulfing social, political, and economic and management factors of the uses and activities of the urban environment (Mijan, 2000).

The evolution of physical-spatial structure development of Malaysian towns in general, and Kota Bharu town centre in particular, has not been well documented (Sulaiman, 2000). In search for the morphological development of old town centres, therefore, it is important for the study to morphologically evaluate the evolution of the town centre as a whole, trace its layers of development, and recognize its origins and establish the relationship between the physical structure and its function over time, in complete frames.

All of the above will become an invaluable source of information in determining the development of an old town centre. It is also hoped that the above will provide a base for future research in the understanding of background development of old town centres.

2.1 Definition of Morphology

The current definition of morphology is of a broader perspective and is not limited to physical apprehension or land use structures (Syakillazatulzaharah Abdullah, 1993).

According to the Pan English dictionary, morphology is defined as a study in the type of formation and any structure related to a certain place. If that is so, then if the base of a research is a town centre, research on the type, the formation and the structure of that particular town must be done. The definition of morphology is also dependant on the background of the researcher. According to Clyde (1959) morphology is defined as a research into the layout and structure of a town according to its beginning, its development and the function of that particular town.

For Gabauser and Samuels (1981), however, morphology is defined as a research in understanding and analyzing the structure and form of a town with relevance to certain dynamical aspects such as economy, administration, and social interaction among the community whereby this research is usually used to foresee the town's future development.

Clyde, Koln and Harold.M (1959) defined morphology as a study on the composition and construction of a certain town in terms of origin, growth and function of the town itself.

According to the "Chambers of Science and Technology" dictionary on the study of morphology, it prefers the emphasis on structure and formation rather than function whereas for Katiman Rostam (1988), morphology can also be defined as the study on aspects related to the structure of a given town in terms of physical quality, land use layout and its relevance in terms of the town's function, main transportation pathway or its spaces either with a building structure on top or merely bare. This also includes architectural value and buildings of specific traits.

Carter H (1972) emphasizes that morphology of a given town correlates with three variables, which are the planning and layout, the land usage or building

function and also the buildings architectural style. This shows that all of the contributing factors towards the scenery of a town

2.2 Definition of Town Centre

"Every culture has produced its spatial centres and peripheries; today every country has its cities. In every city there are structures and layouts that will endure on the ground and there are plans on paper or in the minds of citizens, and some of these will make significant changes to the urban fabric. Thus all cities, in whatever culture, contain the seeds today of what they will be tomorrow" (Bird, 1977:151).

If the city is the man most important invention, as argued by architectural historians like Kostof (1985, 1991) and Norberg-Schulz (1980), and inferred by the statement above, people should be aware and realize that, even in an era of the advanced evolution of machines and technology, living in cities should have its own intrinsic value in a form of community life (Tanghe, J., Sieg Vlaeminck and Jo Berghoef, 1984). Like life, cities are never in the static completed condition. In building and rebuilding a city as a place for living, and for the city to be worthwhile, a continuous metamorphosis whilst retaining its distinctive characteristic should be encouraged.

According to Robert Doffman, a town can be defined as a focal point of economic activity, community and various land uses in one area whereas Hawley's (1971) definition of a town is as a physical entity which consists of a compact group of existing buildings such as residential housing, places of worship, shopping complexes, government institutions, industrial complexes and so forth. But, what is a town centre? Bird (1977), in his extensive study of 'Centrality and Cities', traces back the development of centre in human built environments, classifying them into periods of pre-urban, proto-urban, early urban, medieval city, industrial city, and modern city. While pre-urban and proto-urban periods are more like village environments, he argues that the earliest significant impulse that contributes to centrality in urban environment is religion, dating back to early urban period (Bird, 1977). Wheatley, as reported by Bird (1977), stated that in the study of the seven

regions of primary urban generation including early Chinese cities, the beginnings of urban form are dominated by a ceremonial complex, and that religion provides a primary focus for the earliest urban dwellers. The argument is supported by others, such as studies on history of architecture by Norberg-Schulz (1980) and Kostof (1985) who persuasively argue that religious theme was indeed, the centre of lives and the built environments and, the organizing force of early civilizations. However, Kostof (1991) argued that the statement is true only to certain places because others factors, such as central political power, military, trade and technology, are also relevant and responsible as the generative impulses to the genesis of cities and their centres. "The point is that some factors were probably interdependent in the emergence of some cities, and different ones among them may have motivated different cities" (Kostof, 1991:34), thus lead to the formation of different kinds of centre. In other words, towns, and their centres, may have been established "for specific reasons that have to do with the purposes they were intended to serve" (Ibid).

In today's urban environments, especially in sprawling metropolitan cities however, the definition and significance of a town centre as a place is rather ambiguous. Bird (1977), in an effort to better understand the condition, classifies city center into four typologies of *urban core*, *CBD*, *inner city* and *downtown*. The major functions of the *urban core* are offices, public buildings, and shops; with industries, residences, transportation depots, and warehouses occurring towards the core fringe. *CBD*, which stands for 'central business district', refers to the district of centralized business, whilst *inner city* is related to historic urban center, which has significant architectural qualities and a continuing social life (Bird, 1977). The fourth and targeted typology of the study, *downtown*, refers to as a central zone, is an American term not much used in other parts of the world, and covers all the other three typologies.

In another study, Mens En Ruimte (1978), referring to European cities, also classifies city center into four typological categories albeit different than Bird. It argues that different functions and time periods have given rise to distinguish physical characteristics in town centres. Hence, its first town centre typology is the historic old city centre where little alteration has occurred in the original street pattern, where streets are narrow, and the original town walls often have been

transformed into a belt road. The second typology is the historic old city that has been engulfed and surrounded by a more modern centre, which has taken over many of the central place functions. Its third typology refers to industrial city in which workers' quarters and industry are adjacent to the centre, and where those quarters have become outmoded and obsolete and the function of the city centre is disappearing. Finally, the fourth typology is older section within new cities that does not play a strong central place function anymore.

Both studies by Bird and Mens En Ruimte are different in nature where the former is concerned with the idea of centrality within cities whilst the latter deals with environmental problems of city centres. However, both studies, in defining a town centre, realized that the centre of a town is not its geographical centre. At the same time, they also acknowledged that historic centre, which is consistently featured in all Mens En Ruimte's typologies, is an integral part for a town centre to be meaningful. It is a place, where the public would come spontaneously on occasions of the greatest urgency (Frederick Gutheim in Wingo, 1963) that interweaves all expressions of human life, restores the lost sense of commitment and belonging, counteracts the phenomena of disorientation, isolation, lonesomeness, and awakens a sense of identification and participation (Gruen, 1973:11).

As a place, it has to embody conscious or subconscious memory of the people and, it is also perceived or held to be more central than it is by people who do not live in that central place (Bird, 1977). It is a place that has historical qualities, the trace of culture and tradition, and the life of the people. In other words, a town centre, as a place, must represent "all the most essential urban qualities and functions which, through outstanding characteristics and qualities rather than through impressive quantity, express the essence of urbanity" (Gruen, 1973:160).

2.3 Brief Historical Account of the Formation of a Town

In the west, the theory of town formation centralizes towards three important urbanization phases, whereby it begins at the mid of the century or better known as the pre-industrial era of a town, the industrial era and the post-industrial era (Spreiregan, 1978).

Most of the towns in the mid century or the pre-industrial era adopted the form from the background of the “radiocentric” layout with its markets and big churches situated right in the middle of town. The town itself consists of several divisions related to various organizations. The town area is further dense by the building of narrow streets and its pattern, which bypasses the main street/road situated right in the middle of town. The urban dwellings are mostly surrounded by the town walls, which, apart from marking territorial boundaries, were used as a defence method against enemies or wild beasts.

According to Spreiregan, (1978) most of the urban plans of this century appear like winding alleys of irregular form with no known distinct shape due to the abundance of basic or original geometric forms adopted in the overall urban structure. Another significant element to note in towns of this century is the existence of enclosed spaces of perfect rectangular form built with defensive walls, trenches and circular fortification towers at one angle. The street alignment is in a form of a grid with the plaza in the middle.

To be precise, it can be said that the form of planning is a vital thing in a town area in the days before the industrial era and these were in the age of renaissance. In this era the individual role as the town builder is vanished and is replaced by several groups of individuals who are at the helm and have power. The artistic influence towards the form of the town is heavier shown and the town planning based on artistic principles are more attended to. In this day and age roads are more systematic in layout, straighter and are designed much wider usually in the axis style. The town's form is also the result of arranged symmetrical principles, scale division and with its clear objective. The plazas become important elements in

the planning of towns of this era. The towns of the new era also applied in their planning a lot of grid systems for easy mobility in the town.

In the 19th century however, was the turning point in the history of town planning and changes occurring to the formation of towns due to the birth of the industrial town. In that time the form of the town was designed for self-satisfaction and for easy mobility. The concept of a linear town was introduced whereby the logic of the linear utility line became the base for the arrangement of the town. No central area was evident and the development was built in linear to the main transportation railway. According to Spreiregen (1978), the locomotive railway was an important invention in the nineteenth century due to its impact on the formation of the town.

Several concepts of town form were introduced during that era as a reaction to the reforms of towns in the age of industrialization. It was the solution to the crowded town of unorganized housing environments, more so that the quality of the surrounding environment is polluted thus endangering the health and security.

Among these concepts, the most notable in the history of planning is the Garden City concept. According to the term of town formation, garden cities/towns are based on the radio centric layout with its civic buildings situated right in the midst of the town. The main highway is made into an attraction and also as a landmark for the city centre. Besides that, the city is also filled with greenery and an abundance of open spaces. The towns are surrounded by a vast agricultural area, which however, is known as the green belt.

The Radiant City Concept turns the city into an attractive city by also adopting the same trends in city form whereby tall tower blocks are filled with open spaces of public recreational park typology.

The latest city form (the garden city concept) and central city concept is a reaction to the design of modern cities in the era of industrial machinery and engine-based transportation. The form of a city became more systematic and dense. Tall buildings and the rapid development is the important essence whereby the abundance

of public recreational parks, which surrounds these tall tower blocks, provides comfort to the city inhabitants.

The concept of “surrounding neighbourhood area” adopts the principle of the central city and central neighbourhood area. This concept has a city centre, which provides facilities necessary to the city inhabitants and the surrounding units around the city centre. Nevertheless, every unit has its own centre and the city’s layout is usually in a straight line or in grid form.

2.4 Morphological Development of Kota Bharu, Kelantan

This section examines morphologically the physical-spatial development of Kota Bharu town centre, which is divided into three phases of the early development, British Residency and post independence periods, and evaluates future development of the town centre based on the Structural Planning Examination Report (revision) for 1998-2020 produced by the Kota Bharu Town Council (MPKB). Besides British colonization era, there are also other periods when the state and the town were subjugated to different foreign peoples, namely the Siamese and the Japanese. However, their influences and contributions to the physical development of the town centre was inconsequentiality as they were indirectly involved in it or their stay was only briefly, and for that reason, they are only briefly mentioned.

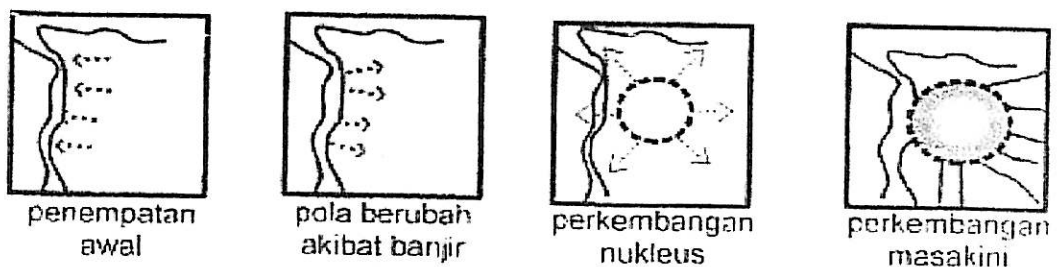


Figure 2.4a: The morphology of Kota Bharu Town Ccentre, Kelantan

Source : Urban Design Unit, 2000

2.4.1 The Early Development Period (1777-1909)

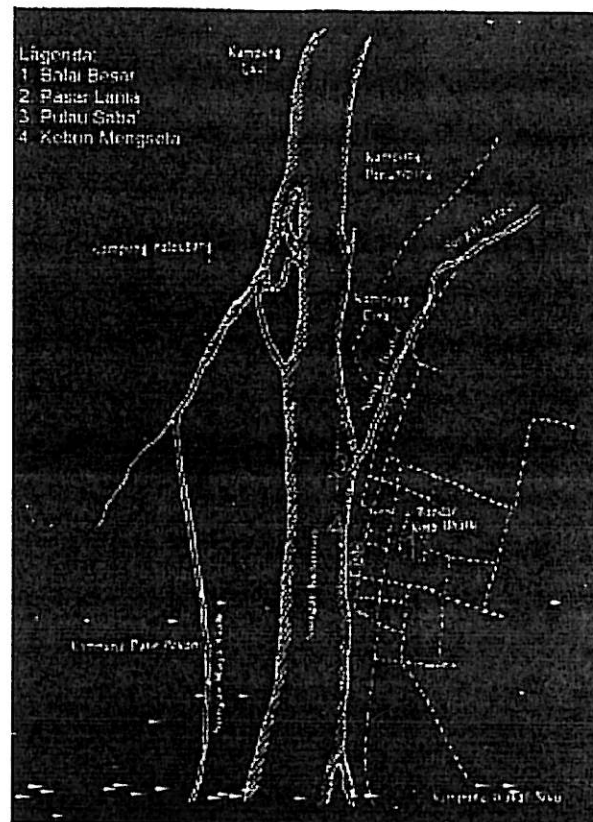


Figure 2.4.1a: Kelantan administrative located

Source : Urban Design Unit, 2001

Since early 18th century, the capital town of the Kelantanese state had been *Kota Kubang Labu*, which was located on the west of Kelantan River (Nik Mohd Salleh, 1984:87). However, in 1777 Raja Long Yunus, the forefather of the present sultanate of Kelantan had relocated the state administrative centre to a new site because of tumultuous environment and political uncertainty at the old centre (Abdul Razak Mahmud, 2002:25). He built his new *Kota* (fortified palace) in a village called *Kampung Galoh* on the east side of Kelantan riverbank where the original site is the present day *Kampung Kota Lama*. In the beginning it was called '*Pengkalan Galoh*' (Ibid) or '*Kota Galoh*' (Nik Mohd Salleh, 1984:88). The new palace town was accompanied by a port called *Pengkalan Leser* (Leser Port). *Kota Galoh* was destroyed during 1798-1800 war between Kelantan and the state of Terengganu (Nik Mahmud Haji Ismail, *Ringkasan Cetera Kelantan*, Kota Bharu, 1934, in Nik Mohd Salleh, 1984:89). Therefore, in 1800, after the war triumph over Terengganu, Sultan

Muhamad I, the eldest son of Long Yunus, had relocated and built his new palace on *Pulau Saba* (Saba Island), which was also on the east bank of the river but not too far away to the north of *Kota Galoh*. Similar to *Kota Galoh*, the new capital was also a port town with the palace of the sultan as the centre, and a mosque and other related buildings were built close to it. According to Hsieh Ching Kao, a Chinese traveller who visited Kelantan around 1780;

“the Kelantanese ruler resided at the port where morning (open) market was held and sailing ships came from the sea to anchor (at the port). Bamboo trees were planted around the port as fortification and thick timber planks were added to strengthen it. There was only one gateway, and citizens resided outside the bamboo fortification”

(M.W.F Tweedie, *An Early Chinese Account of Kelantan*, Journal of the Malayan Branch, Royal Asiatic Society (JMBRAS), No. 26, Part 1, July 1953:216-219, in Nik Mohd Salleh, 1984:88).

Most probably, the places that were described by Hsieh Ching Kao were *Kota Galoh* and *Pengkalan Leser* during the first reign of Long Yunus (Nik Mohd Salleh, 1984:88).

In 1844, a new palace was ordered by Sultan Muhamad II to be constructed to the east of *Pulau Saba* on the main land because the island was eroding since it had been exposed to the seasonal flooding of the river (Asaad Shukri Haji Muda, *Sejarah Kelantan*, Kota Bharu, 1962, in Nik Mohd Salleh, 1984:88). The new palace, which was on stilts, was built on a four acre land surrounded by a ten foot tall *cengal* timber wall, which was square in shape. The main big gateway in the middle of western wall was flanked by two smaller doors to form a tripartite entrance unit. The palace consists of one main big hall building with a three layer roof used for official and royal ceremonies, a living quarter of a big timber palace proper for the king to the back of the hall, a *surau* (prayer place) and a royal guard house were built to the south of the hall (Nik Mohd Salleh, 1984:92). The new palace was the central part within a bigger forty acre area that was called *Buluh Kubu* (Bamboo Fort) because

the whole area was fortified with bamboo trees around it. Nowadays, the area is known as *Dalam Kubu*, or Inner Fort.

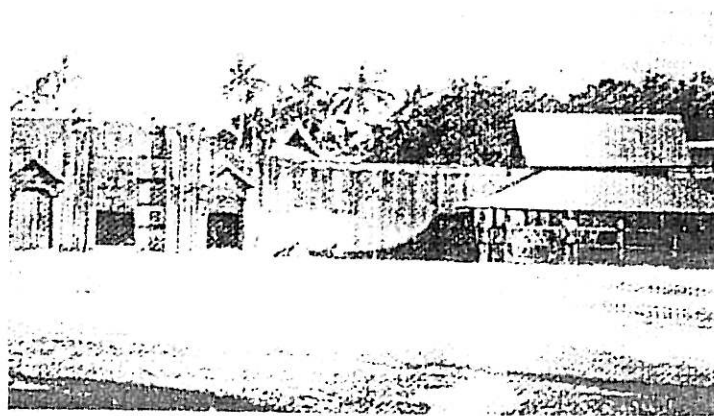
Originally, the new palace was called *Kota Bharu*, which means New Castle or New Fort, in commemoration of the newly built building. Soon, the place began to develop and expand to become, not only the administrative centre of the state but also the center of population with various functions. The citizens began to migrate and build their houses and villages especially to the north and south along the east bank, and outside the forbidden *Buluh Kubu* area. Initially, it was only a small town populated by three thousands to five thousands residents. Areas that are quite populated were *Kampung Masjid* (Mosque Village) and *Kampung Kubang Pasu* to the north, and *Kampung Gajah Mati* (Dead Elephant Village) and area around the present *Jalan Tok Hakim* to the southeast. Commercial centre and the wet market were also located on the riverside to the north of the present Lido Cinema, approximately on the present site of the Puteri Diamond Hotel and northward until *Tambatan Di Raja* (Royal Jetty), which was the port and the main entrance point of the town. The new palace, which situated to the east of the jetty, was separated from the port area by an open space. In the beginning both the palace and the new town were called *Kota Bharu*. However, in the middle of 19th century, in order to avoid the confusion, Sultan Muhamad II ruled the palace to be renamed as *Istana Balai Besar* (Big Hall Palace) and maintained the name of *Kota Bharu* for the town (Nik Mohd Salleh (ed.), 1984:93, Abdul Razak Mahmud, 2002:25). Since then, both names of the palace and the town remain until to the present day.

The political landscape of Kelantan was subjected to foreign interventions such as the Ayuthaya government (ancient Siamese government), then to the now defunct old Malay state of Patani (Nik Mohd Salleh (ed.), 1984:77), and again later to the Siamese government under King Chulalongkorn or Rama V (Ahmad Fathy al-Fatani, 1994). While the two Siamese governments were more interested in the political agenda of the state and concerned little about physical development of *Kota Bharu* town, Patani's culture and architecture did influence the Kelantanese and their physical built-forms that can still be observed even today. A phenomenon of female dominance in business as can still be seen in the town especially at wet markets is similar to the socio-culture of Patani. Similarly, traditional architecture of the state,

like *Istana Balai Besar* and *Istana Jahar*, has shared features, characteristics, materials and techniques with that of Patani architecture.

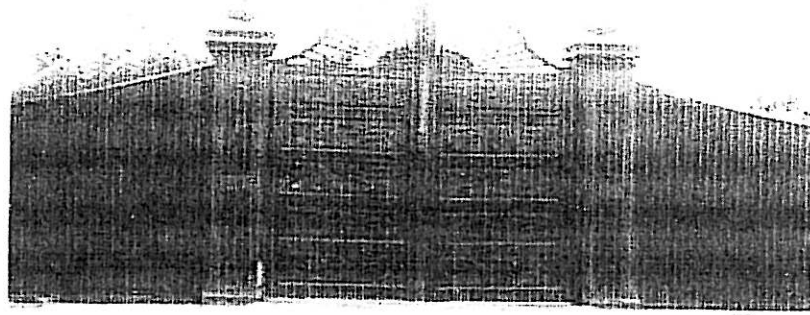
However, Kota Bharu as a town really began to develop only in 1903 when a new administration of the state was established after British and Siamese Agreement was signed in the middle of 1902. Under the agreement, the state, which was still under the Siamese government, was administered by an "Advisory System" where two British officers in the Siamese Public Works Department were elected as the Siamese Resident and Siamese High Commissioner of the state. Another British officer from the Federated Malay States, which was form in 1895, was espoused as the Assistant Resident.

Kota Bharu grew into importance as a centre of administration and a trading port for the state of Kelantan because of its ideal location, topographical condition and fate. The town situates on vast and flat delta of the Kelantan River that is fertile for farming and other agricultural activities. The River, which flows from the south and reaches South China Sea at the north, had been the main mean of transportation that connected the town to the villages along it as well as to the outside world. The navigable river was the 'highway' of the early days, the sources of water and food; the locus of life of the people and the town. The lowland of the town has been exposed to seasonal monsoon flood that commonly occurs between October and December. This situation, however, has not hindered the town to grow and become one of the most important towns on the east side of Peninsular Malaysia.



