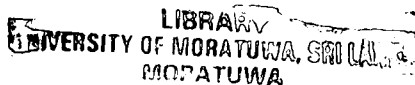24

# AN EXAMINATION OF IMPACT OF NEW BUILDINGS ON HISTORIC BUILT FABRIC: WITH SPECIAL REFERENCE TO COLOMBO & GALLE FORTS

## A DISSERTATION SUBMITTED TO THE
## FACULTY OF ARCHITECTURE
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# ABSTRACT

Development of a city is a unique historical process, which has grown up over centuries, and derived its shape and appearance. The physical structure of a city is considered as the order of the built form, which is a creation of man for living. Within this physical structure, built fabric becomes the most important component, as it is the container of people that creates the image of the city.

The largest part of the city structure and its visual quality is mainly dominated by the built fabric. The built fabric which is present today is the product of the unified whole of buildings, built according to the different architectural styles of different periods. Though each type has a character and identity of its own, the unified environment was harmonious and had a distinctive architectural character and townscape value. But the most of the buildings, which came up in the recent past were designed and built regardless to its context or the urban setting resulting the fragmentation to the said harmonious built fabric. (historic/ existing)

The design of new buildings should respect the norm or the context, for that to be harmonized with the surrounding. And this dissertation is based on existing towns, their intrinsic visual qualities and suggests some ways and means of maintaining it by suggesting that qualities that inherited from the past can become a discipline for the change today, it's main theme, is that city's past, its present and its future (in terms of the visual qualities and the context) must combine to create a recognizable unit, so that the growth can be seen and felt to be continuous.

# CHAPTER ONE

# CHAPTER ONE

## INTRODUCTION

### 1.1. Topic Explanation

Cities are the urban settlements of people, in which natural surroundings are dominated by the man made features, thereby revealing the collective attainments of people through their physical appearances.

> 'A city !
>
> It is the grip of man upon nature.
>
> It is a human aspiration directed against nature, a human organism both for protection and work.
>
> It is a creation. '

Buildings play a vital role in formation of urban context, which include intensely planned, highly dense built fabrics, which gives the image of the continuing of whole city.

At an early period in urban situations, built fabric was neatly woven, the existing architectural situation harmonizing with the buildings, which belong to another architectural style and era making a coherent whole.

These historic built fabrics represent the layers of past history, life styles and activity patterns of people, cultural and social values of them who lived in a particular area representing the character, the sense or the spirit of the place.

Such historic fabrics serve as an inspiration to man's destination and giving an identity to where he belongs.

Hence the modernization and changing economic patterns generated the need of increasing the new development of buildings both in number and quality, a new style merged oftenly pure and independent of past history. They express the modern movements, freedom of form and structure. Parameters of design of them is dictated by functional logic can be seen everywhere.

The historic built fabrics are the most sensitive areas in an urban context where automatically subjected to this change of styles of new developments. Because there new building developments often comprise totally different built forms, which have no symbolic meaning, or relationship to the other buildings in the context, relating only to themselves, historic built fabrics have become disordered and meaningless places.

Therefore in an historic urban context creation, preservation and maintenance of built environments have become a crucial need, in the purpose of giving cohesiveness to the urban spaces ultimately structuring the city.

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## 1.2 Issue/ problem area

In Sri Lankan context there are some cities influenced by colonial architecture (Portuguese, Dutch, British) possesses strong character unique to themselves to establish their personalities. Built fabrics of these cities are considered as architectural heritages, while carry the history in particular area of certain era, representing the character and the sense of place.

It is common phenomena that the rapid urbanization of these historic areas resulting the traditional pattern of architecture and historic built fabrics progressively coming under threat of new developments, which follow new forms based on modern and rational thinking. Most of these new buildings, totally out of the existing context, but bringing emphasis in to each building introducing disunity and disharmony to the urban context. Most vulnerable of them is bring various impacts on historic built fabric visually, functionally, socially and environmentally.

Therefore according to the local context this new architecture of the buildings and designs must fit with respond to it's physical, social, and cultural context and other thing is to be identified the patterns as a whole and necessary application of the design strategies to enhance quality of the urban fabric, which can facilitates the creation of better responsive spaces.

3.

of the design strategies to enhance quality of the urban fabric, which can facilitates the creation of better responsive spaces.

As Norman Foster says, 'the successful design of new buildings in historic contexts seems to be one of the greatest challenges for the architects of our age'.

## 1.3 Need of the study

The study of historical urban context whether contemporary or the distant past, encouraged to think critically about both today and yesterday. It is only by understanding the past, can understand the present. Without that perspective, man becomes a prisoner of the present.

Success of a conserved city in today's context of full fledged economical and technical revolution lies its ability to reveal time, while being compatible with demands and aspirations of present generation. Too much emphasis on preservation in historical urban nodes can be altered by the population growth and scarcity of resources. On the contrary, uncontrolled development in historic cities results in disintegration and chaos both in the physical fabric and social structure.

It is necessary to recognize the opportunities that could be opened up for more economic use or a change of use, through additional accommodation sensitively built along side the existing buildings.

New movements and technologies are essential in the field of architecture as it totally depends on the new creations, post-Modernism, High-tech architecture are some of the movements most of the architects practice today.

New development should be part of a continuing tradition of town and city building. However in a rich, historical context, there is an obvious danger of superficial pastiche. New development should provide a contemporary response, which is suitable, and appropriate to the context and not self-conscious. This approach reacquires amongst other things a clear understanding of the design criteria involved. And awareness of design parameter allows for lateral thinking to unlock such schemes.

## 1.4 Objectives/ Intention of the study

Further more this will briefly identify some strategies of development of new buildings within a historic core. A critical analysis will be done on the impacts especially the visual impacts on historic core. And the way of responding to the sorrounding context of new buildings and their strengths and weaknesses.

And finally this will look for more design strategies which should be followed by designers to minimized the negative impacts in terms of responding to the sorrounding context while maintaining the contemporary out look, without destroying the character or the spirit of places as maximum as possible.

## 1.5 Methodology

This study will be based on a literature survey and a field research. This literature part covers the theoretical background of the 'city' and its formation. It will first examine the built fabric of the city and importance of the historic quarter, which has identifiable set of determinants, strong characteristics and required urban quality.

From this basis it will try to understand the components of the urban fabric and its historical background relevant to the Sri Lankan context.

Thus the first chapter will be the introductory one. In the second chapter, the impact on historic built fabric will be examined. Types of development of new buildings will be identified through analyzing successful examples from the Sri Lankan context and examples from other countries which help to strengthen the arguments ,and to illustrate the study.

In the fourth chapter the impacts of new buildings on historic built fabric will be discussed relation to Sri Lankan context. Two cities will be selected from two different contexts. These impacts will be basically identified by doing field research. Finally the study will propose basic criteria to design a new building in such a context

## 1.6 Scope and Limitations

This study, as it already mentioned is attempt to identify principles, design issues and strategies in understanding characteristics of historic urban context and the intervention of new development in such context. There are no such concepts for such matter, but for the purpose of the study, the strategies are derived by analyzing successful examples and interrelating fundamental architectural principles, thus to provide an awareness of these issues so that design decisions may be taken from a less emotive and more conscious view point.

As the study based on the historic built fabrics of the physical contexts of selected urban areas, more comprehensive two urban settings will be taken from the two different types of contexts.

EX.   Galle Fort     -   residential, administration and recreational

       Colombo Fort  -   commercial

Further the study will be basically focused on the visual impacts because other impacts are overridden by it.

7.

# CHAPTER TWO

# CHAPTER TWO

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## THE CITY AND ITS HISTORIC BUILT FABRIC

### 2.1.    The City

A city is the largest place of visual manifestation of man as an individual

as well as a communal being and essentially contains, express & tries

to conserve the essence of the people who built it as well as lived in it.


*"Cities are amalgams of buildings and people they are inhabited*

*settings from which daily rituals, the mundane and the extraordinary, the*

*random and stayed derive their validity. In the urban artifact and its*

*mutation are condensed, continuities of time and place the city is the*

*ultimate memorial of struggles and glories, it is where the pride of the*

*past is where the pride of the past is set on display."*

*(Kostof, spiro, 1991: P.16)*


As a physical expression the city is a thing that is seen, and since the visual

sense is a channel to the soul, that which is seen should be as beautiful as

man can take it. The city must work properly & be economical sound, but it

should also give pleasure to those who look at it. Coupled with these the city

gets it's " character" in which the city can be perceived & identical as a

coherent whole.

The physical appearance of a city is the result of creative endeavors of many people attempting to give concrete form to their spatial needs, accommodation and movement patterns. The city is the three dimensional composition of its physical elements, primarily solids and voids.

Each city has special qualities and characters, which give the identity to the city and its uniqueness. Most of time it differs according to the composition of the basic constituents.

## 2.2. Structure of the City

The structure of a city could be referable by physical forms, extensive physical arrangements of buildings, paths, edges, nodes, districts, vegetation & natural formation of mountains, water bodies, hillocks etc. In other words a city is structured with nodes, defined by edges, penetrated by paths, sprinkled with

built environment & decorated with natural formations. Other than these physical components, moving elements specially the people and their activities are also important to activate the city. These elements exit together to form the total image of the city.

## 2.3.   Attributes of the City

In a city there are some fundamental attributes associated with it. These attributes which give a particular image of the total conception of the formation of the city. And they are the principal purveyor contributors of the inherent spatial meaning of the city. They can be categorized as physical attributes & qualitative attributes.

### 2.3.1.  Physical Attributes

Physical attributes comprise not only of fabric and object, but also the spaces. In a city, buildings become most important physical component, as it is the container of people.

The rest becomes, supporting physical forms for the function of buildings. Briefly this is the structure, which continues the function of a city.

#### 2.3.1.1.  Fabric and Object

The object is a closed element, finite, comprehensible as an entity, compare to fabric, which gives an image of continuity, stretching to "infinity". This concept can be transposed to the city where certain structures appear as

object & fabrics. This is organized to the laws of proximity, similarly, repetition & common orientation of elements.



Fig:2.1. *Composition of objects and fabric – city of Florence*

However a fabric can be defined as a continuous order, pattern that emerges from the 'form' of city Character where no meaning exits along. The fabric is the significant order of all collectively an easy & resurging order by its similarly in structure & scale whilst at the same time allowing individual differences.

In an object building the importance is a certain degree of continuity & regularity in the object is a certain degree of continuity & regularity in the object itself as well as a discontinuity in relation to the context. Thus the

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volumetric combination of a large number of elements joined together in large units, and modulates the relationship between the parts & the whole, creating a vivid object.

Fig:2.2 – *Free standing object*

Object and Fabric can be seen within the urban context in pre- industrial societies too. Their ordinary dwellings & urban places of work are accommodated in buildings, which together formed a relatively homogeneous fabric. Once this regularity has been established, any break in it assumes

special importance as objects. In principal they reserved for monuments or landmarks & this regularity was not broken merely for unnecessary reasons.

Being an urban context means a town or city like, which dominated by man made environment. Therefore an urban context is, where intensely planned highly dense built fabrics catering to a variety of activities are located within limited area.

Hence all the individual elements that can be perceived in an urban context influence the visual picture, both by their appearance as single as object & by their appearance in juxtaposition with one another.

The plan of drawn up by Giambattista Nolli in 1748 is, remarkable topological document, which shows very clearly the complentarily between object, fabric and spaces. It makes of possible to distinguish relationship of scale & spatial organizations between external space, internal public space & the mass of urban fabric.

### 2.3.1.2. Space

Urban space forms an important component of the urban fabric. It provides a setting & gives a definition to a built up area. An Urban environment is also a collection of spaces & Masses (physical arrangement of buildings).

Spaces & Masses help to create a sequence of built fabric, laid out to geometric arrangement within their integration to make cohesive whole. As a result the significance of the buildings, the spaces & voids link together to form the urban context seen as one entity.



Fig: 2.3 – *Mass (buildings) and space link together to form the urban context*

*Plan of Rome - Giambattista Nolli (1748)*

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In an Urban context patterns of organization of the spaces can be summarized as, centralized, linear, clustered & grid system. However the spaces mentioned above and their topographical settings give definition for the built fabric thus, enhance the nature of the city.

### 2.3.2. Qualitative attributes

Qualitative attributes reinforce the perception or the sensation of the spatial experience by assigning the space with some form of quality, meaning and expression that creates a certain frames of mind within one self.

In accordance with order, hierarchy, continuity, cohesion and identity of a built fabric, which express the uniqueness.

Such a way each city has special qualities in its form, which give its own identity and its uniqueness. This identity and uniqueness of the form has arrived as a result of 'harmony' in which constitutes are organized within a city. Therefore it is to be said that the uniqueness of the city differs from one city to another according to its composition of its basic constitutes.

The unique spatial quality of a place, which differs from that of all other places, can be termed 'the character of that place'. Especially this can be interpreted different in terms as 'sense of the place' or 'spirit of the place'.

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Kevin Lynch also explains,

> *'The simplest form of sense is identity, in the narrow meaning of that common terms; "sense of place", identity is the extent to which a person can recognize or recall a place as being distinct from other places as having a unique, or at least a particular, character of its own.'*
> *(Lynch, Kevin, 1981, P : 130)*

Harry Garnham (1985:p9) in his book, "maintaining the spirit of place" describes,

> *"The identification of unique character must proceed change, and change must be design to accommodate the preservation of that uniqueness. If this is not done tremendous superficial growth and change can occur with out altering the major components, which make up a town's baseline character."*

## 2.4.   Characters of a city and its built fabric

Every place of a city or small physical entity bears a character of it's own. Character of a place in many sense, identified as a tangible attribute which gives an identity, distinctive spatial quality peculiar to that particular place, to make it specific from all other parts. The character can be clearly expressed through the spaces or the built fabric of an urban context. Therefore a city is a complex environment where concentration of different nature of built fabrics, where it is liable to posses a range of different characters. But a city expresses the strongest character in one facet of character pre-dominates the

other. Based on this realization and further familiarization and primary groups of city characters could be identified as below,

1. Sacred

2. Dynamic

3. Organic

4. Historic

### 2.4.1. Sacred character

There are some cities, which evoke feelings of awe, security and pride. The components of the built fabric of such cities are organized to express the hierarchical order in position therefore scale, proportion and stability where each elements of the city had its proper location and meaning. These components reflected the dominance of religious or administrative over other activities and the hierarchy of the social class structure, which most appropriately can be called sacred in character.

Eg; Madhurai, Athens, peiking

### 2.4.2. Dynamic Character

This expresses rationality, simplicity and practically and evoke feelings of power, energy and sometimes oppression. The spatial division is simple regular and straightforward and express practicality and functionalism to greater degree.

Eg; Newyork, paris

### 2.4.3. Organic Character

In cities of organic character each element of city is necessarily a part of its natural environment and the individual elements of their fabric. These cities show a particular order, balance and continuity. But not necessarily a definite hierarchy in spatial organization and establish unity and intimate scale among various elements and a closeness to the natural environment thus evoking feeling of pleasure comfort, warmth and beauty.

Eg; Venice, Siena

### 2.4.4. Historic Character

City's history may cover two specific aspect of it. The presence and influence of various visual and spatial concepts evolved in different civilizations and in different time period. Existence of a city without undergoing any change in the course of time is very rare. Hence almost every city and any physical entity undergo historical phases which intern lay and imprint on its spatial organization and its people.

Therefore the built fabric of a city which strongly reflect certain architectural or building styles from past can be identified historic in character.

