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Analytical Study on the Built and Spatial transformation in Shrinking Cities and Setting out an Urban Design Strategies for Revitalization of Matale City

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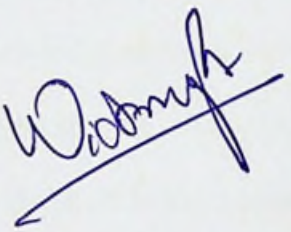
Signature:  Date: 01/03/2014

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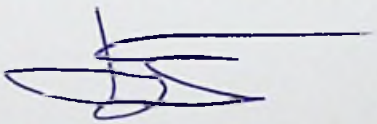

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Abstract

Shrinking is not a new occurrence. It has been documented in a large literature analyzing the social and economic issues that have led to population decline, resulting, in the worse cases, in the eventual abandonment of blocks of housing and neighborhoods. Analysis of shrinkage should take into consideration in built and spatial form for understanding that this phenomenon is now global and multidimensional — but also little understood in all its manifestation. Thus, as the world's population increasingly becomes an urban, accepted view of urban decline need re-dentition. This decline situation instantly express on built structures and later in spatially too. It was previously well known term to only western world and now it's also popular word among the eastern countries as well.

After decades of urban growth, modern societies now face an increasing number of shrinking cities with undergoing massive physical transformations. Since, the impacts on the inhabitants in shrinking cities are numerous. Mostly negative effects dominate in the public discourse and visually witnessing the outcome of the effects on built and spatial form too. But urban growth and urban decline have been synonym of achievement throughout the world and even considered the proper and solitary for urban designing. It has become more visible, since unquestionable facts started to challenge conservative and established urban design paradigms. Consequently, the shrinkage or urban decline is considered as an urban design tool to measure the intensity of decline or growth of cities. Nevertheless, not only in European or American cities, but also in Asian cities in, China, India, and Japan, has number of shirking cities at recent days.

The study was mainly focused to understand the Urban decline in Srilankan context, selecting Matale City as a case. This study results show how the city structures transform under declining process in Srilanka and the resulted negative effects, outcomes and the underlying causes.

Later, analysis direct to establish a conclusion and which will be utilizing to set out urban design strategies for Revitalization of Matale city.

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CHAPTER ONE

INTRODUCTION

1.0 Introduction

The Term, shrinking cities originates in Geramany,Geramen term **Schrumpfends Stadte** and the shrinking cities could be identified in different parts of the world due to various reasons. The most number of shrinking cities are found in formerly industrial areas of North America and Europe. In America, presently this shrinking term called as Urban Decline or Urban Decay. At early stages, due to different causes like high unemployment, the increased processes of urbanization, de-industrialization, economic decline, but also general demographical transformations like lower birth rates and changes in population composition change the intensity to negative development of cities, spatially, abandoning of building stocks, more vacant land areas, and Classified as 'Shrinking Cities". The shrinking of cities could be further classified under four different headings, such as demographical shrinkage, economic shrinkage, socio-cultural shrinkage and physical shrinkage. Also natural reasons, war, disasters and environmental changes affected to urban decay in some of countries. Several countries sunk due to the changing the pattern of production to service based economic.

The Main city core spaces have been considered to be one of the most important parts of cities for human interaction and social life. The spatial form and the built forms in urban context, like buildings, streets, parks, grounds, and squares are physically and visually should be available to the public and without these spaces; the livability of the city core would be unimaginable. Mainly the Built forms of the city core playing a significant role to maintain the city character together with the other spatial function of the city. It helps to maintain the aliveness of the city, in view of the fact that the all the built and un-built spaces were given priority in the historical periods and evidences still visible in most of the historical town centers.

Deteriorating the city core, in respect to the built and spatial form, could be seen significantly in shrinking stage. It reflects through the built forms and spatial qualities and leads to visual pollution in recent time. This may be a one reason to out migrate the citizens to find better place than the existing one.

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Furthermore, proper linkages, better city environment are acting as necessary elements in cities to maintain the good city environment and failure of maintaining the good physical and environmental qualities throughout the city will be directly affecting to the entire city function in different ways and disorder of the built forms and visual pollution could be seen as significant elements of shrinking cities in recent time.

The physical shrinkage of the city could be occurred due to various reasons and it lead to transforms the entire built and spatial character of the city in differently and furthermore at different levels. Also from time to time, within a one City, two different patterns, shrinking and growing could be identified due to different reasons. In fact, the growing section also partially exhibits the shrinking characters because of the insufficient of physical territories, chaotic built forms, behavior pattern of the city users and spatial qualities. It could be properly identified through the examination of "Urban Landscape" of the city.

The "Urban landscape" is also a significant feature of any city which could be used for categorizing the cities whether it has shrinking or growing nature. It is an assemblage of all the elements in urban context and an integral part of modern urban construction, which consists of built forms, greeneries, parks, open spaces, activities, and boulevards. It could be used as elements to illustrate the present condition of the city. These landscapes have characteristics, patterns, and form, which allow people within the urban landscape to represent physical, cultural, and perceptual qualities that reflect that of the urban landscape they engage in.

Recently "Shrink Smart" concept introduced in all over the Europe cities, where all the economic down turns, physical shrinkages and imbalances were taken placed. It was a result of comparative case studies from seven urban regions throughout Europe. It aims on analyzing different courses of shrinkage, understanding main challenges for urban planning and elaborating alternatives for urban governance.

Generally, in Shrinking cities, the elderly citizens gradually adapting to the current form of the city without leaving and but most of the new age groups desire to get away from the present circumstances to far better condition. As mentioned, this shrinking or declining cities not only applicable to the Europe or American cities, but

also it can be recognized in Asian countries as well , India, China, Japan etc. The shrinking city concept hardly discussed in Asian context compare to the western countries. However few examples also can be found within the Srilankan context too, if we study carefully the present available data and resources relevant to the identified cities. These cities are not in utterly shrinking condition however, a number of shrinking elements could be visually seen through the physical shrinkage. Few of Srilankan cities are basically confronted with physical deterioration rather than the other factors.

Ultimately, the decision could be made, whether city is shrinking or not, through the visual observations, data analysis, spatial and built form analysis, interviewing of different people, and sharing experience from various professionals. After recognizing, the negative results and the direction of the city, necessary urgent urban design solutions could be imposed through the relevant govern authorities with the implication of correct procedures and with much needed steps.

The main focused of this study was to identify present relevant issues and factors affecting for transformation of the built and spatial form of the city in negatively and which could be lead to sudden decay of the urban character of the city. The identified results would be act as more supportive elements for the governing bodies to take necessary actions, to avoid further deterioration of the city character in built and spatial forms, by introducing more urban design based strategies.

2.0 Back ground of the Study -

Considering other than the world shrinking cities, several cities in Asian countries also encounter with the character of shrinking or urban decaying. In Srilankan context, only few cities are come across with this situation and the city of Matale can be identified as one of the urban decaying or shrinking city in Srilankan context according to the available data. The city presently witnessing the shrinking characteristics and it is evident, not only on the theoretical basis but also reflect on physical and spatial formation of the city.

The Dissertation mainly concerns the changes in physical characters (Built forms) and spatial characters (Spatial forms) in current main city core in relation to the two main

streets which are equally important for the city functions and running through the city, heading two different directions. Mainly the built and the spatial form of the city are transforming in negatively, due to many reasons and this research leads to identify the main issues and factors affecting to happen the prevailing condition of the city structure.

The other main reason of selecting City of Matale for case study is, that the city is already identified in general as "a Dying City" within the District due to negative developments, migration of people, abounding of building and important places, chaotic built forms, haphazard developments within the city limits etc, and it was proofed by related authorities (MMC and UDA) through collected data and also visually witnessing since 1983.

3.0 Statement of the problem

This research is mainly **questioning, how this does happens, what factors** are affecting to this type of Transformation and **what are the changes witnessing** on built form and spatial form of the city in response to **a shrinking state.** Research area mainly focuses to identify **the issues, factors and changes where the transformation takes place** in respect to the physical and spatial form of the city.

4.0 Objectives

4.1 To understand the **underlying causes to happen, shrinking spaces within the city** and it **impacts** to present and future.

4.2 To **Find out an urban design approach or solution for negative** development (Shrinking) to **positive** (growth) development.

4.3 To approach suitable **pragmatic solutions** to prevent the **urban decay** in respect to built and spatial form.

4.4 To convert the **'dying City into living City",** through transforming and revitalizing the built forms and spaces by **recognizing the available potentials.**

5.0 Method and Procedures

The Research will be done as a **theoretical** and **empirical** study, taking its point of arrival in an urban design approach. This means that the dissertation tries to integrate both empirical and theoretical knowledge in the belief that this can contribute to a clearer picture of the issues investigated and find appropriate solutions.

The **arguments** and **comparisons** also will be valid by using previous works related to the topic to strengthen the theoretical approach.

Furthermore, the method of case studies will be presented **as the research method.**

For case studies, one case study will be included, from local context and other examples from Europe and America.

5.1 The data gathering and Analysis

5.1.1 Library -Analysis of historical Recording of notes, Content analysis, and Research records Analysis of documents Statistical compilations and manipulations, reference and abstract guides, contents analysis.

5.1.2 Field - Non-participant direct Observational behavioral scales, Participant observation Interactional recording, possible use of tape recorders, photo graphic techniques, interview using independent observers in public places. Personal interviews - , Group interviews

5.1.3 Case studies – Local and Foreign

6.0 Limitations

The research area mainly focusing the extensive public spaces, streets, built forms, façade studies, and significant places within the city limits of Matale as a local context example with urban design context, and documented research works in relevant to the study area as precedent studies. The study does not included community and geography detail studies. The architectural details are not deeply considered and but factors relevant to urban design were carefully observed and considered.

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CHAPTER TWO

Shrinking Cities and Urban Decline

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2.1 Shrinking Cities origin

2.1.1 European and American Context

"A densely populated urban area with a minimum population of 10,000 residents that has faced population losses in large parts for more than two years and is undergoing economic transformations with some symptoms of a structural crisis."[1]

(SCiRN 2007; Wiechmann 2008; Pallagst et al. 2009)

"Shrinking cities are cities that are experiencing acute population loss. De-industrialization and out-migration are some of the common reasons that cities shrink. In the United States, this problem is most commonly associated with the Rust Belt, while parts of Eastern Europe also experience similar problems. Since the infrastructure of such cities was built to support a larger population, its maintenance can become a serious concern."[2]

(http://en.wikipedia.org/wiki/Shrinking_cities#cite_note-glasgow)

Map -01 world map of cities with the highest shrinking rate within the last 50 years

Source : (http://en.wikipedia.org/wiki/Shrinking_cities#cite_note-glasgow)

In many most of the cities around the world, are "shrinking" or losing population and building stock. Although, there are many reasons for such 'urban shrinkage', which includes natural disasters, warfare, and environmental change by far the most

widespread cause of such losses is de-industrialization, or the shift from a manufacturing-based **economy focusing on production to a service-based economy focusing on service provision**. Such transitions began in the United States and United Kingdom as early as the 1960s. De-industrialization's dominant role can be seen in the geographical patterns of shrinkage The highest numbers of shrinking cities are found in formerly industrial areas of North America and Europe, particularly the American **'rust belt'** of the upper Midwest and the industrial belts of the United Kingdom and Germany.

The term shrinking cities originates in Germany, coming from German term **schrumpfends Stadte**. Therefore, it might be possible to talk about shrinking cities as being a German discourse. The term covers the linguistic development of term but also assembling various kind of urban decline into one untied term. This discourse derives from a German context and history and is much focusing on the demographical decline. Shrinking cities refer to cities with a surplus of built structures which makes the city become more fragmented and fall into ruins.

2.1.2 In Asian context

Population loss is a problem not only for developed countries but also for the developing world, particularly in Asia. According to State of the World's Cities 2008/2009 of UN-HABITAT, Asia cities 60%, or 86 of 143 shrinking cities in the developing world. The population dropped in Asian cities by some 9.7 million people from 1990 to 2000. The People's Republic of China alone has 50 shrinking cities, which suffered a loss of 6.8 million people during the 1990s. India has 16 shrinking cities with the population loss only 700,000 during the same period.

"The phenomenon of declining populations in cities of the developing world is relatively new, an emerging trend that is not yet as prevalent as it is in the developed world," Population loss may, however, be a introduction to a trend unfolding in the entire developing world, where 143 cities lost a total of 13 million people from 1990 to 2000.

Figure 2.1 –Shrinking Cities- Busan, South Korea

Figure 2.2 Physical shrinking in Mumbai
Source: State of the World's Cities 2012/2013

In 2000, nearly 100 million people were living in cities whose populations were declining, representing 8.3 per cent of the total urban population in developing countries. Half of the population loss in shrinking cities took place in big cities of between 1 and 5 million. These cities are not only experiencing a dramatic decline in their populations, but also in their economic and social bases. Most of these cities are in China 60%; Indian cities account for approximately 20 per cent. The cities experiencing population decline in the two countries differ in terms of size: in China, urban contraction concerns intermediate and big cities, and in India, it occurs mostly in small urban centers. In some cities, population loss is seasonal, often related to harvesting or planting seasons. Many rural migrants find temporary work in cities and return to their villages or small towns in time for the harvesting season. In these cases, urban population sizes of both the cities and the villages grow or contract, depending on the time of year and the season.