Picture 2.4.1a: Main Entrance and fence in front Balai Besar Palace and Kelantan pos police, around 1905

Source : Urban Design Unit, 2001



Picture 2.4.1b: Main Entrance Balai Besar Palace, 2001

Source : Urban Design Unit, 2001

Since the beginning, when it was first established at *Kampung Galoh*, then on *Pulau Saba*, and finally at the site to the east of the island, the town had been characterized by the dominant presence of the royal palace, which was the seat of the ruler or sultan, and was accompanied by a port. Buildings were built high on wooden stilts with timber or woven bamboo walls, had pitch thatched roofs of woven palm leaves (*attap*) and single storey height. Usually, a palace was larger in scale, had more articulated design and construction, used better materials of *cengal* wood and high quality *attap*, built by the royal craftsmen who were not allowed to build other than royal buildings (Anthony Lee Cheng Huat etc., 1976), and was set within a large fortified compound. Normally, the palace was protected by at least two layers of fortification. The outer walls were made-up of bamboo trees that were planted around specified larger area. The smaller inner area, which had square or rectangular shape, was fortified by a ten-foot tall timber wall. The palace was set within this smaller inner area while other buildings, which were commonly situated within the palace compound were a mosque and a royal guard house, were constructed outside the timber wall of the palace. The port was outside the compound with market places located nearby.

While the first two sites ceased to exist, the last chosen site set to grow to become a town of what it is today. The overall setting of the town was established during this early stage. The palace that was determined to become the centre of the town had three layers of fortification where the outer most layer was a long

continuous deep trench around the larger area. The palace, together with the port, which was the main entrance point to the palace and the town, and a separating open space or a field (*padang*) in between, which was not yet physically defined, formed the axis of the town. The axis, which is perpendicular to the river, predetermined physical-spatial growth of the urban form. A mosque was built to the north of the field with a wet market and commercial area was closely located to the jetty to the southwest. The commercial centre consisted of several blocks of two stories timber shop houses. Traditional villages with residential detached houses scattered to the north and south along the rivers, and around the palace compound. Most of the buildings were built of timber and some of bamboo. The port has been mentioned as an integral part of the town origin and development (Nik Mohd Salleh 1984, Abdul Razak Mahmud, 2002). Unfortunately, there was very little literary information about the physical components and characteristics of it. What is left today as hard evidence is the jetty of *Tambatan Di Raja*.

In the very beginning, the town was established as a royal place and the seat of the ruler. His palace was the most important building, fortified all around and centrally located. The *Kota* was the symbols of the power of the ruling sultan and the unity of the people submissive under the laws and his rules. The inner compound was a prohibited ground where only royal ceremonies and official events were allowed to take places. Public activities of the people such as commercial and recreational activities took place around the port and nearby commercial centre with wet market area and the open space of the *padang*. The commercial and trading activities of the market places were conducted in the morning. The *padang* was the place where the public came to watch bull or water buffalo fights, played *sepak raga* (a traditional Malay game where the ball was made of rattan), and get involve in other informal as well as formal activities.

The port was the trading place as well as the main entrance point of the town and the state. Traders from China, Campa, Patani, Sulawesi and

2.4.2 British Residency Period (1909-1941 and 1945-1957)

British influences in the administration of the state of Kelantan officially began in 1909 after *Perjanjian Bangkok* (Bangkok Agreement) was signed in Bangkok between the Siamese government under the rule of Rama V and British delegates. In the agreement, the Siamese government agreed to discharge its colonized Malay states of Kelantan, Terengganu, Kedah and Perlis fully to the British. It, however, would remain in control of the other Malay states and districts of Reman or Rahman, Legeh and Patani.

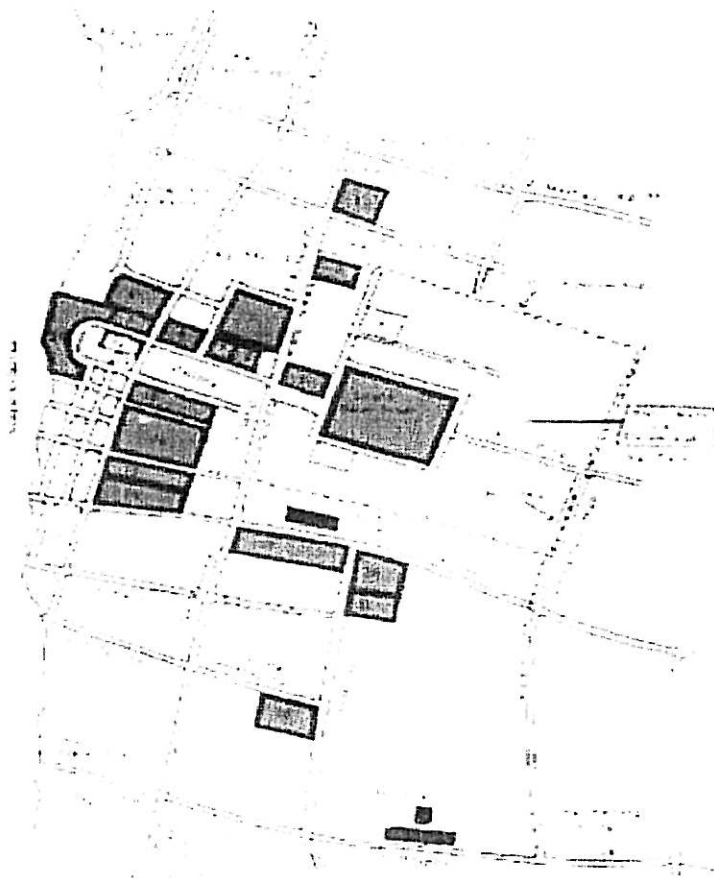


Figure 2.4.2a: Kota Bharu, around 1910

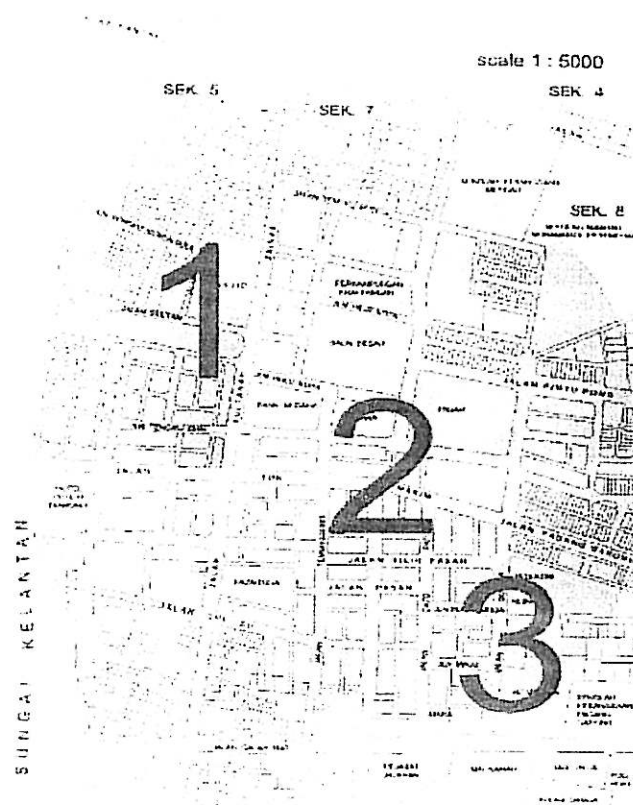
Source : Urban Design Unit, 2001

The British was defeated and driven out by the Japanese army during World War II but came back in 1945, and ruled the country and the state until 1957. After the initial development, the town went through another two important phases of its development. The first was the development during the British occupation up until the country's independence on 31st August 1957. During that period, the centre of state administration was shifted. Although the palace still acted as the power symbol of the people, the actual political power lied in the office of British Governor, who acted as the advisory to all state matters, accepts religion. The British began to establish a new administrative centre, which consisted of the Governor Office, a court building, a post office, a security and a police head quarters, and few other building types, that situated about one to two miles away to the south west of the old centre. The new administrator of the state had also added several new buildings around the field, notably, a munitions depot, and shop houses. Unlike old buildings such as the palaces, markets and shop houses, which were timber buildings, buildings constructed during British era were using more durable materials mainly brick masonry. The state mosque, which is of masonry and situated on the north of the rectangular main open space, is believed to be rebuilt after a fire during the coionization era. These materials together with different architecture and scale of the later buildings gave new characteristic to the fabric of Kota Bharu town.

2.4.3 Post Independence Period (1957 until present)

After independence, together with the worldwide spread of modern movement, the development of Kota Bharu town gained momentum but at the expense of deteriorating physical characteristics of local architecture and townscape environment. New development of the town centre mainly focused on constructing commercial buildings such as faceless shop houses, shopping complexes, and office blocks. The increase use of motor vehicles forced the authority to provide the infrastructure for the new modes of transportation. A new transportation centre for public bus and taxi had become the new centre of the town.

While the old centre started to lose its vitality, the distinct visual physical characteristic of the town was being threatened as the vernacular urban form was being replaced by modern buildings. The physical-spatial structure of the town was also threatened as new developments failed to address social and cultural needs. Whereas the centre of the old town was an open public space with various lively activities that reflected socio-cultural aspects of the people of the time, the development during the post independent period rather less sensitive to project a continuation of the existing town fabric in term of block scale, and to support a way of community life. There was no single public open space purposely design for the town users, and at the same time the open space within the old centre had been fenced. Although it was still accessible, some of the activities, such as grazing field for domestic animals, and playing soccer, were prohibited. The nobility of building a fence had altered psychological approach toward the field.



Peta menunjukkan perkembangan Kota bharu

- 1 Perempatan awal
- 2 perdagangan
- 3 Institutional

Map 2.4.3a: Map show the development of Kota Bahru Town, Kelantan

Source : Urban Design Unit , 2001

2.5 Conclusion

Kota Bharu was first established as a seat of power that is a royal town. The state was also administered from this town and maintained its function during the Japanese, British and current government. The river, the 'padang', the palace, the mosque and the market place always play an important role in the development pattern role in the town and gives its unique character. The town grew from the bank of the river that characterised many riverine towns in which the river acts as the main transportation network. With the advance of land-based transportation this character is slowly being eroded.

CHAPTER 3

TPOLOGY OF URBAN SPACES

3.0 Introduction

This chapter is primarily concerned with the definition of the concept of the research. Although a literature review of urban design theories provides the theoretical framework, nevertheless, it is felt that the existing concepts in urban design are unable to fully satisfy the intended meaning of this research concept. Thus, it is necessary for this research to explore into other study areas as well in order to form the theoretical background for the definition of the concept. The fact that most of the established theories in urban design were developed by western scholars based on their perceptual analyses toward their societies and their urban environments. These theories also tend to explore the theories based on a universality which is inappropriate to the complexity of urban spaces across the globe where the local historical, socio-cultural and political context warrants an entirely different approach (Gary Bridge and Sophie Watson in *City*, Vol.5, No.3, November 2001, 350). Therefore, it is important that this review enables to form and provide a basis by which a new definition and an investigation into the same field can be tailored and conducted in a Malaysian context.

3.1 Town Centre and Its Public Open Space

Vitruvius argued as quoted from Moughtin (1992) that public space 'should be proportionate to the number of inhabitants, so that it may not be too small a space to be

useful, nor look like a desert waste for lack of population.' He also quoted Sitte said that '.... there still existed a vital and functional use of the town square for the community life and also, in connection with this, a rapport between square and the surrounding public buildings. In short, we miss activity exactly where in Antiquity it was most animated, that is, around the great public buildings'. Bernick and Cervero (1996) presented the development idea of 'transit villages' around the world such as in Singapore, Sweden and mostly in the United States. The centre of the 'village' is a transit rail station surrounded by open public spaces. These public spaces serve the important function of being a community gathering spot, a site for special events, and a place for celebration (Bernick and Cervero, 1996). Besides square, street also forms an important part of the urban public space. Nonetheless, it has not been given detailed consideration to its design as oppose to the design of the public square (Moughtin, 1992). Barnett (1982) said that "a second basic element to any public open space plan is to recognize the importance of streets as the framework of public open space." Streets should be for staying in, and not just for moving through, the way they are today (Alexander, 1977). Public spaces of pedestrian square and street, therefore, are the places for special use and activity, have scales and contrasting elements that could stimulate public use.

There are two typologies of public open spaces that have been subjected to studies in designed environment, which are the streets and the squares. This research focuses only on the latter that is enclosed by a continuous surround (Pavole, 1995:10), and has an overriding spatial quality of centralized public outdoor space within a town centre that promotes public use and enjoyment for town users. The significance of this type of public open space is well illustrated by Michael Webb as quoted;

"At their best, squares are microcosms of urban life, offering excitement and repose, markets and public ceremonies, a place to meet friends and watch the world go by."

(Webb, 1990:9)

According to Zucker (1959), a square is the result of societal and psychological attitudes to the perception and use of space. It is a place for civic engagement, education and participation in public life – an important symbol of political democracy (Pile, S. and Thrift, N. (ed.), 2000:232). It humanizes people by mutual contact, provides them with a

shelter against the haphazard traffic, and frees them from the tension of rushing through the web of streets (Zucker, 1959). In another words, it represents a psychological parking place within the civic landscape of the human built environment.

3.2 Urban Public Open Spaces

Towns and cities consist of buildings and intervening spaces (Sulaiman, 1988: 66) together with varieties of functions and activities of people. According to Bridge and Watson (in *City*, Vol.5, No.3, November 2001: 357), "from the ancient Greeks onwards a set of assumptions is embedded in Western understandings of the city as a political public realm both formally as a political unit and informally as a space of public engagement (in the agora)". The links between the public realm and urban public space are obvious where a loss of public space means a diminution of the public realm (Ibid). According to Richard M Rosan (in Dixon, 1999: 8), in cities of all sizes and in all regions a dialogue is about the need to create urban spaces that draw people, that establish a sense of place, that connect various components of the urban environment, and that are usable in addition to being beautiful.

The concept of urban public space takes its meaning from the organization of the nucleated, interdependent set of activities whose characteristic form a millennium ago was a town, a century ago the city, today the metropolis, and a decade hence, perhaps, megalopolis (Wingo, 1963). Krier (1979) defined the concept of urban space as those spaces between buildings in towns that are geometrically bounded by a variety of elevations. The clear legibility of its geometrical characteristics and aesthetic qualities allows the external space to be consciously perceived as urban space (Sulaiman, 1988: 66). Dixon (1999: 6) clarified urban public spaces as streets, squares, parks, covered shopping arcades and gallerias, atriiums in hotels and office buildings within a town. He also suggested that open public spaces should be healthful and able to stimulate community life (Ibid). Jane Jacobs and William Whyte (in Dixon, 1999: 6) went further in explaining public realm in relation to the human dynamics that 'crass' elements such as

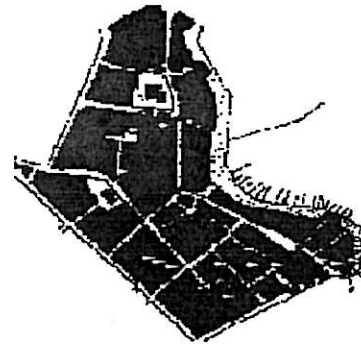
shops, street vendors, and moderate amounts of automobile traffic make public spaces safer and more attractive. The proponents of New Urbanism demonstrated these principles by closely mixing a variety of residential and commercial types with carefully crafted community spaces (Dixon, 1999: 6). Open space, as argued by Leonard J. Duhl (in Wingo, 1963), when once it is experienced, can rarely be replaced as it provides for us that continuity with the past, which our personal identity requires. This relationship of the part to the whole, of a single center to the greater organic complex, is a major key by which we can understand the whole of a city as an urban design without ever being able to experience all of it at once (Frederick Gutheim in Wingo, 1963).

There are two typologies of public open spaces that have been subjected to studies in designed environment, which are the streets and the squares (Lynch, 1960, Heckscher, 1977, Krier, 1979, Sulaiman, 1988, Moughtin, 1996 and others). According to Madanipour (1996), in the study of urban public space, the enclosure of space rather than space itself is the focus of attention since it determines the physical character of the space. Moughtin (1996) argued that the streets and squares of traditional Islamic cities and medieval European cities are three-dimensional spaces linked in the informal manner. The picturesque structure of the medieval European city lend itself to Cullen's townscape analysis with its emphasis on serial vision as the means of capturing, in sketches, the organic or natural feeling and appearance of the spatial composition (Cullen, 1971).

The differences between the two spatial typologies are very clear in terms of their characters and functions although they are normally interconnected in the hierarchy of urban public spaces. While streets are a primarily ingredient of urban existence as they provide the structure on which to weave the complex interactions of the architectural fabric with human organization (Celik *et al.*, 1994: 1), the square is the result of societal and psychological attitudes to the perception and use of space (Zucker, 1959). A square is a gathering place for the people, humanizing them by mutual contact, providing them with a shelter against the haphazard traffic, and freeing them from the tension of rushing through the web of streets (Zucker, 1959, Webb, 1990). It represents a psychological parking place within the civic landscape. The importance of this type of public open space is well illustrated by Michael Webb as quoted (Webb, 1990:9);

"At their best, squares are microcosms of urban life, offering excitement and repose, markets and public ceremonies, a place to meet friends and watch the world go by."

A square as a living organism changes continuously with varying socioeconomic conditions and altered technological possibilities (Zucker, 1959). Being part of the living organism of a city with its changing socioeconomic and technical conditions, a square is never completed (Ibid). A square can also provide an important focal point for a town center, which demonstrates to visitors that they have reached the heart of the town center, and it can be an expression of a town's civic pride, historic power and importance (Department of the Environment, 1997: 11).



Picture 3.2a: Bird eyes view of urban area which 'public open spaces' play an important role.

Source : Urban Design Unit, 2003

3.2.1 Streets

3.2.1.1 Street Definitions

According to '*Reader's Digest Oxford Dictionary*', '*street*' means:

'a public road in a city, town, or village, with the houses or other buildings on each side.'

Oxford Compact English Dictionary; Soanes C, 2000 , Oxford University Press defines *Street* as: *a public road in a city, town, or village.*

The definition and differences between 'road and street', are according to Moughtin (1992) are; **road** is at once an act of riding on horseback and ordinary line of communication between different places, used by horses, travellers on foot or vehicles. Or it is any path, way or course to some end or journey. The emphasis is on movement between two places, the principle lines of communication between places – two-dimensional ribbon, running on the surface of the landscape, carried over it by bridge or beneath by tunnel. While a **street** may have these attributes, but it's more common meaning is a road in a town or village, comparatively wide as opposed to a lane or alley. It is a road that is linear surface' along which movement occurs between the houses and runs between two lines of houses or shops. The street can be taken as an enclosed, three dimensional space between two lines of adjacent buildings. The street is a place of identification; it is where you live. Addresses signify a building's position on the street. Streets are also public thoroughfares.

The street is a channel for people to move, which gives access to the buildings and allows the space to be divided into individual plots. Krier (1979) argues that the street is a product of the spread of settlement once houses have been built on all available space around its central square. Due to its narrowness, the street has more of a functional character than a square. Traditionally the streets were planned to the scale of the human being, the horse and the carriage. In traditional Islamic cities the street function is primarily as an access route and boundary to the houses and therefore the façade that is bordering the street is the least decorated. The Roman and the Byzantine on the other hand use the street to display their grandiose public buildings which is visible on all sides.

According to Jacob and Allan (1976), streets are defined in two ways: vertically, which has to do with height of buildings or walls or trees along a street, and horizontally, which has most to do with the length of spacing between whatever is doing the defining. Usually it is buildings that are defining elements, sometimes walls, trees, trees and walls together and floors.

In the past it was a '*small universe*', where the character of the district and of the district and of the town as a whole was presented in condensed form to the visitor. The

street represented, as to speak, a section of life-history had shaped its details. Today, the street is generally lost as a consequence of the current scattering of the buildings and the increasing motorized traffic. The new immense scale now tends to characterize the streetscape.

In general the space-form of the street may be defined as longitudinal, but this does not imply that it ought to be straight. In the town of the past, oblique angles and curved lines created a 'closed perspective' enlivening the prospect. It is decisive for the spatial character that the buildings appear as surfaces rather than massed. If the mass-effect dominates, the buildings attain figural character, and by joining the intermediate spaces between them the street is reduced to a subordinate 'ground'. To become a true form, the street has to possess 'figural character'. This is achieved by means of a continuous bounding surface, which not only presupposes a certain density but that the houses belong to the same 'family'.

3.2.1.2 Streets in Architectural Phenomenon

Street is one of the urban components, which can contribute to the sense of place. Any classification of streets must start with Vitruvius and his description of the three street scenes as the backdrop in a theatre. There are three kinds of scenes, one called 'tragic scene', second called 'comic scene' and third called 'satyric scene'. 'Tragic scenes' are delineated with columns, pediments, statues and others suited to kings. 'Comic scenes' exhibit private dwellings with balconies and views representing rows of windows, after the manner of ordinary dwellings. 'Satyric scenes' are decorated with trees, caverns, mountains and the other rustic objects delineated in landscape.

Both Allberti and Palladio distinguished two main types of streets, those within towns and those that run between towns. In speaking of streets that connect towns Allberti says: 'Highways in the country receive their greatest beauty from the country itself through which they lie, from its being rich, well cultivated, full of houses and villages, affording delightful prospects, now of sea, now of a hill ...' Palladio takes up this theme

suggesting that ‘the ways without the city ought to be made ample, commodious, having trees on either side, by which travellers may be defined from the scorching heats of the sun and their eyes receive some reaction from the verdure’. Palladio’s idea for the town or city street is straight, regular, classical model and on each side of which there are magnificent fabrics. The streets are the formal, military routes – an extension of the regional roads leading to the city.

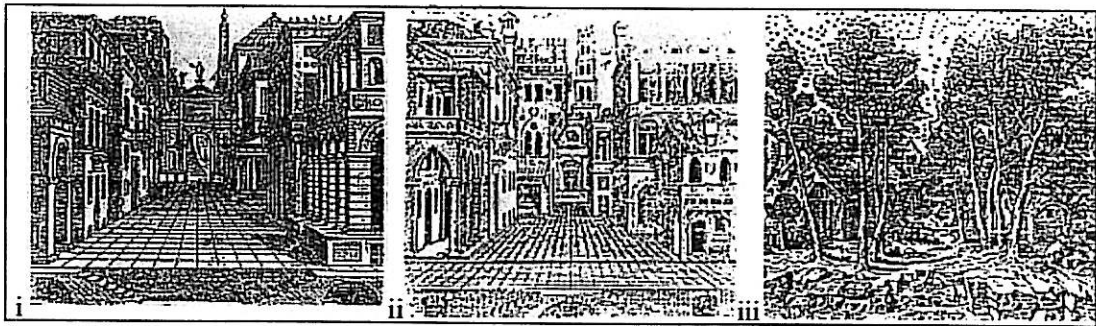


Figure 3.2.1.2a : The three scenes; i. Tragic scene ii. Comic scene iii. Satyric scene

Source : Moughtin, 1992 pg. 128

3.2.1.3 Street Typologies/Classifications

Streets are multi-functional spaces and there is always the risk of conflict between uses. The types of street to be included in a scheme are the key to its overall character. There are three types of streets generally recognizable within the neighbourhood; i. minor street ii. collector streets iii. arterial streets.