Ex. City of Rome

However,  *Cities still remain specifically historical creations. They came into being not as a result of a historical need, and they will continue as long as this need persists".*

*(Benevelo, L. 1975, P: 5)*
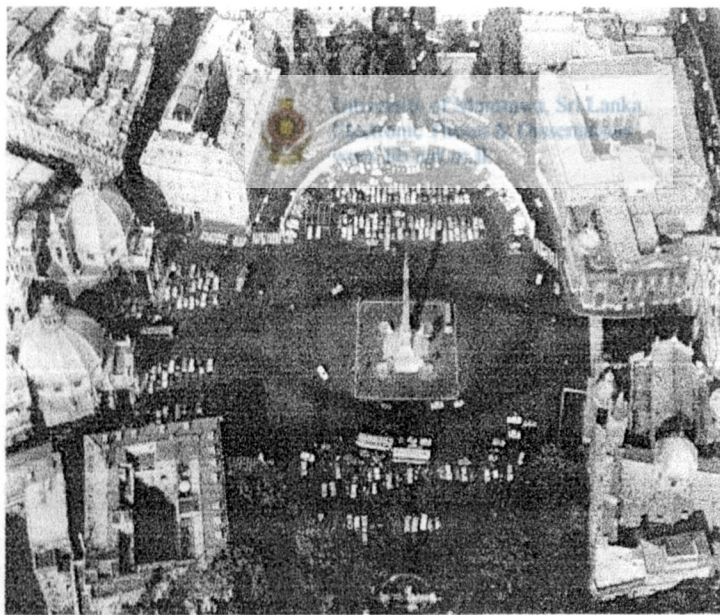


Fig: 2.4 – Historic character - city of Rome

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## 2.5. Historic urban context

Historic context in a city in general is a place where historic features have survived in sufficient quality or numbers to predominate. These features could be mainly identified as buildings. Thus it is important to draw some form of perspective on historic urban context. Why we value a historic context? It is self evident that they are old, but what is it about being old that gives them value. Their primary importance of is as a document of history, a source of information a record, a primary source for research, evidence which can be experienced by each generation, they act as the 'what, why and how' of our predecessors.

In a historic urban context, certain original values and functions remain, others are totally altered, about some stylistic aspects of the form are certain, others are less obvious. It is important to contemplate the values that remain not only physical aspect but spiritual values, cultural values, activity patterns and try to ascertain whether they have some connection to the present state of the city or to the future and whether they constitute the only empirical facts that pertains to the problem.

The study of historic urban context seems to offer the best verification of certain hypothesis about the city, for the city is in itself a repository of history. Aldo Rossi in the book 'the Architecture of the City' has pointed out that history of the city, in two perspective views. In the first, the city was seen as a

material artifact, a man made object built over time and retaining the traces of time even if in a discontinuous way.
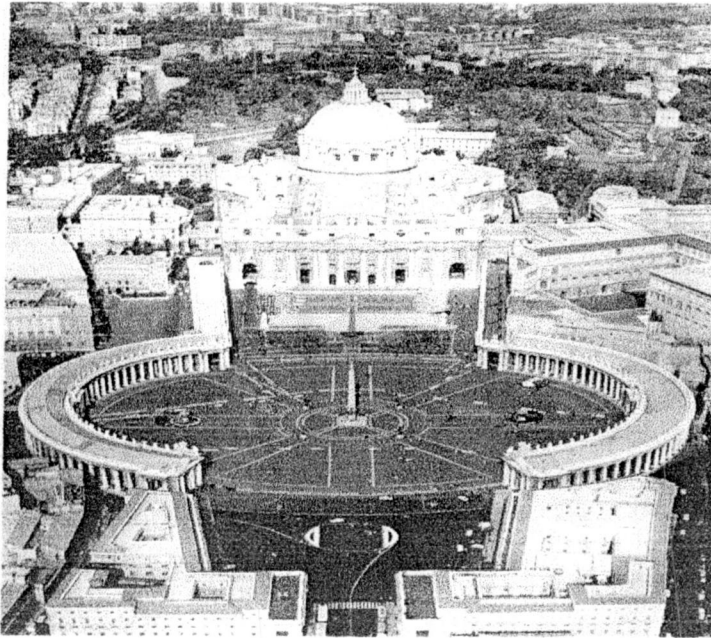
Fig: 2.5 – *Historic characteristics within the entire city –Rome*

The second point of view sees history as the study of the actual formation and structure of urban artifacts. It concerns not only the real structure of the city but also the idea that city is a synthesis of a series of values. Thus it concerns the collective imagination or the total context and the first and second approaches are intimately linked, so much so that the facts they uncover may at times be confounded with each other. The idea of history as the structure of urban artifacts is affirmed by the continuities that exist in the deepest layers of the urban structure, where certain fundamental characteristics that are common to the e3ntire urban dynamic be seen.

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Therefore it is significance historic urban context become historical text, in fact to study urban phenomena without the use of history is unimaginable, and perhaps this is the only practical method available for understanding specific urban characteristics whose historical aspect is predominant.

## 2.6. Historic built fabric

In historic urban context the built environment the built environment mainly consists of built fabric and objects. Normally object buildings are emphasized through it' sky line, the general shape of the mass and the approach path which gives prominence to the object building.The other buildings join together to form built fabric giving new units identifiable and establishing hierarchy.

Fig: 2.6 – *Historic built fabric of Rome*

importance in this connection. Hence, fabric in a historical urban context creates harmonious environment.

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## 2.7. Components of character of a historic built fabric.

As any of physical environment, components of character of a historic built fabric can be taken as the composition, texture, and stance and with the combination of these components can form a structure of the historic city.

Eg; city of Rome

### 2.7.1. Composition

Composition means the three-dimensional arrangements of physical elements of a place or an entity. Within the historic city composition can identify as a form of the built environment. The elements of the form can consider as building forms, layout pattern, urban spaces and its voids. The nature and the way these have been arranged in different in manner.

These buildings and spaces as man built things, which can determine by the topographical, social, functional and other aspects also.

Eg; Rivers, Canals, Lakes, Sea, Open Lands are the natural ones, which organized with the buildings.

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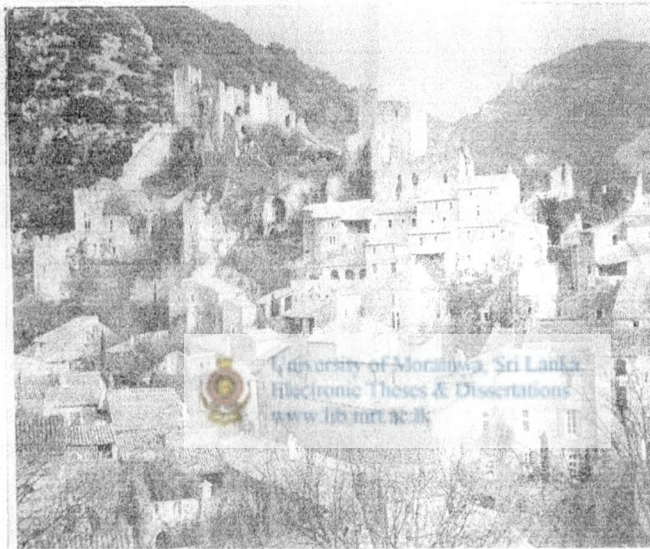
Fig: 2.7 – *Organization of forms and spaces,*

*Determinant by the nature*

### 2.7.2. Texture

Texture is more visual and tangible aspect, which created by arrangement of small constituents of a composition.

It is the further detailing of this composition of forms and spaces. Which in turn produce unities of elements and different scale and proportions of buildings. The nature of the openings, width and details of the facades are other factors of the texture.

Fig: 2.8 – *texture of the buildings*

### 2.7.3. Stance

Stance is a component of character of a physical environment and stance is the "Pose" of an entity. This is resembled by the relationship between the particular place and element and it's surrounding. For example, a person can be aggressive, friendly, humble or relax in stance likewise, the built fabric of a city can dominate, awe, inspiring serene, pleasant, majestic, aggressive, due to its set up within the surrounding environment

As combination of these characters, composition, texture or stance, which can act individually or separately in producing the historic, built fabric. It can be interrelated or interdependent to give identity as a whole but these components create different city characters.



Fig: 2:. 9 – People's friendly environment

# CHAPTER THREE

# CHAPTER THREE

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## NEW BUILDINGS IN THE HISTORIC BUILT FABRIC.

### 3.1 – modernization of the historic built fabric.

Historic built fabric is one of the most tangible manifestations of past memories in an urban context. In such places historic features have survived in sufficient quality and number to predominate. These features are usually architectural products, mainly the buildings.

This man made environment is continuously rebuilt to reflect changing motives, attitudes and tasks as societies evolve politically, economically, technically and socially. But, due to fast trends of modernization occurred in the contemporary society, the socio-cultural and economic needs also have being automatically changed.

These results of developing new architectural styles by which the historic built fabric are affected. Most of these modern styles of buildings developed in the latter part of this century, which contrast with the built fabric of the past.

Fig: 3.1 – *Composition of new and old buildings*

### 3.1.1 – New development in historic built fabric

The past few years of popular anxiety about new buildings have been good and bad for historic built fabric. Shunning the new in our great love of preservation, we have made sure the comforts and virtues of old architecture remain part of our spiritual environment. At the same time, by sanctifying old architecture and making it untouchable, we have increasingly foreclosed the expressive potential that good, new architecture alone can provide.

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Preservation as works of art or on account of their antiquity form but a small part of the urban fabric that remains from earlier ages. Far greater in number, and in many respects more important in representing the image of architectural development, are the groups of ordinary buildings to be found in every country and almost every city. Within the historical cities, pressure for change is not a new phenomenon.

When considering a historic context, change and growth are two important characteristics to make it a living settlement. Change is no enemy if it is handled with care and proper understanding of the situation. The physical change in the existing environment provided by the historic context reflects social changes. The development options considered are mainly as physical manifestation of human growth. The various modes in which towns are expanded, renovated and updated are broadly restricted to three basic types such as, an extension, substitution, and additive transformation.

## a) An extension

An Extension characterized by the urbanization of new areas, which are incorporated into the town when extensions are done to an existing historic context it is important to consider the factors that have shaped the character of the town. Such as it's geographical setting, the reasons for it's originating there and its subsequent fortunes and activities.

An extension could be merged  beyond the periphery of the existing historic context, which could be a gateway to the historic core.

Urban growth by extrusion will be concerned with the setting of historic buildings and the definition of an area of identity or completeness. By thinking in terms of an area, rather than the number of individual buildings, it may already be viable or visually complete and may need to be strengthened by addition of some new development in areas of opportunity. The extent of an area may determine by the line of street left. Buildings enclosing the street and stopping off the views out may also determine it or it may be determined by the pattern of several streets.

**b) Substitution**

Substitution occurs whenever new architecture replaces the pre-existing ones and involves demolition and redevelopment.

Redevelopment has an essential role to play in making a historical context and in ensuring that area remains alive and interesting. It is desirable to have representative buildings of all periods, including our own but to be acceptable and successful it needs to be under taken on a far more selective basis.

Deciding what to but this demolish and up to what extent is a more challenging task it is also an expensive has been a more favored option rather than adopting and conserving existing fabric

**c) Additive Transformation (Restoration)**

Construction of compatible new additions and enlargements, in which original nucleus is transformed by a sedimentary and incremental process of new parts. Additive transformation is only one of the possible mechanisms of growth and charge.

The designing of new additions in order to "fit" within an established historic context is a controversial object. Given the many design restrictions placed on old areas, the scarcity of prime building land and the faltering economic viability of many historic urban contexts, the need for harmonize combination of new and old buildings is a growing and important concern.

**3.1.2. Necessity of preservation of the historic built fabric**

As explained earlier a city is a concentration of cultural productions of civilizations. Evolving like a living entity, it accumulates layers of living experiences of individuals as members of a group. Being foci of cultural diversification, it becomes an artifact.

Mumford (1938) noted that,

> " city is both a physical utility for collective living and a symbol of those collective purposes and unanimity that arise such favoring circumstances "

However 'historic fabric' as the most significant part of a city, has a heritage value of an urban setting. It is also enriched by its continuous evolution and even had a "monumental origin" as a growing heritage.

Therefore these cultural properties (heritage) reflect the layers of our history and developments over centuries. Therefore built heritage is a most important part of a city, which deserve to preserve considering the rich understanding they give us of people's everyday lives (life styles) in the past.

According to the establishment of the evolution of events, spirit of the age needs to see chain of evolution, but also as a grown pattern where each period has an effect on the next. Therefore any period of time, should be expressed through architecture.

As explained,

> " Over the years the use of a buildings may change, the architectural style may become unfashionable, the size of the court may increased, living patterns change"

These layering are not always immediately visible. It takes time to realize. But it helps to make sense of the existing buildings.

New architecture can respond to this evolutionary process it can be reformation of an earlier layer, a previous conditions can used to new building design. Thus new architecture becomes a recasting of lost fabric; it is as a memory of earlier buildings. (It makes use of their location, spirit of form and their typology)
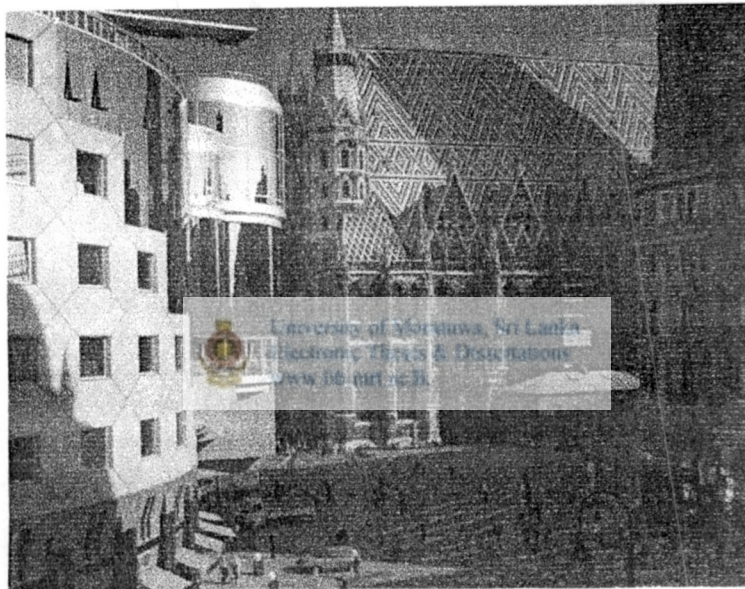
Fig : 3.2 - *The new Haas Shopping Center in Vienna*

### 3.2 – Typology of new buildings in historic built fabric

The architecture, which developed through ages, could be considered as products of a coherent system rather than a haphazard collection of spaces shapes and details. Furthermore it has inherent integrity, which it is made up of standard components assembled within accepted codes.

When a new building is developed in such a historic context it normally follows one or more types of development methods mentioned above.

But nowadays for many new buildings developed in the historic quarter, have been merely used or transplanted the features/details of the historic buildings without understanding the real meanings and expressions of those.

Many modern buildings are losing their appearance and some are falling apart, because they often broke dramatically from earlier buildings in terms of materials, technology and aesthetics.

Norman foster (1993) explained that,

> " The successful design of new buildings in historic contexts seems to me to be one of the greatest challenge for the architects of our age. "

However produce of more successful architecture while preserving the historic built fabric is not an easy task where, the transformation, alteration and modulation of old architectural features should be used in more comprehensive and sophisticated manner. In order to doing this it is important to aware of the proper methods of transformation, the primary and essential elements of transformation to modulate in a new design.