2.2 Phenomenon of shrinking city

The fastest development of cities in immensely developed countries was observed during the industrialization era, throughout the 19th and at the beginning of the 20th century, massive technological progresses led to great demographic changes and the decrease of Morality was the common key significant feature. Huge demand of work force and rapid growing in agriculture in cities caused a huge migration from rural to urban. As a result, the cities in West were growing at a rapid pace and became very

densely populated areas. At the beginning of post industrial phase in very highly developed countries, these processes were replaced by some others.

Figure 2.3 -The city of Detroit- abandoning properties and buildings
Source: State of the World's Cities 2012/2013

High urbanization levels that were reached by those countries in the mid of the 20th century remained basically unaltered in later time. However, cities in the West were still undergoing substantial changes, although a rapid urban growth was not any more present. The traditional industrial production started to be moved to less developed countries. Cities with heavy industry as an economic base began to suffer from jobs 'number decrease and population outflow. There began a polarization of cities, into those able to adapt to new economic conditions and those trapped in a crisis. Parallel a growing decentralization of cities population in form of suburbanization could be observed. Traditional walking city was replaced by cities designed entirely for car users. As a consequence their densities are now much lower than they used to be in the 19th century. Demographic changes have been also very pronounced. In the post-industrial phase the low mortality started to be coupled by a very low fertility. This resulted in a population decrease of many Western cities.

These economic, spatial and demographic processes observed in highly developed countries in the second half of the 20th century started to negatively affect many cities. It is not surprising that a discussion on the issue of the city crisis was begun. In different languages terms relating to a city affected by a crisis were developed. In the English language it was **urban decline** while in the German one **schrumpfende Stadt —shrinking city**. Despite the fact, that the both indicated a city with a decreasing population and worsening economic conditions.

In the 1990s the great problems of Eastern German cities were treated as non-existing. Only, after 2000, the huge number vacant flats, and other real estates, in the Eastern German cities brought back the term —shrinking city and made it very popular. This new phase of the discussion on —shrinking cities was additionally strengthened as the German population started to decrease again in 2003.

The present part of the shrinking city discussion is uncertain. On one hand, it is admitted that shrinking city is a model of urban development where crisis is irreversible. On the other hand, stating this basic feature is being avoided and the meaning of shrinking city is being transformed in order to make it applicable to a larger number of cities. In this way the gravity of the Eastern German urban development is diminished and it is presented as an ordinary path of urban development found elsewhere in the world and already existing in the past. It is treated as an acceptable norm for the urban development in the post-socialist countries. Therefore, the shrinking city term is being used in reference to all cities with decreasing population, particularly to those located in Central and Eastern Europe. Hence this is not a recent phenomenon and architects and planners have been confronted with shrinkage for various reasons.

2.3 Shrinking Cities and Urban Decline

The terms, shrinking cities and urban decline cover some of the same problems and origins, namely cities in decline. These two concepts are distinguishing the one from the other is the number of causes. Urban decline is mostly about decline due to de-industrialization, the term shrinking cities enfold with multiple causes with de-industrialization is only one of them. The term shrinking cities is mainly a German term and the urban decline term is used in English speaking countries, in particular in the USA. Many American industrial cities were declined due to the processes of deindustrialization.

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"A blunt approach would define precisely and narrowly what we mean by cities, urban and decline. The result would be a single and clear definition, but one that strips away the multitude of elusive meanings that are essential to our understanding of urban decline".[3] (Beauregard 1993: 35)

Figure 2.4 -Camden, New Jersey -Population decline, rising poverty, and suburbanization have turned healthy local shopping streets into shadows of themselves
Source: State of the World's Cities 2012/2013

Beauregard further stated, one of the more conventional ways to recognize urban decline as a loss. Loss is included with loss of people, loss of cultural and social capital, and loss of use-value of the built structures and, finally, loss of economic activity and it creates a number of negative developments. Beauregard is talking specifically about incorporating the time aspect – meaning that urban decline is something that happens over time. Returning to shrinking cities, the loss of things is also a good way to understand shrinking cities. He describes, this was not a sudden thing to happen and it takes prolong periods to happens.

Robert Kaltenbrunner said in one of his quote," The shrinkage as a down-going spiral transformation".[4] Finally, the term shrinking cities refers to declining of urban population and subsequence economic deterioration due to variety of causes. **It leads to the surplus of physical, vacant lands and service infrastructure in urban environment fragmenting, and further deteriorating the city with abandoning of buildings, less maintains of structures, dumping of garages and wastes in everywhere,** in shrinking or declining cities.

2.4 Causes for urban shrinkage

Since their birth, cities are continually affected by process of change- more or less extended time and space of the physical and socio-economical environment. During historical periods, cities have risen and fallen for several of reasons. A number of them were fallen or gone due to wars, fires, natural disasters, epidemics and loss of significance. Others were mainly disappeared with the shifting of political and economic powers (Alexandra, Damascus, Rome, and Venice)

In recent decades, the effects of de-industrialization, changes of urban structure, political changes, demographical changes are contributing heavily for urban shrinkage. Also, applications of traditional policies and thinking pattern have failed to halt the downwards spatial developments in cities, since; they are not address the real complex nature of the problems.

2.4.1 De-industrialization

One of the most common significant impacts of shrinking cities is Globalization and many of the causes for shrink are side effects of the increasing and neo-liberalization and the transition from the industrialized society to the information and knowledge-based society.

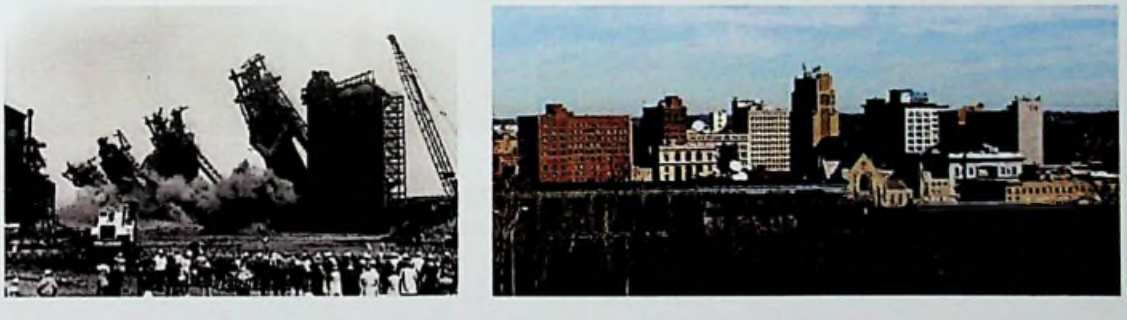

Figure 2.5 -Youngstown, Ohio in 1947 and present day view

Several cities, this process has resulted in the loss of employment opportunities due to the post industrial transfer from "manufacturing to service industries" and the move of industries to areas where the cost of labour is significant low. It also has resulted in a

further relocated of the population. Former industrialized cities identified as decreasing industries that result in a migration of the population. Specialized urban centre oriented on a single industry suffered the most disastrous effects.

2.4.2 Change of Urban Structures

Another issue which explains the decline of some areas is the transform in urban structures, which means the increased centralization into huge urban agglomeration combined with an increased suburbanization. "An increased centralization of the urban is taking place, creating huge mega-poles that are draining essential investment and resources from other urban areas, leaving the remaining cities with an ever-diminishing fiscal base" (The Shrinking Cities Group 2005-2008). -

Figure- 2.6 Indian city(Left) –changes in built forms Figure 2.7(right) -Abandon structures- The city of Buffalo - Source: *State of the World's Cities 2012/2013*

This suburbanization process also involve to another change to the urban structure in which the center of the city is abandoned in out flowing of people to the suburbs. Sub-urbanization does not involve a complete loss of inhabitants but most of them move away from the city-centre to the urban periphery. This type of urbanization can be described as a doughnut, with the empty city centre surrounded by growing urban sprawl.

2.4.3 Political Changes

The change in the former socialist countries to post-socialism which, for instance, took place in the former USSR and in Eastern Germany is another cause for shrink. With the market and the political system changed overnight, significant economical problems and a decline in the population as a resulted. The changes have consequence, with the closing of Government owned companies and public institutions, which causing high unemployment and reduction in service with further outmigration from the East to the West.

Figure 2.8 – Signs of political involvements
Source ; http://www.csmonitor.com/World/Americas/

Change of the government policies are also effecting country to country in nowadays. Allocating funds for developments and attention or priority given to the selected cities with the political decisions, play a major role in recent times for the declining of valuable cities especially in Asian countries.

"Politically, state and local governments occupied a prevalent role in many shrinking cities, particularly in funding or prioritizing large scale projects or plans. Federally backed loans allowed the widespread transformation of city renters to suburban home owners. Expansive highway construction enabled sprawl to the detriment of urban cores. Ineffective governance also motivated residents to leave beleaguered cities. More specifically, in the post-Socialist countries, in the rush to join the free market economy, leaders directed their attention to their capital cities and neglected regional centers"-[5]

(Getting to the Bottom of Shrinking Cities-Robert E. Varley SN: 5713897 University of Amsterdam:24)

2.4.4 Demographical Changes

A final cause is the decline in birth rates, where the western countries are experiencing a stable birth rate or one slightly below the mortality rate. As an example, Europe does not contribute to the increase of the world's population; the migration of young people seeking opportunities elsewhere, both because the cities they live in are declining and there are no jobs for them, but also in the search for education and jobs in general, is contributing to the shrinkage of cities. Finally, the population in the western part of the world is ageing, due to the low birth rates, and the average age is high, especially in the shrinking cities. In developing countries, the urban centers are over filling in population and peripheral areas, especially in rural cities, seen as more unoccupied towns.

Additionally, individualization in lifestyle choices, such as smaller family structures and higher educational and career ambitions, generally corresponded to a downward population trend.

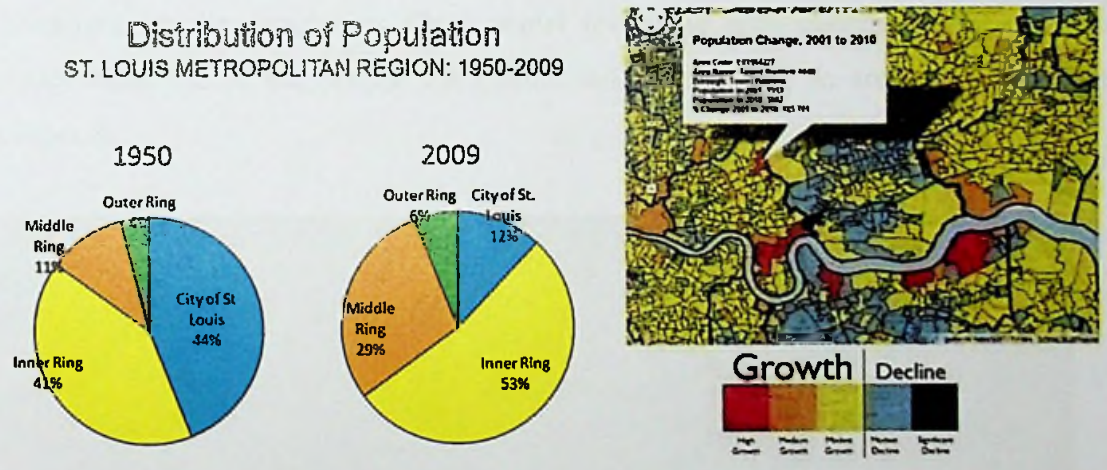

Figure 2.9- Declining of Population in St. Louis- 1950-2009
Source ; http://www.csmonitor.com/World/Americas/

2.5 Typology of Shrinkage

"Structural economic weakness and a lack of jobs and job training opportunities; the departure of the young and the skilled; empty housing; rising poverty; a high percentage of old people; dwindling tax revenue to pay for the increasing costs of social security; a poor image and a reluctance to invest, all of which combine to

reinforce the existing structural economic weakness – generates an overall downward spiral encompassing every aspect of urban life in the form of structural shrinkage".[6]

(Robert Kaltenbrunner in IBA-Büro 2006: 38)

The shrinkage could be divided into four different areas: demographical shrinkage, economic shrinkage, socio-cultural shrinkage and physical shrinkage. In that way, it is possible to get an insight into the different parts and how they influence each other. In the individual case the four layers of shrinkage can either all be represented or just some of the types can be significant. This means that inside the phenomenon of urban shrinkage there are differences due to the degree of representation of the four aspects in a shrinking city.

2.5.1 Socio-cultural Shrinkage

These factors play a considerable role in the everyday life. It is important to see the effect of shrinkage on the social structures in order to determine the impact of shrinkages on the population. On a social level, the high unemployment and the unsuccessful life of the people left behind tell the story of an area without future prospects.

Figure -2.10 -Gun show

Figure 2.11 Rio' dc Janeiro s shantytowns

Source ; http://www.csmonitor.com/World/Americas/2011/0427/Rio-s-shantytowns-shrink

The social and cultural structures have been slowly decaying and everything from buildings related to cultural, social, public amenities etc. are affected. There are smaller of number people to use these facilities. Therefore, the costs are getting increase and the level of service quality getting lower. The cultural and social

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institutions are struggling to survive and to maintain its capacity and subsequently shut down. There is neither financial nor creative surplus to start creative processes, and the spirit of the territory becomes more and more negative.