- i. **Minor street:** Local streets, these carry traffic from collector streets to the individual land parcels within any given area. The primary function of these streets is to provide access to abutting properties. These typically have 50 to 60 feet right-of-way width and contain two lanes of traffic, but are wide enough to allow on street parking.

Cul-de-sacs: There are dead end streets with proper turning radius at the end. Provides quiet residential street with no traffic. Also helps solve difficult site problems in restricted access. These should not have a length greater than 500 feet.

Alleys: Alleys are minor ways that are used primarily for vehicular service access to the back or the side of properties otherwise abutting a street. May be a necessary in group, row houses or apartment developments. These typical have 20 feet.

- ii. **Collector street:** Collector streets have 60 to 100 feet width and three to four lane roads that connect residential areas to community centre areas. Commercial uses usually occur at the interaction of arterials and collectors.
- iii. **Arterial street:** Arterial streets have right-of-way widths of 100 feet and larger. They are designed for the movement of high volumes of traffic between nodes with commercial or industrial functions. They are usually divided roadways of four or more lanes with a defined median in the centre. Cross-access is limited to median breaks located at intersections and are 500 or more feet apart. Generally no dwellings front directly on arterial streets.

According to Bashri (1990), streets including; path, routes, roads or other means of lateral communication where distinction will be drawn as situation required. While Rykwert (1978), had classified three types of streets: i. Related with path especially for the pedestrians (path, track, promenade and mall). ii. Streets that exist physically because of the context (terrace, row, arcade and gallery display). iii. Usually it was used by American and European town street principal, the long street and it was a development area i.e.: '**main street**' or '**high street**'.

3.2.1.4 Street Systems

From the scholars and researchers, there are three basic street systems in the cities:

- i. the gridiron ii. the radial iii. the organic.
- i. '**The gridiron**' lends itself to orderly growth, regulates method of building, a simplifies circulation needs. It has been the overwhelming choice in American planning.

- ii. **'The radial'** is more sophisticated, required an entirely different approach to spatial organization, structural design and circulation.
- iii. **'The organic'** grew out of primitive village life. It is only true empirical system, and in simplest terms can be said to have developed without regard for any sense of overall planning for future growth. A street was built over an existing pathway, with paving, curbs and drainage ditches added only as they proved necessary. Topography dictated street alignment, which usually followed the most direct or easiest access, and at the same time provided a ready means of drainage.

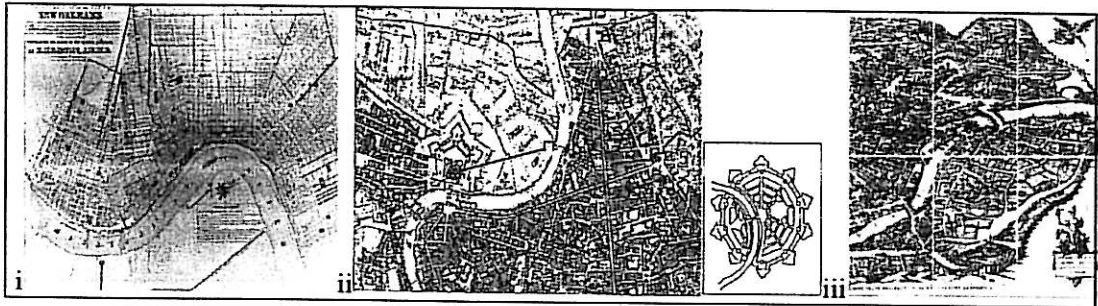


Figure 3.2.1.4a: An example of three streets systems; i. the gridiron ii. the radial iii. the organic
 Source : Celik Z; Favro D; Ingersoll R, 1997

3.2.1.5 Street Functions in Urban Life

Streets are more than public utilities. It moderates the form and structure and comfort of urban communities. Their sizes and arrangements afford or deny light and shade. In a very elemental way, streets allow people to be outside. And streets are places of social and commercial encounter and exchange. The street is movement: to watch, to pass, movement especially of people: of fleeting faces and forms, changing postures and dress (Jacob, 1976).

Therefore the street primarily functions as a means of moving people from their individual houses to the main square. The characteristic of commercial streets as described by Krier (1979) should be relatively narrower than the residential street, so that the passer-by can cast an eye over all the goods on display in the shops opposite without having to cross the road.

One of the very important roles of street is to give 'sense of place', which is important of giving an identity. Sense of place is the ability to recognize different places and different identities of a place. This concept incorporates imageability, topophilia, an attachment and symbolic meaning of places (Relph, 1976). The ability to acquire 'a sense of place' depends on the degree of familiarity a person has with the place. 'Sense of place' comes from the attribution of meanings to physical forms, places are affected by people and in return people are affected by places. Time becomes an important component of 'a sense of place' because it deepens the relatedness of person in place and endows the place with meanings, this is why old and historical places have more 'sense of place' than newer place.

The Smithsons wrote: 'In a tight knit society inhabiting a tight knit development such as the Byelaw Streets there is an inherent feeling of safety and social bond which has much to do with the obviousness and simple order of the form of the street: about 40 houses facing a common open space. The street is not only a means of access but also an arena for social expression.'

Jacobs asserts: 'The first thing to understand is that public peace-the side walk and street peace. There must be eyes upon the street, eyes belonging to those we might call the natural proprietors of the street ... and the sidewalk must have users on it fairly continuously both to add to the number if effective eyes on the street and include the people in buildings along the street to watch the sidewalks in sufficient numbers.'

3.2.1.6 Street Characteristic

There is a relationship between perception of identity and the historical significance of elements in the town centre. As expected the longer something existed around us the stronger, an association we have with them and eventually it will influence our perception of that environment. Usually residents will develop sense of attachments to certain features or elements of their town centre through their experience of living in the

place. The local residents' perception of space and place will determine the characters that are important to them psychologically as well as perceptually. From the literature review, the street characteristics are divided to three mains characters: i. Path – Access and Linkages ii. Place – Activities and Sociability iii. Streets Form and Spatial – Design and Physical Elements.

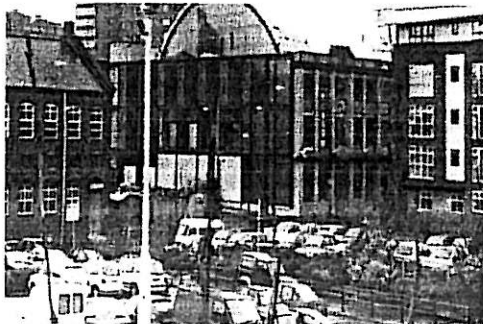
i. Path – Access and Linkages

In the planning of a street the physical factors that appear most to influence street use are according to Schumacher, user density, land-use mix, pedestrian vehicular interaction, configuration and context. The precise form of pedestrian-vehicular interaction is conditioned by the function of the street. While total separation of vehicles and pedestrians can be harmful to the development of lively and active street. The success of the pedestrian street is dependent on the variety of attractions they offer so that pedestrians in large numbers have reason for remaining. Integration of car parking and the pedestrian precinct within the surrounding urban fabric should be well planned. Here street characters as a path, access and linkages, movement for pedestrian are the primary concern and followed by the vehicles.



Picture 3.2.1.6a: Water one of the path way

Source : Shuhana & Bashri, 2003



Picture 3.2.1.6b: Integration of car parking and the pedestrian precinct, should be well planned

Source : Shuhana & Bashri, 2003

ii. Place – Activities and Sociability

Activities are one of the key components that contribute to the identity of place. According to Shuhana and Bashri (2002), the most dominant activity in Malaysia town and cities is that of the street traders and hawkers. However, in some of the cities such as Georgetown, Penang and the old parts of Malacca Historical City, the activities observed are also that relate to the community who live in the houses in the old parts of the city. This is a unique phenomenon as it reflects the true character of a living city, in which daily activities of the residents has influence on the use of space. Conservation of the building alone without considering the activities that take place will lead to gentrification and disruption of existing community. The influence of these activities to the place could determine its sense of place.



Picture 3.2.1.6c: The appearance of activities will create a social place.

Source : Shuhana & Bashri, 2003

The street in addition to being a physical element in the city is also a social fact. It has a three-dimensional physical form which, while it may not determine social structure, does inhibit certain activities and make other possible. The street provides a link between buildings, both within vehicles and also the movement of goods to sustain the wider market and some particular uses within the street. Streets use as a site for casual interaction, including recreation, conservation and entertainment, as well as its use as a site for ritual observances (Jacob 1976, Moughtin 1992, Shuhana & Bashri 2002, Mijan 1995 etc.).

As Colin Buchanan points out: Walking is also an integral part of many other matters, such as looking at shop windows, admiring the scene, or talking to people. In all, it does not seem to be far from the truth that the freedom with which a person can walk about and look around is a very useful guide to the civilized quality of an urban area.

iii. Streets Form and Spatial – Design and Physical

‘Street form’ is same as ‘streetscape’, as mentioned by Manidapour (1905). The urban structure, the nodes, where the major activities occur, where the civic buildings are concentrated and where the community lavishes most of its surplus wealth in the form of prestigious development and artistic creation. Although the street accounts for most of the urban public realm, in practice, particularly modern practice, the street is what remains after private planning of individual properties is considered satisfactory.

In the very conception the street and the public squares are carved from an original block of solid material. The other conception is that the city has the form of open parkland into which buildings have been introduced as three-dimensional objects sitting on and within the landscape.

The form of the street can be analyzed in terms of a number of polar qualities such as straight or curved, long or short, wide or narrow, enclosed or open, formal or informal. Street form can also be defined in terms of scale, proportion, contrast, rhythm or connections to other streets and squares. The street has two main characteristics directly related to the form. It is at one and the same time, both path and place. It is such common practice to regard the street as a route (road) for motor vehicles that its function as a place has been quite overlooked. A second basic element to any public open plan is to recognize the importance of streets as the framework of public open space.

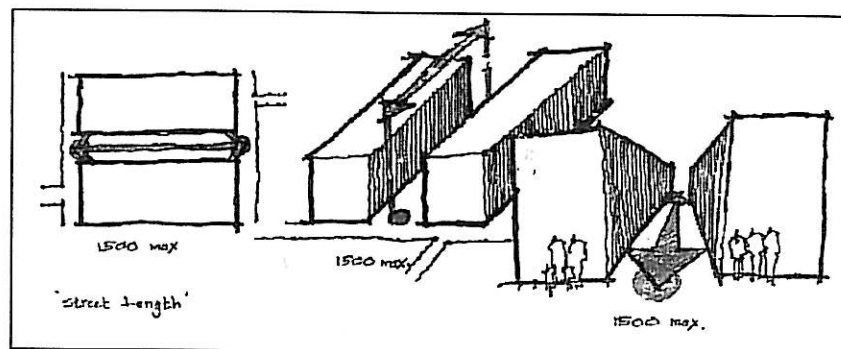
According to Alexander, ‘streets should be for staying in not just for moving through.’ ‘A sense of place’ in street design is best achieved if the spatial volume defined by the frontage is perceived as the positive form the figure seen against the general ground of the surrounding architecture. According to Gibberd, ‘the street is not building frontage but a space about dwellings are grouped to form a scene of street pictures. For a street to

function as a place or exterior room in the city it must possess similar qualities of the enclosed unit. The more one's impressions are confined within it, the more perfect will be its tableau: one feels at ease in a space where the gaze cannot be lost in infinity. The absolute dimensions of the street must be kept within reasonable proportions.

- **Street Length**

Site recommends that the plan of a public square should not have dimensions where the lengths of its enclosing walls are greater than the ratio 3:1. Beyond this limit insistent, converging rooflines vanishing towards the horizon suggest movement, the dynamic urban space most suitable to the path. The upper limit for uninterrupted length of street is probably in the order of 1,500m (1mile). Beyond this distance, a human scale is lost. Even with vistas considerably shorter than 1,500m the closure of the view causes considerable difficulty. The ideal street must form a completely enclosed unit. Besides, the curved street is more picturesque than the straight one which is more monumental.

'The sense of enclosure' is heightened by successively overhanging upper floors. The street is something more than a simple pathway; it is a series of connected places. In Lynch's term, the street is a path enlivened by a series of nodes where other paths meet it or where activities intensify to such an extent that places and rest vie for dominance with function of pathway and movement.

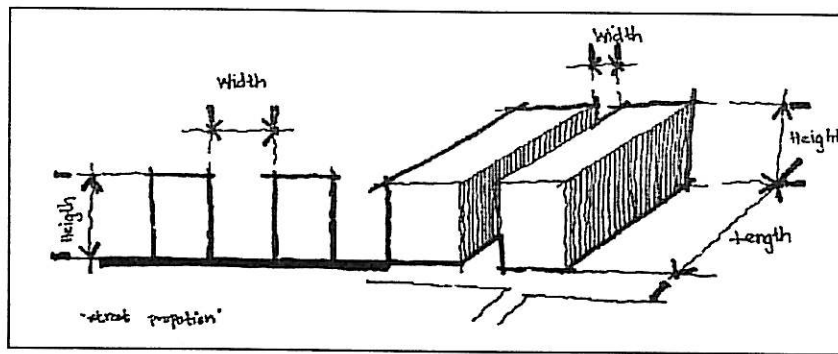


Sketches 3.2.1.6d: Street length

Source : Nor Haslina, 2004

- **Street Proportion/Scale**

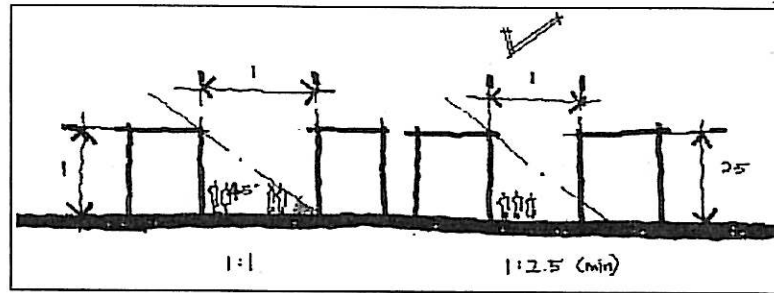
‘**Proportion**’ is the method of which the visual order is established. The ratio of width of street to height of enclosing building is critical for good street design. Gibberd’s recommendation for street design is to reduce the width of the road itself. But if the verges and front gardens are reduced and the dwellings brought reasonably close together, then it is possible to recapture that urban quality which characterizes the best town planning. The narrow pedestrianized city street with continuous enclosing walls slightly higher than street which are most successful for their purpose as well as being an attractive place. Narrow streets with 6 to 9m and flanking buildings three or four storeys it gives the sense of completeness and enclosure to the pictures in streets.



Sketches 3.2.1.6e: Street proportion; *Length, width and height*

Source : Nor Haslina, 2004

‘**Scale**’ depends upon the comparison of one set of dimensions with another set. Relationship of buildings and urban space to the size of human being is important to achieve ‘sense of place’. This ‘Sense of Enclosure’ can only be felt in the traditional streets where the streets are quite narrow & the observers attention are fixed towards the ornate & detailed façade treatment. This is related to **the width** of the street (Shuhana & Bashri, 2002). Palladio, says: ‘but the city being in a hot country, its streets ought to be made narrow, and the houses high, that by their shade, and by the narrowness of the streets, the heat of the site may be tempered; by which means it will be more healthy.’



Sketches 3.2.1.6f: Street ratio to create 'sense of enclosure'

Source : Nor Haslina, 2003

Maertens and Blumenfeld (from Jacob, 1976) attest that; 'at angle of 27 degrees (height-distance ration 1:2) the object appears ... as a little world in itself, with the surrounding only dimly perceived as a background; at an angle of 18 degrees (1:3) it still dominates the picture, but now its relation to its surroundings become equally important. At angle of 12 degrees (1:4) or less, the object becomes part of its surroundings and speaks mainly through its silhouette.'



Picture 3.2.1.6g: The 'sense of enclosure' is very important in street characters

Source : Shuhana & Bashri, 2003

• Street Beginning and Ending

'Nodes' are important or strategic areas that a person can enter and that are foci to and from which he is travelling. These areas are junctions, places of a break in transportation, crossing or convergences of paths, and so on. They may also be such features as street corner hangouts and enclosed squares. However 'landmarks' are, like 'nodes', points of reference, typically physical objects, not areas (Heimstra & McFarling, 1977).

Every street starts & ends somewhere & those locations are usually not too hard to fix. Perhaps in some perverse way is the obviousness of the observation that keeps this from being an always present requirement for great streets. There is every reason why the beginnings & endings of streets should be well marked, as part of the street, to introduce us to them and to take us elsewhere. Entrances can always be open and inviting. Experience of fine streets indicates that entries & exits are not always well done or memorable in themselves. That same experience suggests that when done they contribute in significant ways to great streets, though they may not detract all that much when they are less than they might be (Jacob 1976, Moughtin 1992).

- **Street Unity**

There are a number of factors, which contribute to unified street design possibly the most important being that the form of the building should appear as surfaces rather than as mass. When buildings take on strong three-dimensional form the mass of the building dominates the scene and the space loses its importance. When the buildings ranged along a street have varied form, styles and treatment the spaces loses definition. Unified street design in contradistinction elevates the spatial volume to figural position against a background of two-dimensional plane, walls, pavements and sky above (Moughtin, 1992). According to Shuhana & Bashri (2002), Facade design of the building that formed the walls for the street.

The use of common materials, details and architectural elements strengthen the unity in many street scenes. The imposition of a common roofline and the repetitive use of similar bay sizes for development strengthen the street pictures. The roofline establishes the lid for the space and the greater the variation in its height the more unstable the volume. Besides unity, its will create a harmony in street scene or environment. According to Jacob (1976), '**harmony**' in architectural is if elements in a building conform to certain ratios which relate continuously to all other ratio.



Picture 3.2.1.6h: The building create 'sense of unity' and 'harmony' at the same time

Source : Shuhana & Bashri, 2003

The informal nature of the curved street has certain in-built advantages, whereby the needs of individual property owners can be carried to the larger requirements of social unity expressed, according to John Ruskin, as 'the great concerted music of the street of a city' (Moughtin, 1992).



Picture 3.2.1.6i: The curved street environment

Source : Shuhana & Bashri, 2003

'**Contrast**' in design is what sets one street apart from another, and ultimately what makes one great street and another less so. Contrast in shape or length or size, or to the pattern of surrounding streets, is another matter. For many streets one or another of these qualities sets them apart from other street (Jacob, 1976). While according to Moughtin (1992), without unity, there is no continuity in street definition.

Besides create a contrast, harmony, scale and unity in street environment, there are many terms will be contributed in 'architecture language' from streetscape or townscape appraisal. For example '**rhythm**', is a pattern imposed by mind. It's stimulating and

poetic effect transcends reflection. Rhythm in architecture is the product of the grouping of elements of emphasis, interval, accept and direction. It is the sense of movement achieved by the articulation of the members making up the composition. While **'balance and symmetry'** is a building, which achieves balance, is visually well adjusted, exhibiting a reasonable distribution of its component parts. Symmetry implies an axis of movement.



Picture 3.2.1.6j: The new building design that are non sensitive with the old building
Source : Shuhana & Bashri, 2003

From the explanation, the concept of the street could than be summarised as:-

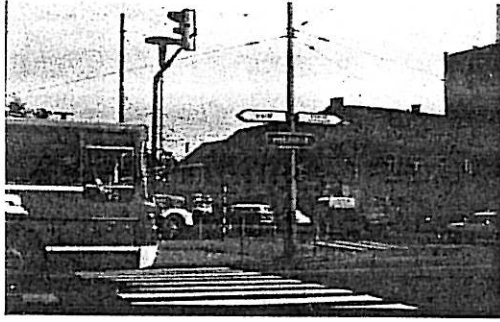
- Artery of traffic
- Zone of major architectural display
- Area of social intercourse

3.2.2 Squares

3.2.2.1 Square

It the streets are visualised as rivers channelling the stream of human communication which suggest a deeper meaning than a mere technical term 'traffic', then the square can be seen to represent a natural or artificial lake. The square will influence the life of the place not only within it but also through the adjacent streets (Zucker 1959,

pg. 17). The natural flow of the urban spaces is from the individual houses which will open up onto a public street and leads to the square.



Picture 3.2.2a: Street are visualised as rivers
channelling, not a space to stop the
flow.

Source : Shuhana & Bashri, 2003

The square is probably the most public of all the open spaces in the context of a city or town. Due to its physical dimension it allows people to gather around; to communicate to each other, to engage in commercial, political and leisure activities or just to enjoy the quality of light and air which other spaces could not provide. The square has been known by its different cultures; the place, 'the plaza' (America), 'the agora' (Greek), 'the forum' (Roman), 'the maydan', 'the rahba', the 'village green' (Inggeris), 'the square' (Inggeris), 'the platz' (German), 'the piazza' (Italy) and others. They all characteristise 'a sense of a place' where community activities occur like a living room or the internal courtyard of a house. Krier (1979) suggests that in all probability the square was the first way man discovered the use of urban spaces. Alexander emphasises this characteristic of a public square by stressing that:

*"A town needs public squares: they are the largest, most public room, that
the town has."*

(Alexander 1977, pg. 311)

He want on to say that the public squares are probably the only places which can accommodate public gatherings, small crowds, festivities, bonfires, carnivals, political speeches and others which form the public act of the community.

Traditionally squares took a longer time to establish itself, buildings were erected in succession around a market place or a village green which expanded gradually into a definite pattern. This is typical of the Hellenistic and late medieval towns of Central Europe. In contrast to the organically grown square, the planned square always appears as clearly defined as any individual piece of architecture (Zucker, 1959). The planned square as appeared in ancient Greece and her colonies from the fifth century BC onwards are clearly recognisable.

Squares and its uses are closely related to the climatic condition and the culture of the people. Zucker (1959) suggests that the abundance of square in Italy and France could be explained by the climatic condition and the attitudes of the people which make the square as a locale for public life, community activities and representation. In contrast the Muslim community where there is a very strong emphasis on domestic life prevents any desire for public spatial expression greatly reflected in the number and quality of the squares are located near or adjacent to a mosque or 'bazaar', for this is the place where the community activities are centred.