However for the purpose of study the new building types, which were developed in the historical built fabrics could be identified as follows,

1) Re-use (Restored) buildings

2) Re-create (assimilated) buildings

3) Modernist (newly achieved) buildings

### 3.2.1. Re-use (Restored) buildings

*"The greatest success in heritage preservation can occur when the heritage element is in actual use and thus capable of generating revenue to pay for its preservation. "*

*(Netzer D., 1996, 4)*

However the prime attribute behind the method of ' Re-use' is that the " old is always better than the new." This makes the methods to renovate the buildings while retaining the distinctive features in size and scale, mass etc and use it as a 'New' within its historic built fabric.

Especially in developing countries the use of existing solidly constructed building stock is important as they minimize the use of new resources and reduce the extra burden of maintaining them. In most cases this can be considered as money saving process and a method of preservation of the historic heritage. Thus the proposals for re-use of old buildings are inspired by sentiment than reason.

In the historic context there are combinations of changing fashions, evolving views about conservation provide many potentials for its reuse while proclaiming its significance.

The desire to retain historical monuments is not only a desire for the physical form of those but also certain stability in the mental images. It also imply social values for keeping the monuments in use as,

- Endowment value – future generations of users want the structure to be

  Intact for them as cultural heritage

- Existence value   --infrequent users of them have an interest in its

  Being therefore their occasional use

- Economic value   -- is the strong reason for reuse the building

In American cities there can be found ideal examples for this. By the mid 1990s the central business districts of many American cities were dotted with vacant relics many abandoned by the financial organizations that built them. Structurally sound and often architecturally significant, these crucial pieces of the urban landscape seemed to have no economically viable future. Initially built they have to suit the pre digital needs of the financial institutions, but many of them are too small now to be utilized efficiently by information age of businesses.

Eg : floor plates, their electrical and mechanical systems can't tolerate the demands of high density, high band with computer environments.

With the time changed and shifting economies of down town development in the later 1990s created a new demand for centrally located businesses, shopping areas and other services including hotels.

Fig:3.3 – New Ritz-Carlton hotel- Philadelphia.

New marble, steel and glass components were fabricated ensuring consistency with historic details in adapting a 1908, banking hall as the lobby of the hotel.

*As an occupancy type, hotels can take advantages of smaller floor plates, much less demanding of electrical services, total HVAC and elevator capacity compare to an office building of the same size. In addition to that historic building features that might be costly encumbrances for a modern office can be transformed into revenue enhancing amenities for an upscale hotel. Ironically, the digital technologies that rendered these buildings obsolete for their original purposes now enable architects to efficiently adapt them for reuse as hotels.*

### 3.2.2. Re- create (assimilated) buildings

In this type of buildings historic parts of the old buildings read like a historic document, and new parts created as a neutral backdrop to the original structure. "The new building had to bow in some ways to the past."

Here the new design for a contemporary program can simultaneously engage the older form and its former use. In spite of tough, even gritty, formal vocabularies, materials and construction techniques, each project manifests an underling unity of proportion and scale with the preserved structures. While asserting the independence of the new, they both respect and dramatize the identity of the old.

A good example for re-created buildings can be found from New York, where pair of historic buildings is returned to their original state of grace.

Ex. a) The Cooper Union for the Advancement of Science and Art

Foundation Building

b) Harperley Hall – An Arts and Crafts bulding – Manhatten's

Central Park West: Manhattan, New York.

Unlike the interior alterations, especially the exteriors play civic role, since they exist in public realm. The mass, articulation, and condition of the building's facades contribute to or detract from its surrounding environment. These elegant landmark buildings in thickly settled city of New York show how issues of architectural authenticity spread beyond the lot lines into the neighborhood. These exercises required exhaustive historical researches, so that the restorations would not only heal the battered facades but also recover the original architect's intention.



Fig: 3.4 – *The facade of Cooper Union*

*Before undergoing extensive repairs and restorations*
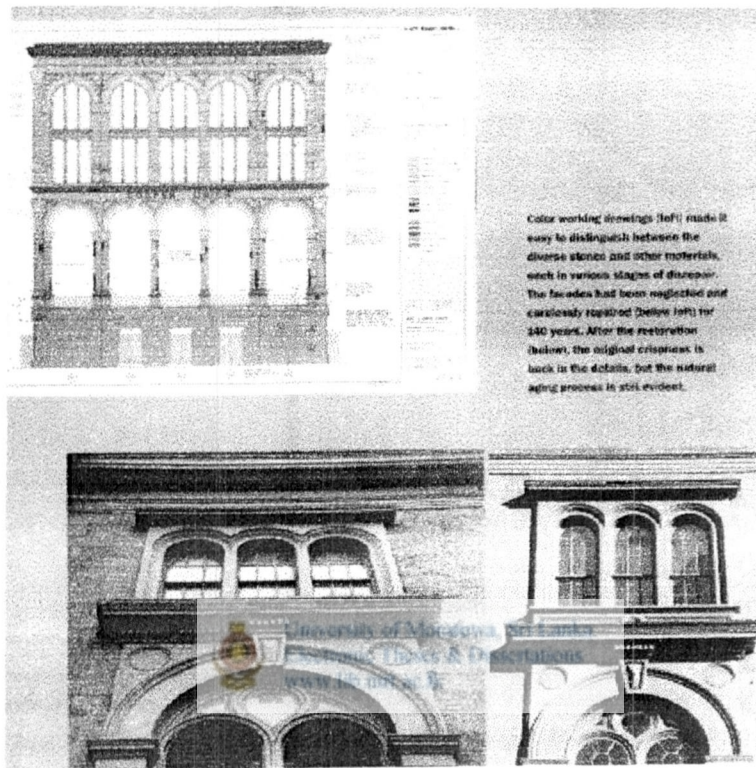
Fig: 3.5 – *The working drawing of Cooper Union*

*Shows the distinguish between the original diverse stones and other*

*(The facades has been*

*Neglected for about 140 years.)*

Every state-of-the-art technique was used to determine the scope of the work, which in restoration means deciding what restored and what must be replaced.
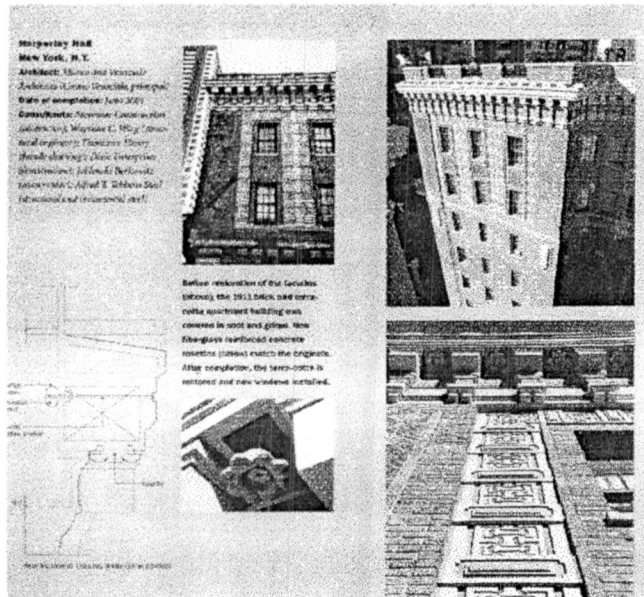
Fig: 3.8 – The Harperley Hall - after restoration. New fiberglass reinforced concrete rosettes match the originals. After completion, the terra- cotta is restored and new windows *are installed.*
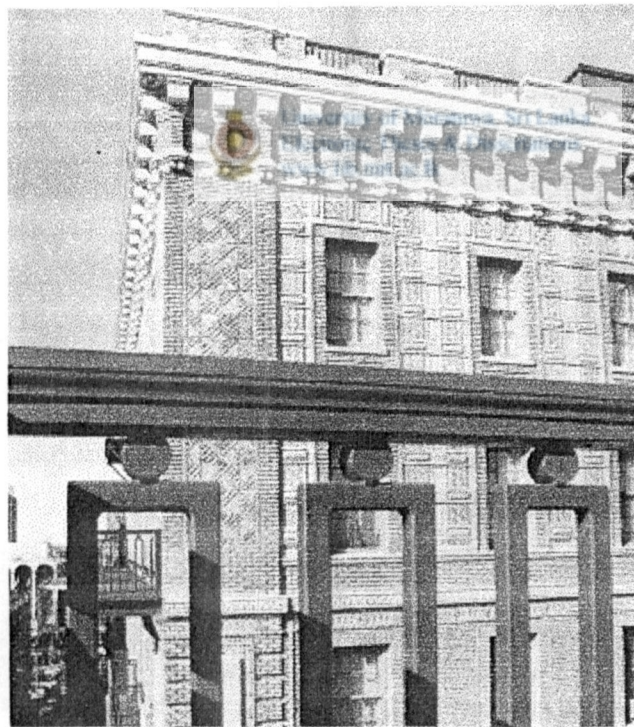


Fig: 3.9-*The balconies were removed, refurbished and the steel structure replaced.*

Although the building types and circumstances differed, strategies in both projects were based on a desire to reestablish the soul of each building.

### 3.2. 3. Modernist (Newly achieved) buildings

This is the most prominent type of building in the contemporary urban context. There is something fundamentally difference about the design of buildings in the past and the present. In the past, there rally were just few kinds of buildings. But now almost every function has its own building types. Due to the current urbanization and commercialization trends occurred in the contemporary society, designing of totally new buildings are growing rapidly rather than adapting and conserving existing fabric. As a result coming up of new buildings in an urban context increasing both in number and in area. Therefore new buildings in a historic urban context play a major role in that particular built setting,

The building fabric, milieu imposes certain impacts on the building according to which the new building design has to be determined. These can be considered as external forces generated by the context and setting become major determinant factors in new building design while dominating over the internal forces which imply the need of fulfilling client and user requirements.

Therefore, new building in an urban context implies the creation of contrast which harmoniously into pattern of particular context as a constituent part of coherent whole, by respecting and acknowledging the existing physical context.

42.

As a result some important historic buildings are threatened with destruction or are being changed in ways unsympathetically from their original character.

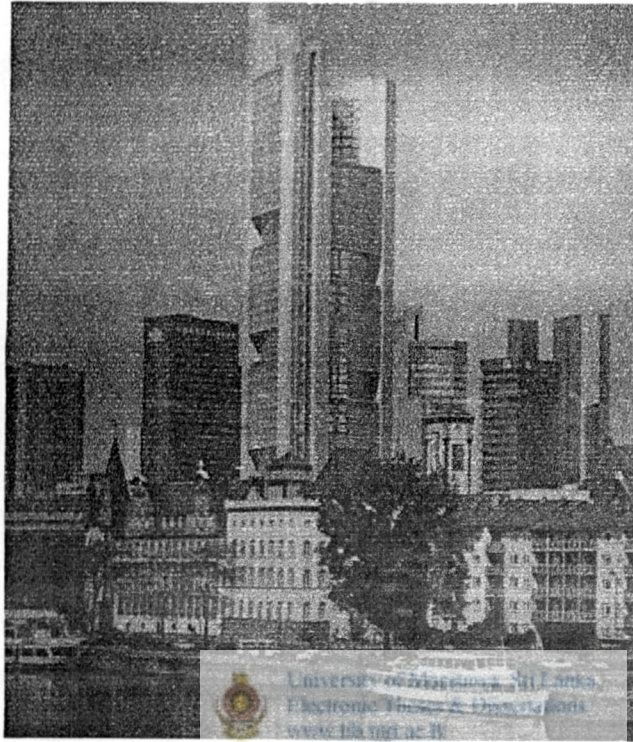*Fig: 3.10-New buildings developed as a contrast element of the existing built Fabric.*

## 3.3. Impacts on the historic built fabric and its generating factors

Attributes needed to overcome the destruction of historic character of the built fabric, which happens due to the new buildings and which came up as a result of urbanization in cities. Thus analyze of impacts is most important to avoid further destruction.

New buildings may be creating the impacts on historic built fabric in either negative or positive aspects. Basically the visual impacts can be clearly understood through the physical appearance of the built fabric. These can overlap and interact with others as appropriateness and degree of each in relation to others.

### 3.3.1 Visual Impacts

Visual impacts can be happened not only in form of aesthetic aspect but also as an issue of environmental and psychological aspects. Forms of new buildings are the main determinant factor of the visual impact, which can be either by new concept or technology, material, or elements. In this regard buildings and the relationship given to the surrounding is important.

Psychological effects also qualitative aspects of image of build fabric, which is important factor in the Psychological comfort of its inhabitants. If the cities are congested and complexed due to new buildings, it makes the visual pollution.

Form is the essence or rhythm of the built fabric. This competences of pattern will drive the architectural harmony, thus incorrect built forms, scale, proportion, and qualities like cohesion, unity, order of new buildings violate the existing character of the historic built fabric.

44.

As it is historic quarter of the city, which is essence of uniqueness. And character of a city, which is embodied both social and commercial life of the town. The insensitive development generates the architectural pollution and it can be visible clearly.

As such, all the elements and qualities strengthen the character of identity of the buildings groups. Thus, the new building in Historic built fabric, needs social, cultural and physical composition to make the unique spatial and historical qualities of a place. For that creating spatial definitions through a sense of enclosure, continuity and hierarchy, which emphasis in scale, proportions, colour and texture. At the present, main visual impact can consider as the destruction of identity and the "sense of place" of the historic built fabric, which need for the harmonious and continuation of the built fabric.

### 3.3.2 Generating factors of the visual Impact

Primary factors, which becomes the major achievements for visual impact of new buildings can be categorized as composition of masses, scale and proportion, horizontal and vertical rhythms, buildings line skyline, punctuation and inflection.

45.

## 1) Composition of masses

It is obvious fact, that the composition of masses of buildings are embodied in the physical setting itself, as even the novelty in a form is also a need of locality of the site or of having some kind of specially among other buildings.

Solid voids ratio also depends on the wall opening ratio. When wall opening are more, fenestration is also high, gives expression of " heaviness " or " grandeur "

Orientation of buildings is essential in giving order to historic built fabric Haphazard orientation of buildings create visual disharmony while orderly arrange buildings create meaningful spaces and identity its fabric.

## 2) Scale and proportion

The scale and proportion of buildings should also be determined in relation to its built fabric, with an underline understanding of its historic character. It is accepted that the vertical and horizontal dimensions of a building should not violate the patterns of that of surroundings.

## 3) Rhythms

Rhythms   of various components of built fabric gives the variety of users. As von Meiss (1992:32) says " repetition in the form of rhythms, as much in music as in architecture, is an extremely simple principle of composition which tends to

give a sense of coherence."Although, repetition throughout the fabric will result monotony, regularity, which not based on absolute repetition, is essential in achieving unity in a built fabric. The relationships of elements of buildings can create vertical or horizon rhythm of facades.

Plot widths windows and column distances create vertical rhythm, while floor heights, window lines, and cornices running horizontally rhythm of facades.

On physical elements in buildings along not give coherent pattern to urban, context, but also, spatial variation, their densities, depths in repetition and regular patterns also enhance total rhythm to particular fabric

## 4) Building line and skyline.

A uniform and a firm buildings line can determine the character of a fabric with groups of buildings, while the change of buildings line can create some points of interest or disastrous result depending on the way the change is done. Thus creative handling of building line adds richness to the particular fabric. The building line is the primary basis for the continuity and coherence of built fabric.