The remaining families have to face or bare the negative effects. Present younger members of the social and cultural groups are gradually moved from the situation to far better place. Because, the opportunity to obtain better education or other facilities in shrinking territories are lower than other places. All these things create deterioration in the living conditions for those who still live in shrinking territories and consequently, this becomes a community without many resources and strengths to address the problems.

2.5.2 Physical Shrinkage

This represents the physical structure of the shrinking territories where also social and cultural inventions take place in the material space. The physical shrinking territory indicates the completely empty streets, abandoned and torn down houses and structures and the structures express the story of a decaying area. The present infrastructure facilities, including services, roads, etc are slowly decaying. Everywhere, the disrepair buildings and huge surplus buildings could be witnessed. The shrinking physical territory is a territory with large empty pockets, very low density, often unused and closed buildings, abandoned houses and upper levels of commercials, uncompleted structures at upper levels, use of old building materials in messy ways and also a not appropriate place to live or use for the city users.

Figure 2.12 - The city of Detroit- Empty streets, vacant buildings
Source : http://www.mlive.com/news/detroit/index.ssf/detroits_eff.html

"Often the unused buildings are demolished and demolition of houses is more frequent than the building of new ones, where the"Un building has surpassed building as the city's major architectural activity" [7](Waldheim et al 2001: 101).

'The urban spatial configuration is transformed when the shrinking territories dissolve into a new kind of inexpressible urbanism where the city in many ways has disappeared' [8] (Waldheim et al, 2001).

This indicates immediate attention is needed for the physical structures and seeing the possibilities in a transformation of the existing structures. The surplus of buildings infrastructure and spaces have given a new challenge to manage. It would be a preservation or alteration rather than demolition. The property and land values drop towards zero and value capturing or value oriented planning are not viable options in shrinking cities

2.5.3 Economic Shrinkage

The economical shrinkage is another significant indicator for shrinkage, where the declining of economic situation is evident in diminishing of buildings, quality, land value and loss of employment opportunities. The investors are reluctant to invest under these conditions of cities. In addition to that, most of business premises are closed down and create empty spaces under the urban fabric as well as disappearing of diversity in the city.

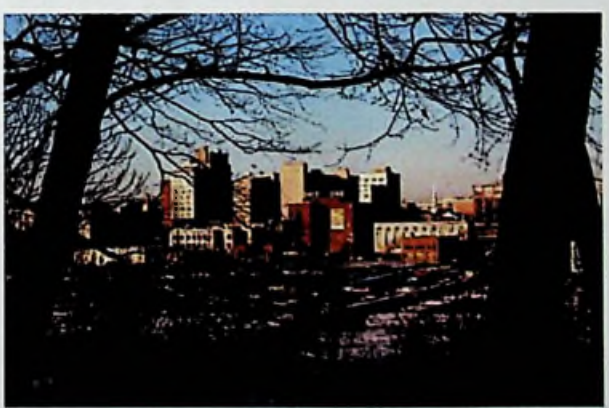

Figure 2.13 -Defending Youngstown: One City's Struggle to Shrink and Flourish
Source: http://www.theatlanticcities.com/neighborhoods/2013/01/defending-youngstown

Due to increasing expenses caused by high unemployment and decreasing population, the social, cultural and physical structures deteriorate. With the gradual reduction of collecting taxes and other payments from the business and communities, the council has to face more difficulties to maintaining and providing services continuously. The economical shrinkage is creating an uneven economical condition to the entire system in shrinking cities.

Figure -2.14 Homeless French Find Housing in Vacant Office Buildings-
Source : http://www.google.lk/imgres?q=ECONOMIC+

2.5.4 Demographical shrinkage

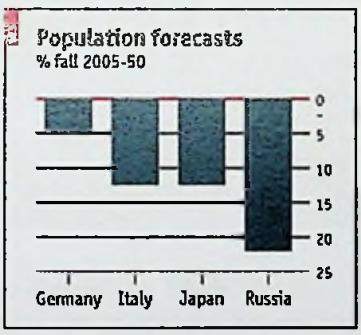

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Table- 2.1 – Population forecast in several cities
Source : http://www.blog.urbact.eu/tag/demographic-change/

The demographical shrinkage is the overall indicator of a city that shrinks. With high unemployment, the increased processes of urbanization, de-industrialization, economic decline, but also general demographical transformations like lower birth rates and changes in population composition, people are moving away from certain areas leaving behind a shrinking territory.

New younger groups move towards the better places to find new jobs, proper educations, health facilities etc. and much older who due to reasons such as age, social status, education (or lack of), work situation and origin are part of a socially marginalized group are staying with absorbing with present shrinking condition.

2.6 Shrinking Cities

2.6.1 City of Detroit

The birthplace of the Ford Model T - and the union-fortified American middle class - used to offer onlookers and jobseekers an opportunity to bask in the capitalist dream of attainable prosperity. It could show off the factories that pioneered assembly-line mass production, the automobile companies that promoted unmatched innovation, and the music studio that redefined the American songbook.

Figure -2.15–Detroit in 1949 **In 2003**
Source :http://www.google.lk/ Bshrinking%2Bcities

Given the collapse of American manufacturing, and the country's ongoing dependence on outsourced labour, the crumbling institutions of Detroit might suggest a frightening forecast. The city's population neared two million in 1950, and now it's fallen below700,000. For those who remain, unemployment is rampant, and difficult to quantify. The city government was bankrupt, and public services were become worst.

Though it is at the top of Forbes magazine's Most Dangerous Cities list, today's Detroit feels less threatening than empty. Approximately 30 per cent of the city is now vacant land, including nearly 100,000 abandoned structures, some of which have taken on the aura of majestic ruins. The massive Packard auto plant has been closed since 1958, its decrepit jungle offering a sense of adventure to "urban explorers". The hulking, empty 18-storey Michigan Central Station remains the most haunting symbol of a metropolis left behind.

Figure 2.16 -Michigan Central Station produced its last car here in **Figure 2.17 Luxury-auto maker Packard**

1956.Source;http://www.google.lk/imgres?q=Michigan+Central+Station

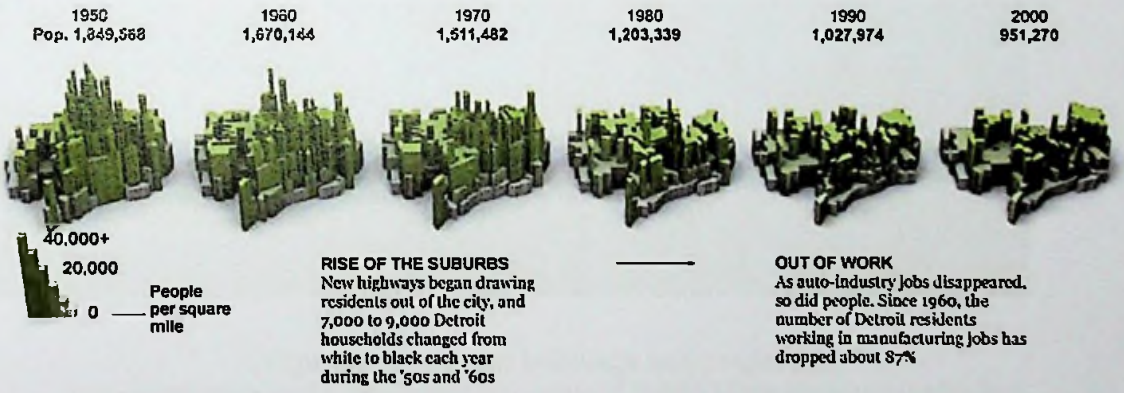

Table 2.2- Decreasing population 1950 to 2000
Source ; http://www.csmonitor.com/World/Americas/

In America has toppled and left behind an amazing amount of abandoned and decaying architecture. Detroit, the nation's most industrious city, reflects this in a unique way. The failing industry was met with, social, racial, and political tensions.

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Hundreds of thousands of people fled the city, and today the population is less than half of what it was in Such a dramatic "un-densification" affected every realm of the city.

" Factories closed doors, jobs disappeared and soon after, residents left. The middle and upper classes vanished in search of suburbs and other cities, leaving behind a massive lower class with no means to maintain a city that quickly became twice the built size it needed to be."[16]- The present city of Detroit-2010-switchborad.nrdc.org

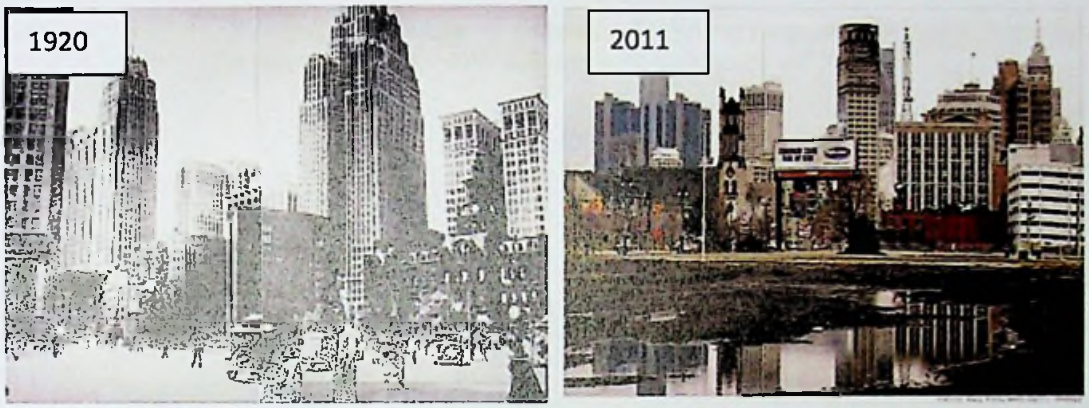
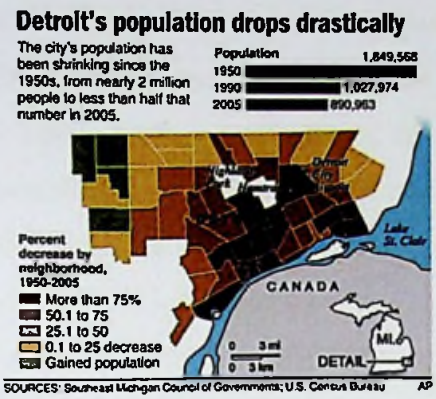


Figure 2.18- Flash to decline of Detroit City
Source:http://money.cnn.com/gallery/real_estate/2013/01/23/dangecities/index.html

Figure 2.19- Vacant buildings and properties
Source: http://money.cnn.com/gallery/real_estate/2013/01/23/dangerous-cities/index.html

Today, not only is nearly half of Detroit's 138 square mile area vacant, beautiful architecture is left with no hope of use. There is simply not enough demand to sustain the amount and character of architecture. The city is a case study for methods of dealing with shrinking cities.



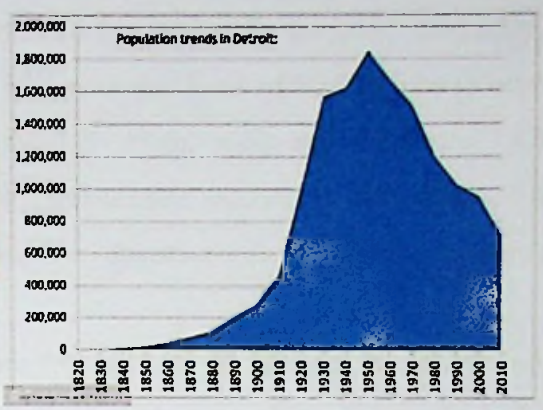


Table 2.3- Graphic of Detroit's declining population-
Source: http://www.mlive.com/news/detroit/index.ssf/2010/06

2.6.2 City Of Buffalo –

Figure 2.20–abandoned buildings in Buffalo city
Source; http://en.wikipedia.org/wiki/Buffalo,_New_York

At the onset of the Great Depression, Buffalo had 573,000 inhabitants, making it the 13th-largest city in America. In the 75 years that followed, this once-mighty metropolis lost 55 percent of its population, a decline most dramatic in its blighted inner city but also apparent in its broader metropolitan area, one of the 20 most quickly deteriorating such regions in the nation. Twenty-seven percent of Buffalo's residents are poor, more than twice the national average.

As Buffalo was a steel making town – all the steel mills are gone. Currently Flour and Grain milling and shipping - some still goes on. Loss of 50,000 jobs in between 1990 – 2000. Shift manufacturing to the US south, west and off-shore. Changes in manufacturing itself making it more transportable –moved to the suburbs. Productivity of capital raced far ahead of worker attentiveness. Nation's economy became gradually to knowledge-based.

Buffalo is Rich in Assets Three waterfronts - Lake Erie, Great museums and galleries, Olmsted Park and boulevard system. It has a wealth of historic buildings and landmarks and plenty of land for growth.