3.2.2.2 The Hierarchy of Urban Spaces

In any urban context the spaces that are formed by the organisation of the buildings will tend to be organised in a hierarchical fashion. The basic arrangement is the differentiation between the public and the private spaces and how they relate to each other. The flow between the two types of spaces will have to be logical and accepted by the local community in order to avoid rejection and stress as a result of misfit. This requirement is highly culture specific. Rapoport stresses this point by arguing that people's psychological, social and cultural characteristics are often expressed in spatial terms. Figure below shows different cultures and lifestyles produce different spatial relationships.

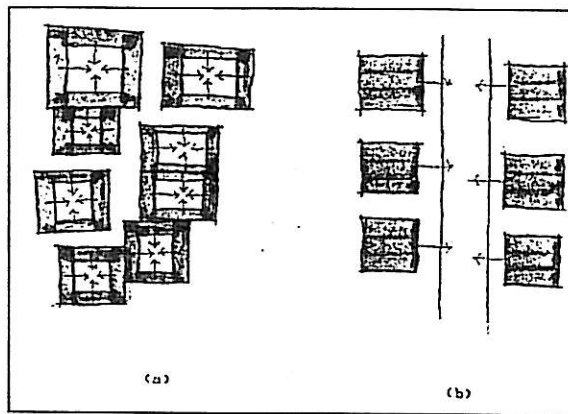


Figure 3.2.2a: Different Spatial relationship between two cultures – a. Muslim, Yoruba or Latin America b. As in America

Source : Rapoport 1977, pg. 10

The hierarchy of urban spaces has been divided by many into three categories: i. private ii. semiprivate and iii. public spaces. Cullen (1961, pg. 97-102) subdivides urban space into a private enclosed square which is enclosed from passers-by, the private open square which is a square for a neighbourhood (e.g. collegiate square protected from all but local traffic) and the metropolitan which should be opened to all. This hierarchical organisation can be seen clearly from the following diagram as reported by Rapoport (1977, pg. 11).

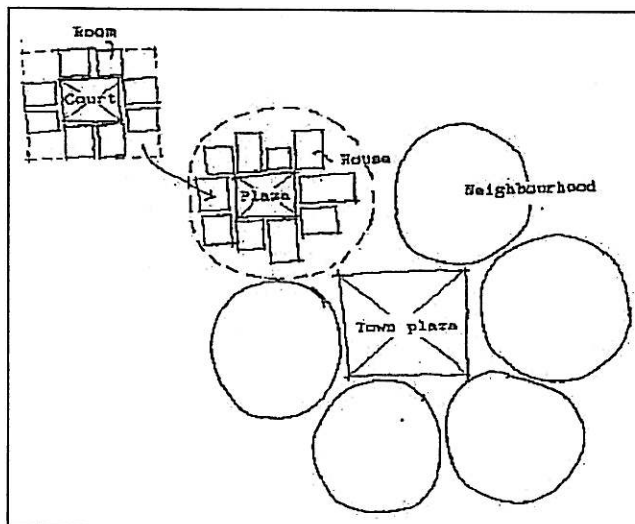


Figure 3.2.2b: Organisation of San Cristobal Las Casas, Mexico.

Source : Rapoport 1977, Wood 1969

Krier (1979, pg. 19) argues that the square in private sphere corresponds to the inner courtyard or atrium and added that the courtyard house is the oldest type of town house. Whilst in the public sphere, the square corresponds to market places, parade grounds, church frontages and townhalls etc.

The hierarchy of urban spaces in a Muslim city accommodate the different criteria necessary to support the private and public life of the people. It begins with the very private life of a family, which requires a totally enclosed spaces, to the neighbourhood square where 'the medersa' (religions school) could be found, to the public square where normally the main mosque is located. This is a very strict hierarchical order which reflect the Muslim culture.

3.2.2.3 Public Square Characteristic

In the light of what has been discussed earlier, it is important to establish the different characteristics make up a public square. These characteristics will influence the aspects to be considered in the design process in order to provide an appropriate behavioural setting. Rhodes (1973) suggests four characteristics of the built environment: i. Continuity, ii. Intimacy iii. Vitality and iv. Diversity.

- **Continuity**

Continuity in the physical sense is the spatial organisation (e.g. The plan of square, circulation pattern) and visual references (e.g. Monuments and the buildings around the square).

- **Intimacy**

The sense of intimacy is provided by careful manipulation of three related components: the environment which is created by the natural and man-made elements that contains within the square; secondly, the sense of enclosure which is provided by natural and third, man-made barriers penetrated only by the traffic circulation.

- **Vitality and Diversity**

The sense of vitality that is the character that potentially brings life to the space, identifiable by the commercial activities and the population densities of the locality. The diversity on the other hand is the element that provides variety to the user such as community services and means of transport.

From the discussion above the different aspects of the square can be divided into three categories:

- The physical properties
- The functional properties
- The psychological properties

3.2.2.4 The Different Aspect of Public Squares

These aspects are not always easily differentiated since they interact together to create a whole. The descriptions sometimes overlap with each other, and this is to be expected.

i. The Physical Properties

The physical aspect of the square is very important in determining its usefulness and the behavioural pattern expected to be found within it. As discussed earlier, the physical characteristics of the square in traditional cities were formed as a result of the activities and human behaviour within it; and it has also been establish the physical characteristics of the square at this point.

In order to define the three dimensional quality of a square that influences the perception of the space, Zucker (1959) suggest three basic elements: i. the row of surrounding structure ii. the expansion of the floor and iii. the imaginary spaces of the sky above. The aim is to provide desirable spaces for human use. The aspects which relate

to the physical characteristics of the square can be categorised into: the sense of enclosure, the dimensional properties, landscape and focal point.

- **The Sense of Enclosure**

The main aim of providing a sense of enclosure is to enhance the spatial quality of the environment. This is because space is a three-dimensional extension of the world that provide settings for people and things alike and is the heart of the built environment (Rapoport 1977,pg. 9). The ancient and medieval public squares as observed by Sitte (1889) were rigorously closed off from the outside. From the Medieval and Renaissance plazas the enclosed characteristic has persisted for a very long time and this is the main feature which makes the space a harmonious total effect. Enclosure is a means of defining the boundary of the square and the three space defining elements as suggested by Zucker (surrounding structure, floorscape and sky) are used to define this aspect.

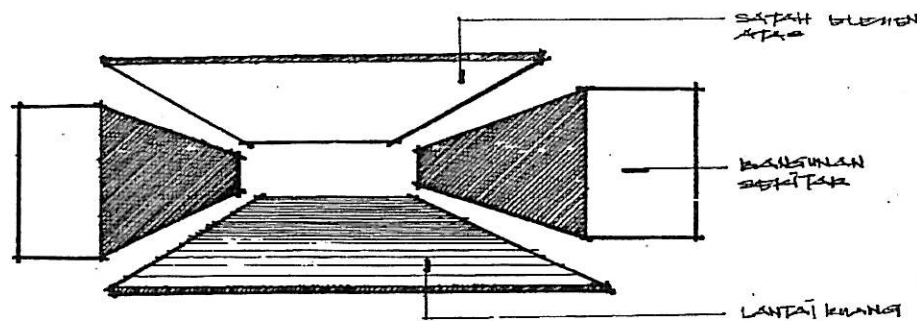


Figure 3.2.2.4a: Illustration shows the square elements based Curren dan Zucker explanations

Source : Marlina, 2000

These elements may vary in the way they are formed, for example, the surrounding structures may be of uniform height, proportion and design, or they may differ, or they may be more or less coherent. The floorscape could also take different form; may be homogeneous in expansion and texture (pavement), articulated by slope, steps, different levels, etc. The surface pattern may be used to unify or isolate the framing vertical structures. The sky above, although distant, offers a definite visual boundary similar in character to the surrounding buildings and pavement. The height of the surrounding buildings and the expansion of the floor (width and length) as well as the contours of the eaves and gable, chimney and tower give a subjective impression of a definite height of the sky. Generally the height above a closed square is imagined as three to four times the height of the tallest building on the square. It seems to be higher

above squares which are dominated by one prominent building, whereas the visual distance of the sky can only be vaguely perceived above the open square (Zucker 1959, pg. 7).

This view is supported by Spreiregen (1965, pg.75) who suggests that the enclosure of the square has very little to do with the actual size of the space, instead it is closely related to the boundary height in proportion to the distance of the observer. The most favourable vertical angle for the perception of an individual work of architecture is 27° smaller angle will results in a less enclosed feeling or openness.

PROPORTION		DEGREE (approx)	FEELING of ENCLOSURE
Distance from boundary	Height of boundary		
1	1	45	Enclosed
2	1	27	Lower limit
3	1	18	Lacking
4	1	14	Open

Table 3.2.2.4a : The feeling of enclosure in relation to the distance of the observer to the boundary building
Source : Spreiregen, 1965

From the arguments put forward above it can be concluded that the sense of enclosure is closely related to the human scale. If the size of human body and the range of human vision are not recognised as the basic principles, any rules about motifs, symmetrical and asymmetrical organisation of forms and motifs, symmetrical organisation, etc., are meaningless.

- **The Dimensional Properties of the Square**

The importance of the human scale has been suggested above, Doxiadis (1968) stresses the point made by Zucker (1965) by pointing out that the design of any elements in a city should be in harmony with the human being which can be measured through his physical dimensions, his senses and his movement. This is really an extension to the theory put forward by Sitte (1889, pg. 39-41). The table below indicates some of the

dimensional characteristics and hierarchical relationship of the square from three distinct periods in history.

Historical Theoretician architect	Square's (hierarchical) relationship	Square's size (area)	Remarks
Vitruvius 1 st Cent. A.D.	1 central sq. 8 secondary squares	Not specified	Size should always be in relation to size of population; proportion 2:3 (W:L)
Alberti 15 th Cent. A.D.	Not specified	Not specified	A city should possess a number of piazzas; proportion 1:2 (W:L)
Filarete 15 th Cent. A.D.	1 central sq. 16 secondary squares	4.41 ha. .63 ha. squares;	Main square consist of 3 individual squares; proportion 1:2 (W:L)
Scamazzi 16 th Cent. A.D.	1 central sq. 8 secondary squares	Not specified	Palma Nova, eastern fortress city for Venice
Sitte 19 th 20 th . Cent. A.D.	Not specified	Approx. .36 ha. to 2.1 ha.	Size should relate to the city

Table 3.2.2.4b: Square's hierachy and size

Source : Rhodes, 1972; as in Ekistics Vol. 35-1973, pg. 124-132)

Sitte (1889), suggests that the overly long plazas in which the ratio of length to width is more than three to one are already beginning to lose charm and enclosure and takes on the linear and directional from of the street. Rhodes (1973), conclude from his study that the maximum size of plaza should be 2:1 hectares which be derived from the maximum distance of 145 meters for bearing and seeing other individuals. This is consistent to Sitte's observation of the traditional squares; the largest squares he observed is ancient towns has an average dimensions of 190 to 470 feet. Thiel (1961), confirm these dimensional characteristics and added that sociologically the common uni-dimensional rangs for a successful square is 60 to 145 meters (which give a minimum size of 0.36 hectares and a maximum of 2.1 hectares). He derives this dimension from the maximum

distance an object of 12 inches in size (roughly the size of a human face) can be seen under reasonable light condition is 465 feet.

The height of the principal building is suggested by Sitte as the minimum dimension for a plaza and the maximum is twice the height in order to give a good effect. However, in situation where an average height building (with appropriate detailing) is developed horizontally to give a continuous rhythm it would probably give a good result even when the square is exceptionally large.

There is no conformity in terms of the shape of the square, however Sitte (1889) suggests that, the shape like size of the plaza should be in proportion to the dominating structures. Krier (1979, pg. 30-62) in his morphological studies of urban spaces produces a large array of shapes of public square where some examples are given below (figure 3.5 and 3.6).

Sitte suggests that there are two main types of public square: wide and deep square. The deep plaza are effective when the dominating building located on the short side, has a bigger dimension for its height as compared to its width. In the case of the wide plaza, it is appropriate when addressing a predominantly broad building.

The shape and sizes of the square should therefore be sympathetic to the human scale and it is important to recognise that they are (traditionally) closely related to the dominant building on the square. These characteristics of the square are highly subjective and are greatly influenced by the perception of the people, the socio-cultural influence by their spatial behaviour, etc. The scientific means of determining the sizes of the square are only based on the biological function of a human sensory apparatus whereby it should be acknowledged that there are other factors which influence the perception of spatial quality (e.g. culture, age, sex and others).

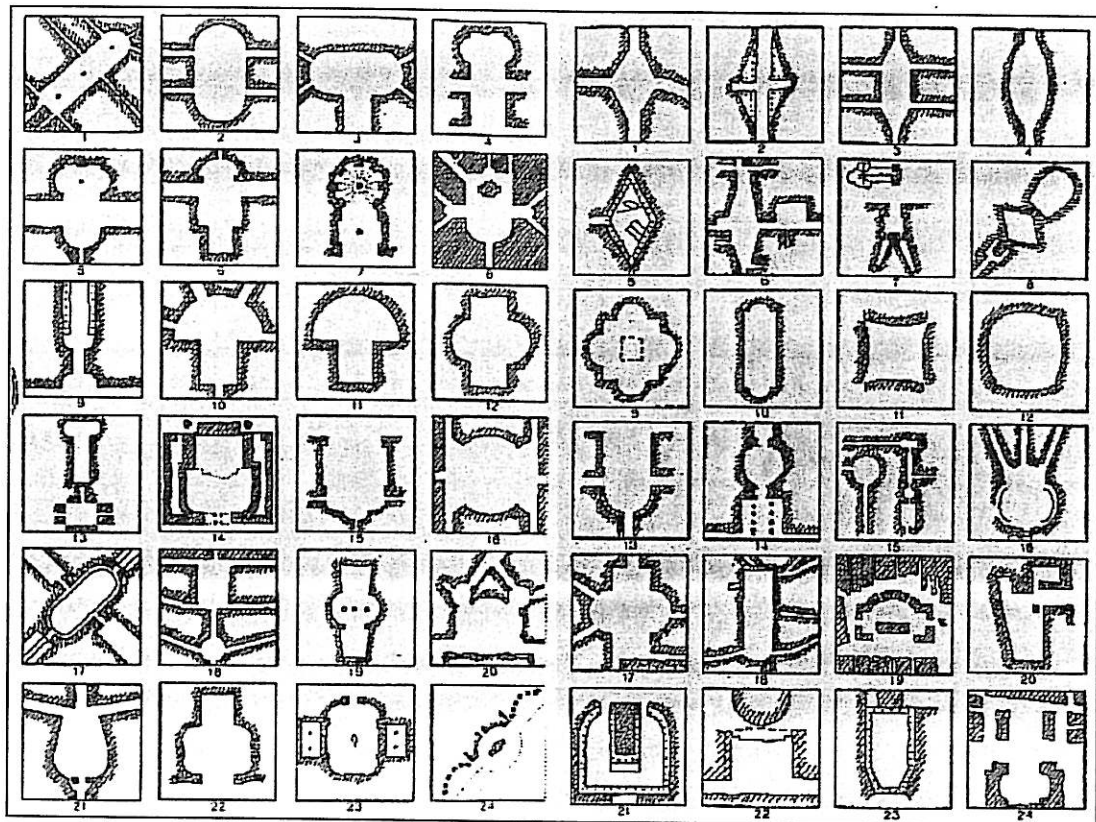


Figure 3.2.2.4a : The shape of square

Source : Krier 1975, pg. 46,47

- **Landscaping**

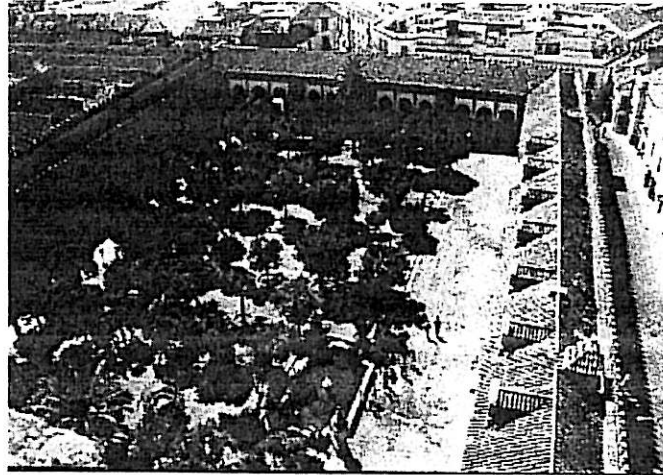
The concept of landscape in the context of the study is the man-made and natural element which forms part of the space establishing aspect of the natural elements which form part of the space establishing aspect of the square. These include: paving, street furniture, trees, roads, water, barrier etc. The landscape of an urban space normally falls into two categories: i. Soft landscape ii. Hard landscape

- i. **Soft landscape**

Trees:

Soft landscape in the context of urban design mainly deals with trees and water feature. In order to soften the predominantly hard urban environment planting is

introduced which create a more hospitable and sympathetic atmosphere for the human beings. Trees can be used effectively to moderate extreme climate, e.g., providing shades from the blazing sun and shelter against strong winds. The biological function of the plants will also generate fresher air for a healthier environment.



Picture 3.2.2.4c: The trees function as shading inside the square of the mosque, Corodohat

Source : Shuhana & Bashri, 2003

Trees can be effectively used to provide a setting for buildings, reducing their scale to that of the environment and hence creating a much more pleasing atmosphere (Lynch 1971, Marlowe 1977, Whyte 1980). Trees will also provide a sense of enclosure by the shade they provide and the imaginary line of their cover (Whyte 1980, pg. 46). There is a very important consideration as to the location of the trees in the square; like other objects within the space they should be located so as not to block the through fares and is closely related to the perimeter buildings, as observed by Sitte (1889).



Picture 3.2.2.4d: Landscape inside 'Reial Plaza', Barcelona, Sepanyol

Source : Shuhana & Bashri, 2003

It should be mentioned here that trees and other landscape elements are not always necessary in the setting of the square. There are many instances where beautiful squares were created without the use of trees (Lynch 1977, pg. 213).

Water:

Water as compared to the static nature of the trees sometimes can be manipulated to give a dynamic effect. The fountain in a square for example will introduce a sense of life to the space and the background sound level it produced masks the other unwanted noises produced in the environment (Lynch 1971, pg. 212). The change of humidity as a result of the water element produces a pleasant environment especially in hot climate which influence the behaviour of the people. In Islamic architecture, the water element has been used extensively (e.g. The Al-Hambra, Granada, Spain), where for example, the garden's geometry and layout are dictated by idealised patterns of irrigation. The water is shown symbolically and physically as the source of life which influences the basic form of the design, and very detail is related to the essential life stream of irrigation and to the delight which only water can give (Crowe and Haywood 1972, as reported by Llewellyn 1983, pg. 37).

The trees and water elements in the context of the public square will influence the perception and the environmental condition of the space, hence influenced the user's image of the place and their behavioural pattern. These elements in Islamic landscape have been associated with the Garden of Paradise as described in the Qur'an:

"... in garden beneath which rivers flows, ..."

(The Qur'an as quoted by Llewellyn 1983, pg. 37)

ii. Hard landscape

The floorscape:

The hard landscape for the purpose of this study includes paving and other street furniture. The floorscape of the square could be utilised to persuade, segregate,

emphasize, join and divide the user by employing surface pattern (Cullen 1961, pg. 128). Change of levels will also emphasises this aspect in which the involvement of the people determine the position they take within the square, for example the observer will most likely choose the higher level and the actor will use the lowest point (Alexander 1977).

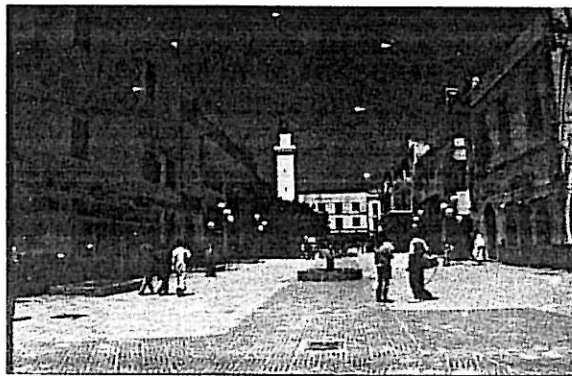
The change of texture and pattern could articulate and guide activities within the space and they can be combined to create interest and scale. The primary function of the paving is to stop the load it carries from sinking into the ground and it is also used as water drainage, demarcation of zones, traffic management and others.

Street furniture:

Street furniture in urban spaces will increase the usefulness and liveliness of the space, they are employed as a means to separate, protect, communicate, decorate, etc., so that it provides a much more sympathetic environment. These man-made elements as mentioned earlier will provide a sense of place within the empty space and encourage intimacy by providing a sense of privacy.

- **Focal Point**

The provision of street furniture is related to the presence of focal point within the squares; the street furniture such as trees, seats, monuments, fountains and street light provide protection for people's back whereas the focal point will provide a focus of attention (Alexander, 1977).



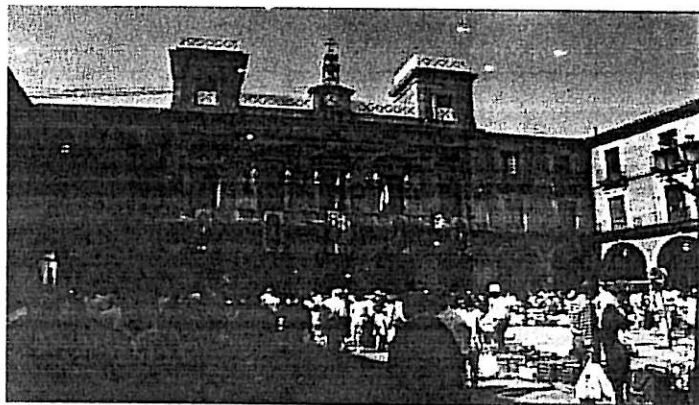
Picture 3.2.2.4e : Safi with focal point, water, street light and landscape element

Source : Shuhana & Bashri, 2003

Alexander's idea of putting a focal point in the centre of the square is in contrast to the idea put forward by Sitte who argues that the centre of the square should remain empty. Sitte observes that in the ancient squares fountains and monuments do not lie on the main axis of the traffic and not in the middle, but they are placed to the side. Alexander argues that the focal elements should be strong in order to draw people towards the centre of the square. However, the impulse to put it exactly in the middle should be avoided (Cullen, 1961). He argues that by simply providing the spaces for activities to occur is not enough, the place should be finished with objects which will attract the individual user into groups. This will turn the large space into activity pockets.