Skyline provides identifiable images more powerfully than any other elements and also evokes a sense of place. As wayane Attoe (1981:43) described, skylines are composed of a series of individual objects and there forms and scale

directly contributes to form the skyline while the architectural styles also influence enormously generally, building heights determine the skyline, specially in streets. Continuity of skyline gives unity to a fabric, while different roof styles and cornice level details of buildings can create visually pleasing skyline avoiding monotony, Therefore, roofscapes also can be designed in a way of creating interesting skyline. The building with contrast heights (skyline) and set backs (buildings line) give difference hierarchy in built fabric.

## 5) Punctuation and Inflection

"A thing or an object must have a boundary for otherwise it could not becomes an object of contemplation at all; it would be quit nebulous. Punctuation is a process of design by which one can give to any object a certain consciousness of its own extremities" ( Trystan A. Edward 1926:51)

Hence, punctuation of buildings or facades is essential o clear clarification of extremities or continuities of urban contexts, to become a meaningful space. Infection, also goes parallel to punctuation ( T. Edwards 1926 : 78 ) It governs the elements of object or fabric and their sensitive relationship of elements of objects or fabric and their sensitive in to whole has been strengthen by punctuation its extremities.

48.

## 6) Ground level Details

Particularly in urban spaces the ground level details of buildings should be given through consideration. In order to keep in harmony with the rest, while creating interesting streetscapes. Continuity and a directional quality can be achieved even by the proper detailing of the ground level of building.

## 7) Façade treatment

The facades of buildings of real street scape interest can be retained, and thus continue to make a contribution to their surroundings splendid facades representing unrepeatable craftsmanship can often be preserved to enrich and stimulate future generations. They provide a living sense of history, which the built environment readily conveys. As such buildings conceived as street frontages. While the interiors can be merged."facadism" (facade treatment is to preserve the character city or street scape and the integrity of a group of buildings.

## 8) Materials and color

Whenever a local tradition exit concerned the specific use of building materials. Building materials associated with particular building types. This provided the identity and unity of their own.

49.

Materials and colors produce an interesting expression to the visual interest and quality of the building. At the same time, which is maintained the variety and richness of the particular, built fabric.

## 3.4. New developments in the historic built fabrics of Sri Lanka.

### 3.4.1 Back Ground of the City Development

Development of Towns and cities in Sri Lanka has been a continuous process for centuries. Ancient Sri Lanka boasts of its magnificent cities such as Anuradhapura, Polonnaruwa, Sigiriya and Yapahuwa. History of Sri Lanka expresses the beauty and function of these cities.

These historical cities had been planned, designed and laid out with the need of social and economical organizations and in keeping with the social, cultural and historical values.

Anuradhapura was the first established ancient city in Sri Lankan history. Due to the various political and social violence blows through the history ancient cities expand and moved to different areas all over the country. Polonnaruwa, Dambadeniya, Kurunegala, Yapahuwa, Kotte and Kandy to the last. Many Sri Lankan towns were quickly setup or abandoned but today that towns have become part of the large cities.

ANCIENT CITY OF ANURADHAPURA
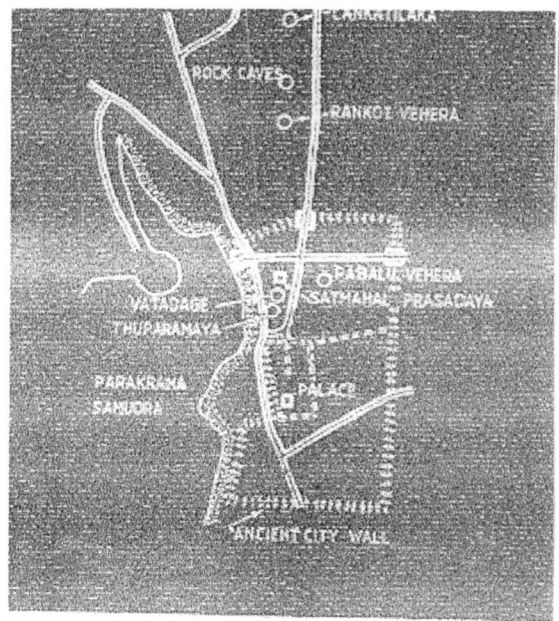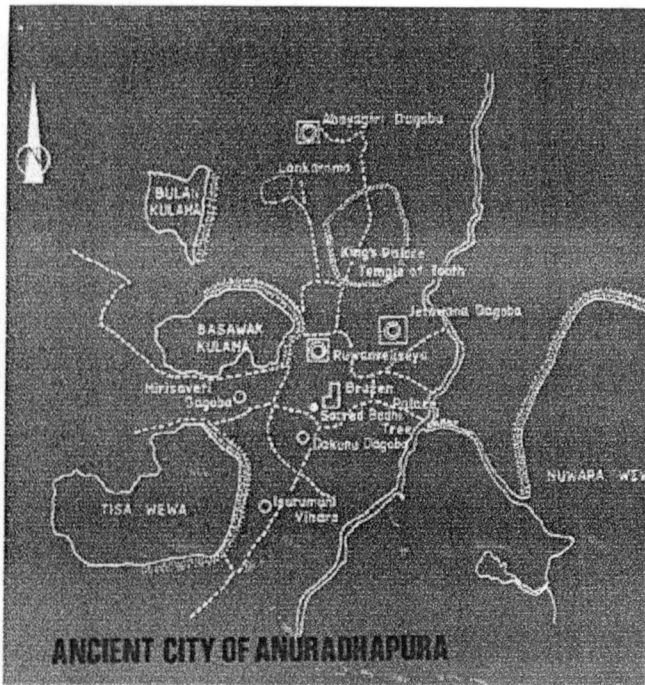
ANCIENT CITY OF POLONNARUWA
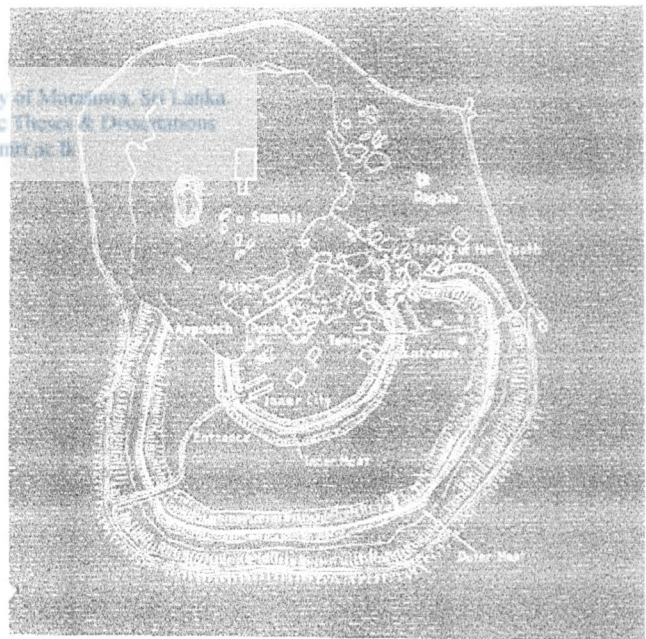
ANCIENT CITY OF YAPAHUWA

Fig: 3.11 – ancient Sri Lankan cities

In these ancient urban settlements economic role is prominent and most of these activities origin by the location, either around seaports or at the agricultural hinterlands. In such a context, trade and agriculture provided the basis of the early cities.

15th century new colonial era started in the country with the invasion of Portuguese. They established new urban settlements in different parts of the island like Colombo, Negombo, Galle, Matara and etc. Then Dutch ousted Portuguese and they established their trade, agriculture and architecture on the cities they have captured.

After Dutch the British's came in to the power in the island, further expand and develop these areas as permanent settlements and resulted in it being a trading, manufacturing, administrative, religious and cultural centers for the whole region.

Within this development trend, people began to migrate to towns from the rural areas due to the more opportunities of occupations and comfortable life styles. As a result the cities consolidated their establishment as permanent human settlements. Although urbanization trend can clearly identified as the beginning of "Open Economy" after the independence.

Thus, the Urban Sector not only can contribute to national economic growth, it also offers a choice and range of opportunities in deciding upon employment and place of permanent settlement between urban centers spread across the country. Such urbanization trend also caused to develop a modern trend in architecture, which results many modern, or sophisticated buildings.

## 3.4.2 Determinant Factors of the Historic city fabric.

For each and every Sri Lankan city had a great potential or strong reason behind them for its existence. Normally they were agricultural settlements or tank fed villages, town centers, port cities, pilgrim, temple or monastery cities and fortified cities for military purposes.

Some determinant factors have been evolving in formation of these urban settlements, which can be classified as topographical, social political and cultural. However one or more factors may join together for formation of a city. But in some cases there is one dominant factor caused to form the city by which other factors are implied.

Ex: **a) Galle / Colombo**      -Port cities

> The harbors as dominant feature of natural
>
> Landscape where determines the emergence and

**b) Negombo / Yapahuwa** - Fortress cities

-They were built completely for defense purposes.

**c) Kandy** - Geographical setting of hill country used for defensive purposes

**d) Kataragama** – Sacred cities

Significant in cultural and social purposes

## 3.5 New Developments In Historic cities of Sri Lanka

After the early history, colonials have established in Sri Lankan cities and the colonial influenced architecture considered as our heritage. But with the trends of urbanization, many new buildings appear beside of their older neighbors.

However the forts were still appeared as historic quarters within most of these cities, which consist of old buildings and help to recognize the historic character through physical and visual components of the city. Example: Colombo and Galle forts.

Today the existing physical setting of these cities emphasis how comprehensive and complex is the changes that have been taken and still are taking place. Most of the streets of above cities contain chaotic diversity of buildings and they degrade the origin meaning of the city.

As Sri Lankan heritage the two forts Colombo & Galle have chosen and designated as conservation areas. In Colombo there are selected buildings to be preserved as "Building of architectural or historic interest" but Galle is different from that because it is being declared as a world heritage city.

Thus, In Sri Lanka, there are some authorities, which are responsible for the preservation and conservation of these historic cities or buildings. Even through there have been policies and legislations, noted by these authorities some unauthorized constructions coming up as a result of individual or political interests.

# CHAPTER FOUR

# CHAPTER FOUR

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**AN EXAMINATION OF THE IMPACT OF THE NEW BUILDINGS ON HISTORIC BUILT FABRIC IN COLOMBO AND GALLE.**

## 4.1. Introduction

As explained in the previous chapter the nature of the new buildings coming up in a historic built fabric has a direct impact on cityscape. Further more this could lead to various difficulties in achieving visual completeness between old and new unless this nature is properly maintained to make a cohesive built fabric.

This chapter is set out to examine the visual impact, related issues and suggests ways in which such impacts could be minimized.
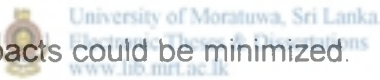
For this study two important historic cities were selected in two different contexts, which have strong impact to their historic built fabric due to new developments. The two cities of Colombo and Galle were selected due to following reasons,

- As the capitals of Western and Southern Provinces, these cities subjected to rapid development.

- Bear similar qualities as port cities and significant urban centers of colonial occupation.

## 4.2. Colombo Fort - Case study 1

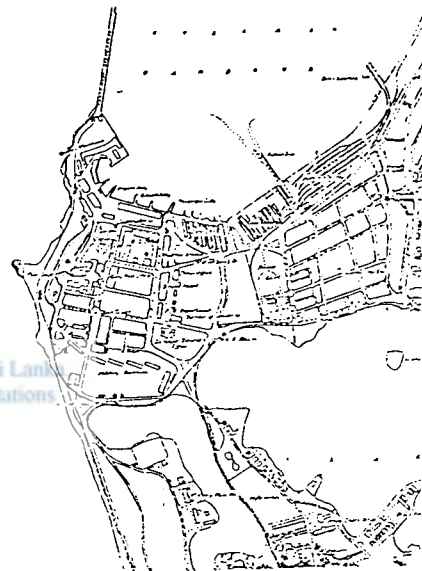### 4.2.1. Historic Background of Colombo Fort

Colombo had been a commercial port on historical record since the 5th century A.D. The present city's growth may be said to have commenced in the 16th century A.D. It had passed through three colonial regimes of the Portuguese (1505-1656 A.D.), the Dutch (1656-1796 A.D.) and the British (1796 – 1948 A.D.).
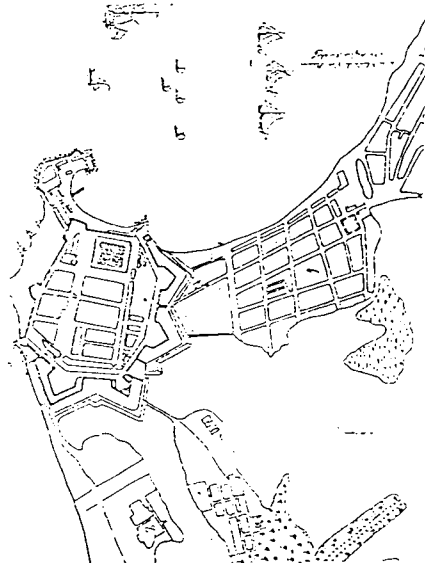
Colombo – Portuguese period

Colombo – Dutch period

Colombo – British period
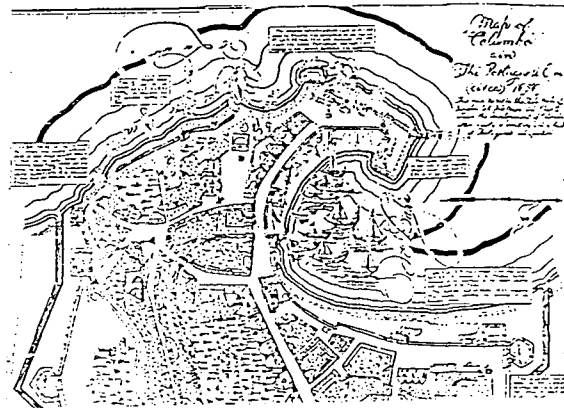
Fig:4.1- *Map of Colombo in Colonial periods*

In early 16th century, Portuguese constructed the original fort, which contained commercial, civil and administrative functions and had been a capital for a long period of time. After Dutch over powered Portuguese in 1656, re-laid the Colombo city both fort and Pettah in a strict geometrical grid iron pattern & fort contains a wider spacious grid and massive built fabric while Pettah has a much narrow and straighter grid and a compact, low profile built fabric. The size and shape of the building blocks, the internal organization of open spaces, their distribution and nature of the street grid determine the layout of the city.

It is said that,

> 'The real Colombo scene, rooted to community and formulated on traditions, blending the culture of the Portuguese, the Dutch and the British occupation lies in these two segments, namely fort and Pettah of the modern city.' (Brohier R.L. 1984, Pg. 2)

Major changes done to the physical structure of the city under British period since 1796, raising the fortification and the city started to expanding towards Pettah due to newly introduced plantation, economy and related activities.

British colonial Buildings replaced most of the Dutch buildings in the fort, and waterways within the fort were reclaimed and built upon while keeping the same street layout. This almost infected Colombo fort became more commercial an administrative center which resulted in the removal of residential activities from the city center.

After the independence in 1948, the city of Colombo began to develop with an increasing urbanization trend. In 1982, the city planning authorities began to beautify the city by improving parks, streets junctions and roundabouts, as it was felt that the city was diverging towards an unpleasant urban fabric.