Figure- 2.21 - Buffalo City Hall-
Source: http://en.wikipedia.org/wiki/Buffalo,_New_York

This is consider as a New York State's Second largest city which has 41 Square miles in size, Peak population consists of 580,132 and reduced to 268,250 in 2009 with the loss of 312,000 people and also with27 % poverty rate. In 1950, 2/3 of people lived in Buffalo and today, 1/3 – put in the context of a loss of population in between 1970 and 2000. The City has lost 50% of its commercial and industrial base and 30% plus of the City is now with vacant lots. The 2006 the City's official plan projected a continuing population loss to 250,000 and admits that it could go lower. The Plan project a return to the2000 level (290,000) by the year 2030.

Figure 2.22 - Former Commercial Corridor and Vacant Lots Dominate the East Side
Source: http://en.wikipedia.org/wiki/Buffalo,_New_York

Future Buffalo will be much more multi-ethnic and multi-racial. The Hispanic population will exceed the white population. Historic patterns of racial segregation remain today.

The city is today facing with Low-level of intergroup contact, high incidence of low-income households, issues of social equity and income inequality. The present household size is less than half the size in 1950. Today 23,000 vacant dwelling units and 10,000 more vacant residential lots are existed. The 58 percent of the housing units were built of frame construction over 70 years ago and many are poorly maintained.

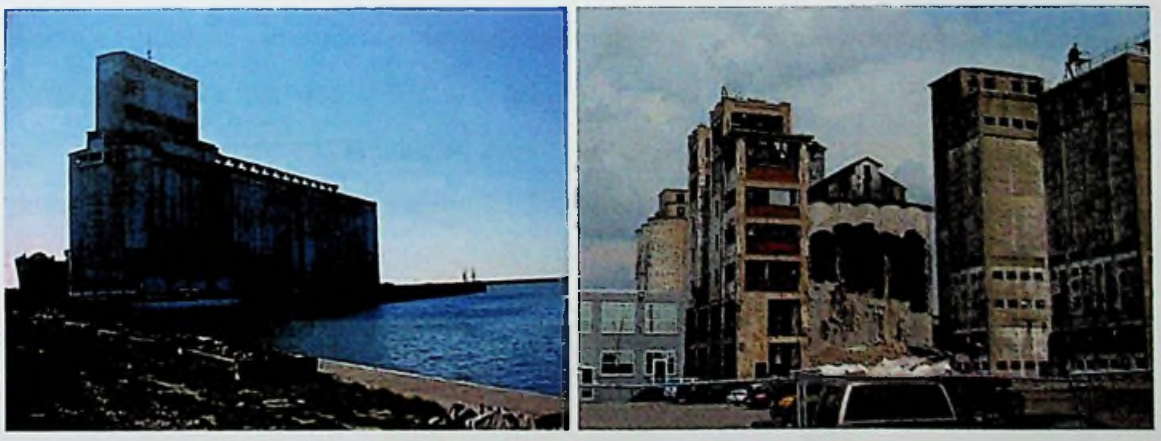


Figure- 2.23- Buildings in the City Lakefront

Source: http://www.openideo.com/open/vibrant-cities/inspiration/the-under-development-of-the-waterfront-in-buffalo-ny

2.7 Present causes for the city crisis in highly developed countries

"The contemporary discussion on urban development concentrates on growth. 21st century was announced to be the time of a rapid growth of cities and managing urban growth became one of the most important challenges" **(UNPF 2007).**

The areas most affected by this process will be the developing regions. Especially in Asia and Africa, this amazing increasing of urban population could be witnessed. The decrease of population in cities which is not so common and takes place only locally, mostly in highly developed countries, which underwent a rapid growth between the end of the 18th and the beginning of the 20th century. In fact, cities in different world regions are on different stages of development. These stages determine problems cities have to face: either that caused by a spectacular growth or by a multidimensional decline.

City crisis became an accepted theme of urban discussions in highly developed Western countries in the post-war period. Many cities in these countries had to deal with problems affecting from deindustrialization, suburbanization and demographic transitions. These cities contrasted with the processes that they are being contrasted with processes that guided to an amazing city growth during the Industrial Revolution.

"The urban crisis caused by changes in production was further strengthened in the US by a decentralization of population. It was taking place on two levels: urban, as people began to move to suburbs, and regional, as they fled from cities with colder climate to those with a warmer one. Thus, the declining cities located in the Rustbelt (central part of the US) were confronted with the Sunbelt city growth on the West coast. It is important to note that the traditional European city did not face such an intense exodus to sun and sprawl "[9](Glaeser and Gottlieb 2006).

Figure -2.24 Vacant 24,000 commercial properties in Ireland

Source: http://www.thejournal.ie/vacant-buildings-ireland-

"These changes were mostly evident in the 1970s, which are now seen as the time of the deepest urban crisis in the US. During that time, major American cities in the Central and Northern part of the country were facing population losses, decline in incomes and housing price decreases "[10](Glaeser and Gottlieb 2006).

Large cities in the UK and the US, which were in the first decades after 1945 perceived as places of economic, physical and social decay, started to be viewed more positively. There appeared in the literature the concept of urban resurgence. Although there are many differing definitions they all imply that it is a phase after a general decline.

There are two main explanations of the observed urban resurgence in the US and the UK in the last three decades. It was realized that large cities make possible to flow of knowledge and that they can be drivers of innovation and creativity, therefore, they can positively influence country's economy. Large cities ceased to be supposed as places of production, but instead they started to be viewed as places of consumption. This change was caused by rising incomes and educational level.

"Nowadays, the wealthy and more educated inhabitants require higher amenities than the industrial workers in the past. Moreover, despite the predictions, new technologies did not manage to replace the need of a direct contact among people. Dense urban areas became more attractive as they facilitate social interactions and offer many other amenities" [11](Glaeser and Gottlieb 2006,)

"Urban resurgence and consumer city, explain resurgence as growth but not in all terms. It can take the form of a slowing rate of population loss, accompanied by rising incomes and housing prices." [12](Glaeser and Gottlieb 2006).

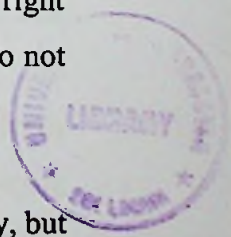
"Consequently, the total population of a city may even decrease. Despite this fact cities can be successful in economic terms and continue to attract people with higher incomes "[13](Marlet and Bosker 2006, 16).

Thus, nowadays population decrease in cities is not necessarily treated as a sign of the city crisis and it is not perceived as a threat to the city economic development.

2.8 The challenges of shrinking cities and Right Sizing

"Retrofitting old, damaged, and unfashionable cities for future use is a distinctly un-American idea. We prefer to throw away our damaged goods and start fresh with something new. But much value remains, even in the wake of ongoing population loss. It would be tremendously wasteful to abandon existing urban infrastructure and the embodied energy it represents, and to write off the vast cultural resources and the millions of people who still call these cities home."[14] - Terry Schawrz, Director, Kent State University's Cleveland Urban Design Collaborative, in an opned in *The New York Times*, 3/28/201

The challenges shrinking cities face and potential solutions are gaining attention in the US and abroad. However, beyond using demolition to remove obsolete and unsafe buildings, cities often struggle to develop comprehensive measures to address vacancy and decline when solutions centered on growth fail. Right sizing is a concept whereby a city adjusts its development footprint to align with the needs of its current and future population levels. It is emerging as a means to address decline in shrinking cities by creating greater stability in neighborhoods and the real estate market. With challenges such as deteriorated buildings and infrastructure, inadequate information, potential relocation of existing residents, and a dearth of funding, right sizing is not a straightforward task. Typical planning and development models do not effectively address the supply side of city and neighborhood revitalization.



Reducing the oversupply of vacant properties requires a holistic, citywide strategy, but there are significant challenges to rejuvenating and reclaiming cities in this way, such as: Lack of political commitment, need to respectfully and equitably relocate remaining residents and businesses, inadequate resources, lack of funding from federal and state government

2.8.1 Right sizing

> "Cities do not need to grow big to grow wealthy and growing big will not necessarily lead to wealth"[15]. --Research findings of Weissbourd and Berry (2004). The Changing Dynamics of Urban America

Many existing planning tools address the demands of growth, transfer of development rights, density bonuses and other measures help cities and regions implement smart growth. However, there are few planning tools geared to the needs of shrinking cities. One emerging model is the concept of right sizing. Right sizing is a holistic and equitable process to stabilize the most dysfunctional markets and troubled neighborhoods by adjusting the amount of land available for development; this process more closely aligns the built environment of a city with the needs of the existing and anticipated future population. Right sizing includes a number of activities, some tested within the field of planning, others in need of careful evaluation and pilot testing.

Figure – 2.25 – Introducing of new concepts for shrinking cities
Source : http://www.timescrest.com/opinion/paving-prosperity

Urban greening programs that use vacant sites for agriculture, storm water management, ecosystem restoration, the expansion of parks and green spaces, the generation of renewable energy, and other non-traditional urban land uses can form the basis of a right sizing. Within this framework of green infrastructure, right sizing allows for targeted investment strategies and relocation activities designed to create nodes of density and development within the existing urban footprint. Successful strategies in the most challenged cities are those that acknowledge and account for the presence of a weak to declining economic environment. Right sizing strategies will

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help stabilize these cities through interim and permanent interventions that convert vacant and abandoned properties from a liability into a community asset.

Figure 2.26 - Advertising lands in different ways in shrinking cities
Source :http://www.hivelocitymedia.com/features/Youngstown

"Rightsizing" refers to the yet- unproved process of bringing cities down to a "right" size, meaning a size proportionate to city government's ability to pay for itself. Rightsizing has thus far come too little in shrinking cities.

CHAPTER THREE

Urban transformation and Revitalization

3.0 Urban transformation and Revitalization

3.1 Transformation of Urban structure in Shrinking Cities

Urban transformations deal with both growing and declining urban territories, because no territory is just declining or just growing but is containing both aspects to some degree Therefore, urban transformations provide a more holistic approach when trying to understand the contemporary development tendencies as a whole, where the different components and structures of the urban are taken together and not dealt with separately. This means that urban transformation is all inclusive and captures the relational aspect by both containing growth and decline.

Urban transformation is a term that includes both urbanization and de-urbanization that is urban growth as well as negative urban development. Thereby, the term urban transformation is dynamic and changeable and the character of the term seems to be appropriate in relation to the increased, differentiated urban development taking place. Thus, urban transformations give a shaded picture of the observable fact being studied. With the term urban transformations shrinking cities is a one Sided term that only focuses on declining urban areas while other terms covering the opposite, such as mega-cities or global cities.

Urban transformation is often used as a term to cover physical transformation of urban areas within the urban fabric, previously used for other purposes. In this context, urban transformation is seen as covering both this traditional understanding of transforming something by design and also the fact that the urban always is transforming and changing character, emphasizing the continuous change of urban growth and urban decline. When using the term urban transformation, neither growth nor decline is given value as something positive or negative. This is comprehensive because there are both positive and negative aspects related to growth and decline,

E.g. Growing urban areas are also dealing with negative aspects such as pollution and traffic jams, besides all the positive aspects of growth.

The term urban transformation is chosen because the urban fabric is not a fixed unit remaining the same. On the contrary, the urban is ever changeable and continues to transform into new forms. Adjunct Professor of Architecture at Columbia University Graham Shane (2005) considers "the urban as being a mutating organism." He defines the city as being a mutated organism - an organ that is alive and transforming.

> "Seeking increased efficiency, profit, or pleasure, urban actors splice together urban structures that handle urban flows, producing new settings for their activities or reusing old ones for altered circumstances."[17] (Shane 2005: 6).

The way Solá Morales (1996) sees the changes happening in contemporary urbanity is as a transformation in the cells of the city. The idea of Solá Morales is oft en related to the rapidly growing mega poles where this growth is uncontrollable. However, this transformation has the potential to result in both cities that grow rapidly and in cities that become left -over and shrink.

An example is the United States which during the last decades has experienced a rather dramatic re-shuffling during which the **Rustbelt cities** experienced decline, whereas the **Sunbelt cities** were growing. Thus, spatial configuration is an ever transforming urbanity that is permanent temporarily; this means that cities are permanent for a specific period following which they transform, often due to a reorganization of capitalism. Thereby, changes will happen - just time defines how long we are in a certain period and we have to plan for transformation. The urban is thereby transforming without any consideration of the past or other values, and often this transformation happens so fast that it is impossible to either analyze or intervene in the process.

3.1.1 Transformation on Built Forms in shrinking stages

3.1.1.1 Built Forms

Figure -3.1- City of Detroit-
Source :http://www.mintpressnews.com/detroits

Buildings are the most noticeable elements in any city and the collection of built features that give each city its unique character. This unique character could be destroyed, especially in shrinking cities. The awful environment is resulted with the changes in population densities, economic efficiency and social-cultural relationships. The negative effects of the above, results the negative transformation in building forms. The past flourished forms and spaces in buildings transformed to vacant, decaying, less maintenance buildings with the negative changes in urban structure of the city.

3.1.1.2 Materials and Textures

Use of materials and textures on the built forms are directly involve the conveying the messages in regarding the present quality of the urban city environment and the status of the city, to the visitors and the inhabitants of the city. At the declining stages, gradual reduction of use of new materials and other textures can be witnessed throughout the entire city structures except few places. Unmaintained building surfaces or deteriorating of building fabrics will tell us the past, present and future of the city structure.