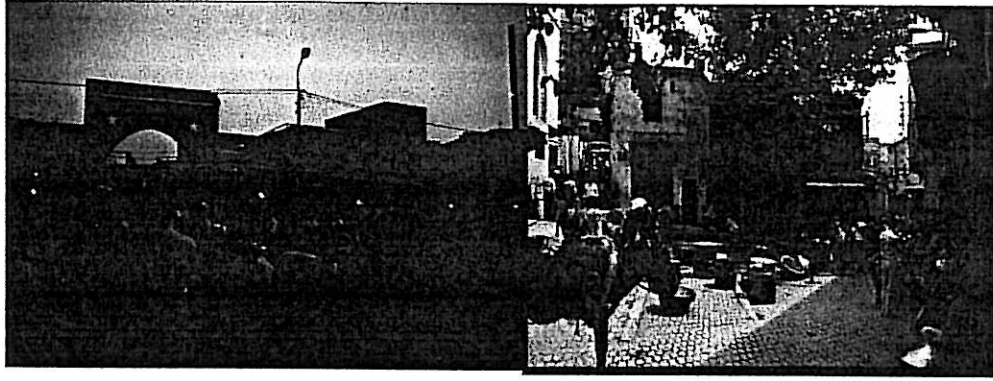
ii. The Functional Properties of The Square

Some aspects of the functional properties of the square have been discussed elsewhere in this review. The square which is at the very heart of the public urban spaces create a gathering place for the people, humanising them by mutual contact, providing them with a shelter against the haphazard traffic, and freeing them from the tension of rushing through the web of streets (Zuckers 1959, pg. 1). The other functions which has been discussed earlier such as a market place, parade ground, ceremonial place, setting for important buildings a place where people traffic and a place for leisure activities have all been associated with ancient as well as 'Modern Square'. Krier (1979), suggests the function which are appropriate for 'Public Square' are commercial activities, such as market place, shopping, cafes, etc.; a place for cultural activities; the establishment of public administrative offices, community halls, youth centre etc. He suggests that in the case of 'Central Square', its function should be to generate activities twenty-four hours a day. Residential use should not be excluded in any of these cases.



Picture 3.2.2.4f : Square at Spain with activities

Source : Shuhana & Bashri, 2003



Picture 3.2.2.4g : Marrakesh Square at Morocco
Source : Ahmad Bashri, 1988

The characteristics of the functions which encourage those activities to take place as suggested by Alexander are the activity pockets and the edge effects. He argues that the edge or surrounding buildings play a very important role in determining the success of the square. The activities usually do not occur in the central area which is very exposed but gravitate naturally towards the edge; therefore this part of the place must be suitable for people to linger around. These pockets of activities ensure that the square is not just a transit place. The location of the activity pockets are normally close to the path so that people who pass through will be attracted towards them. Increasing the activity pockets will result in the increase of activity pattern within the square.

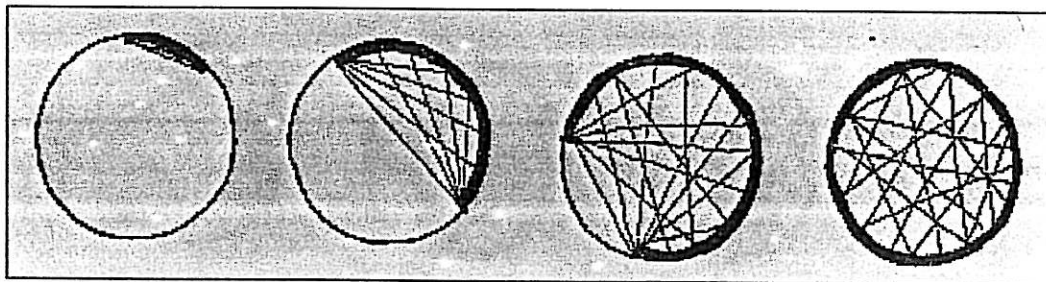


Figure 3.2.2.4b : The space become livelier as the activities around the edged grow
Source : Alexander 1977, pg. 601



Picture 3.2.2.4h: Space inside Piazza San Marco are one of the square in Venice

Source : Shuhana & Bashri, 2003

The type of activities within and surrounding the square will have major impact in attracting the people into using it. Traditionally in the Muslim as well as western cities these spaces were the major public space where most of the community services are located; 'the mosque', 'the madersa', etc. These services which also include cafes, shops, and restaurant, and railway station, parking spaces within or in the surrounding area potentially bring liveliness to the square. In the Muslim city, the square is almost always associated with the commercial streets (souks) which form the main activity area of the urban setting (figure 3.2.2.4a).

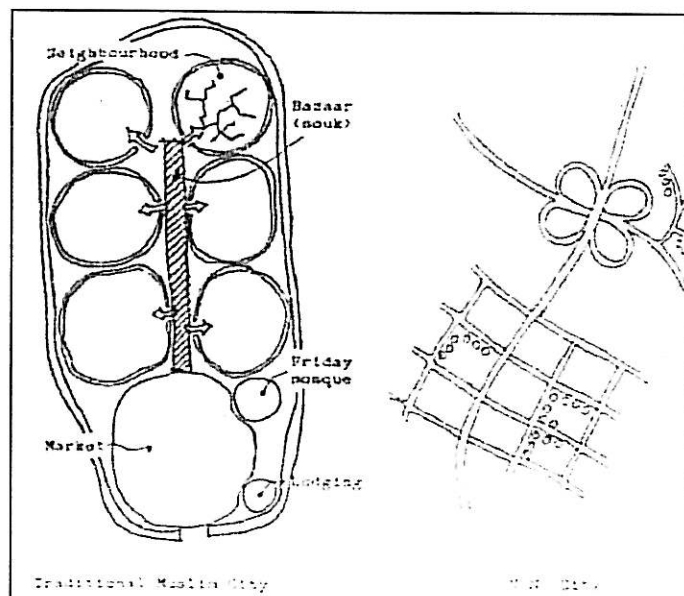


Figure 3.2.2.4c: Urban space in Muslim city; control access, limited mobility. US city maximise movement

Source : Brown 1973; Delaval 1974; Rapoport 1979



Picture 3.2.2.4i: ‘ Imam Square’ at Isfahan, Iran; an example of the Islamic community Square with the mosque as focus element and includes service like cafes, shops and restaurant

Source : Bashri & Shuhana, 2002

From his observations a new plaza in New York, Whyte (1960), discovers that at the beginning, there are very few people using the place when there is no food is introduced, the number immediately increased when food vendors start operating. This led him to conclude that the vendors fill a void and bring life into the place.

iii. The Psychological Properties

The psychological function of the square has been extensively discussed in this review. The main aspect is that it is a central element within a city environment that makes the community a community. It is a platform for community activities and represents a psychological parking place within the civic landscape (Zucker, 1959).

Psychologically there are many different ways in which people view the built environment to satisfy their needs. This is done by defining, interpreting and searching their physical environment for relevant ways of achieving their goals (Proshansky 1970, pg. 175). The individual will attempt to organise his physical environment. The individual will use the space in order to satisfy one of his psychological, social or psychological needs. Need has been described as a force in the mind that organises perceptions,

cognitions, and behaviour in order to transform an existing, unsatisfying situation (Murray, 1938). In the context of urban design, almost all spaces have intrinsic multifunctional through which the users express their needs in them. Conflict in use of space normally arises through misunderstanding of the intended or posited use of specific built space and its actual use (Pfeiffer 1980, pg. 36). He argues that in any given space spatial subdivisions actually reduced and divide the entire area into useable zones. The attractiveness of a space appears to correlate directly with its ability in spatial terms to accommodate diverse user groups with differing needs. He suggests that there are three major types of spatial subdivision:

- i. Spatial enclaves; these represent those areas in which interaction normally takes place. They include architecturally (natural or man-made) defined or implied areas in which sheltered communication, observation, and interaction can take place. Their general characteristics are: overall visual control, protection from behind, separation from traffic flow, and easy access to traffic flow, and are often connected with the possibility of sitting, leaning, etc. Types of spatial enclaves are:
 - Protective corners – delineated design elements, corners of every type.
 - Spheres of influence of protective corners – measurable (1.5-3 m from the corner) and limited by an ‘invisible boundary’ which appear to be constant in all usage.
 - Retreat/withdrawal zones, coves – niches or recesses which have a direct relationship to traffic lanes and or other sphere of activities.
 - Supportive points – normally pillars, posts, signs, etc. which offers the same protection as protective corner.
 - Waiting pools – spatially defined through light and shadow, lack of wind etc.
- ii. Sub-zones – contained spaces within spaces which are not visibly defined but are perceived, respected and dealt with as separate spatial entities.
 - Permanent sub-zones – always respected which include three areas in public open spaces: traffic lanes (normally four-man width), buffer zone (e.g. zones between the traffic lane and shop front) and transitional areas (e.g. entry hall, concourse and entrance to malls, etc.).

- Temporary sub-zones – formed between architectural elements (e.g. groups build around street singers).
- iii. Perceived usage zones – although can be readily identified, they do not lend themselves to systematisation because they vary from space to space. Some examples of this kind of space are: through traffic, waiting, watching, etc.

(Pfeiffer 1980, pg. 37-43)

The review reveals that in the design of a public square it is very important to determine the physiological, functional, psychological and social aspect of the built environment in order to provide a spatial quality which is appropriate for the community. These aspects influence behaviour which would determine the physical characteristics of the environment. The environmental change is therefore seen as a continuous process expressing traditional values in modern setting.

3.3 Conclusion

The review established that the two main type of urban spaces are the streets and squares. Their characteristic mostly related to physiological, functional, psychological and social aspects of the built environment. A study in to the typology of urban form will have to address there aspects in order to establish the overall characteristics.

CHAPTER 4

VISUAL ANALYSIS

4.1 Introduction

This chapter presents an evaluation of the physical elements and characteristics of the concerned public open space of Kota Bharu town centre. The findings draw upon the analysis of both the qualitative and quantitative data of the research. The investigation begins by briefly clarifying physical categories and elements of the urban public open space. Notable similarities or differences of the physical features among the studied spaces are also noted. This research proceeds to examine the overall setting of the elements in their respective spatial context in order to establish the physical-spatial profile of each public open space. Then, the elements that the town users associate with are analyzed as appropriate urban public open space encompasses the concept of place (see Chapter Two, section 2.1.1). Subsequently, the common physical elements are evaluated according to their respective categories of buildings, public amenities and greenery in which the town users' levels of satisfaction with the elements are analyzed according to their respective favourite public open space, and thus determined their appropriate levels. Finally, the discussions are drawn into a conclusion.

4.2 Public Open Spaces of Kota Bharu, Kelantan

The development of public open spaces within the study area of Kota Bharu town centre, as morphologically explained in Chapter 2, evolved from the very beginning even though initially they were merely open spaces without any formal design. They were created, with or without intentions, for a variety of purposes, and most of them have gone through physical as well as functional changes through time. There are four notable public spaces, which are Padang Merdeka, Dataran Islam, Padang Bas and Bulatan Jam Besar, within the study area that satisfy the criteria of urban public space characteristics of the research. Apart from the four public spaces, other pedestrian public spaces are also identified and briefly explained in order to clarify the characteristics and distribution of public spaces of the town.

4.2.1 'Padang Merdeka'

Padang Merdeka, which is located on the east side of Kelantan river bank and perpendicular to it, is an elongated open public space within the cultural zone of the town centre. It is the main organizing spatial-physical components of the initial Kota Bharu town centre development. Physically, it was the centre of the town that served both official and unofficial daily functions. Its importance as the main public space for daily public activities has been diminished as the town development is moving away from the original core.



Picture 4.2.1a: Padang Merdeka as it is looked from the northeast toward the Kelantan River.

Source : The author, June, 2002

Nowadays, the field serves more as a ceremonial place for official events especially at the state level. It has been fenced by the authority in early 1980s, and is defined by several building types on its longer north and south boundaries, matured trees, eating place and the river on the west, and is adjoined by another public open space of Dataran Islam and its components on the east. To the southwest it is flanked by Taman Hijau, a linear recreational public garden, which is perpendicular to it. The field is also surrounded by a continuous two carriages one-way street of Jalan Padang Bank. Parallel vehicular parking lots are provided along its northern perimeter. There are five entrances to the field, and its main entrance situates on the eastern side facing the public space of Dataran Islam. The four smaller entrances are located on the northern and southern perimeters with two entrances on each side. Although it is a traffic island public space in nature, its elongated proportion and size diffuse the feeling of being one.

4.2.2 'Padang Bas'

At the present, the most important public open space within Kota Bharu town centre, in terms of location, public activity and usage, is *Padang Bas* (Bus Field). It is strategically located in the central commercial zone of the town centre, and can be easily reached from all directions. It can be reached via *Jalan Hulu Pasar* (Hulu Pasar Street) from the north, *Jalan Padang Garong* (Padang Garong Street) from the east, *Jalan Doktor* (Doctor Street) from the south, and the pedestrianized *Jalan Tok Hakim* (Tok Hakim Street) from the west. It has an almost square shape except that its southern boundary, which is defined by the pedestrianized Tok Hakim Street, is a bit angular. The pedestrianized section of the street has been renamed as Plaza MPKB. The main section of the plaza, which is called Dataran MPKB, has been regularly used for various functions such as a place for blood donation campaign, promotional events of variety of local products, and each year during the fasting month of Ramadan, temporary shelters are erected for Moslem visitors to perform the *tarawih* and other prayers. For the purpose of the study, Dataran MPKB and Padang Bas are considered together as one public space since they are directly attached to each other. Physically, Padang Bas is enclosed by *Pasar Besar Siti Khadijah* (the new main wet market) to the north, new three-storey shop terraces to the east, the main SKMK bus terminal and old shop houses to the south, and new twenty-storey TNB tower and an older two-storey TNB building to the west. It has dual interchangeable functions. During the day it serves as a parking space while in the evening until morning it serves as an eating-place. It is a very robust public space. Its proximity to the bus terminal and the main wet market, together with its other functional components, especially commercial, makes it the most visited public open space of the town centre (57%).



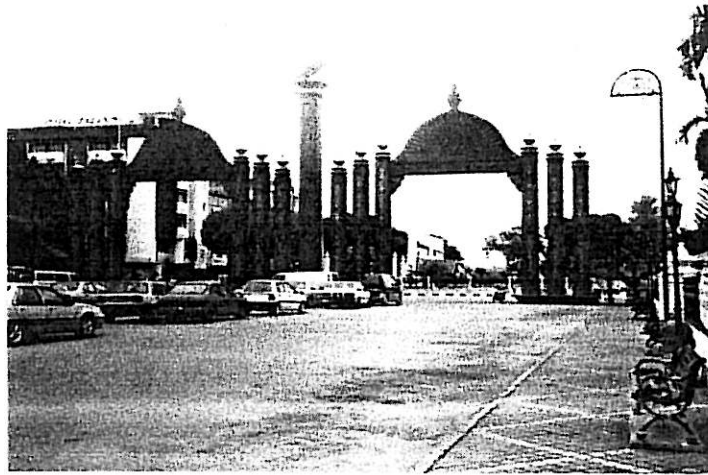
Picture 4.2.2a : An aerial view of *Padang Bas* which is used as a parking place during the day.

Source : Laporan Kajian Analisa Rekabentuk Perbandaran Kota Bharu,
Fifth year Urban design Studio, semester 2001/2002/2

4.2.3 'Dataran Qur'an'

Dataran Quran is an open parking space in front of *Istana Balai Besar*. It is well known place among tourists especially those who come to the town by busses since it is the space for the tour busses to park. Occasionally, it is also used for other activities especially to promote the art, culture and other products of the state. It is defined by two prominent buildings of historical significance which are Istana Balai Besar on the east and Istana Jahar on the north, and LHDN building on the south. Besides its immediate components, it is also ideally situated within walking distance to the tourists' nodes of Bazaar Buluh Kubu, Pasar Besar Siti Khadijah, Cultural Village, and the adjoining components of Padang Merdeka. In 1990, the huge double gateways and five free-standing decorative columns with an open book (holy Quran) motif on top of each column on the west and south boundaries were erected. Except for the open Quranic motifs, they are a direct copy of the main gateway components of Istana Balai Besar's timber wall albeit in a bigger scale, and in a different type of construction. These new

elements give new meaning and character to an old open space. Dataran Quran, like Padang Merdeka, is also within the Cultural Zone of Kota Bharu town centre

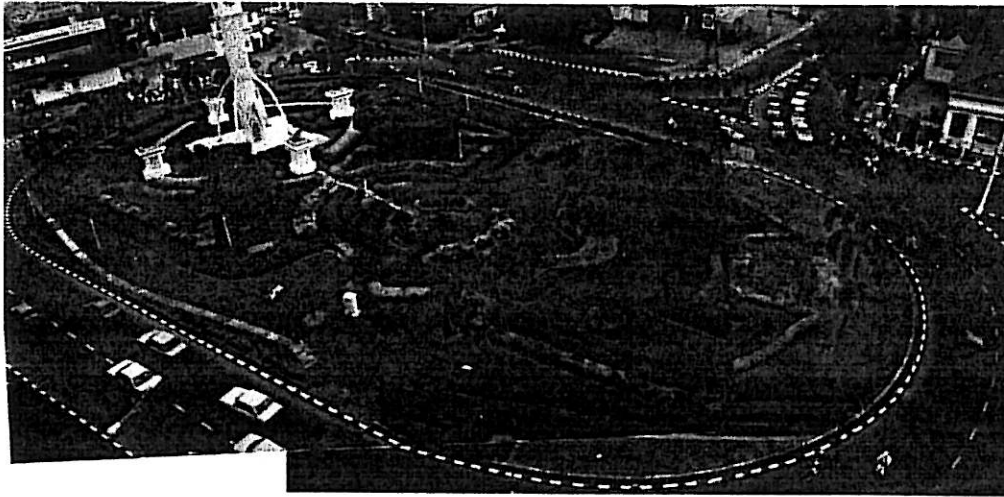


Picture 4.2.3a: Twin gateways of *Dataran Islam* as viewed from the northeast corner of the space toward *Padang Merdeka*.

Source : The author, June, 2002

4.2.4 'Bulatan Jam Besar'

Bulatan Jam Besar, which means 'big clock roundabout', got its name because of the big clock tower that marks the centre of the space. The space, which is located on the fringe of the specified study area of the town, is one of the main entrance points to the town centre. Its turtle-back shape is well defined by the surrounding physical components of a curvilinear seven storey office block to the southwest, three units three storey row shop houses to the west, and double-storey pre-war shop houses with a new taller infill building to the north and north east. An abandoned and dilapidated single-storey TNB building (the building has since been cleared and the site has become a parking place) and a Shell petroleum station define its eastern side, while the state Art Museum building confines its south-eastern boundary. The Art Museum was one of the British colonial buildings within the former British quarter, which is being preserved and adaptively reused. It is one of the favourite places visited by foreign tourists.



Picture 4.2.4a: Photo montage of an aerial view of 'Bulatan Jam Besar'.

Source : The author, June, 2002

Bulatan Jam Besar is a traffic island open space. Besides the clock tower, the space is beautifully decorated with varieties of colourful flower plants, palm trees, lawn as ground cover, all of which are well trimmed and maintained, and four similar sculptures of the open Holy Books (*Quran*) on open *rahals* rested on four bulky decorated pedestals situated on each of the four sides of the clock tower. Until early 1980s, it used to be a recreational open space for the public with benches and walking track. However, due to its location as the main entrance and transitional point for vehicles coupled with the increase in vehicular traffic volume that enter the town centre, it is very unsafe to cross the surrounding street. Nowadays, it is strictly a space with beautiful landscape without any public facility for pedestrian activity. The condition is reflected in the survey where only four respondents (1.2%) chose the space as their favourite public space. Although it is a well-defined and enclosed open space, since it is no longer promotes public usage, which is the main premise of the research, therefore, it will no longer be pursued in depth.

4.2.5 Other Notable Public Open Spaces

The other notable public open spaces of the town center are Taman Hijau along Jalan Sultanah Zainab, the pedestrianized street of Jalan Tok Hakim, which has been officially renamed as Plaza MPKB where the main section is called Dataran MPKB, an open space between Bazaar Buluh Kubu and Istana Balai Besar, and the pedestrianized street, which at the material time is still under construction, between *Bazaar Buluh Kubu* and *Pasar Besar Siti Khadijah* (the main wet market). These public spaces are parts of a comprehensive pedestrian public sequence that will play a significant role in the future development of the town centre. Due to their physical-spatial characteristics, they are not within the scope of the research. Nevertheless, they will be briefly clarified in order to better understand general characteristic and distribution of public spaces of the town centre.

i. 'Taman Hijau'

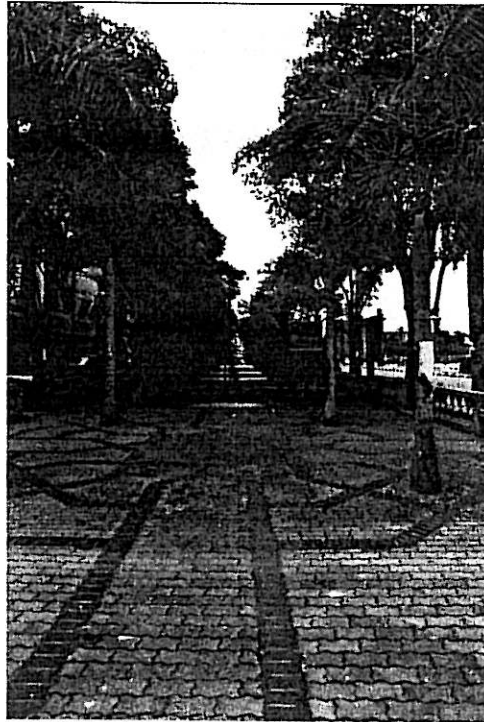
Taman Hijau, which is located parallel along Jalan Sultanah Zainab, one of the main streets of the town, is perpendicular to Padang Merdeka. It is a linear urban garden, which is cut into two unequal halves by a street of Jalan Tengku Chik. It is also surrounded by continuous streets on every side. Physically, it is surrounded by Padang Merdeka to the north, LHDN building, two units of half timber old shop houses and a new eclectic three storey commercial building (Mc Donald Restaurant) to the east. A three-storey commercial block of five units defines its southern boundary, while a single storey reading centre building, two blocks of two-storey commercial buildings, and an UMNO building in between the blocks (formerly was an Odeon cinema) complete its western edge. In the late 1970's until the middle of 1980's the space was a well-known linear bazaar that catered for small traders who sold mainly clothes, jewellery and accessories, and kitchen wares. It was an active area with commercial activities. The traders have since been relocated to the old wet market building and *Bazaar MARA* not far away to the southwest.