After "open economy" was introduced, the new types of buildings were introduced to the city structure by which the historic built fabric was strongly affected. Most of such buildings were high rises and symbols of commercial dominance. Colombo can identify as combination of old and new buildings therefore the present, Colombo is being facing the change in character.
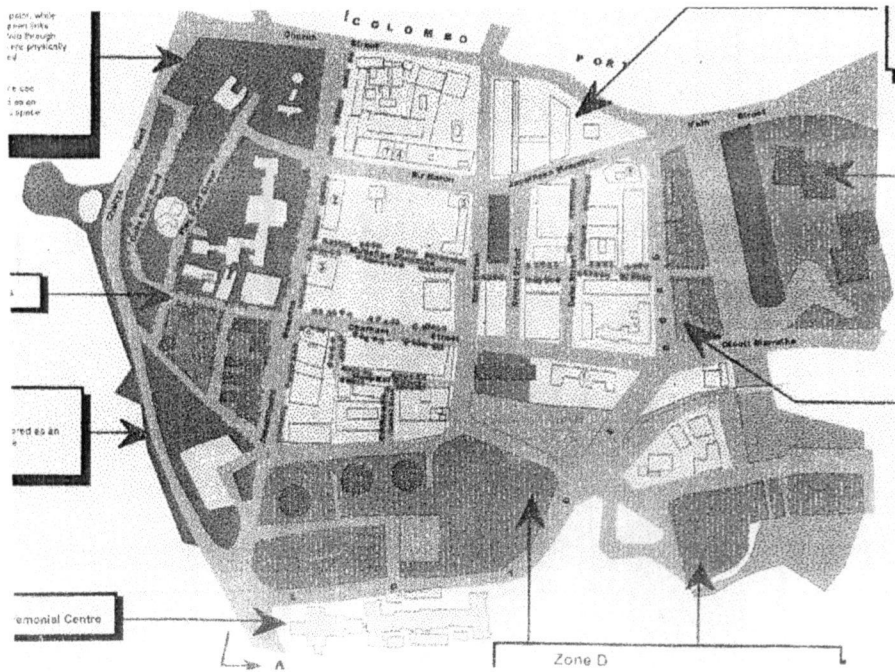
Fig: 4.2 – *Proposed zoning plan of Colombo - CMRSP*
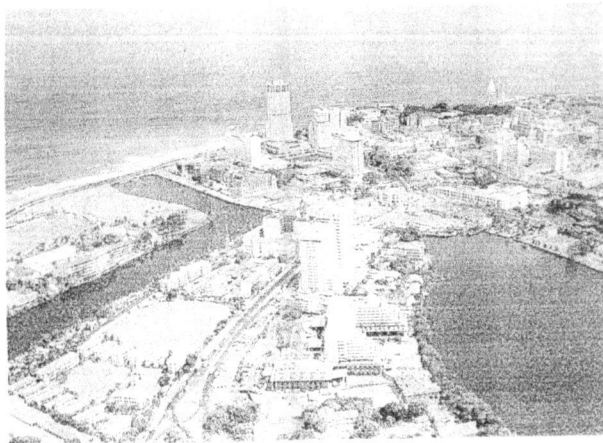
Fig: 4.3 – *Arial view of Colombo*

### 4.2.2. Determinant factors of Colombo fort

This fort considered as the main historic quarter of the city, which is determined

mainly by,      topography and climate,

           physical and functional aspects

           social and cultural aspects


### a) Topography and climate

When generating cities, topography can consider as the evolving factor to shape

the form.

In the city of Colombo, most significant feature of its topography is the "natural

harbor". Therefore it developed as a harbor city, within which fort had become

the major center of attraction among the traders. Thus the North edge of the city

still functioning as one of the main harbors in South-East Asia, fort area has to be

expanded potentially towards Pettah.

The other significant feature of Colombo is Beira Lake, which originally used to

extensive reach of floodwater from the Kelani Ganga. This provides protection in

the nature of moats and mechanically controlled flooding and to provide

transportation of goods and people.
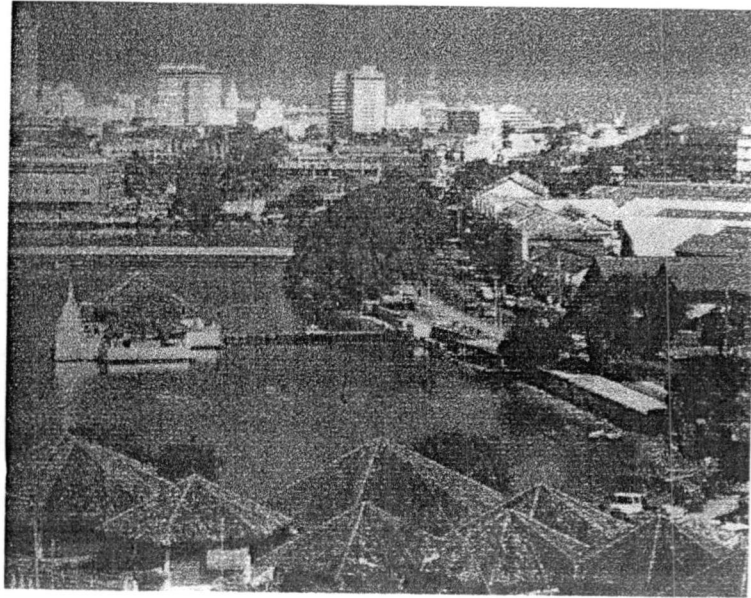
Fig: 4.4 – *Beira Lake- A dominant topographical feature in Colombo*

## b) Physical and functional aspects

After introduction of plantation based economy results to expand the city, create new transportation system (railway stations) and appear relative activities within the city.

Thus the city of Colombo became more and more a commercial and administrative center. The port related activities also formed the city structure with large-scale commercial buildings and number of warehouses. As a result of complexity, residents moved away from the city center mostly to the cinnamon Gardens, and to the surroundings of Beira lake.

Fig : 4.5 – *Dutch house in Pettah*

## c) Social and cultural aspect

Many cultures affected to the built fabric of the city due to repetitive occupation of colonials, which caused to introduce their own colonial architecture through out the history.

But Pettah which earlier had been the residential district of the indigenous population (which included a wide variety people from Burghers, moors, Chetties to Sinhalese) had contained rows of compact one storied villas with their roof slung over a common ridge and pitched low over broad verandahs or 'steops' became a congested bazaar area which ultimately changed the appearance of the built fabric.



Fig 4: 6 – *Main street in Petah*

### 4.3. Study of new buildings in historic built fabric of Colombo Fort

### a) New buildings in Colombo fort

As explained in the chapter three types of new buildings developed in the Colombo Fort can be categorized as re-use, re-create and newly achieved buildings.

Coming up of new buildings developed in Colombo Fort basically spread out on to two distinctive areas. One is in the heart of the historic core (Ex: Mudalige Mawatha, Chathem Street, Certain areas of York street) while the other type is in the periphery of the Fort area. (Ex: Echelon square, Biginning of Janadhipathi Mawatha)

Grindlays Bank, Hemas building, Bristol building are few examples of newly developed buildings in the middle of the historic core while Twin Towers, Bank of Ceylon building, Hotel Hilton are some of the new buildings developed in the periphery area. The most common type of new development in the heart of the historic core is 're-use'. Grand Oriental Hotel is one of the best examples for this type of buildings. The other type of new buildings developed both in heart of the historic core and the periphery is 're-create'. Ex: Grindlays Bank, YMBA building

Within the peripheral areas, the type of new developments commonly seen as 'newly achieved' buildings with modern/ sophisticated forms, technology and materials. Most occasions these buildings give contrast to the surrounding historic context.

Fig: 4.7 – *Map of Colombo Fort*

## b) Study of historic built fabrics in Colombo Fort

In a Fort a set of streets laid as grid organization while stretching north – South and East – West directions. Several Linear Organizations defined by the straight streets (York Street, Janadhipathi Mawatha, Chatham Street, Marine Drive, Mudslide Maratha, Lotus Road, Church Street). Those are defined by a number of spacious rectangular or square built areas (urban blocks). Therefore these streets are one of the main components of formation of the city.

The case study is basically focused on following, which are selected from above mentioned streets.

- York Street

- Janadhipathi Mawatha

- Echelon Square

### 4.3. 1.   York Street - Introduction

As the North South oriented street, it starts from the Echelon Square junction and ends up at the Church Street. It continuously meets with canal raw, hospital street, Chatham street, Mudalige Mawatha.

The raw of buildings along York Street can be divided into two sectors. One sector is from Echelon Square to Mudalige Mawatha, the second is towards Sir Baron Jayathilake Mawatha, Church street and ends up at the Ports Authority building.

Fig: 4.8 – *Map of the York street*
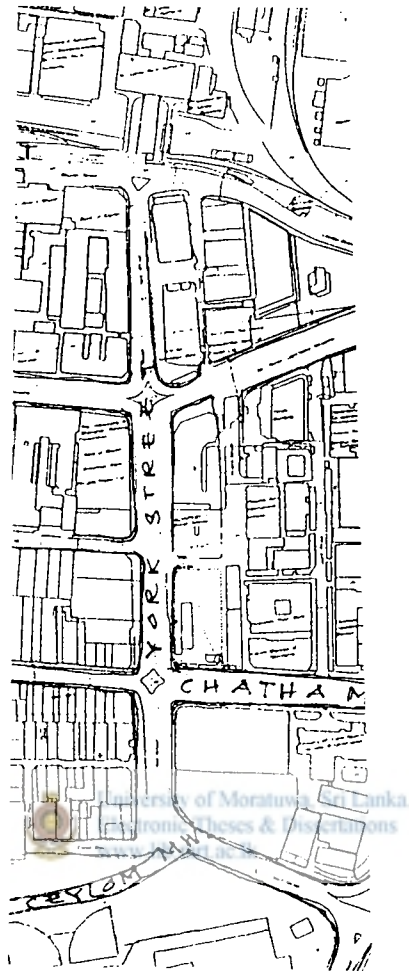
**a) First sector** – Echelon square to Mudalige Mawatha

Though there are some historically significant buildings (Ex: old Dutch hospital, Buildings along hospital street & etc) located in this sector, it has a great potential to come up of totally new buildings. As a result Twin Towers, Bank of Ceylon building and some other high risers have developed within past few years.

**b) Second sector** – Mudalige Mawatha to Church street.

The Western side of the street along this sector establishes a continuous raw of buildings, except few cross roads adjoining the York Street. The buildings are massive in scale and larger in plot sizes, which forms continuous street facades (Cargills & Millars building). Therefore the buildings are linear or rectangular in its form while presenting the bulkiness.



Fig: 4.9 – *Cargills and Millars building*

The Eastern side along the street many new buildings have came up. The continuous flow of the built fabric is being disturbed by some urban voids along the Eastern side.



Fig: 4.10 - *Eastern side of the York street*

York Street can be considered as the evident example, which consists full of colonial, influenced historic built fabric.

Some of the prominent historical buildings in York street (Built on or before 1948) as follows,

- Grand Oriental Hotel

- Cargills Building

- Millers Building

- Australia Building

- York Building

The architectural characteristics in historic built fabric within York street could be identified clearly by examined some of the selected old buildings. Such buildings are the strongest examples could be used to describe the identical character of the built fabric. Some of the old buildings mentioned above were selected as examples.
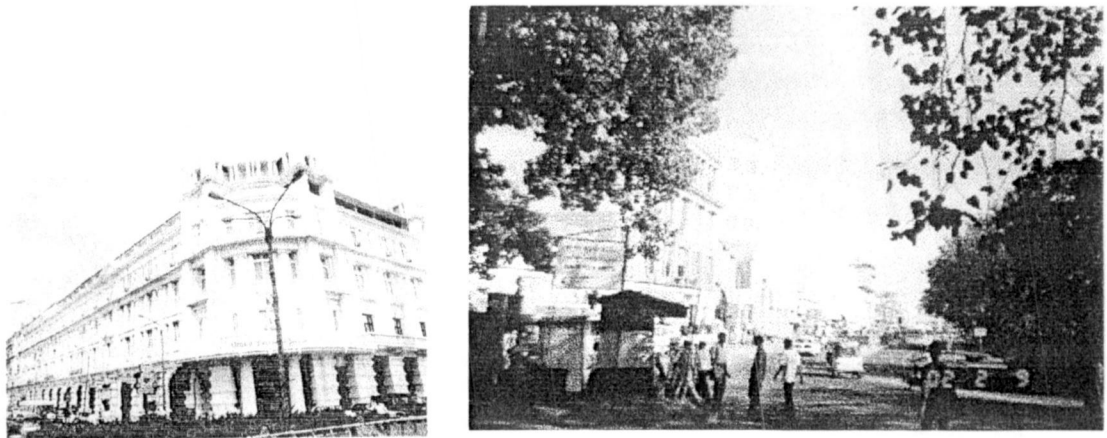


Fig: 4.11 – *Historic buildings in York street*

Fig. 4.12 – Layout of the historic buildings at York street

### 4.3.1.1. Architectural characteristics of the historic built fabric in York Street.

When studying the above examples, certain architectural characteristics, which were maintained, could be clearly identified. They can be described as follows,

a) Composition of masses and built scale.

When considering the York street, the original built fabric has a linier organization pattern, rich colonial architectural style and grand character. Within the linearity the building proceed along the road, which form a strong edge to define streets. In general the street gives strong sense of continuity with spatial punctuation. Buildings are massive in scale and larger plot sizes form facades of considerable length.

These are large-scale buildings, which constitute of 2 to 4 stories and proportionately appropriate when compared with the width of the street, which is 18m including the pavement.

Height of the buildings and elements such as windows, arcades, columns, etc, used in the buildings, which are in familiar sizes even though the buildings are in large scale.

And height/ breadth of buildings responds sympathetically to each other.

GRINDLAYS.  BRISTOL  OPEN SPACE.

EASTERN. SIDE.

GRAND OREINTE
HOTEL.