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Figure - 3.2 - Youngstown- Deteriorated Building textures and materials –
Source http://shrinkingcities.wordpress.com/

3.1.2 Spatial Forms

3.1.2.1 Public and open spaces

The next level of transformation taken place mainly in open and public spaces including, roads, streets, walkways, public gardens etc. Open space is sometimes treated as a leftover, but it contributes greatly to the quality of urban life. "Hard" spaces such as plazas, malls, and courtyards provide settings for public activities of all kinds. "Soft" spaces such as parks, gardens, lawns, and nature preserves provide essential relief from harsh urban conditions and serve as space for recreational activities. These "amenities" increasingly influence which cities will be perceived as desirable places to live. Deteriorating of these spaces reduce the urban quality and become more undesirable places for users.

Figure- 3.3- abandoned of public spaces in Cleveland, America
Source http://shrinkingcities.wordpress.com/

Those spaces become empty in most of shrinking or declining cities is a key significant feature and spaces frequently used by the homeless people. All the built forms and landscapes are isolated or neglected by the maintenance authorities and the result is worst to the surroundings. Gradually these places turn out to be places for drugs users and furthermore assisting spaces to increase criminality in that area. Places are not quality places for gathering and gradual reduction of use this place could be seen at the end in any shrinking cities. Sometime, most places use as a dumping ground for discarded items and garages.

3.1.2.2 Streets and activities

Every modern city contains an amazing array of pathways to carry flows of people, goods, water, energy, and information. Transportation networks are the largest and most visible of these. Ancient cities relied on streets, most of them quite narrow by modern standards, to carry foot traffic and carts. The modern city contains a complex hierarchy of transportation channels, ranging from ten-lane freeways to sidewalks.

Figure- 3.4 Streets in Cleveland-America-

Source: http://www.forbes.com/fdc/welcome_mjx.shtml

The sidewalks and streets could be considered as the prominent places in any city to maintain its liveliness. The liveliness is entirely depended on intensity of activities happening on streets or sidewalks. With the declining of the city most of them are disappeared with the other city functions, due to decrease of population, abandoned of office, commercial spaces, increase of criminality and scaring environment for the inhabitants.

3.2 "Urban Landscape" in Shrinking Cities

This concept of urban transformations seems to fit into the concept of the urban landscape, as the dynamic character of both terms can have a mutually inspiring effect. Thereby, the urban landscape is a field consisting of built-up and un-built areas connected through flow systems as well as a field of urban transformations, indicating that the urban landscape contains urbanization (growth) and de-urbanization (shrinkage). In the urban landscape there are always areas undergoing transformation and it is a dynamic field. Urban areas never stop changing but will transform over time and this transformative landscape can accommodate both growth and decline. Furthermore, the physical demarcation between specific areas is more fluid in this urban landscape where the boundaries between areas are blurred, both in relation to growth and decline and to urban and landscape. This corresponds to what the cases show: urban growth and urban decline are situated next to each other and interact, so that urban built structures and the landscape melt together – creating a dynamic, urban patchwork.

Figure 3.5- Urban landscape of shrinking cities -Downtown Buffalo and Detroit city
Source http://shrinkingcities.wordpress.com/

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3.3 Influencing Factors on urban transformation

Urban transformation has been ongoing and shaping cities throughout human history. The scale of the prevailing urban transformation since the mid-1980s is unprecedented and the nature and direction of urban growth is more dependent on the economic activities than ever before. In many parts of the world,

urbanization is being accelerated by the expanding global economy, which is literally changing the face of the planet. Increasingly, urban transformation is being influenced by continued socio-economic and environmental economic dynamics. Managing urban transformation in this context has increased in both scope and complexity, and has become one of the most important challenges of the 21st Century.

> The term 'transformation' refers to an act, process, or instance of transforming or being transformed - *(Webster's Dictionary).*

It is defined as a 'passage from one state, stage, subject, or place to another' or 'a movement, development, or evolution from one form, stage, or style to another'. In the literature about city transformation, such as 'urban transformation', has been used to refer to 'structural changes' of cities in terms of demographic, economic, social, and spatial structures that are the result of processes such as industrialization, globalization and urbanization.

3.4 Findings - Shrinking Indicators

Following key-indicators could be identified on the urban form in shrinking stages in any shrinking city. It can be classified under three main directions.

1.0 Social indicators

1.1 Out Migrating younger generation

1.2 Increase of older generation

1.3 High rate of drug addicts, unlawful activates and criminalities

2.0 Economic Indicators

1.4 Decrease of income levels

1.5 High rate of unemployment

1.6 Low land value

1.7 Low rentals

3.0 Physical Indicators

1.8 Deteriorated Buildings\

1.9 Abandoned/Vacant Building stocks

1.10 Unmaintained buildings and surfaces

1.11 Ad-hoc development patterns

1.12 Unplanned over supply infrastructure facilities

4.0 Spatial Indicators

1.13 Empty streets and spaces

1.14 Deserted public spaces

3.5 Revitalization of Shrinking Cities

Revitalizing-city, often means attempts to make them greener more compact and sustainable. Also cultural regeneration is another approach for revitalizing program for shrinking cities. Some of cities strategically build on tourism, recreation and mix developments projects.

Ex- The city of Duisburg in Germany, created urban entertainment centre and several parks and exhibitions.

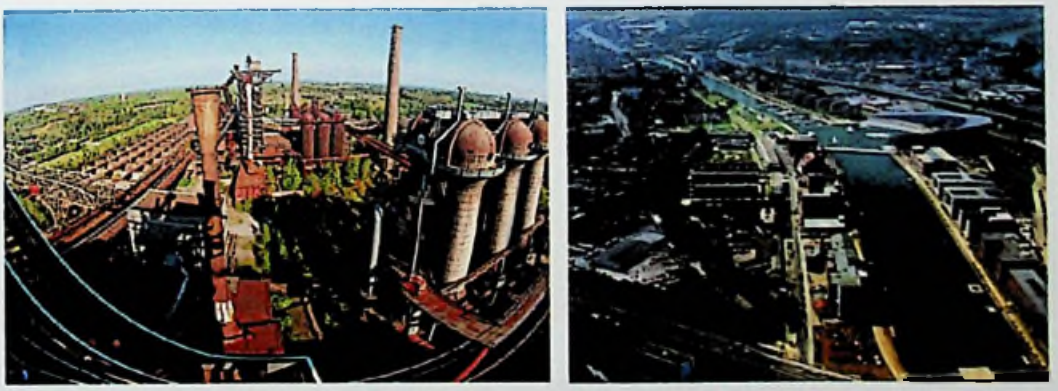

Figure -3.6 -Landscape Park at Duisburg-Germany
Source: http://bardcityblog.wordpress.com/category/zcus118/

When the revitalization is not viable with investing on vacant land, as a temporary solution, land beatification is done to promote land value and to increase the stability

of adjacent lands. Wherever, there are cities with excess lands and the buildings, the municipalities and public entities, can aid temporary for innovative projects which can results with greatest impacts on economically, socially and culturally.

The rethinking and re-planning of infrastructure facilities also have to be done with the revitalizing programme. Providing new road net works system instead of present system with empty wider, longer roads, after careful study, review and computer modeling of traffic pattern. Lower residential and commercial densities may demand smaller roads, but ironically the demand for public transport system could be increased due poor population who do not have the access for private transports.

The related govern authorities should consider the new compact system instead of present net work systems of garbage collection, water and electrical supply systems which will be a problematic structure to bear the maintaining cost in long term. The unsuitable structures, gloomy places should be eliminated from the neighborhood to avoid crime, and scare throughout the remaining communities.

3.6 Identifying Revitalization Strategies for Shrinking Cities

Figure 3.7 Revitalization strategies for shrinking cities-(Urban design solutions)
Source : http://www.parioplan.com/services/downtown-planning/index.php

Strategy is a high level plan to achieve one or more goals under conditions of uncertainty and it is important because the resources available to achieve these goals are usually limited. Strategy is also about achieving and maintaining a position of

advantage over enemy through the successive utilization of known or emergent possibilities rather than committing to any specific fixed plan designed at the outset.

Revitalization is restored to new life and vigor. Implication of revitalizing strategies becomes an important aspect to prevent deterioration for any shrinking or declining city. Application of strategies varies with the situation to situation and, with the available data's and reasons. The strategies are normally worked out closely with the immediate requirement to fulfill the needs of the existing remain communities. Identifying most suitable strategies for revitalization is a key factor. Several strategies could be identified for a same project with a hierarchical order.

- **Economic strategies** to increase and generate income levels of the remaining communities using available potentials

- **Land use-** Vacant land is the most visible byproduct of urban shrinkage. When redevelopment of vacant land is not feasible in the near term or for the foreseeable future, holding strategies and temporary uses can promote stability and uphold adjacent property values. Landscape beautification offers an established approach here.

- **Environmental mitigation and ecological restoration**

- **Right-sizing infrastructure-** cities with declining populations plan for fewer infrastructures in the future in the way that growing cities plan for more infrastructures in their future.

- **Density** – Maintaining of existing density is a key factor and allow future growth. Development would be constrained to nodes, or urban islands, as a way of maintaining density and vitality as a city loses population. The area around these islands would be targeted for demolition and relocation of remaining populations, eventually reverting to a natural condition.

CHAPTER FOUR

Case Study-Matale City, Srilanka

4.1 Shrinking Cities In Srilanka

"Shrinking does not merely mean depopulation. It rather describes a process, which is composed of several factors. These are: general decline of birth rate, out–migration, growing unemployment rate, decreasing economic potential. Therefore, a shrinking city would be defined, as a city with a decreasing population and arousing from that decreasing economic activity"

(Oswalt et al. 2004).

In Srilanka

Most of the highly war affected areas in Srilanka faced gradual decrease in population. Jaffna District could be taken as a prime example which has more shrinking cites within the district. The decrease of population basically happened due to following reasons.

1.0 Out migration – to safe city or Country

2.0 Dead due to war

3.0 Minus growth rates – (1981 to 2001, growth rate was -2.0)

District	Population in 1981	Population in 2001	Population increase/ decrease	Average %	Growth Rate	Density per Km
Hambantota	424,344	526,414	102,070	24.1	1.1	211
Jaffna	*738,788*	*490,621*	*-248,167*	*-33.6*	*-2.0*	*528*
Manner	106,235	151,577	45,342	42.7	1.7	81
Vavuniya	95,428	149,835	54,407	57	2.2	81
Mullatitive	77,189	121,667	44,478	57.6	2.2	50
Killinochchi	91,764	127,263	35,499	38.7	1.6	106
Batticaloa	330,333	486,447	156,114	47.3	1.9	186
Ampara	388,970	592,997	204,027	52.5	2.1	140

Table 4.1 : Population statistics from 1981 to 2001 in war affected districts

Source-www.**statistics**.gov.lk

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Other than the war, decrease of population could be witnessed in a number of major well-known cities due to other causes. In 2004, most of the cities along the coastal belt affected Tsunami, and new regulations also matters relocating them in original places. Declaring of disaster zones by the disaster management centre,

Figure - 4.1 Ruined houses in war affected Jaffana town Srilanka-
Source: http://lucycalder.com/sri-lanka-the-far-north/jaffna/

Restrictions for construction works, unsuitable areas for living in future and landslides in hilly cities are directly involved for the gradual reduction of population in identified cities, as follows according to the Statistic done by the Dept. Census and Statistic in Srilanka.