Picture 4.2.5a: The linear *Taman Hijau* as viewed from its southern entrance.

Source : The author, June, 2002

The area has been redeveloped as a linear recreational green garden with greenery of varieties of type, scale and colour, timber shelters for resting, a new information kiosk, and articulated three foot concrete wall integrated with seating benches all around its boundaries. It is a long and narrow space. Its width is just almost the same as the width of Jalan Sultanah Zainab that runs parallel next to its longer eastern side. Movement within the space is also limited along its distribution. It is quite an enclosed space but its characteristic is more of a pedestrian street rather than of an enclosed central space. It does not fall within the criteria of urban public spaces as defined in Chapter Two. Nonetheless, the space is still an important integral part of the pedestrian sequences of the town centre.



Picture 4.2.5b: The central area of *Taman Hijau* as it is looked looking toward the north.

Source : The author, June, 2002

ii. Plaza MPKB

Plaza MPKB, which is a part of Jalan Tok Hakim, is the first vehicular street that has been pedestrianized by Kota Bharu Municipal Council (MPKB) in 1990 to create a pedestrian friendly environment to the town centre. At the present, Plaza MPKB, with its main part of Dataran MPKB, covers an area between the junction of Jalan Tok Hakim and Jalan Temenggong, and the junction of Jalan Tok Hakim and Jalan Doktor. The area was totally redesigned and transformed into a linear pedestrian space where the floor level was raised and resurfaced with clay tiles, trees were planted, and other new elements were added. The linear plaza forms the southern border to Padang Bas. It is a part of a comprehensive program to link areas of historical significance of the town centre through continuous pedestrian streets. The master plan of 2002 includes the whole of Jalan Tok Hakim to the river bank, Jalan Padang Garong, Jalan Hulu Pasar all the way to the former colonial quarter near Bulatan Jam Besar, and a sequence of other smaller streets that will link to the Cultural Zone.



Picture 4.2.5c: The main space or '*Dataran*' of Plaza MPKB as viewed from the central point of the plaza toward the west. The main public bus station is on the left and the space of *Padang Bas* is on the right.

Source : The author, August, 2002

Summary of the Most Visited Public Spaces of Kota Bharu Town Centre

	The Most Visited Space	Total	Percentage (%)
1	Padang Merdeka	46	14.0%
2	Dataran Islam	41	12.4%
3	Padang Bas	188	57.0%
4	Bulatan Jam Besar	4	1.2%
5	Other spaces/places	51	15.4%
	Total	330	100.0%

4.3 Physical Elements/Components of Public Open Spaces

In this research physical elements are divided into three categories of buildings, public amenities and greenery (see Chapter Three, section 3.1.1). In order to facilitate the data collection and analysis, the identified elements that are common to the three public open spaces were sorted according to their respective categories and presented in a

tabular form in which the respondents were asked to indicate their level of satisfaction according to the five aspects of scale, colour, material, form and location.

- **Building**

A building, according to the Longman Dictionary of Contemporary English, is "something usually with a roof and walls that is intended to stay in one place and not to be moved and taken down again" (Procter, 1978; 131). Buildings, in any human built environment, are one of the primary elements that contribute to the physical presence of urban public open spaces in town centres. They are built in different scale, form and details. In urban environment, they normally come either in blocks of several buildings or individual entities. They give the hard edges, contribute to the definition of urban spatial forms and affect the qualities of the spaces. Together with the open spaces, they form the basis to the reading of urban fabric. Both, the buildings and the open spaces, come in various forms and typologies.

- **Public Amenity**

In this research, there are seven items under the category of buildings. They are shop houses, office blocks or towers, mosques, wet markets, temporary stalls, hotels and shelters. Additional building elements could be added by the respondents under 'other' item. Public amenities comprise nine elements that are provided for the purposes of beautification, public utilization, communication and convenience. The elements are public phone booths, public toilets, signage and billboards, vehicular parking, seating, sculpture, street light, flower pots, water element, and 'other' elements that may be added by the respondents. While the buildings around the public open spaces were expected to define the forms of the spatial entities, the amenities further enrich them.

- **Greenery**

Greenery or vegetation is categorically separated from public amenities since it has its own distinctive characteristics, and includes various kinds of natural plants. The three concerned public open spaces of Kota Bharu town centre have various kinds of vegetation yet they may be different in intensity, type, scale and purposes. In this study, it comprises four sub-categories of big tree, medium tree, small tree and lawn. Whenever necessary, the study would identify the types of the plants. Greenery is considered important in enhancing physical appearance as well as providing appropriate functions to the respective public open space especially in a hot and humid tropical country like Malaysia.

- i. Settings of the Physical Elements**

This section explains the physical-spatial settings of the three concerned public open spaces by describing the locations and characteristics of their physical elements, their entrance points and how their can be reached (their locations in relation to the overall town centre was explained in Chapter Five, section 5.3). Initially, they are clarified separately. However, their direct linkages and proximity to one another arrests an evaluation of their relationships.

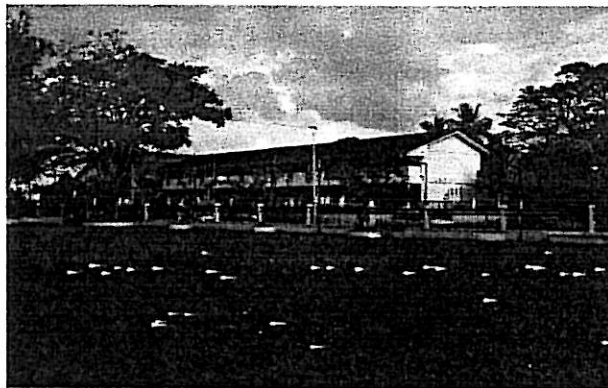
4.3.1 Padang Merdeka

- i. Building**

There are seven major buildings that give the physical edges to the field. They are the Custom and Immigration Building, World War Two Memorial Museum, the Islamic Council and Malay Custom Complex of Kelantan, and the state mosque (Muhammadi Mosque). These four buildings are situated on the elongated northern side of the field.

The southern side, which is parallel to the northern boundary, is bordered by three blocks of shop houses. Two of the blocks are located to the south western corner, and are older three story blocks that were built during the British era but have different articulation and physical characteristics. The Kelantan Islamic Council and Malay Custom Complex is an old articulated timber building. This pre-war building was a former palace. It was constructed using *cengal* wood, a well-known long-lasting wood to the local people. It is a symmetrical double stories building with a centrally located hexagonal front porch. It is a traditional Kelantanese architecture with an influence from *Pattani*, a south-eastern Thai district with Malay population majority, architecture.

a. The Custom and Immigration Building



Picture 4.3.1a : The two-storey Custom and Immigration Building that is located on the Northwest corner of the Field.

b. The World War Two Memorial Museum



Picture 4.3.1b: The World War Two Memorial Museum is located to the east of The Custom and Immigration Complex and on the north side of the field.

c. The Kelantan Islamic Council and Malay Custom Building

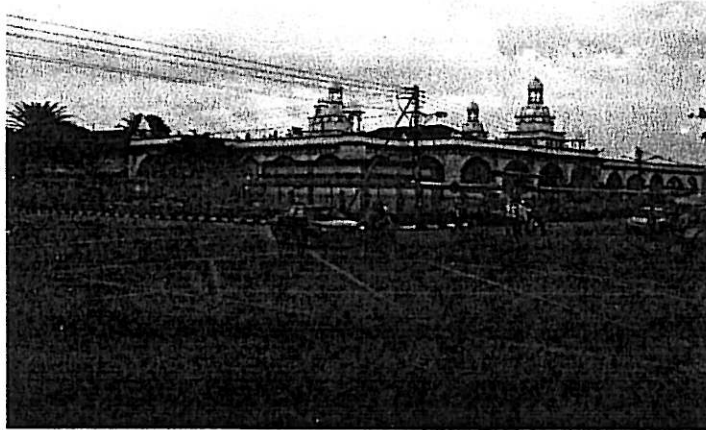


Picture 4.3.1c: The Kelantan Islamic Council and Malay Custom Building is an old articulated timber building and formerly was a Palace.

d. The Muhammadi Mosque (The Official State Mosque)



Picture 4.3.1d: The central main building of the State Mosque, which has Moorish architectural influence. The four main domes, which have been painted several times, at the present, are in golden colour.



Picture 4.3.1e: The State Mosque complex as seen from *Dataran Quran* defines the northeast corner of the field.



Picture 4.3.1f: Newer commercial block that accommodates varieties of businesses defines the southeast corner of the elongated field.



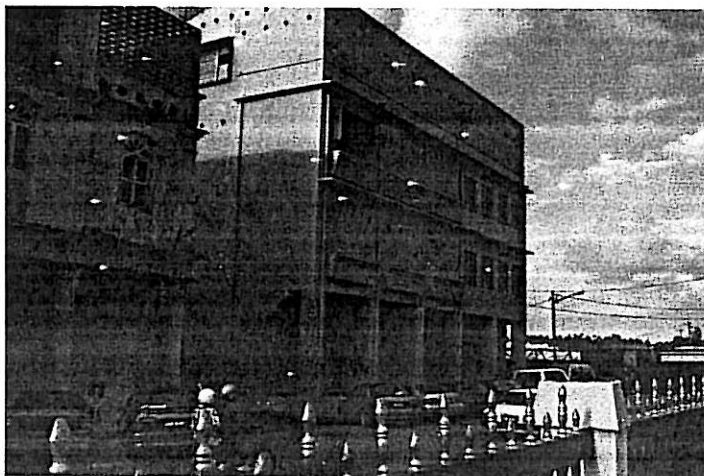
Picture 4.3.1g: An old single-story timber commercial block of several shop fronts is perpendicular to the field. It soon will be demolished to make way for a new development.



Picture 4.3.1h: The stage, which is located on the south within the field compound, is a timber structure.



Picture 4.3.1i



Picture 4.3.1j



Picture 4.3.1k: The main eating place of *Padang Merdeka* consists of nine food stalls of light weight steel construction, and is located on the west end corner of the field.



Picture 4.3.1l: The Royal Jetty or *Tambatan Diraja*, which used to be the main entrance point to the town and the state of Kelantan, is located on the east bank of the Kelantan River to the west of the field.

Table 4.3.1a: Summary of the main buildings of *Padang Merdeka*

No	PHYSICAL COMPONENTS	No of Unit	PHYSICAL CHARACTERISTICS				Location	Special Features	Notation
			Scale	Colour	Material	Form			
A	Building								
1.	World War II Memorial Museum	1	2 stories	Light brown	Concrete	Rectangular with pyramid roof	North	Rough texture of the walls	Formerly a bank.
2.	Komplek Dewan Syura' Majlis Agama Islam Kelantan	1	2 stories	Light green	Timber	Rectangular with extended front porch	North	Articulated traditional timber walls	Formerly an office of Islamic Authority of the state.
3.	Masjid Muhammadi (The State Mosque)	1	1 story	White with golden dooms	Concrete with marble flooring	Rectangular with 2 additional wings.	North	Moorish arch with golden dooms	An Official State Mosque
4	Shop office block	7	4 to 7 stories	White	Concrete	Rectangular attached shop offices	South		
5	Timber row-shop block	4	1 story	Varieties (Worn out)	Timber	Rectangular row shops	South		
6	Stage (Astaka)	1	1 story	Dark brown	Timber	Rectangular with pitch roof	South		Being refurbished
7	Old shop houses block	2 rows	3 stories	Varieties	Concrete	Rectangular row shop houses	Southwest	Pre-war building	
8	Old timber shop houses block	4	2 stories	White and light yellow	Timber	Rectangular row shop houses	Southwest		Demolished Jan. 2003.
9	Food stall	9	1 story	Light brown roof with white & green strip canopy extension	Concrete and Timber	Rectangular row food stalls	West		
10	Custom and Immigration Office	1	2 stories	Pink	Timber and concrete	Long rectangular	Northwest		

ii. Greenery

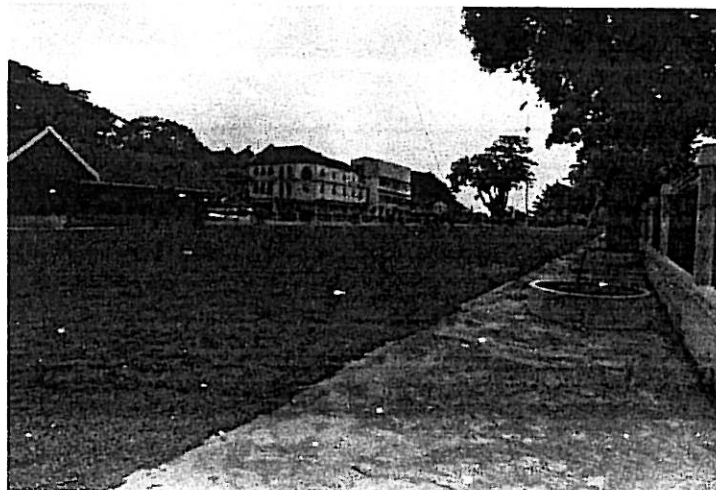
There are several types of vegetation that characterize the field. The field proper is planted with grass, which is regularly trimmed and maintained by the town council. It is green in colour.



Picture 4.3.1m: The main space of *Padang Merdeka*, as late as December 2002, used to be a fully lawn field and a community play ground for the residents nearby.



Picture 4.3.1n: Parts of the field of *Padang Merdeka* now is being resurfaced with interlocking paving blocks.



Picture 4.3.10: The main space of Padang Merdeka is a long lawn field, which is fenced all around.

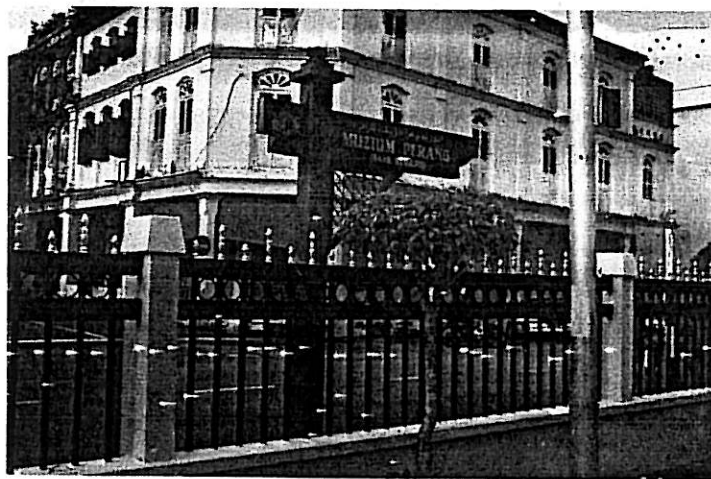
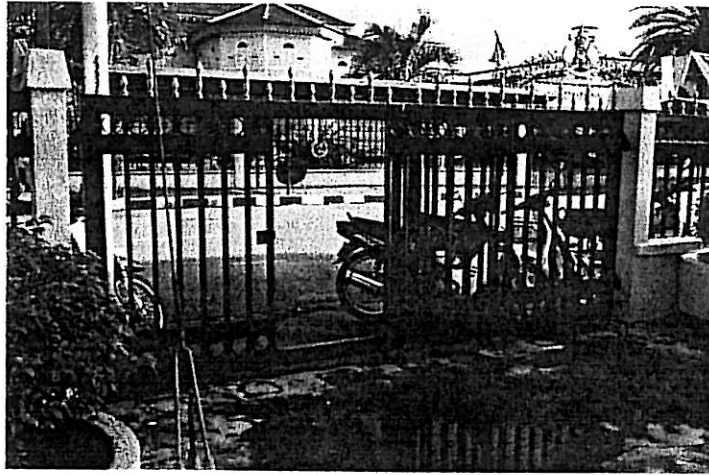
Table 4.3.1b: Summary of greenery of Padang Merdeka

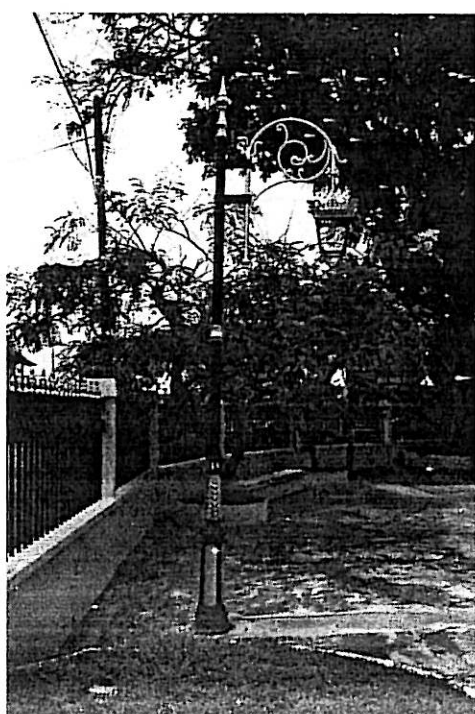
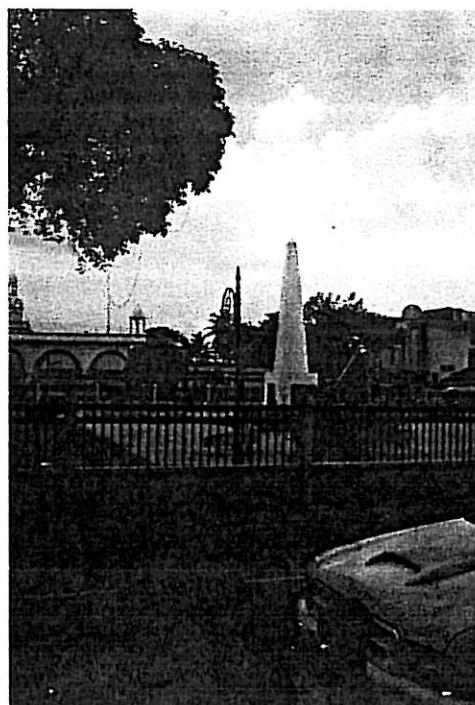
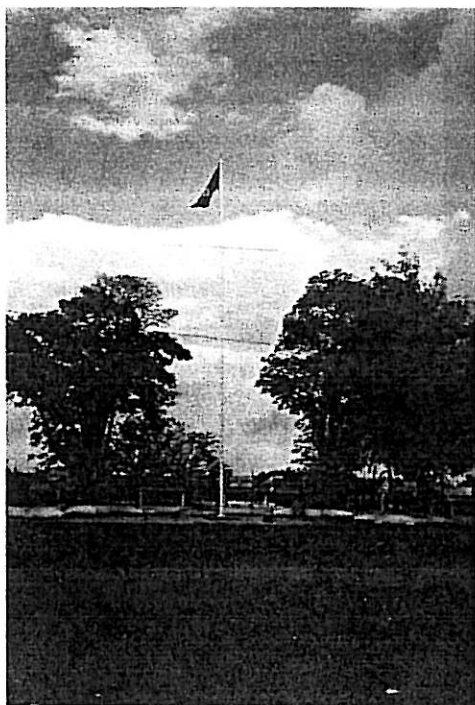
No	PHYSICAL COMPONENTS	PHYSICAL CHARACTERISTICS							Remark
		No of Unit	Scale	Colour	Material	Form	Location	Special Features	
B	Greenery								
1	Big deciduous tree	17	20-40 ft	Green		Deciduous	North (4) South (5) West (8)		
2	Medium tree	12	10-15ft	Green			North (3) East (2) South (4) West (3)		
3	Small tree	Many	2-6ft	Green, white, orange, etc.			On the edge around the field		Including flower plants.
4	Palm tree	6	15-25 ft	Green			North		Coconut and royal palm trees.
5	Lawn	1		Green		Trimmed	Centre		Some part are being paved

iii. Amenities

There are several components that have historical values to the place and the town in general. Most of the furniture that is provided is concrete benches. Parts of the field, especially at the west and east ends have concrete floor.







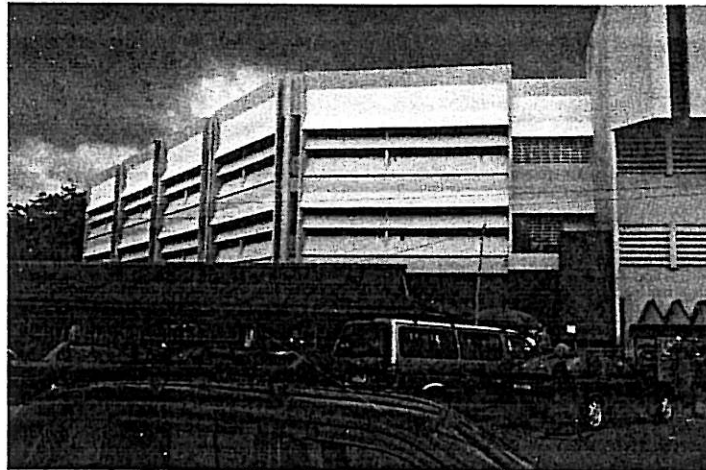
Picture 4.3.1p: The example of amenities in Kota Bharu town centre.

Table 4.3.1b: Public Amenity of Padang Merdeka

No	PHYSICAL COMPONENTS	No of Unit	PHYSICAL CHARACTERISTICS						Remark
			Scale	Colour	Material	Form	Location	Special Features	
C	Public Amenity								
1	Bench	30		Orange	Concrete	Long & semi-circular benches	North (3) East (12) South (3) West (12)		
2	Flower pot	Many	3 – 6 ft in diameter	Orange	Concrete	Round	On the edge around the field	Flower pot	Many
3	Female toilet	1	1 story	Light brown	Concrete	Rectangular	North		Within the Muhammadi Mosque compound.
4	Telephone booth	6	7ft	3 Blue & 3 yellow	Metal and plastic	Cubical	West		
5	Public toilet	1	1 story	White	Concrete	Rectangular	West		Behind the food stall facing the river.
6	Signage	9	Variety	Variety	Steel and timber		North (6) South (3)		Not inclusive of commercial purpose.
7	Garbage bin	2		Black	Plastic		West		
8	Street light	34	12 ft post	Black & gold	Steel post		Around the field	Articulated post	
9	Vehicular parking					Side parking	Along the north () West () South ()		
10	Fence	1	6ft	Black steel & Orange brickwork	Steel & Brick	Long continuous	Around the field		Steel fence on 2ft brick wall foundation.
11	Flag pole	1	60ft tall	White	Steel		West		
12	World War II cannon	2		Black	Steel		West		
13	Old Cannon	1		Black	Cast iron		East		
14	Obelisk	1	20ft tall	White	Concrete		East		

4.3.2 Padang Bas

i. Building



Picture 4.3.1q: 'Padang Bas' building

Buildings that define Padang Bas can be classified into three general typologies.