CLOCK
TOWER

CARGILLS &
MILLERS

WESTERN SIDE.
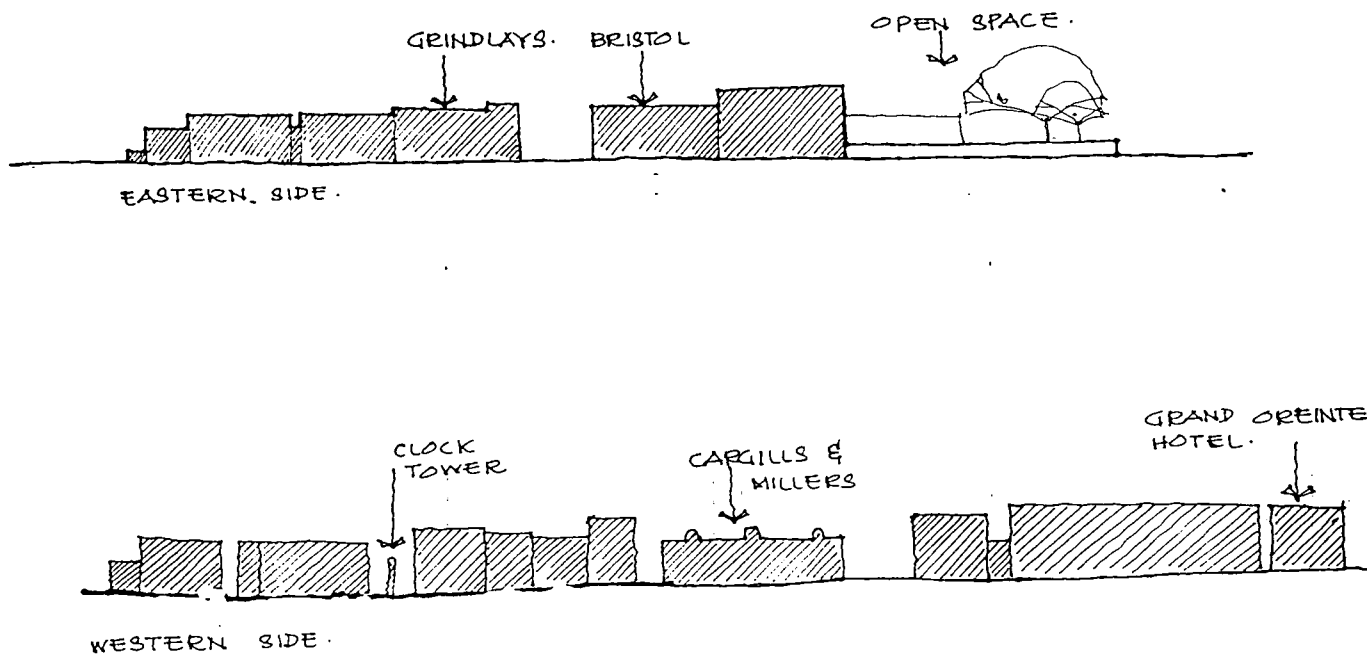
Fig: 4.13 – Street elevation of York street

b)  Sky line and Building line.

In most cases, straight building lines are strictly maintained the continuous sky line while defining the street edge by the straight building line.

c)  Façade treatment

Façade treatment of these building established a horizontal rhythm maintained similar floor heights, the monotony of which have been avoided by the use of vertical divisions.  These detailed and colourful facades of the buildings render mere cheerfulness to the existing prestigious character of the street.
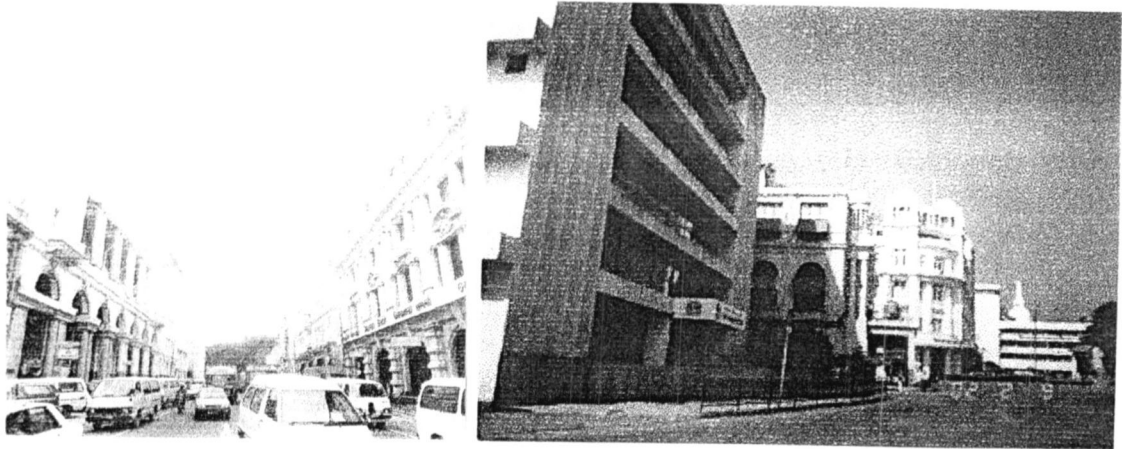
Fig: 4.14 – *Colonial architectural style with variations in different facades, giving historic value of the context – GOH building*

Repetitive pattern of vertical lines of columns emphasized, and especially the continuous grand arcade strongly emphasis the continuity of the street, creating and uninterrupted covered walking for pedestrians which make more relax and live urban situation.
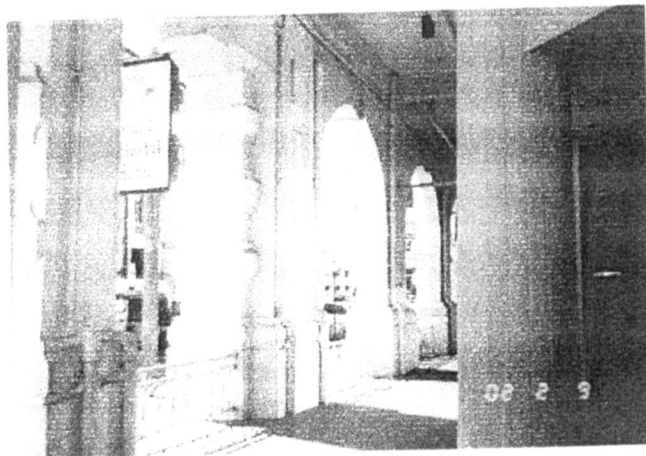


Fig: 4.15 – *Grand arcade of GOH*

Rich detailing of windows, doors, cornices and use of colours also support to make the image of continuity while giving variety and visual richness to the total built fabric.

d) Corner Treatment

Almost all corner buildings are responding to that particular junction and maintained the solidity at corner.
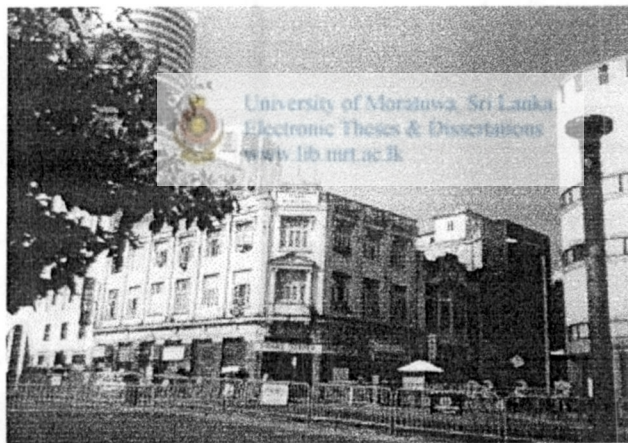
Fig: 4.16 – *York building*

e) Horizontal and vertical rhythm

Similar floor heights established a horizontal rhythm and the monotony has been avoided by using the vertical elements like columns. The grand arcade along buildings emphasized the horizontality.

Window to wall ratio provides balance between the horizontality and the verticality. Intensity of solids and voids of buildings strengthen the horizontal continuity.

f) Roof

Roofs are almost covered by using decorative cornice except some buildings it adds variety to the façade as well as to the streetscape.

### 4.3.1.2. Analysis of visual impacts of new buildings in York street

Many historic buildings on the first segment of Western side of York street create a strong historic identity and enclosure. But many new buildings developed in the second segment caused to degrade the existing historic character.

### a) Built scale

Floor to floor height of facades of the historic buildings maintain the horizontal rhythm through the second segment of the Western side of York street. But inappropriate story heights, which could be identified in the new buildings in the first segment, generate disharmony.

In eastern side, it is attempted to use the Heights and the elements such as windows, arcades, and columns in new buildings familiar to human scale. But it is questionable, because these elements have failed to a certain extent in order to Make the original sense of the place. eg. Gridlays Bank
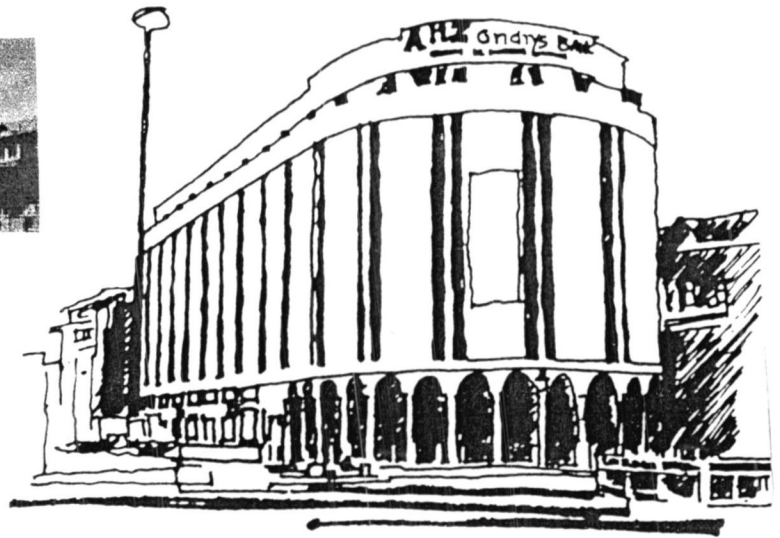
Fig: 4.17 - *Gridlays Bank*

Visual linkage of certain elements (only the arcade) of neighboring building is no justification for visual harmony. This example lacking in terms of secondary detailing, spatial quality of a traditional arcade is not present, no reference to floor levels/ storey heights, fenestrations are of deferent scale and detailing.

**b) Sky line**

The absence of the buildings at the first segment interrupt the continuity of the skyline and strait building line provides at the second segment breaks the continuity.

Height/ breadth of the building responds to each other except Hemas building. Their proportions do not respond to its neighbors.

## c) Façade / Corner treatment

Considering the proportions adhered to the buildings though the height and breadth of them are almost same, but pattern used in wall to window ratio is interrupted by the continuous and excessive use of vertical elements

Ex. Grindlays Bank and Hemas building

Gridlays Bank shows excessive contrast, which tend to violate the visual balance and thus provide monotony. On the other way Hemas building shows monotony not experience the contrast between elements shown by the other building

Except the buildings in second segment, some other buildings along York street have already neglected the corner treatment.

4.18: *Corner building contrast among historic buildings- view from Baron Jayathilake mawata*

## d) Horizontal and vertical rhythm

Some vertical elements exploit the continuity of vertical rhythm. In Grindlays Bank , even though the arcade treatment at ground floor supports horizontal rhythm, vertical windows exploit the vertical continuity.

On the other way some buildings emphasize the horizontality which totally inappropriate to the particular location and does not show any response to the neighboring building.

## e) roof

Most of the new buildings in York street has no relation to the group's roof scape (ornamented roofs with cornices, variations of eave) or sky line.
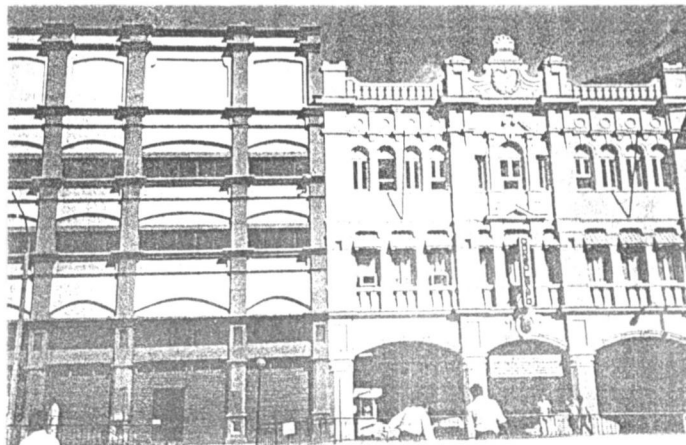
Fig: 4.19 – *Existing roof escape*

### 4.3.2. Janathipathi Mawatha

The built fabric of Janadhipathi mawatha bears different in character in comparison to the York street, as majority of the built fabric comprises of newly developed buildings within the old built febric.

Janadhipathi Mawatha provides one entrance to the fort, which lies along the North-South direction.



Fig: 4.20 – Segments in Janadhipathy mawatha

The clock tower at the intersection of Chathem Street divides the Janadhipathi Mawatha into two main segments. These segments could be identified as follows.

The first segment contains a majority of new buildings, which developed in a later period. The second segment contains large colonial buildings with wide frontage (Ex:Queen's House, General Post Office, Old Parliament Building, National Mutual Building and other old building of the harbor side -north side). As one of the entrances to the harbor this northern segment is being barricaded. For this study, first segment is taken for the examination because it is an ideal example which can be used to illustrate the impact of newly developed high risers within historic area.

### 4.3.2.1 Architectural characteristics of historic built fabric in Janadhipathi Mawatha

The general architectural characteristics of historic built fabric in Janadhipathy mawatha is quite different from York street, where a compact historic built fabric could be seen. Instead of that the built fabric in Janadhipathy mawatha is less compacted.

### a) Composition of mass and built scale

The organization of masses towards president house, which is the most important building of this context, enhanced by the axial location of the clock tower. Heights of the buildings are almost similar. Height/ breadth of the buildings respond sympathetically to each other.

**b) Sky line and Building line**

The presence of vacant land interrupts the sky line. The interrupted building line and sky line breaks the continuity of the street.

**c) façade treatment**

Most of the buildings have provided similar floor heights and strong horizontal rhythm. Vertical rhythm is emphasized by providing lateral punctuation. Rich and intricate facades add visual interest. Most of them are maintaining the floor to floor height. They are responding to the corners while providing adequate solidity. Details of cornices, decorative colomns, arcades ,window detailing adds visual interesting to the eastern side
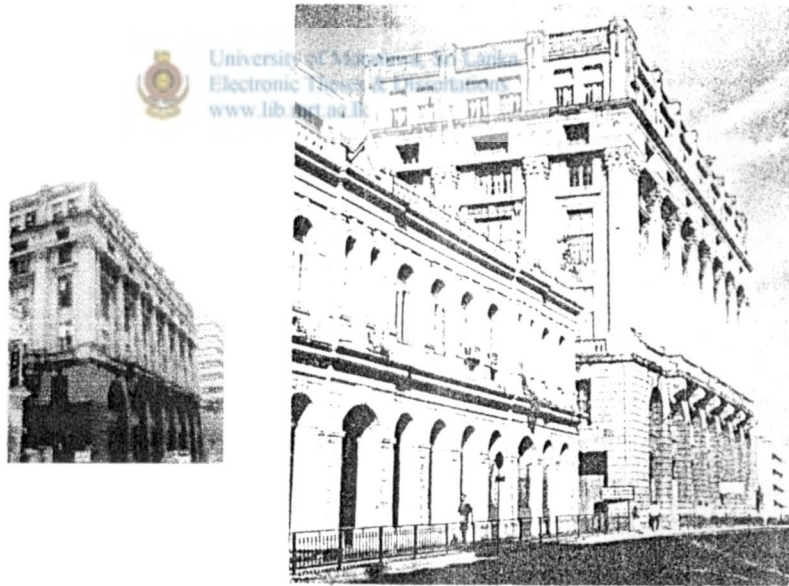
Fig; 4.21 – National Mutual building

**d)Horizontal and vertical rhythm**

Rich and intricate façade add visual interest, and provides horizontal rhythm due to the height and breadth, which is still remain with some of the historical buildings. eg: National Mutual building.

**e)Roof**

other than few of the older buildings ,most of the new buildings neglected the traditional roof scape.

**4.3.2.2.Analysis of visual impacts of new building in Janadhipathi Mawatha**

Unlike the York street , Janadhipathy mawatha has many vacant lands caused to coming up of new buildings for large few years in considerable rate of growth. The imergence of new buildings are responsible for changing of the characters of the existing built fabric. Most of them are failed to maintain the original sense of place, which unable to express the visual appropriateness. The following characteristics, which are failed to be maintain in most of the new buildings are the primary factors for lack of the visual appropriateness.