	Name	Status	Population Census 2001-07-17	Population Census 2012-03-20	Result
	Badulla	**District**	**779,983**	**811,758**	**Increase**
1	Badulla	Divisional Secretariat	70,230	74,751	Increase
2	Bandarawela	-do-	60,269	65,111	Increase
3	Ella	-do-	42,894	44,763	Increase
4	**Haldummulla**	**-do-**	**38,223**	**37,482**	**Decrease**
5	Hali-ela	-do-	87,476	90,179	Increase
6	**Haputale**	**-do-**	**50,735**	**48,485**	**Decrease**
7	Kandaketiya	-do-	22,494	23,189	Increase
8	**Lunugala**	**-do-**	**33,079**	**31,092**	**Decrease**
9	Mahiyanganaya	-do-	67,301	75,327	Increase
10	Meegahakivula	-do-	18,650	19,540	Increase
11	**Passara**	**-do-**	**49,190**	**48,576**	**Decrease**
12	Rideemaliyadda	-do-	45,759	51,435	Increase

	Name	Status	Population Census 2001-07-17	Population Census 2012-03-20	Result
	Colombo	District	2,251,274	2,309,809	Increase
1	**Dehiwala**	**Divisional Secretariat**	**101,830**	**87,834**	**Decrease**
2	Hanwella	-do-	94,001	113,477	Increase
3	Homagama	-do-	186,050	236,179	Increase
4	Kaduwela	-do-	209,251	252,057	Increase
5	Kesbewa	-do-	209,619	244,062	Increase
6	Kolonnawa	-do-	161,247	190,817	Increase
7	Maharagama	-do-	185,193	195,355	Increase
8	**Moratuwa**	**-do-**	**177,563**	**167,160**	**Decrease**
9	Padukka	-do-	54,338	65,167	Increase
10	**Rathmalana**	**-do-**	**108,716**	**95,162**	**Decrease**
11	**Kotte**	**-do-**	**116,366**	**107,508**	**Decrease**
12	**Thibirigasyaya**	**-do-**	**266,154**	**236,983**	**Decrease**

	Name	Status	Population Census 2001-07-17	Population Census 2012-03-20	Result
	Kandy	**District**	**1,279,028**	**1,369,899**	**Increase**
1	Akurana	Divisional Secretariat	**55,744**	**63,195**	Increase
2	Delthota	-do-	29,917	30,169	Increase
3	Doluwa	-do-	45,270	49,480	Increase
4	Gaga thala korale	-do-	**51,130**	**54,674**	Increase
5	Harispathuwa	-do-	78,880	88.002	Increase
6	Hatharaliyadda	-do-	**29,107**	**29,866**	Increase
7	Kandy city limits	-do-	160,630	157,330	**Decrease**
8	**Panwila**	**-do-**	**26,680**	**26,186**	**Decrease**

Table 4.2 - Reduction of population in identified several towns in Srilanka

Source: Census and statistic Department- Srilanka

4.2 Introduction of Matale City

Figure- 4.2 –Location of Matale City
Source http://www.bbc.co.uk/news/world-asia

Matale is a town in the hill country of Sri Lanka, 142 kilometers (90 miles) from Colombo and 26 kilometers (17 miles) from Kandy. The Matale administrative district also contains the historic Sigiriya rock castle, Aluwihara rock cave temple and Dambulla cave temple. The town is surrounded by Knuckles and Wiltshire mountains. The Knuckles Mountain Range is a special landmark of Matale. The District mainly depends on agriculture, where tea, rubber, vegetable and spice cultivations are dominating.

An ancient rock temple "Aluvihara" of great significance in the history of Buddhism.The Buddhist canon and its commentaries, which were till then handed down orally, were written for the first time at Aluvihara Temple. Sri Muttu Amman Kovil also located one corner of the town and most of the people passing through the city who travel to see the ancient cities which are located in dray zone.

Figure- 4.3 -Aluwihare temple and Sri Muttu Amman Kovil
Source: http://www.google.lk/imgres=matale+srilanka.

In 1815, under the British colony, the area totally used them for cultivation of Tea, Rubber and Coffee and still the spices and spice gardens are very famous in the area. The British were extended the railway line up to Matale from Kandy to transport their crops to Colombo.

With the implication of political decisions, the main agricultural whole sale centre was transferred to Dabulla and centralized economic activities in Matale city was weakened in recent time.

In early stages, the city was administrated by an AGA and in 1923, administrative Council was established. In 1939, Town council was introduced and in 1966, demarcation made for the District. From the total population of the District, only 9% live in the city limits. Presently, most of Muslim and Hindu communities control the central business area in the city. One way-Two main streets interconnected with cross one way-grid streets net work system and facilitate to reduce traffic jams and provide more parking spaces along the roads as a solution for public parking spaces.

Population Density In Central Province/ per hectare			
City	**1981**	**2001**	**2010**
Kandy	**554**	**664**	**880**
Matale	**180**	**227**	**236**
Nuwaraelliya	**354**	**410**	**517**

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Table 4.3 – Population density chart
Source: *UDA- development plan for Matale City*

In recent decade, the city encounters with a negative development pattern due to social-cultural changes, reduction daily income levels, changes in occupational pattern, migrating of younger generation, increase of older population, and slow growth rate. As a result the city entire structure has been changed and it can be observed through generally on built and spatial forms.

The current city is mainly identified as an administrative centre and the gradual reduction of economic activities could be experienced since 1983. Most of the people from near suburban migrated to city for better facilities and resided with close

distance to the city centre. The city previously well known place for the working class and government offices where most of them were resided after their retirements and the city identified as "Residential city"- most suitable place to live.

4.2 Present City

In recent times, the city encounters with a negative development pattern due to social-cultural changes, shifting of main economic centre to Dambulla city, changes in occupational pattern, migrating of younger generation, increase of older population, less investment on new business and slow growth rate. As a result, form of the city structure has been changed and it can be observed generally on built and spatial forms.

Recently, the city is transformed to more administrative bias activities and more residential activities with gradual reduction of larger scale economic activities. The majority of the people from nearby suburban have been areas migrated to city for better facilities, with their financial ability and resided with close distance to the city centre. The city gradually becomes a renowned place for the working class and government offices and most of them resided after their retirements due to low land values compare to the nearest magnet cities.

	Matale	Dabulla	Kandy
City Center	Rs 800,000	Rs 2,000,000	Rs 4-5,000,000
400m away	Rs 200,000	Rs1- 1.5,000,000	Rs 3,000,000
1Km away	Rs 30-40,000	Rs 150,000	Rs 3-400,000
3 Km away	Rs 20,000	Rs 75,000	Rs 100,000-200,000

Table 4.4 : Present Market Value with the Distance from down town city-(Per Perch)
Source- Property values- Kapruka.com

The land values are not in rapid increase process compared to other cities. Most of them are selling their own lands due to absence of facilities provided by the relevant authorities and migrated to other closer cities with more amenities. In the mean time,

as a result of after declaring several areas as disaster zones within the city, land value gone down in rapidly. This is a major evident in shrinking/ declining cities especially in Srilankan cities. Lower land values not attract more people to cities but they considered other factors also. (facilities, terrain, factors effecting-such as disaster porn zones, etc)

The other fact is the available land parcells in the city centre are too small in extent which hinders the opportunities for larger scale business developments. Even if there are sufficient vacant lands, for developments, the fragmented ownership, require amalgamation of many sites.

With the social-cultural changes, the function of the city also is changed. The dominance of one cultural group could be observed and presently, Srilankan Moors (Muslims) are dominant at the central city. The whole sale shops located at the northern side of the streets were relocated outside and replaced by small boutiques and groceries catering to present residential neighborhoods.. Previously, ground and upper level functioned as shop houses, and lately upper floor became empty. T Movements of the people and vehicles can be observed more on the Main street and less on the King Street. Conflicts between motor traffic and pedestrian's traffic are observed near the prominent nodes. 90% of pedestrians use roads as their walkways. Existing buildings are too small for many type of business uses and often are in poor condition and poor aesthetic qualities. Substantial investment is needed to make the buildings suitable to attract new businesses.

The private sector investments are hardly seen within the city limits other than the institutions and banks. Government owned lands are very few compared to private. The unemployment rate has been increased in the last decade. The resources available in and around the city are not utilized for tourists attractions, although there are many attractive locations nearby the city. The direct benefits are not received by the city, since many travelers to northern cities by pass the town.

This situation is adversely impacted on regional economic development. In early days, the city was famous as a collecting center for spices. With the diminishing of spices and introduction of other non agricultural related activities, the city is

transformed into service providing and administrative center. The lush greeneries in the city had been and converting them in to development sites.

Religion	1981		2001		2010	
Buddhists	16,435	55%	16,018	45%	16,438	45%
Hindus	5166	17.3%	7538	21%	7438	20%
Islam	6700	22.5%	10710	24%	11,054	30%
Catholic	1078	4%	1245	3.4%	1217	3%
Others	435	1.2%	462	1.6%	448	2%

Table 4.5 Population distribution in Religious format
Source- Urban development plan for Matale city2006-2020 Urban Development Authority

Ownerships of Buildings	King Street	Main Street
Sinhalese	70%	40%
Muslims	20%	40%
Tamils	10%	20%

Table- 4.6 Building Ownerships

Majority of present ownerships of the buildings are owned by Muslim and Tamil businessmen. Their religion also acts as significant element in their daily life. Presently, 3 Kovils for Hindus and 2 mosques for Muslims are located within the city limits along the two streets and no temples were found. On the east side of Main Street closer to business areas, 95% of Muslims have their residences and 80% of the Tamil and Sinhalese are living on the east side of the King street, closer to City.

Figure- 4.4- Views from the city to surrounds
Source: Author

The city is located on the basin of two hills with lush greeneries. The average temperature is 27C with 75% humidity, and 18 km/h wind. The two main streets are directing towards North – south direction. The sun rise and sun set direction is perpendicular to the entire city structure. The layout of the street could be converted into increase of comfort level of the city users, especially pedestrians, providing more shading areas throughout the day with constructing of more floors to the present building pattern. The closer mountain to city from west side gives protection for the

pedestrians from the evening sun. The two streets acting as two wind tunnels to evacuate stagnated humid in streets. The present landscape islands in-between two street also maintain the comfort level of the inhabitants.

Figure – 4.5- Spice gardens and related economic activities
Source- Author

The city's economic activities are gone down since 1983. The private sector investments are hardly seen within the city limits. Government owns lands are very low with compare to private. The unemployment rate is increased in last decade. The proper make use of available resources surrounded by the city not been used the visitors or tourists do not stay in the city, although there are many beautiful locations to visit in outside the city limits. Bypassing the city is directly affecting to slow growth of most of the economic activities, such as hotels, spice gardens, etc. This situation is adversely impacted on regional economic development. The early days, the city was famous as a collecting center for spices. With the diminishing of spices and introduction of other non agricultural related activities, the city converted into service providing and administrative center. The places where the previously had lush greeneries disappeared and replaced by more service providing oriented activities.

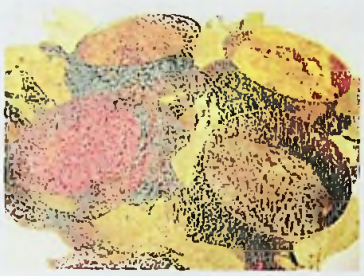
	1981	2001	2010
Professional/Technical	13%	37%	38%
Business/Managers	2%	3%	3%
Clerks	9%	6%	8%
Groceries/ Businessmen	35%	14%	13%
Agriculture/ Fisheries	7%	2%	2%
Production Related	31%	17%	14%
Others	3%	21%	22%

Table – 4.7- Occupational Pattern-
Source: UDA- development plan for Matale City

4.3 Causes for Shrinkage

The rapid urban growth is oftenly seen in Srilankan cities in recent times which is a norm to all the developing countries. Several forces frequently cited as contributing to the decline of Matale inner city business district in recent time. Slow growth of population, out migration of younger generation, increase of ageing population and high unemployment rate, scarcity of land availability for expansion could be considered as main factors affecting for the declining of the main city.

4.3.1 Decreasing of Economic Activities with the reduction of travel time to nearest magnet cities-



Year	Growth Rate
1997	2.14%
2005	2.0%
2010	1.76%

Table – 4.8- Economic Growth Rate
Source: UDA- development plan for Matale City

The percentage of economic growth rate is gradually decreased in the last two-three decades. The Matale District was started as an agricultural District and later converted to administrative centre for the entire District. With the developments of the other nearest cities, the economic activities were transferred to nearest cities due to high income levels. At times, there is a sharp decrease in economic activities caused by the departure of small businesses, industries and manufacturers to more prosperous and dynamic areas where adequate services and infrastructure are in place and where development opportunities exist due to better accessibility, income, customers and less congestion. Therefore, these changes affected dramatically the viability of business district that was tied to surrounding neighborhoods.

Previously functioned, larger retailers, such as department and grocery stores that anchored some neighborhood business district, relocated to outside of the city core.

Changes in transportation system , rise of depended on automobile and reducing travel time to magnet cities,(Kandy, Dabulla, Kurunegala) also contribute to the weakening the central business district activities.

	Kandy	Dabulla	Kurunegala	Galewela
Matale	*35*	*40*	*60*	*35*
Kandy		75	45	60
Dabulla	75		40	20
Kurunegala	45	40		20
Galewela	60	20	20	

Table 4.9- Travelling to nearest cities time in Minutes
Source- Author

4.3.2 High percentage of Abandoning of buildings and vacant commercial shops

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Figure- 4.6 Present view of the Main Street
Source- Author

The city has high percentage of abandon of buildings and lands compare to Kandy. The city has average of 16.85% of vacant buildings compare to Kandy which has only 0.12% -(Assessment Tax Records of KMC- 2013)

Commercial/Office Buildings	1981	1991	2001	2013
Main Street	*710*	*640*	*615*	*437*
King Street	*267*	*256*	*243*	*240*

Table 4.10- Decreasing functions in Buildings on Streets
Source- MMC records from Solid waste collection Project

Commercial/Office Buildings	Total in 2013	Closed Buildings	Abandoned Buildings/Land	Vacant Percentage
Main Street	*437*	*44*	*42*	*19%*
King Street	*240*	*28*	*32*	*25.5%*
average	*774*	*72*	*51*	*16.85%*

Table- 4.11 - Present closed and abandoned Buildings and lands
Source- MMC records from Solid waste collection Project

4.3.3 Narrow widths, tiny size of plots and lack of parking spaces

Figure 4.7 -Main Street and King street view
Source- Author

Further, the present layout of the city and the sizes of the plots are also matters. There are very narrow in widths, below 3-4m, and also small in plots, 200sqm- 300 sq.m in sizes. This leads to restrict the construction of buildings in larger scales with the prevailing rules and regulations.