Table 4.3.2a: Buildings of Padang Bas

No	PHYSICAL COMPONENTS	PHYSICAL CHARACTERISTICS					Location	Special Features	Remark
		No of Unit	Scale	Colour	Material	Form			
A	Building								
1	Main wet market (Pasar Besar Siti Khadijah)	1	3 stories	Light orange	Concrete structure	Pentagonal	North	Scale-Bulky island building	
2	Surau (Small Mosque)	1	2 stories	White	Concrete	Rectangular with single minaret	North	Islamic motifs of pointed arches and domed minaret	
3	New shop office block		3 stories	Light blue and light pink	Concrete structure	Rectangular row shop office	Northeast	Integrating modified classical features of columns and arches	
4	New shop office block		3 stories	White	Concrete structure	Rectangular row shop office	East		
5	New shop office block		4 stories	Light pink	Concrete	Rectangular row shop office	Southeast		
6	SKMK Main Local Bus Terminal.	1	2 stories	Pink with brown highlighting the structure	Concrete structure	Rectangular	South	Island-centralized bldg	High intensity of activities.
7	Old shop houses block	15	2 stories	Mainly white	Concrete structure	Rectangular row shop office	South	Arcaded walkway	Define both the open space and the bus terminal.
8	Bookstore (Pustaka Seri Intan)	1	4 stories	White with blue trimming.	Concrete structure	Rectangular	Southwest		
9	Permanent Sundry Shop	1	1 story	Dark brown with exposed brick	Timber and bricks	Square	Southwest		
10	Majlis Perbandaran Kota Bharu (MPKB)	1	2 stories	White	Concrete	Rectangular	West		
11	TNB Office Tower	1	Multi-storey (+10)	White (tiles)	Concrete structure	Staggered rectangular tower	Farther west	Scale-Tallest bldg around the area.	Imposing scale.

ii. Greenery

Table 4.3.2b: Greenery of Padang Bas

No	PHYSICAL COMPONENTS	PHYSICAL CHARACTERISTICS							Remark
		No of Unit	Scale	Colour	Material	Form	Location	Special Features	
B	Greenery								
1	Big deciduous tree	7	20-30 ft	Green			Northeast and east	Birds' nesting place at night	
2	Medium tree	4	15-20 ft	Green			North and east sides		
3	Palm tree	26	15-25 ft	Green			East, southeast sides		
4	Scrubs		2-4 ft	Green			East and southeast side		
5	'Pokok menjalar'			Green			East	Roof of the 'wakaf' (shelter/open theatre)	
6	Small/Flower tree/plant	Many	2-6 ft	Variety			East and southeast		

iii. Amenities

Table 4.3.2c: Public Amenities of Padang Bas

No	PHYSICAL COMPONENTS	PHYSICAL CHARACTERISTICS							Remark
		No of Unit	Scale	Colour	Material	Form	Location	Special Features	
C	Public Amenity								
1	Benches	1	40-50 ft long	Red tiles	Concrete	Curvilinear	Southeast	Corner marking	Continuous circle
2	Public Toilet	1	Single story	White	Concrete structure	Rectangular	North		
3	'Wakaf' (Shelter/open theatre)	1	1 story	Natural timber	Timber	Square	East	Open timber-frame structure	
4	'wakaf' (Shelter)	2	East	Dark brown	Timber	Rectangular	East	Open air with built-in benches	
5	'Wakaf' (Shelter)	4	1 story	Dark brown	Timber	Rectangular	Southeast	Open air with raised floor	
6	Wakaf (Shelter)	1	1 story	Dark brown	Timber	Square	Southwest	Built-in continuous bench on three internal sides	
7	Telephone booth	4	7 ft	Yellow	Metal and plastic	Rectangular	Northwest and south		
8	Street light on cable post	2	15 ft	White	Metal and glass	Elliptical	North (2)		

9	Pedestrian street light	20	10 ft	Green post and yellow glass	Wrought iron and glass		Southwest (2) East (8) Southeast (4) South (6)	Articulated iron post	
10	Decorative lighting	4	20 ft	Yellow and red	Plastic	Palm tree form	Southeast	Palm tree form	
11	Sign board	12	Variety	Variety	Steel, metal sheet, timber board	Rectangular and square boards	North (4) Northeast (1) Southeast (7)		
12	Big bill board with spotlight	9	20 ft high x 30 ft wide	Variety	Steel and metal sheet	Rectangular board	North (2) East (2) Southeast (2) West (3)		
13	Garbage bin	13	10-15 liters	Green and red	Plastic	Cubical	Northeast (2) East (3) Southeast (5) South (1) Southwest (2)		
14	Vehicular parking			Grey	Asphalt		Centre of the main space () North () East ()		
15	Loud Speaker	2	20 ft post	Grey	Plastic	Cone	East		
16	Exposed water tank	2	400 liters (on steel structure)	Black	Fiber	Round	Northwest		
17	Temporary stall/hawker cart	14		Variety	Steel, metal sheet, canvas and timber.	Cubical	Along the northern sidewalks		
18	Mobile police station	1	1 story	White	Steel on wheel	Rectangular	Northeast		
19	Temporary stall		1 story	Yellow, brown and white.	Timber	Row rectangular	Southeast		
20	Information Centre	1	1 story	Dark brown with exposed brick	Timber and bricks	Rectangular	Southwest		
21	MPKB parking ticket counter	1	1 story	Green	Timber	Square (Cubical with pitch roof)	Northwest		
22	Police Post	1	1 story	Blue and White	Timber	Square	Northwest		
23	Main open Space	1		Grey	Asphalt		Centre	Interchangeable functions	

4.3.3 Dataran Qur'an

i. Building



Picture 4.3.1r: Buildings of 'Dataran Islam'

Table 4.3.3a: Buildings of Dataran Islam

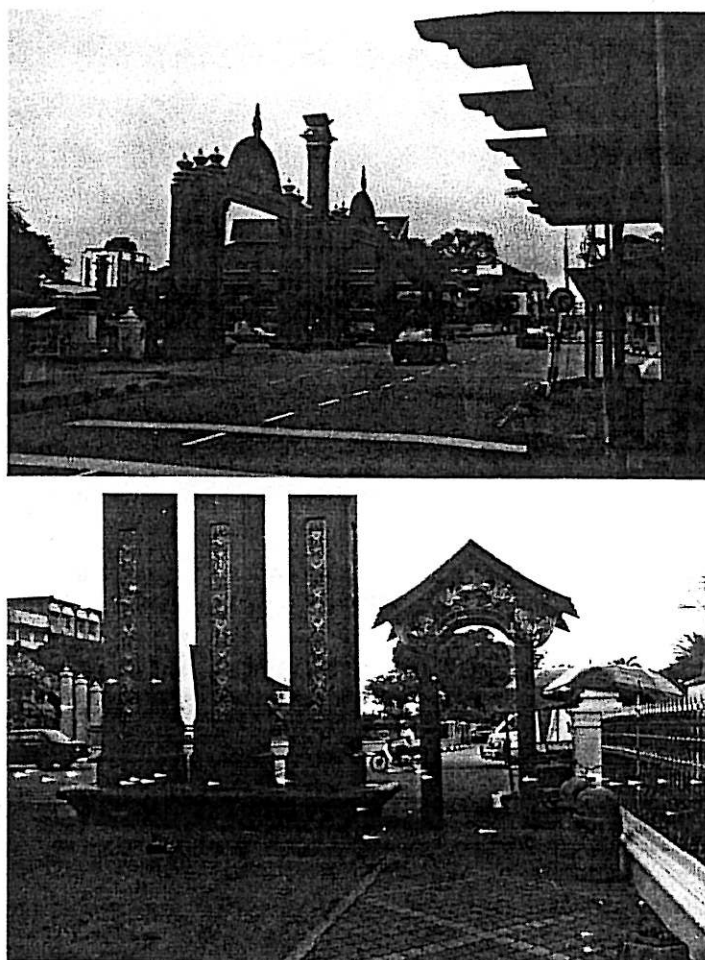
No	PHYSICAL COMPONENTS	PHYSICAL CHARACTERISTICS							Remark
		No of Unit	Scale	Colour	Material	Form	Location	Special Features	
A	Building								
1.	Muzium Adat Istiadat Diraja Kelantan (Istana Jahar)	1	2 stories	Black	Timber	Rectangular with decorative front porch	North	Crafted timber wall panels	
2.	Pejabat Pentadbiran Diraja (Istana Balai Besar)	1	1 story	Natural timber	Timber	Rectangular with tall stack pitch roof	East	Crafted timber wall panels	
3.	Rumah Kebal	1	1 story	White	Concrete	Square	South east	Vaulted concrete roof	
4.	Lembaga Hasil Dalam Negeri (LHDN)	1	2 stories	Cream with red roof	Concrete and glass	Rectangular with huge stack pitch roof	South	Huge and tall red pitch roof	

ii. Greenery

Table 4.3.3b: Greenery of Dataran Islam

No	PHYSICAL COMPONENTS	PHYSICAL CHARACTERISTICS							Remark
		No of Unit	Scale	Colour	Material	Form	Location	Special Features	
B	Greenery								
1	Deciduous tree	2	20-25 ft	Green			Southeast and Southwest		
2	Medium tree	9	10-15 ft	Green			Along the southern side		
3	Royal Palm Tree	25	20-30 ft	Green leaves			Within the compound of Istana Jahar and Istana Balai Besar		
4	Coniferous Tree	3	10-15 ft	Green leaves			Within the compound of Istana Jahar		

iii. Amenities



Pinture 4.3.1s: Public Amenities of Dataran Islam

Table 4.3.3c: Public Amenities of Dataran Islam

No	PHYSICAL COMPONENTS	PHYSICAL CHARACTERISTICS							Remark
		No of Unit	Scale	Colour	Material	Form	Location	Special Features	
C	Public Amenity								
1	Bench	15	2-seater bench (7), long concrete bench (8)	Dark brown	Wrought iron, wood and concrete		North (3) East (4) South (5) West (3)		Seating benches are integrated with the sculpted columns on the south and west
2	Telephone Booth	7		Blue and yellow	Fiber, steel and plastic	Cubical	Southeast		
3	Signboard	4		Brown and dark blue	Timber		Southeast and northeast		
4	Parking	80 bays		Grey	Asphalt		Main space		Open parking within the main space

5	Moveable Garbage Bin	12	10-15 liters	Green and brown	Plastic	Cubical	Along the perimeter of the main space		
6	Street Light/Post	10	10 ft tall	Dark green post and white glass	Wrought iron and glass	Vertical	North (6) East (4)		
7	Banner Post	1	10-12 ft tall	Black	Wrought iron	Tall post	North	Articulated iron post	
8	Old Cannon	2	7 ft long	Black	Steel	Round barrel	Southeast	Old cannon	
9	Fence of Istana Jahar	1	6 ft tall steel fence	Cream, green and gold	Steel	Longitudinal wall along the north side	North		On brickwork foundation.
10	Timber perimeter wall of Pejabat Pentadbiran Diraja (Istana Balai Besar)	1	10 ft tall wall.	Dark Brown	Timber	Longitudinal wall along the east side.	East	Decorative gateway	
11	Decorative columns	5	20 ft tall columns	Dark Brown	Concrete	Square base	South	Integrated seating at the bottom and sculpture of an open Quran on top.	Motif from the old timber main gateway of Istana Balai Besar.
12	Double Huge gateways with 12 tall columns	2	30-35 ft tall	Dark Brown	Concrete		West	Integrated seating at the bottom	Motif from the old timber main gateway of Istana Balai Besar.
13	Decorative column	1	35 ft tall	Dark brown	Concrete	Square base	West	Integrated seating at the bottom and sculpture of an open Quran on top.	Motif from the old timber main gateway of Istana Balai Besar.
14	Pedestrian gateway	2	10 ft tall	Dark brown	Concrete	4 columns with pitch roof.	West flanking the huge gateways	Decorative crafted plant motif	Motif from the old timber main gateway of Istana Balai Besar.
15	Hawker Cart	3		White		Rectangular	Northwest (2) Southeast (1)		
16	Temporary stall	3 rows with 20 stalls	1 story	Red & white strips and blue plastic roofs	Light removable steel structure	Long rectangular	South (within the main space)		

4.4 Visual Analysis

Visual analysis is often done to access the structure of the town and to ascertain the elements that play an important role in organizing the town. The town will be assessed according to the following factors:

- i. Profile and setting
- ii. Pattern – solid and void
- iii. Entrances and portal
- iv. Grain and texture
- v. Paths
- vi. Edges
- vii. District/Visual units
- viii. Landmarks
- ix. Nodes

4.4.1 Profile and Setting

The town of Kota Bharu sits comfortably on a flat plain by the river of Kelantan. Its topography and its geographical location resulted in it being subjected to rain annually during the monsoon seasons. Its proximity to the neighbouring country of Thailand has lent a certain character to the town as reflected in its architecture and socio-cultural characteristics. The flatness of the land has resulted in a uniform skyline of the town especially in the village settlements near the town centre. However, this skyline is disrupted at the riverfront with the hotel development and a proposed high-density apartment nearby. The telecommunication tower at the centre of the town also dominates the skyline due to the lack of tall building in the town centre.

4.4.2 Pattern – Solid and Void

Although the morphological development of Kota Bharu demonstrated that the river was the generator for the development of the town, the solid and void study did not show the importance of the river in organising the spaces in the town centre. The pattern of the town centre shows the importance of 'Jalan Sultanah Zainab' and 'Jalan Tok Hakim' as the important street that organize the town centre. The pattern is more regular and uniform at the commercial area (dominated by shop-office blocks), bounded by 'Jalan Che Su' and 'Jalan Tengku Chick'. There are two dominant open spaces in the town centre that is the 'Padang Bas' and 'Padang Merdeka'. The area that link the two spaces, especially surrounding 'Padang Merdeka', are filled with free standing building of civic nature such as civic office, palace, mosque and museum. The presence of the two Malay village, along the river breaks the monotony of the town centre is pattern due to the irregular and organic spaces resulting from the informal organization of the village houses. The blocks and streets design resulted in an irregular grid-iron pattern to be established in the town centre.

4.4.3 Entrances and Portal

Typical of a riverside town, the entrance to the town of Kota Bharu can be approached through the land and by the river. The presence of the jetty near 'Padang Merdeka' signifies the water way entrance to the town centre. This entrance is not regarded as the main entrance as the settlement on the opposite side of the river in just a small village. Hence it is limited to these people as well as those who have their farms located on the opposite side of the river.

There are five main roads that can be used to approach the town centre, e.g. 'Jalan Sultan Yahya' approached from Negeri Trengganu, 'Jalan Kuala Krai', approach from

Gerik Perak, Jambatan Sultan Yahya from Thailand, 'Jalan Sultan Zainab', from the coast and 'Jalan Pengkalan Chepa', approached from the air port.

One of the elements that functions as a portal into the town centre is its clock tower situated in a roundabout at 'Jalan Sultan Yahya' that leads into the town centre. This is one of the *place markers* that demarcates that one has arrived at the town centre.

4.4.4 Grain and Texture

Grain and texture will give an indication of the town's fabric. This is assessed by looking at the lot size and the height of buildings within the town. Around the commercial area, the buildings are mainly shop-houses and shop-offices, ranging from two storey to six stories high. There is quite an even texture here because there is not a great variation in term of height. The only place where the texture is uneven is at 'Jalan Pos Office Lama', along the riverfront where the high rise 'Diamond Puteri Hotel' imposes a sudden break in the skyline and dwarfing the 3-4 stories shop-offices within its vicinity. The height of building frontages of the town centre reflects a mixture of degree of coarseness of its grain. The freestanding buildings of 'Padang Merdeka and 'Jalan Hulu Kota' represent a coarse grain due to the size of the buildings. This is especially so for the 'Pasar Siti Khadijah' and the museum fronting 'Padang Merdeka'. The departmental store and hotel of 'Jalan Post Office' also result in a coarse grain in this area due to its huge lot size. The rest of the shop offices in the commercial area create a fine grain especially at the row of shop-houses of 'Jalan Temenggung'. The grain and texture of the town centre fabric shows a difference between the civic zone and the commercial zone. This strengthens the shape of the town centre.

4.4.5 Paths

Paths according to Lynch (1960) are channels for movement and it can be in the form of vehicular movement or pedestrian movement. There are two types of paths e.g. paths on the land and path across the waters. The grid iron patterns enable the path system to be structured easily. The clear demarcation of the main path; 'Jalan Sultanah Zainab' enables the traveller to reach the town centre easily.

4.4.6 Edges

Edges are the inter phase between two phases that either acts as a barrier divides two phases or it acts as a seam that links two areas. The strongest edge that defines the city limits is the river. The town centre edge can be defined by the type of buildings found. The presence of the villages flanking both sides of the town along the riverfront acts as an edge that defines the limits of the town centre.

4.4.7 District/Visual Units

The size and character of the town centre do not allow for any districts to be observed. Thus, the town centre itself is seen as a district. However, in terms of character, three distinct visual units can be observed e.g. the market area, the civic area surrounding 'Padang Merdeka' and the commercial districts near the vicinity of 'Jalan Temenggung'. The thematic character of these visual units is based on the predominant building use and activities that occur on the street. As an example, the area surrounding the 'Pasar Siti Khadijah' is highly noticeable due to the ambience of the area caused by the market related activities around the vicinity of the market. There is also a large crowd presence

in the area especially in the morning while gives a sense of life to the area. The colourful display of merchandise and the smell associated with the market produce gives a high degree of sensory experience to the people. The civic area is characterised by the formal landscape character and the architecture of the buildings that is often associated with important civic buildings. Finally, the old commercial district is considered a visual unit due to the presence of old shophouses and the highly intense commercial activities. The presence of these visual units close to each other helps to strengthen the character of the town centre of Kota Bahru and giving it a sense of place.

4.4.8 Landmarks/Place Makers

Landmarks according to Lynch (1960) are vertical elements that can be observed from far that aids orientation. The most prominent landmark that is visually noticeable from far is the telecommunication tower, located near the 'Pasar Siti Khadijah'. This is due to its height that dominates the skyline; even though its design is purely a functional one. At the street level, the area around 'Padang Merdeka' has several buildings such as the museum and palace that act as place markers to the town in terms of activity. 'Pasar Siti Khadijah' is the most important place marker for Kota Bharu. In fact it is synonymous to the identity of Kota Bharu due to its festive and unique market activities that are not found elsewhere. Since, all these landmarks are located within close proximity to each other, it strengthens the areas between 'Padang Merdeka' and the 'Pasar' as the core of the town centre. This place is the essence of the town and is influential in giving its identity and sense of place.

4.4.9 Nodes

Nodes are strategic points in a city that can either be a place with strong thematic character with intense activities or an intersection of major paths. The most prominent node of Kota Bahru is the 'Pasar Siti Khadijah' with its intense market activities and the presence of the large crowds during market hours. Adjacent to the market is the 'Padang Bas', which is another major node of the town. This is another collection point in the town where the arrival and departure of the bus passengers make this place alive and vibrant in the daytime. There is also a large number of pedestrian movements linking the bus station and the market. In the evening, the large parking space adjacent to the market becomes the most important node for the town as this parking area turns into a huge outdoor eating-place. The bright lights, the smell of the exotic foods and display and the presence of large colourful canvas umbrella brings an atmosphere of festivity to the area. It is the most active and bright place that attracts a large crowd at night to the town centre of Kota Bahru. Finally, the 'Padang Merdeka' can also be considered a major node to the town centre because of the number of paths that intersect near it as well as the number of civic buildings surrounding it, giving it a strong thematic character for a node.

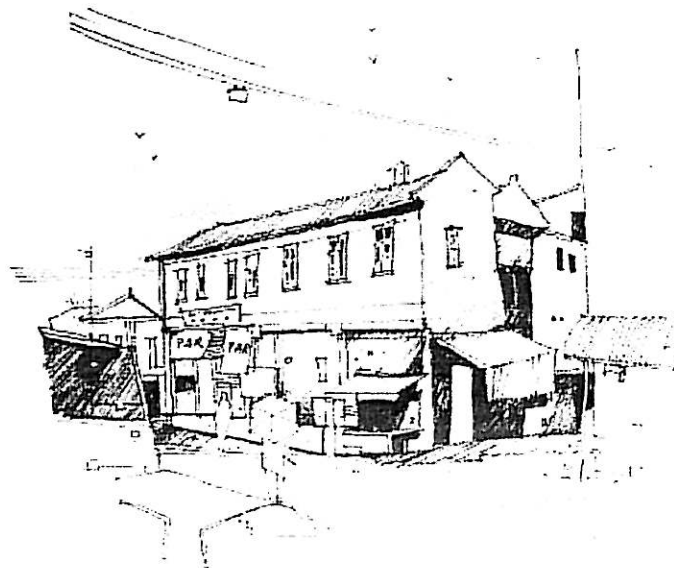
4.5 Townscape Analysis

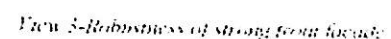
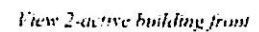


Map 4.5a: Map show Kota Bharu Town, Kelantan

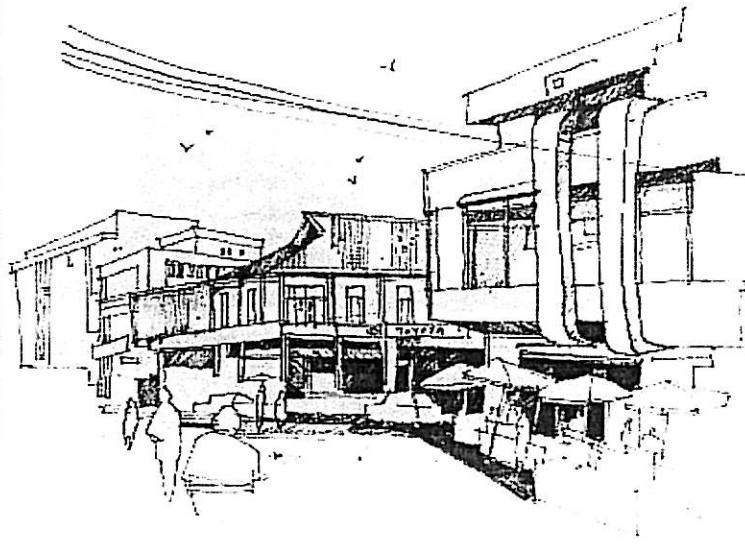
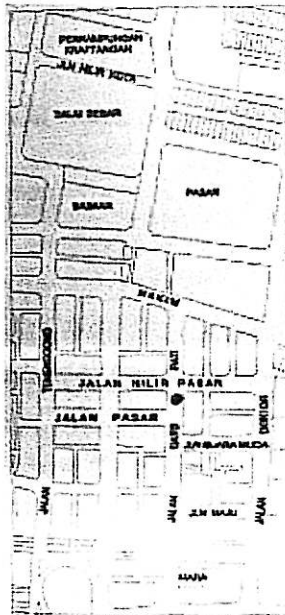
Source : Urban Design Unit, (2001)

These five sequences, from Jalan Hilir Pasar to Jalan Dato Pati and Jalan Suara Muda, try to recapture the character of Kota Bharu, with the moving eyes.