**a)built scale**

Considering the proportions adhered to buildings, which break the visual coherence the absence of correct wall to window ratio, vertical and horizontal elements interrupted the continuity.

some buildings failed to relates their height with the others. Even though the majority of buildings are similar in proportions, some buildings reduced that effect; furthermore double height arcade of National Mutual building, violate the continuity of the existing character, and Bank of Ceylon tower also failed to maintain the proportions.

## b) sky line and building line

Existing built fabric in Janadhipathy mawatha does not maintain a continuous sky line as there are not a well compacted built fabric due to existence of vacant lands. But in the present situation the sky line is demarcated by newly developed buildings.
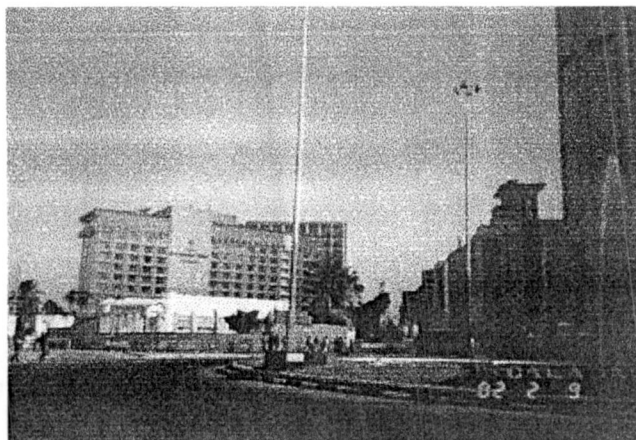
Fig: 4.22 – Modern high risers in Janadhipathy mawatha

## c) Façade/Corner treatment

Significant buildings like Hotel Intercontinental, Central Bank and other buildings failed to form a continuous facade, which eliminate the integrity of that side thus violating cohesion of the built fabric. Even the vertical and horizontal elements failed to provide higherachy to the street.

Fig4.23 – Façade treatment of new and old buildings

Most of the corner buildings of this street is not responding to the particular junction and the boundary wall of Hotel Intercontinental is responding to the corner. the absence of avoid emphasizing the corner.

The street gives the continuation, unity and the wall effect strongly violate by the Bank of Ceylon Tower and twin towers, which stand at the beginning of the Eastern side.
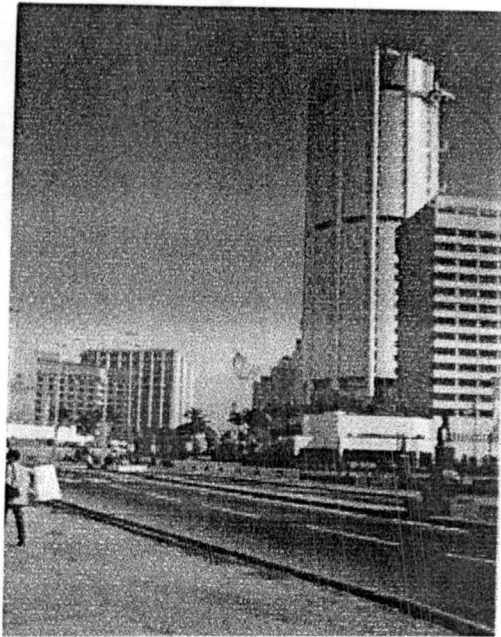
Fig4-24 – Hotel intercontinental building as a corner building.

### d) Horizontal and vertical rhythm

Eventhough similar floor heights are provided, the detailing of the central bank and breaking the continuity has been avoided the strong horizontal rhythm;two storey high podium of central bank attempts to continue the horizotal rhythm, though in an unsuccessful way. the vertical rhythm is emphasized.

### e) roofs

roofs are almost flat and avoid having visual contrast to the street.

### f) materials and colors

Both sides of the Janadhipathi Mawatha contain visual variety by its colours, materials and detailing. As a results visual interest is added to this side.but considering the historic built fabric, visual impact can be produce highly within the 1st segment of (western side) Janadhipathi Mawatha.

### 4.3.3 Echelon Square as a buffer zone/front segment of the Janadhipathi Mawatha

### 4.3.3.1 Architectural characteristics

Echelon square as buffer zone, which, become occupied by high rises of modern technology and symbols of commercial dominance. This means the places in the city which belonging to different groups. specially there is a old Dutch hospital,which is a single storey beautiful historic building and it has been hidden in between the high rised cluster. As the urban in fills for an urban voids, these high rises complete the existing street elevations and maintain the skyline.
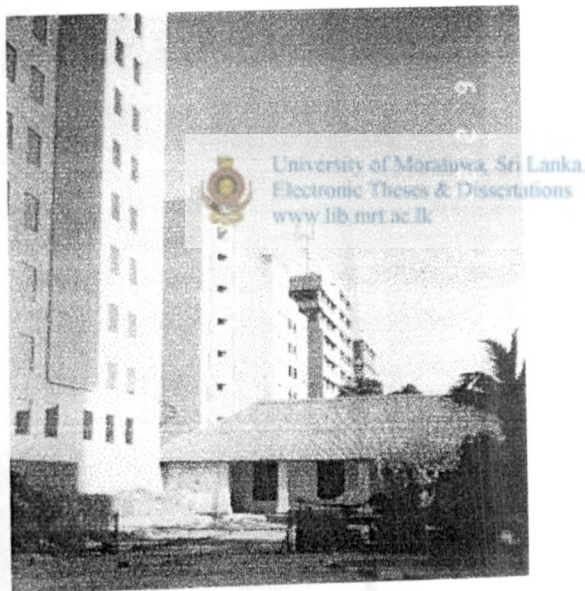
Fig4.25 – Dutch hospital building within the high rises

within the Echelon Square. New buildings came up along the particular street, which produce unique in character. Most of them are high rises which are acting as object buildings within the Fort area.

### 4.3.3.2 Analysis of Visual impacts of new buildings

As such violation of built scale can be identified from the Echelon square area, which is clearly breaking the built scale of its immediate neighboring Old Dutch hospital building. The height and the breadth of the building break the rhythm of the linear shaped Old Dutch hospital building, which is to be converted and reused as a tourist hotel.

Many new buildings like Bank of Ceylon tower, Twin towers, have been introduced to the city form. Due to the exposure for the new trends of technology, New materials. which cant considered to be creating pollution. but It is the inappropriate usage of them in creating building environment, finally which create visualy pollution.

### 4.4 Analysis of visual impacts of new buildings in Colombo Fort

Past few decades many new buildings were added to the city, but it's basic structure, so far, had been unaltered. Sri Lanka being exposed to new trends of technology and commerce after 1977 due to the introduction of 'open economy' new types of buildings were introduced to the Colombo Fort. Most of them were high rises of modern technology and symbols of commercial dominance.

Some of the new buildings have developed in the places such as York street, Chathem street, Sir Baron jayathilake Mawatha and etc. where a strong historical identity can be seen. Some of them have developed in vacant lands within the areas with lesser historic characters. Eg. Echelon square and Janadhipathi Mawatha.

When a new building is designed within a historic area, the detailed appearance should be related to the surrounding context. That is called visual appropriateness, which should be maintained between the 'old' (existing) and 'new'. But in practice it is either consistently ignored or inadequately understood.

Due to that reason majority of the buildings came up in the reason past were designed and built regardless to the context and disturbed the existing character of the built fabric of Colombo Fort. Therefore the importance of designing of infilling (new or replacement buildings) in the proper way to achieve visual appropriateness between the old and the new becomes the priority of maintaining the visual environment of the Fort area.

The study on the new buildings in a historic area and their impacts has to be carried out to understand the practically and aesthetically accepted means of designing visually appropriate buildings in an urban setting.

## 4.5 Galle Fort - Case study 2

### 4.5.1 historic background of Galle Fort

The city of Galle consists of three main parts, indentified as the fort, outer city and the larger open spaces at the front of the fort. And, which played a major role in the world trading economy since ancient times. It's due to the fortification and existence with large, natural port.

The sensible organization of Galle has the Dutch fort at its centre as a most significant historic quarter of the city. Galle was well settled after the arrival of the portuegues (1505 –1640 A.P) Dutch (1640 –1676) and British (1676 – 1796 ) While it was a very busy town for 150years at the British regime. Especially the Galle fort has being a capital of the Dutch. In the British period (1796), from of the city changed slightly, unlike the Portuguese and Dutch, imposed western architecture form and concepts, without responding the historic build fabric.
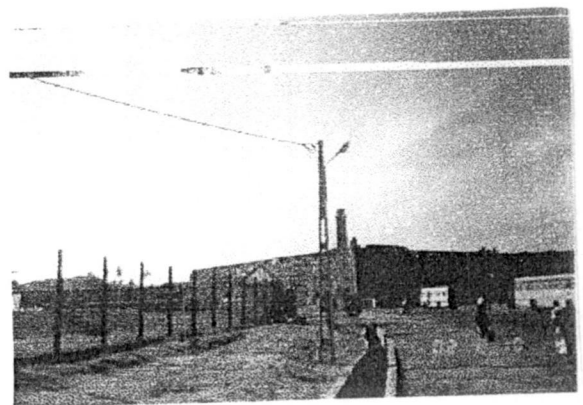


Fig: 4.26 – Arial view of Galle fort

As such the city had been planned according to the land use as commercial, administration, industrial and military activities under the Dutch, outer city functioned as a residential and commercial purpose. Which contains a combination of gridiron organization while following the irregular shape of the land there.

As conservation zone Galle   fort consists with residential buildings. Public, private institutional, religious, utility, open spaces, services, landscaping, roads and drainage systems.

However this fort still contains the well preserved, and unaltered spaces and the buildings of the Dutch, Portuguese and British, Which are presence the colonial architectural style.

But As an evolutionary process Galle was developed as an international market and urban center in the period of the second urbanization (from at out 13<sup>th</sup> century on word) and to have reached the peak of its importance in the third period ( 16<sup>th</sup> to 19<sup>th</sup> century) to which the fort belongs.

Thus at the presents buildings have to be adapted to provide the comforts of modern life, as the change of physical environments by the social, cultural and economical needs and demands.

Fig: 4.27 – Area map of Galle fort

### 4.5.2 Determinant factors of Galle fort.

Galle fort can be determined mainly by the ,

- Topography and climate
- Physical and functional aspects,
- Social and cultural aspects.

### a) Topography and climate.

spaces and buildings of the city and its qualitative coincide with the spatial divisions and which express the organic character of the city. Fort is totally separated from rest of the city, and which is dominant in its setting. This enclosure is formed by the sea and built mass. Galle fort where in the geographical location and the organization of forms and spaces shows a direct relationship to the natural shape of the land.



Fig: 4.28 –Outer city of the Galle

Topography, and climate aspects as determinant factors, which combine the Sri Lankan Traditional and European architecture, together to create buildings within the fort as the Dutch houses, and religious buildings are most significant . Charcteristics of Dutch Houses within the fort are heavy walls, massive doors, sometimes in 4 sections laft chambers and a variety fanlights and ornamental lintels over the door ways and windows, every houses had a " steops" or verandah and open courtyard in the center to permit light and ventilation.

## b) Physical and Functional

Build fabric of the city of Galle created as a result of the functional purpose. The after city can be observed as a continuous built fabric of narrow facades 2,3 storied buildings with different architectural styles.

But the Galle fort as largest walled town in Sri Lanka, which composed as a grid organization of spaces, where a linear spaces layed along the streets.

Commercial activities, which gained emphasis in relation with the trade functions of harbor, resulted in the inception of commercial spaces and buildings along the sea street.

## c) Social and cultural aspects

The colonial times Galle fort was established as its Social- cultural background, and which was mainly thus the structure of the city and its spaces organized according to the Dutch Concepts. But the Dutch played an important role in society to transforms the buildings from as a product traditional Sri Lankan social cultural context.

GALLE FORT
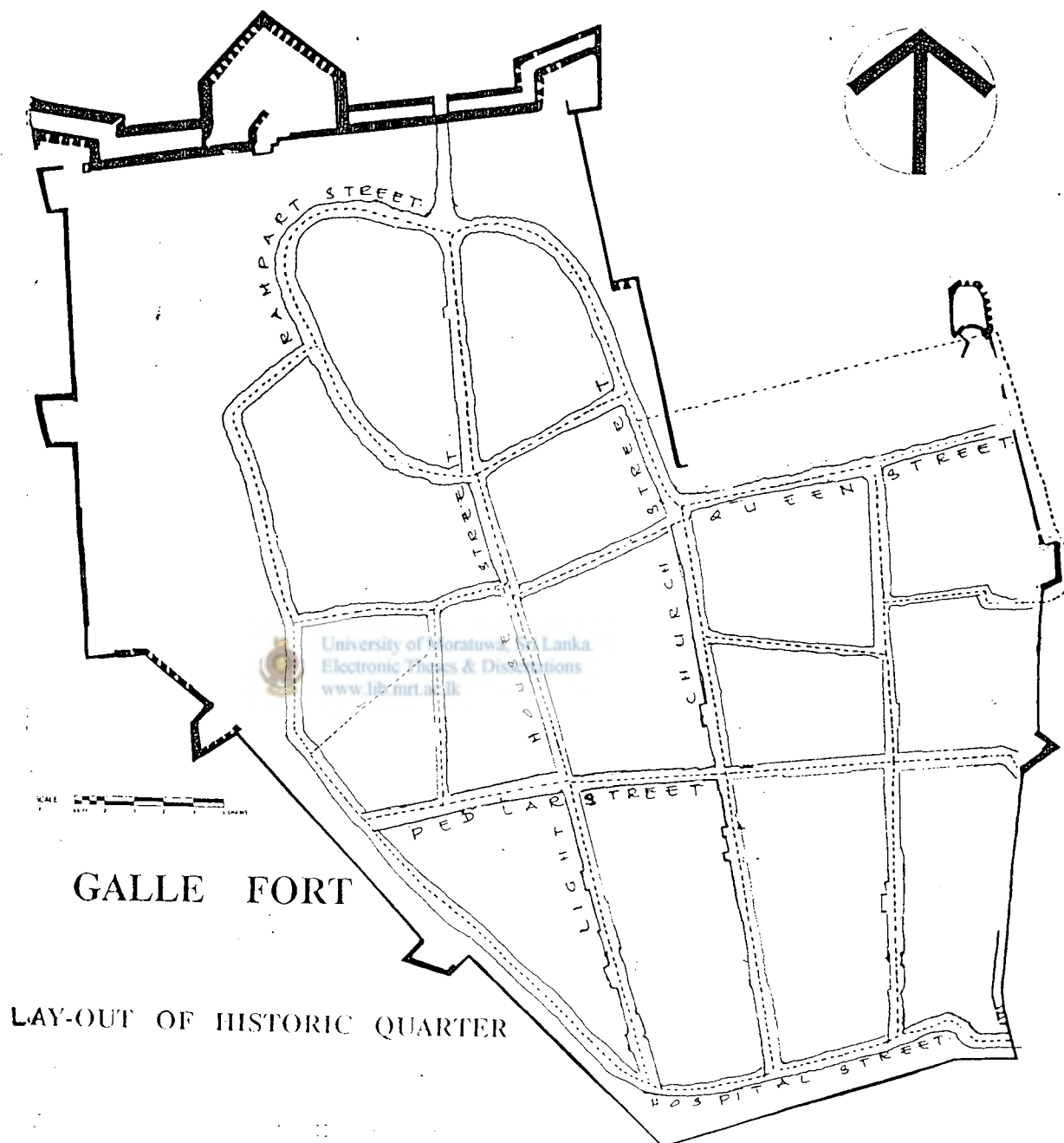
LAY-OUT OF HISTORIC QUARTER

Fig: 4.29 –Map of the Galle fort

## LEGEND

- [ ] Residential
- [ ] Commercial
- [ ] Public
- [ ] Industrial
- [ ] Religious
- [ ] Tourism
- [ ] Open Spaces
- [ ] Parks & Play Grounds
- [ ] Shanty
- [ ] Boat Yard

### 4.6 Study of new buildings in historic built fabric of Galle fort

#### a) New buildings in Galle fort

As explained in the chapter 3, types of new buildings developed in the Galle fort can be categorized as re-use, re-create & newly achieved buildings.