Map 4.1 –Narrow widths and compacted building forms *Source- Author*

Building Type	Main Street	King Street
Ground level only	*32*	*17*
Ground + one level	*470*	*216*
Ground + 2 Levels	*28*	*2*
Ground + 3 Levels	*3*	*5*
Ground + 4 Levels	*1*	*0*

Table -4.12- Floor numbers in Buildings - *Source- Author*

The providing parking facilities are also a key issue for city development pattern. Not availability of proper parking system to cater for city users is further increase the negative economic growth.

4.3.4 Out migrating of people

Furthermore, in 1983 the Sinhala-Tamil riots changed the entire scenario of the city structure. Before 1983, several larger scale industries which were running by the Tamil owners, such as, Biscuits, chocolate productions located within the city limits. With the riots, most of the owners migrated to India with their families, abandoning their properties and factories. Some of the factories and whole sale shops were burnt by the rioters. After 1983, with the migrating of main business holders of the city, the daily income levels were dropped. The abandon properties were sold by the previous owners and most of them bought by the Muslim businessmen. These social-cultural changes indirectly involved for the physical shrinkage of urban structure.

4.3.5 Increasing of ageing people, unemployment rate and females

The city is witnessing the increase of older generation and gradual reduction of young generation in last two decades. In addition to rapid growth of unemployment level and increase of females could be considered as other factors for impacting the present situation of the city.

Age	1981	2005	2010
Below 14	32%	27%	22%
15- 19	12%	10%	9%
20-29	20%	19%	15%
30-39	14%	14%	13%
40-49	9%	13%	16%
50-59	7%	10%	15%
65 and above	6%	7%	10%

Table -4.13 Population – with age (increasing of ageing population)
Source: UDA- development plan for Matale City

Year	Male	Female
1981	51%	49%
2001	48%	52%
2005	48%	52%
2010	47%	53%

Table- 4.14 Gender in percentage
Source: *UDA- development plan*

Year	Rate
1981	8%
2001	3%
2005	14%
2010	23%

Table- 4.15 Unemployment rate
Source: *UDA- development plan*

4.3.6 Political interest and local governance

Figure- 4.8- Deteriorated city spaces in the City
Source- Author

Interviewed people of the town have the opinion that the city is "Dying" due to less improvements or progress compared to the past. Lack of political attention and negative attitude of the local authority lead the city from bad to worse. Responsibility is given to Prevailing political structure of the country, not having any demarcated electorate to parliament representatives of the area.

4.3.7 Declared disaster zones

Recently, Matale city and several areas declared as "Disaster Zones" and additional restrictions and regulations introduced for construction works by the National Building Research Organization. It also another factor to reduce land values and construction works within the city limits which ultimately effect to the out migration of people to nearest safe cities and also restricting immigration of people from near towns and villages to Matale City

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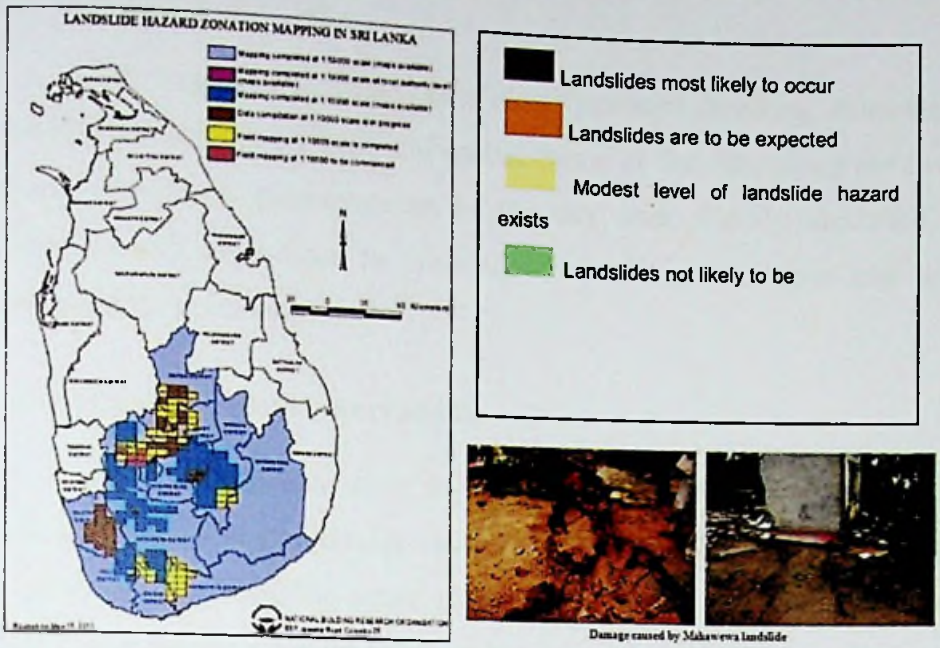


Map- 4.2 Disaster Zones and damages already witnessed
Source: UDA- development plan for Matale City

4.3.8 Limited Government lands for public Development projects

Land Distribution	
Private lands	84%
Municipal	1.7%
Government	14.3%

Table- 4.16 Landowner ships
Source: UDA- development plan for Matale City

The Government and Municipal have low percentage of lands in the main city limits. This leads to difficulty in implementing public projects when necessary. Most of the private lands are already developed by the owners at al low level scale projects. Presently, the vacant former police station land was not properly utilized by the Council for a development project. Also availability of old single storied government quarters with larger plots could be developed in proper way, while introducing housing schemes for government servants in one location.

4.4 Study of the City -

The purpose of this study is to identify present shrinking characters and how it transformed through on built and spatial forms of the city, along the two prominent streets and closer public spaces to the city core. Finally identified factors and indicators will be utilized to introduce urban design strategies and guild lines to overcome such situations.

4.4.1 Site surveys and observations

This investigation aims to study the urban form of the city in relation to spatial and physical structure. It was done under several sub categories which could be evolved to understand the actual situation of the city structures, in built and spatial format and finally it would be more helpful to developed urban design strategies to implement for entire city to prevent from urban decay.

4.4.1.1 Physical Structure –

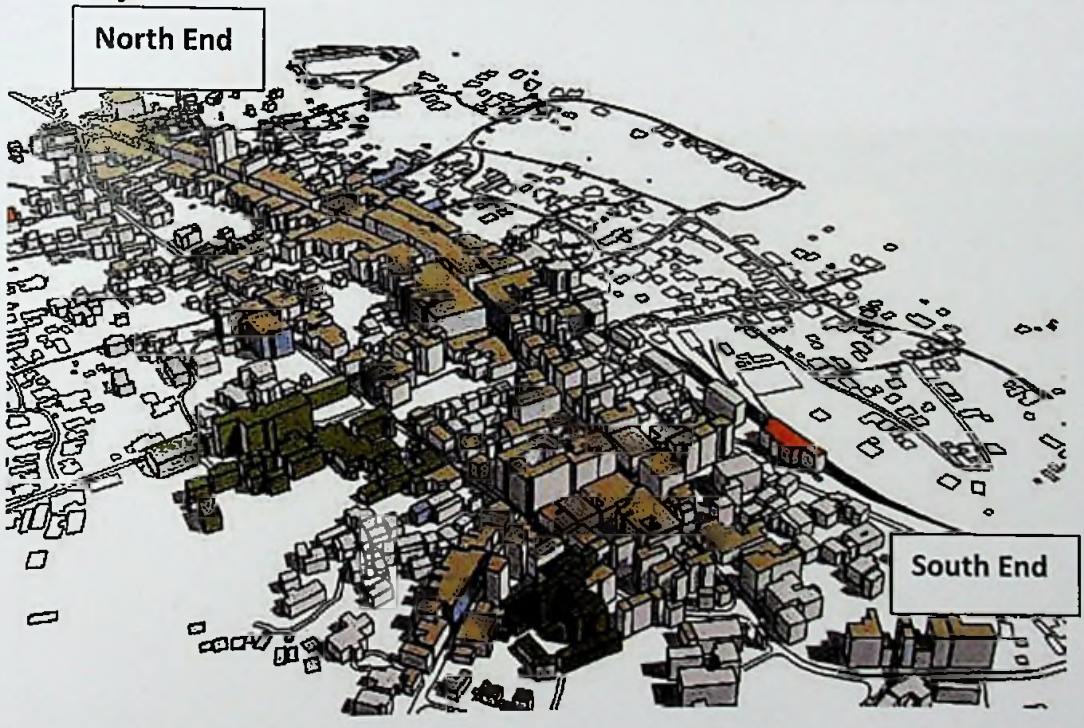


Figure- 4.9- 3D form of the city –(south- west) *Source-Author*

More horizontal built fabric to more vertical built fabric extended towards the southern end of the city with haphazard development pattern.

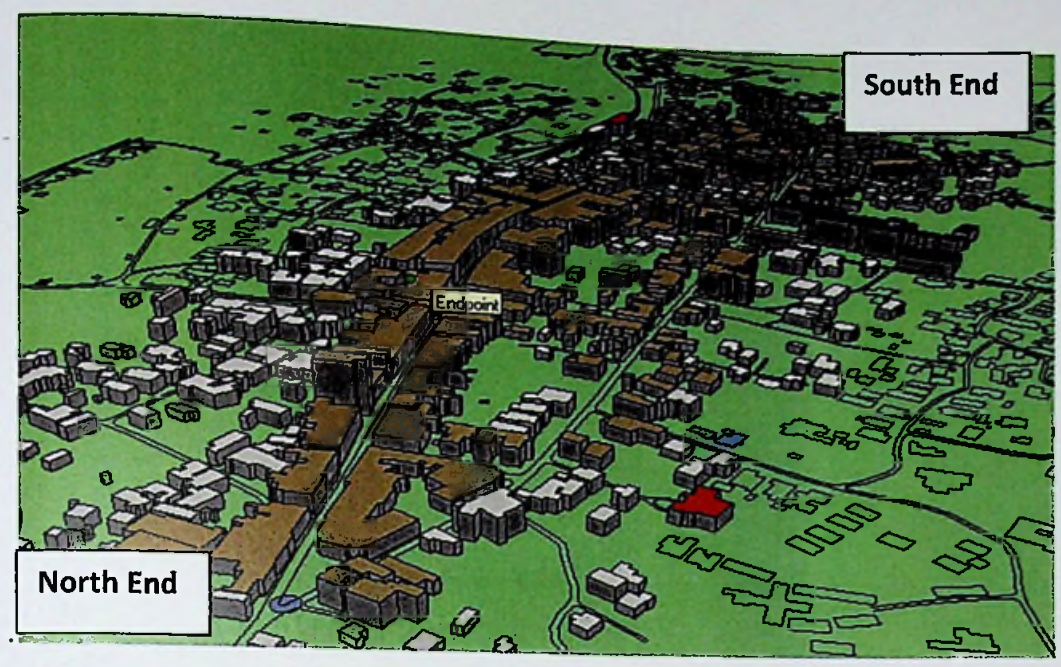


Figure- 4.10- 3D form of the city –(North) *Source-Author*

More developments happen towards the southern side due to high pedestrian movement pattern and scattered built forms could be experienced along the king street with more vacant and un- development lands.

`Map 4.4- Built-Un-built
Source- Author

Figure 4.11- Street Edges
Source- Author

Solid Street edges could be experienced in the main street while the king street edges transforming into scattered development pattern

Category	1997	2005	2010
Streets/ Roads	5%	5%	6%
Recreational facilities	1.7%	1.7%	1.7%
Housing	61.6%	62.03%	62.12%
Industries	0.53%	0.53%	0.11%
Commercial	2.14%	2.21%	2.03%
Religious	2.03%	2.04%	2.06%
Agriculture	20%	19.03%	18.10%
Educational Institutes	2.64%	3.01%	3.2%
Health	1.50%	1.50%	1.8%
Public Buildings	1.45%	1.45%	1.6%
Open spaces	1.0%	1.0%	0.68%
Water bodies	0.50%	0.50%	0.50%

Table- 4.17 Land allocation
Source: *UDA- development plan for Matale City*

Building Category	King Street	Main Street
Groceries/Boutiques/ Shops	69.0%	91.51%
Wholesales shops	6.16%	3.07%
Hotels/ Restaurants	3.78%	1.53%
Filling stations	1.62%	0.43%
Banks	2.16%	1.31%
Pharmacies	3.78%	0.43%
Institutions	1.62%	0.21%
Offices	2.70%	0.21%
Channeling centers/Hospital	4.86%	0.65%
Studios and related shops	2.7%	0.65%
	100%	100%

Table: 4.18 Building Categories
Source-author

Smaller and medium scale commercial activities to be found near the main street towards the southern end, with significant gradual decrease at the northern side, and institutional activities are located along the King street ,at the south side to the main city core with the surrounding residential neighborhoods.