[illegible]

Most of the buildings in the old town are two storey shophouses that create a domestic and human scale vicinity. Some new shophouses are of taller scale and seem isolated from its surrounding.



View 4-building scale

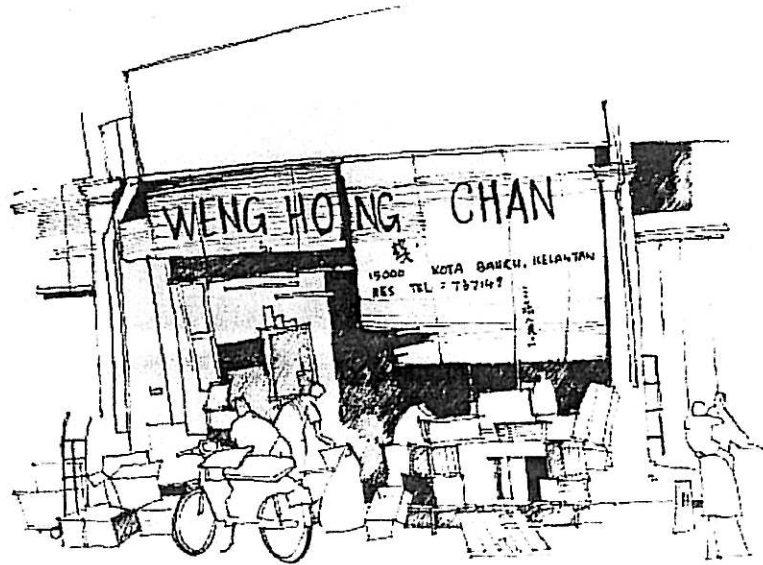
Four 'pokok penang' along Jalan Suara Muda give a sense of surprise, adding colour to the old town district, giving the 'Pasar Pokok Pinag' at the back lane region, its character.



View 5 Human landscape

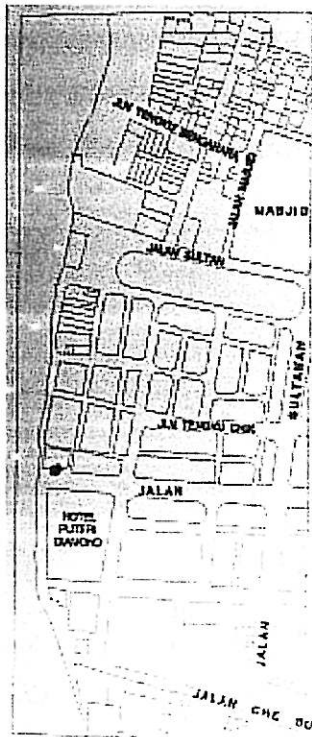
Territory

The five foot way-is significant feature in the early shophouse that defines the front edge of the building. Activities happen here every day either as pedestrian walkway, shelter area during harsh weather, or acting as a porch area for customers.



Wording on the wall

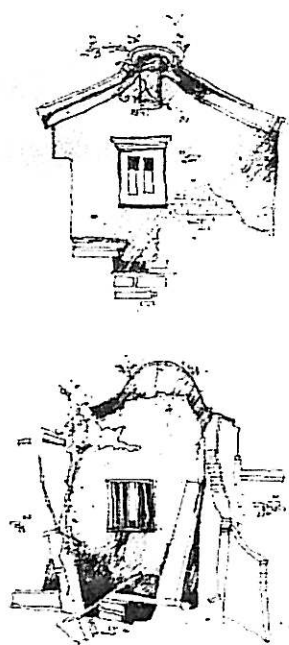
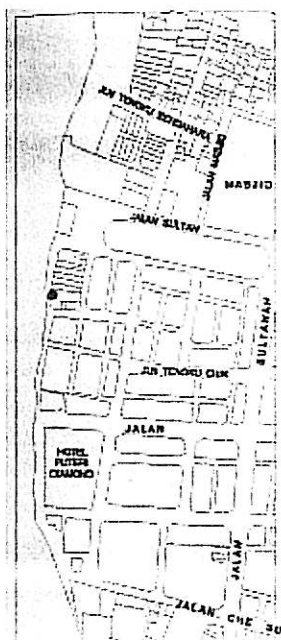
The wording on the wall-Lee Rubber Building tell us of the economic aspect in the development of Kota Bharu.



Centuries have passed but the legend of Kota Bharu still lives on. The history lesson continues into its structure and construction. The house by the river celebrates this fact.

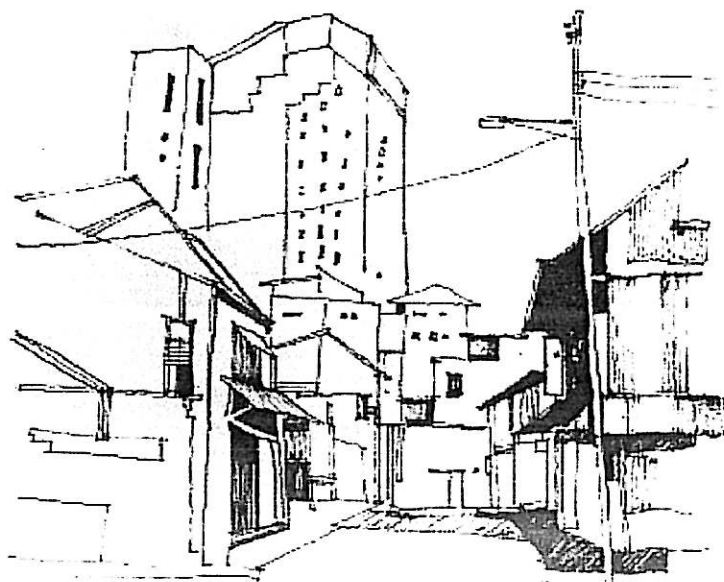
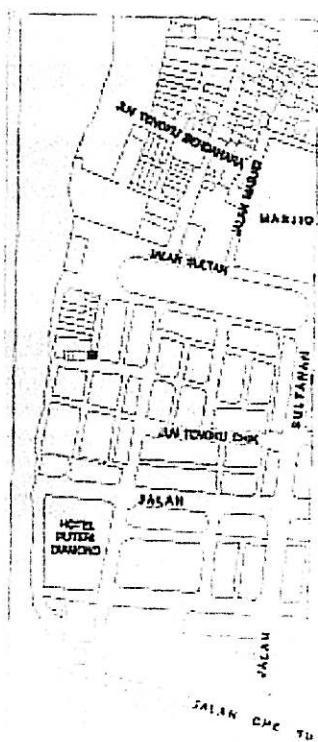


Houses by river with strong Chinese architecture characteristic are now destroyed. Sketches show the contour of the gable wall which formed a visual and functional element, giving additional character to the house.



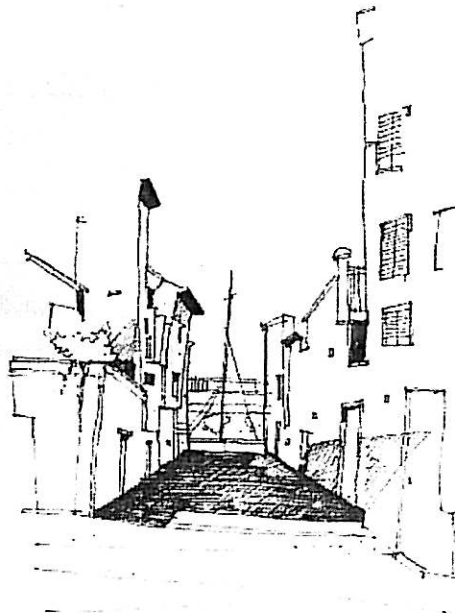
Look ... alien

The Hotel building forms a contrast to the more village-like quality of 'Jalan Pasar Lama'.



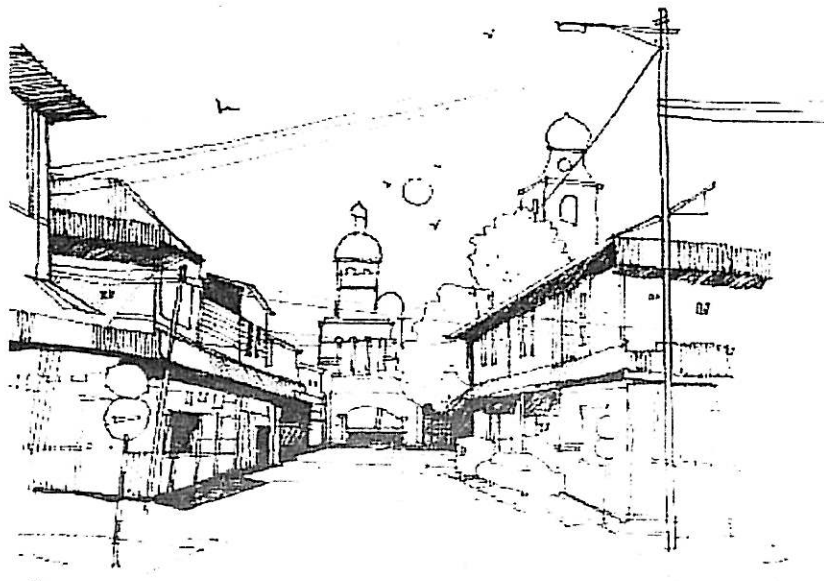
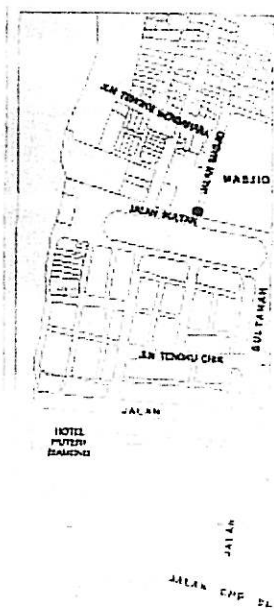
Vista from the back lane region

A quick glimpse from the back lane towards the Padang Merdeka, somehow give a sense of surprise having to see the flag pole, thus creating the visual permeability from one point to another.



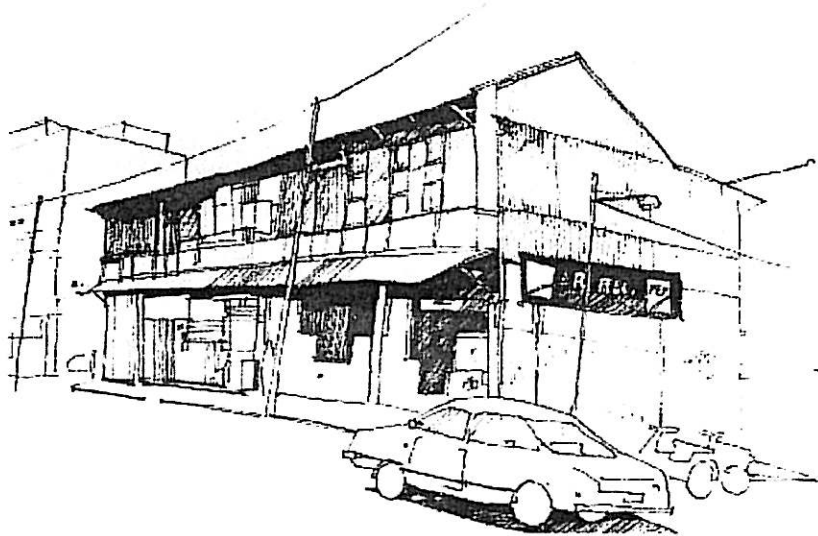
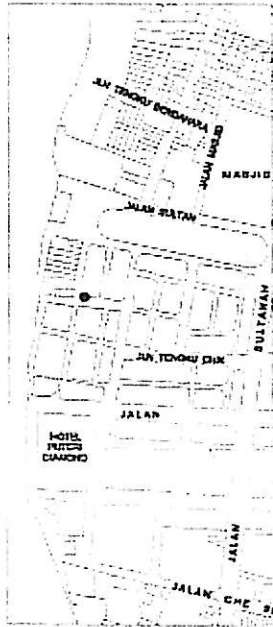
Characteristic features of Malay town - the mosque

Traditionally, there were no fixed boundaries in the town, although the distance up to which the prayer calls of the town mosque could be heard sometimes determined the town's limit.



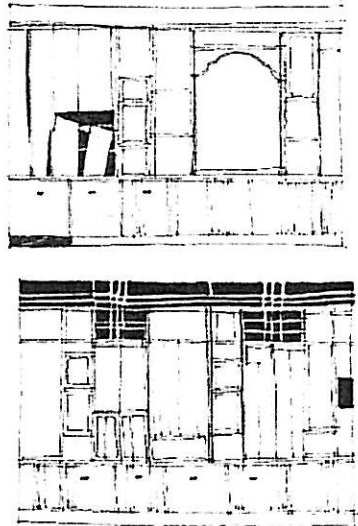
Early timber shophouse

The evolution of the architectural style of Kelantan houses must have derived from several influences brought about by migration and trade. The early timber shophouses at 'Jalan Post Office Lama' reflect the architectural influence from Thailand as well as Cambodia.

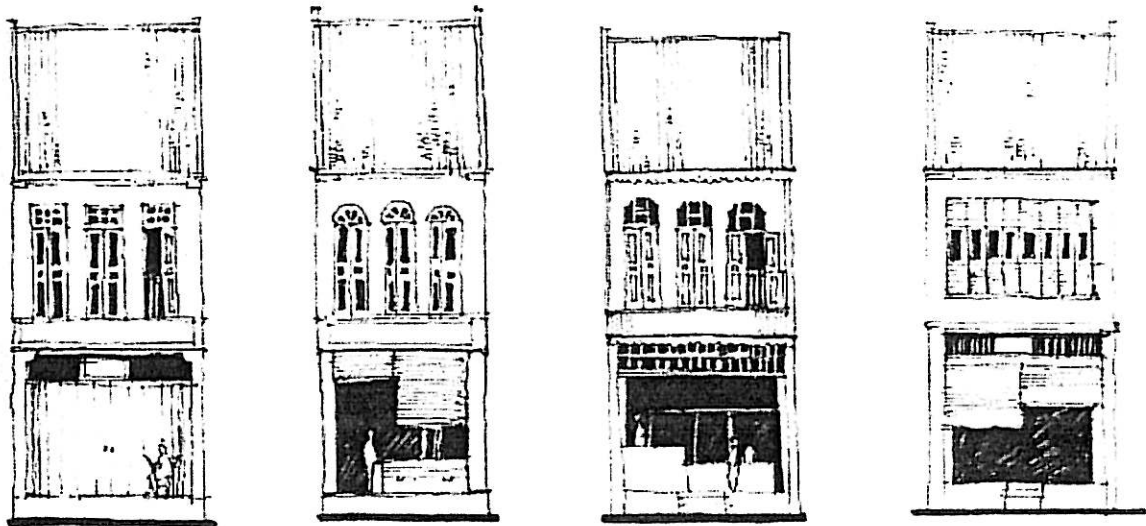


Seeing in detail

By attention to detail, the man-made world starts to grow in interest and quality. Small elements like this seem to have life of their own. Façade treatment of early timber shophouses at 'Jalan Post Office Lama', which to the quick glance have no significance, come to life upon more study.



The evolution of the shophouse in Kota Bharu epitomizes the diverse assimilation of cross-cultural traditions in building methods, construction materials and ornamentation.



4.6 Conclusions

Most of the early buildings of Kota Bharu town center especially around Padang Merdeka and Dataran Quran, range between two to four stories in height although some new ones, mostly around Padang Bas, rise above ten stories. Buildings that define the public open space of Padang Merdeka and Dataran Quran share some typological similarities since both are the spatial geneses and located within the heart of the designated 'Cultural Zone' of the town. However, buildings around Padang Bas, which is a relatively new public open space are quite new and different than the ones around the two former places.

Preserving the character of existing development in Kota Bharu especially the earlier settlements are very important. The strong street characters reflects the communities trades, customs, values and way of life. The preservation of tradition and historical values with the style of facade design, activities and environment, give a strong character and diversity. It also provides legibility that make people easily remember the the urban space; place or street and the different style of the architecture reveals the strong historical influence that makes the place famous and memorable.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.0 Introduction

This chapter will discuss the general findings of the study relating to the typology of urban form in Malaysia focussing on Kota Bahru. The finding is mostly related to the morphological development and the physical quality of the place. Generally the typology of the urban form of Kota Bahru have similarity to other town and cities where the major spaces influencing its character are the streets and squares (Moughtin, 1992; A. Bashri, 2001; Krier, 1979). These two major elements could be found in many different forms. The streets for example could be found in the form of lanes back alley, mall and etc. Whiles squares manifest in the form of padang, “medan” and others.

5.1 Summary of The Research Findings

5.1.1 Structure of The Town

The town is mostly divided in the form of grid a iron pattern with the older part of the town forming its center. The “Pasar” and the old palace with its support facilities (e.g. mosque, offices, padang) are centrally located that signifies the image of the place. Its association further enhance its identity and the link to the past settlements and events.

The civic function of these buildings makes the place more imageable and strong in the mental map of the people.

The new addition to the towns generally moving inwards towards the land with less distinct character. The river plays a very important role in determining the structure of the town due to its former major role as the main transport communication system. The layout of the residential and commercial building is generally parallel or perpendicular to the river. The main civic core also divides the town with two parts, e.g. residential and commercial areas. This pattern (older) is increasingly threatened by new development due to the changes in the function of the place. This results in a greater mixture of use found in the new development.

5.1.2 The Morphological Development

The town has its beginning associated with the river (e.g. the main transport system at that time) where the seat of power as well as the main activities (market) is located. The town grew along the river and in land in a regimented fashion maintaining the civic core as the center. Generally the rigid land division of rectangular and regular lot fashioned the morphological development of the place. The repeated pattern continues to the present day probably due to economic reason.

It was observed that the river became more and more neglected as the means of communication (transportation) change from water base to land base. By early 2000 the last remaining of the old shops along the river banks have been demolished to make way for new development. This closes the chapter on the river front town and moving into a new era of a town by the river. The river where life was colourful (floating houses – “rumah rakit”, red light area etc.) has been neglected perhaps reserved for future uses and admirations as to its natural beauty.

5.1.3 The Physical Quality of The Place

Kota Bahru is located in a deep heartland of cultural significance area. The culture (food, language, dressing, religions etc.) of the Kelantanese people is known to be strong and unique. However the strong sense of identity do not translate into a clear physical entity. The architecture of the traditional Kelantanese is difficult to be seen except those related to public building like the Istana and Mosque. The only evidence of the local Kelantanese traditional architecture could be seen in the older or earlier settlement by the river. The newer part of the town carries a very strong signature of the colonial influence especially those buildings (residential or shops) that were built in masonry. The form of the town therefore has a strong signature of the colonial influence that is also reflected on the pattern of the town looses. Even the urban villages (Malay) found within the town plan has the organic character of the traditional settlement due to its land division.

The most identifiable aspects of the town is the activities and the way these activities are carried out. For example the activities and the way they are carried out is so distinctive that the open market at the center of the "Pasar Khadijah" (e.g. in the atrium) is reputed to be the most photograph activities in Asia. The compositional quality of the town is rather loose especially those that was built after the Second World War. Recently (1980s) there were attempts to incorporate traditional architectural elements into the building design (e.g. Bank Negara Building, MPKB Bazaar) with very limited success. The "Kota Darul Naim" complex (State Administrative Complex) however is a very good example of traditional architecture and urban design that could be achieved while fulfilling their modern intended function.

5.2 Recommendation

The study establish some characteristics that make up the urban form of Kota Bahru. This typology could be used to inform future city development or intervention as well as a record for general reference. With the rapid urbanization process-taking place in Malaysia, it is important to look at existing situation so that lessons could be learnt from the weakness and strengths.

5.2.1 Structural Character

A clear structure of any place is very important in order to give a clear image. In a complex structure ensemble the structure needs dominants elements (in the form of buildings, spaces, things, trees and etc.) in order to create some form of organization. This process normally cultivated into a unique and meaningful pattern.

Kota Bahru is organized by the major civic buildings and space that should be modeled in new town design. For existing towns that do not have a clear structure, efforts should be made to establish a clear image by creating dominants elements (place, space, buildings and etc.) to organize the settlement pattern. Creating centers for any settlement usually greatly influence the imageability of the town as can be seen in the study town. There should also be sub-centers to define district and visual units due to the fact that any town normally consisted of smaller places (e.g.: villages, areas and etc.).

5.2.2 Morphological Character

To know the morphology of a place is to understand its history (physical) and the forces that influences its formation. This knowledge should be used to guide future development so that there is no unnecessary discontinuity that disrupts the image and sense of place. For a new town, an understanding of the morphology of Malaysia towns allows models to be developed so that a more humane towns could be developed that is sympathetic to our local culture and way of life. Hopefully by modeling on the older towns pattern, the identity of our towns could be preserved for future generation as truly Malaysian.

5.2.3 Physical Character

Physical character will influence the sense of place of all localities. This character normally is the first thing that influence the image of a given place. The two major urban elements that were found in Kota Bahru are the street and the 'medan'. The street character is much characterized by the activities that occur inside the buildings. The market for example become an important element that generate the sense of place thus influencing the streets surrounding it due to its intense human activities. The 'medan' also serve a function as a cultural hub especially at night when it becomes a festive eating place. These elements that act as setting for the activities to take place show the influence of physical character in creating the sense of place for the town.

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