Considering the built fabric of fort, the manner of changing physical context moulded the built fabric along with time under the different cultural and social groups by this it could be understood that the phase of change in the non physical context & its need of spatial change accordingly. Also it was not a problem as there weren't any restrictions for that yet the conflicting situation arose after it was declared as a conserved urban heritage. The changing physical context is in difficulties in finding its spatial needs are in difficulties in finding its spatial needs out of the preserved built environment.

New primary elements & new groupings as activities have appeared in the city due to changes in the political & social instructions. Security camps at the master attendant's hose and the head quarters of the deputy inspector General of has been moved to the back fort.

As such new functions have housed in old buildings worth conserving that types of updated buildings can be identified as reused buildings.

But the up keeping of its quthentic conditions is not given proper attention. Each new functions has a problem of compatibility with spaces acquired in some built spaces such as the city assistance's office converted to a public buildings are being neglected.

The diversified needs demands more personalized spaces according to the contemporary life style that it has been hard to keep the authentic character of the fort. The authentic character of the fort. The charging role of the urban spaces itself instructively shows the emerging conflict between the need for conservation and the social attitudes towards it. Therefore which resulted the re-create and few numbers of modern buildings. The unique built forms that accommodate the residential and commercial functions simultaneously and their inter- relationships are the most important futures of the city center.

As a result of being bought by wealthy outsider the residential use is decreasing from this quarter. The pressure for more spaces to expanding trade has resulted in buying a couple of buildings that are eventually replaced with one large form.



Fig: 4.30 –New buildings in Galle fort

**b) Study of historic built fabric of in Galle fort**

In fort, a set of streets stretching towards North – South direction

(Eg. Church street, lighthouse street) & east & West directions (egg- peddler

street, church cross street, Queens street) inside the spaces into several district

compartments. Leon Kiier has analyzed this establishment of urban blocks as a

composition of physical components.



Fig: 4.31 – some of the Old buildings in Galle fort

This case study of Galle is basically focused on over role historic built fabric. Because the entire quarter reflects uniqueness, other than change in character. As a world heritage historic quarter, there have been come up slight changes. Due to the strict regulations. But at the present there are changes and various buildings appeared as a result of the unauthorized constructions & political stresses. Therefore as a best example, church street selected to explain these unique characteristics.

**Some of the prominent historical buildings in Galle fort**

* Church buildings          ( Church street )

In Galle fort, churches considered as significant buildings which was constructed in early British period and now being well preserved. these are single story buildings, and made out of tiles, bricks, and granite.
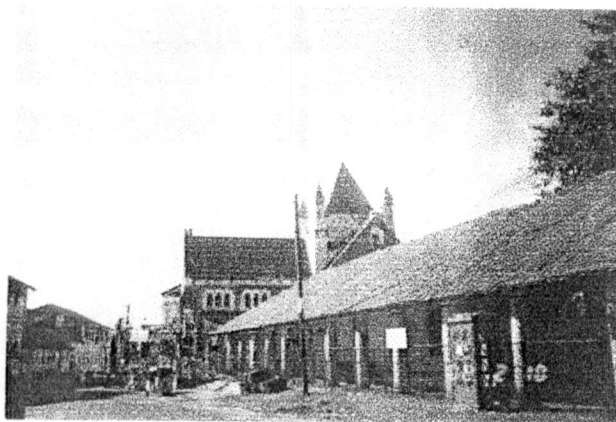


Fig: 4.32 – Church as significant building as fort

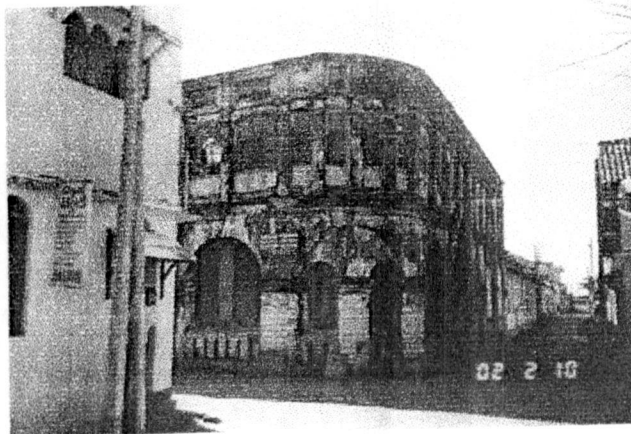* Commercial building　　　( Church street )



Fig: 4.33 – Character of the old building

* Some warehouses　　　　　　( Queens street )



Fig: 4.34 – ware hose as a registrar office – reused building

Most of street stretches in north – south directions and it consecutively meets several streets and endup at the junctions, finally focusing the rampart at southern side

Rampart street is running along the edge of the fort and the other streets light House street, church street, leynbaan running North – south directions and peddler street, church cross street leynbaan cross street, Queen's street and the middle street running East-West .As a whole all of these streets make tided layout, which defined the urban blocks.



Fig: 4.35 – some of the buildings in Church Street

Eg: Church street is one of the major street in fort and consist of different types of buildings, administrative, commercial, residential, religious, and instructional buildings.

## Architectural characteristics of the historic built fabric

When studying the above examples, certain architectural characteristics that were maintained, could be clearly identified. They can be describe as fallows

The Galle fort is the largest complete walled town in Sri Lanka. and is contains a combination of gridiron organization of spaces were a linear spaces layed along the street. Most of them are met the Rampart street at regular intervals by a set of interesting linear blocks.

Within the fort built fabric consists of buildings, which are low and similar in scale with gable roots and deep verandahs. Arranged in rows on either sides of streets and the large scale colonials buildings stand in between then as a land marks. Most of them are churches and other significant buildings.

Most of them are respond to the topography of the streets while establish densely and pack as continuous row of buildings and massive scale buildings at the climax almost all the building of either the side containing necessary landscape and providing unity which makes streets as a whole.
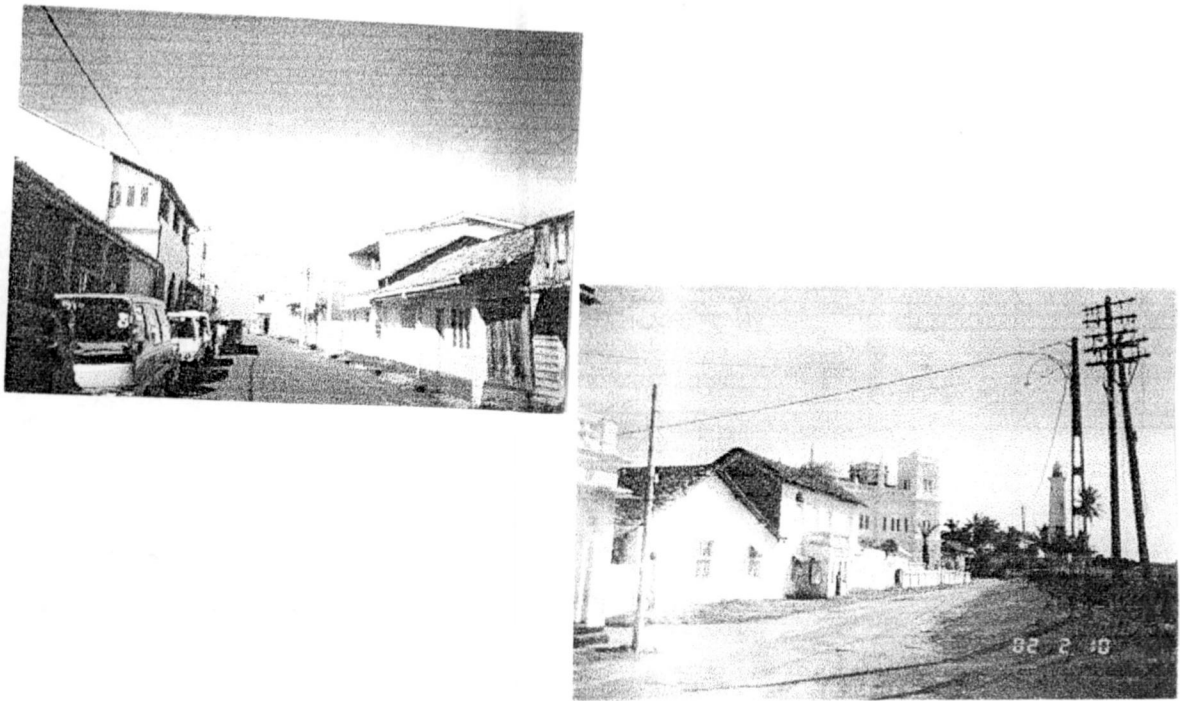
Fig: 4.36 – Built fabric in the streets

In fort as majority residential buildings witch are similar in scale and proportion. With the gable roofs and deep verandah with slender wooden or rounded bricks pillars, which arrange in rows. As such in these buildings top extremity is demarcated by gable roofs, bottom by plinth wall and demarcated sides of buildings fulfill with the principal of proportions.

These buildings respond to the topography and providing visually interested buildings at the climax colors, surface treatment conical shaped roofs add visually interest too. The buildings materials also carefully used to get visual interest. Some of the visual variety is achieved by using sensible place landscape. The ornamentation and colors .

Fig: 4.37 – Colors use in streets façade

Some of the buildings have massive scale and facades having considerable length, consists with more decorative elements. Mainly building shows horizontal rhythm.

## 4.7 Analysis of visual impacts of new buildings

Galle fort being privilege as a self contained entity or town & which consists of historic built fabric and its environment with unique character which emphasized by the street scape on either side of the street.

Considering house forms together with facades have being changing rapidly it is due to the social, cultural & economical needs and demands. Specially the Muslims as majority of the owner of these street houses, they try to change these houses according to there culture. Eg; Muslms avoid the open verandah.
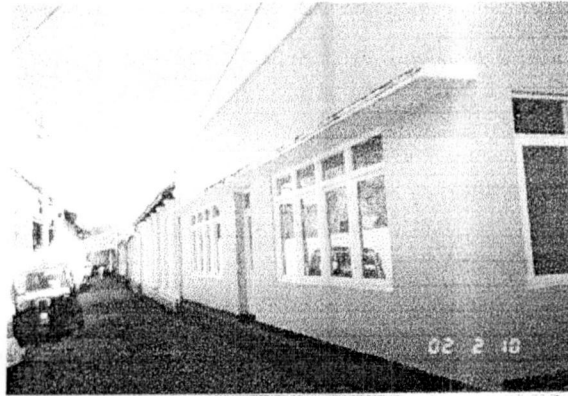
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Fig: 4.38 – Verandah have being removed

The houses of Islamic society, with greater emphasis on the decoration of the interior elements, like court yards,etc.

Fig: 4.39 – Cout yard used as a interior element

As such, according to their, culture houses make with more colorful ornamental with new styles. If these façade treatments are interested which have no order and it destroy the historic quality & the identity of the existing historic building fabric which make the visually polluted environment.

People never tend to renovate these houses, due to maintenance problems. As a world heritage city & living monuments there are set of rules & polices introduced to protect this fort as a living monument thus, the dead monument are preserved & converted into museums.

Warehouses as reused building, which found as significant larger buildings at the Queens street which is in collapsible situation if there is no maintenance as consider the re create buildings most of the new buildings are prominent as residential buildings. which is the renovated as people's needs most of the buildings in this type.

The well proportionate Dutch elements are replace by the façade which destroy the uniqueness of the built façade, some of the bulk & massive concentrate & metal works create more complexity visually disharmony to the street character.

Most of them are creating new face to the street. Which change the whole character of that particular façade, built fabric & contrast quality can be considered as big disaster to the living monument.

# CONCLUSION

# CONCLUSION

The important attribute of the identity of a place is the character or personality of the place, a strong and distinctive spatial quality peculiar to that place, which differs from that of all other places. Therefore the creation, preservation and maintenance of distinctive character in human environments are of great importance.

As Charles Landry has stated, "....when we live in older places, we can identify layers upon layers of history and tradition each with its own story to tell; of where we came from and what we have achieved such as through the product and services for which a way is known. Such surroundings save as an inspiration to where we might be going".

(The Urban age; 1997: vol.4:No 4)

Here the study identifies the importance of built fabric and its responsibility to interact with surrounding historic urban context, which encourages thinking critically about both today and yesterday.

Nowadays most urban historic areas are progressively coming under threat of new development. New out looks, new materials and new construction methods lead to make new buildings almost totally different from those in historic built fabrics. This results speedily loosing the uniqueness, and the identity of historic built fabrics.

Various types of new buildings coming up were identified in this study through analyzing the foreign and local examples, which follow three basic options.

- The original character of the fabric to be captured and preserved by restored or reused buildings,

- The original character to be accepted and responded by the recreate buildings with repetitive elements
- The original character to be disregarded totally by newly achieved or modern buildings introduced

As such, result of these attempts, new buildings already appeared as restored/ reused, recreated/ assimilated and modern / newly achieved buildings.

Changing of the character of the original built fabric is an unavoidable circumstance due to these new buildings, which cause the destruction or alteration of identity and character would inevitably result in loss of continuity, cohesion and the sense of place, which create the significant impact in manner of visually, psychologically, functionally and environmentally.

As discussed earlier this study was basically focused on 'visual impacts'.
The 'visual appropriateness' of the buildings is defined as the detailed appearance in relation to the surrounding context. In other words it can be defined as the harmony or the visual completeness between ''new' and 'old' (existing)'.

To study the new developments in historic areas there are two distinct examples were selected within the Sri Lankan context. Those are Colombo and Galle Forts, which have strong historical identity.

Galle Fort as a 'world heritage', limits the new developments within it due to various restrictions related to archeological, cultural and etc. The most common types of new developments in that context are re-used and re-created buildings. The potential of coming up of newly achieved buildings is less due to the above restrictions and highly compacted built fabric within the Fort.

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Colombo Fort has a different context of which highly compacted historic core surrounded by less compacted peripheral area. There, the potential of coming up of re-used and re-created buildings as new developments is commonly seen in the middle historic context. And within the peripheral area the most common type of new development is newly achieved building.

Maintaining the 'visual appropriateness' between the 'old' and the 'new' in so-called historic towns is not an easy task for a designer. He should learn to resolve the conflict between preservation and change, to integrate the $20^{th}$ century sympathetically with its predecessors to protect the architectural heritage.

To maintain the visual appropriateness in order to minimize the negative visual impacts in such a historic context a designer should aware of certain criteria. As analyzed in the last chapter those could be briefly identified as, composition of mass, built scale, skyline, building line, vertical and horizontal rhythm, façade treatment, roofs cape and other architectural details.

By recognizing and observing those criteria, a designer should not aim to preserve these original qualities, item by item, but to influence and direct development with a meaningful and sympathetic standard of townscape design, that maintains and encourages a feeling of local identity and the quality.

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