-Main street-A	Year 2013
Occupied -New Buildings	16
Occupied -Old Buildings	440
Abandoned Buildings	32
Vacant upper levels	46
Total	534

-King Street-B	Year 2013
Occupied -New Buildings	06
Occupied-Old Buildings	187
Abandoned Buildings	19
Vacant upper levels	28
Total	240

Table 4.19- Occupied and Abandoned/Vacant Buildings along two streets *Source-Author*

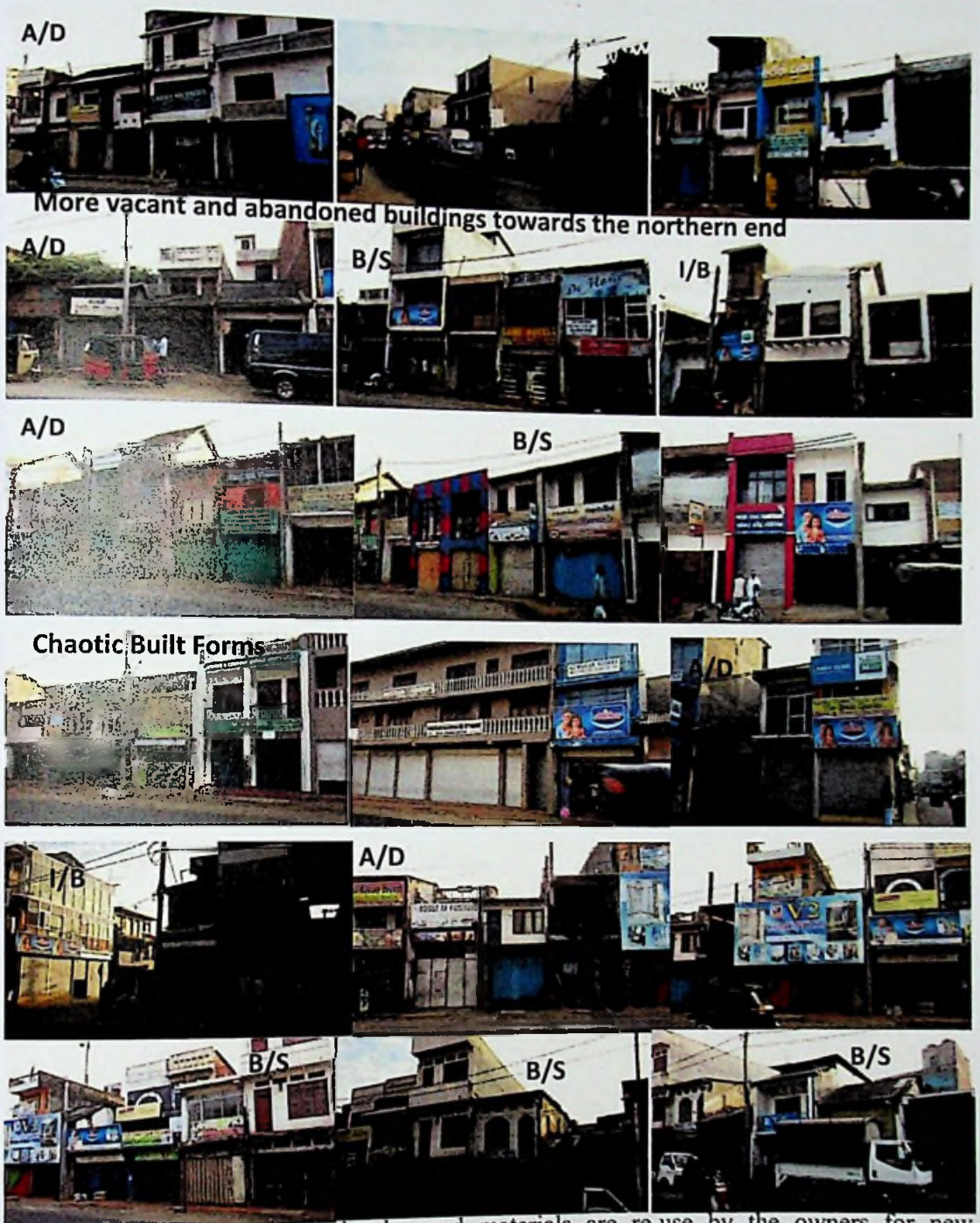
Map- 4.5- Abandoned/Vacant Buildings along two str

Source-Author

With the leaner development infrastructure facilities are rapidly increased and developed. As a result, people concentrate on magnet closer cities which have more facilities than the other town centers. With the increase of the income level of that time of town or cities, the wealthy businessmen who lived in other cities started business in magnet closer cities. As a result they neglected and abandoned their original business premises without maintaining. Those abandoned and less maintaining built forms is significantly affected to the urban fabric of such cities or towns.

4.4.1.1.1 Built Forms

4.4.1.1.1.1 Visual Analysis along the Main Street from North to South



Most of the buildings, previously used materials are re-use by the owners for new construction and alteration works.

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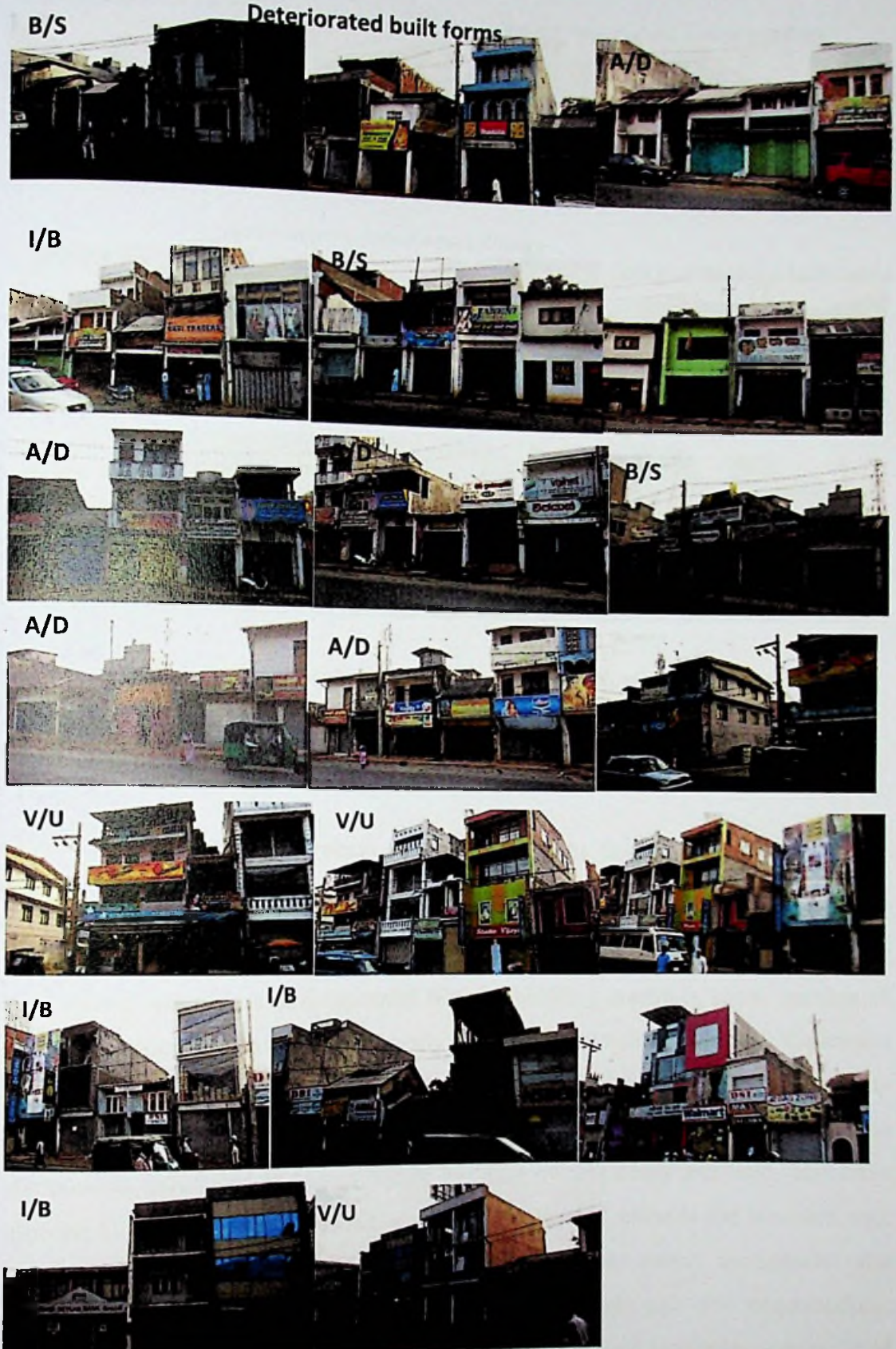


More vertical development pattern towards the southern end with empty upper levels and unfinished built fabric along the street

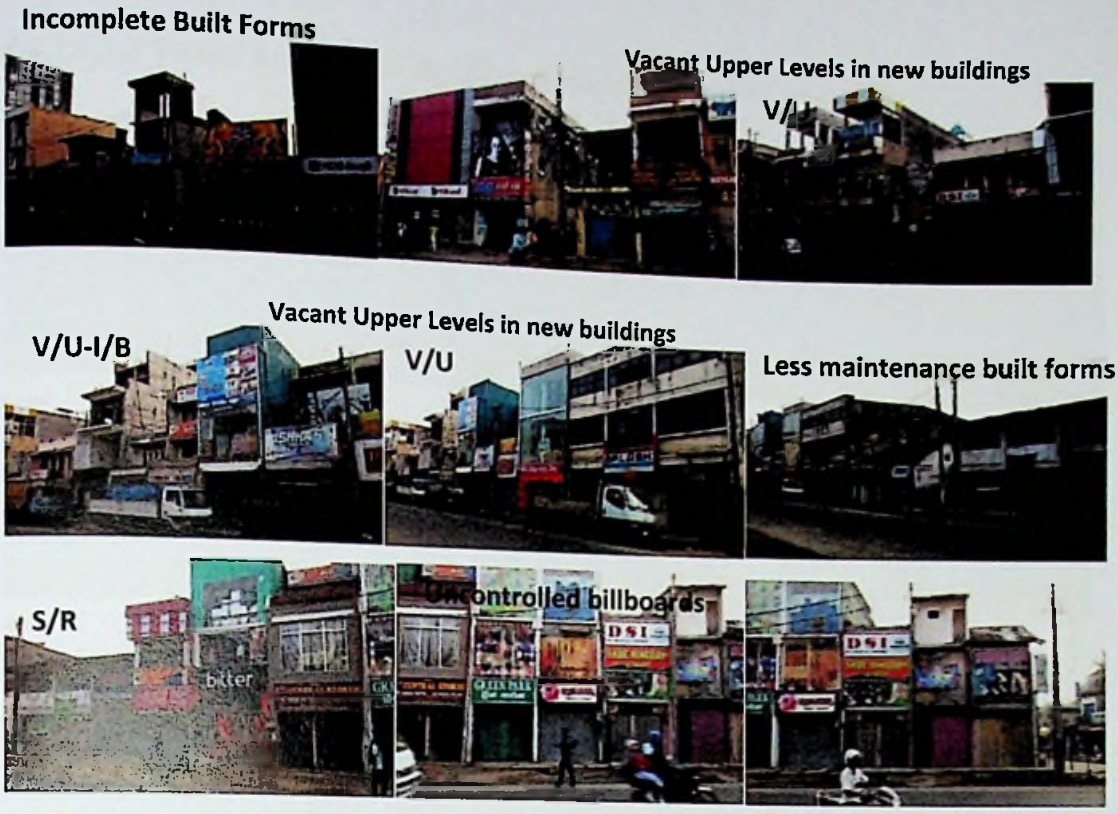


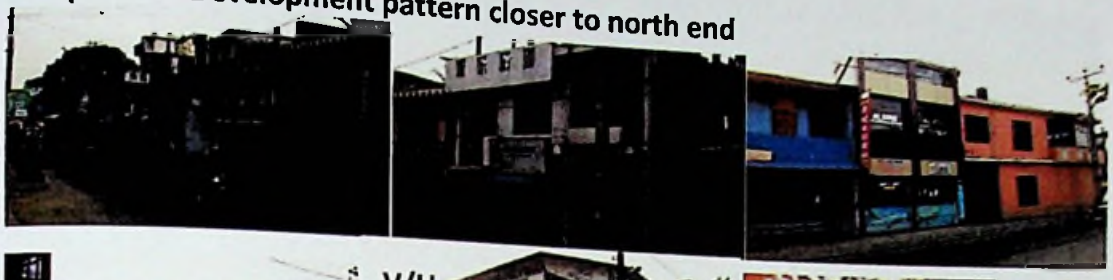
Figure- 4.12- Main Street elevation from North to South
A/D-Abandoned, deteriorated **V/U**- Vacant upper levels **I/B**- Incomplete Buildings
B/S- Building to be sold **S/R**- Spaces available for rent
Source-Author

Observed transformation Process on Built form along the Main Street :

More Abandoned, Chaotic, Confusion of built forms with haphazard development pattern, more Vacant upper levels buildings, less interrelationship between among built forms, use of less environmental friendly building materials, great number of unoccupied shops in North side, Visually architecturally and aesthetically unpleasant environment for walkway users, Different heights of forms projected without any response to the land widths and breaths, Different Scale, proportion, appearance and components introduced to accommodate building owners needs and Scio- economic aspects, Skyline of the built fabric significantly changed towards the southern end, Deteriorated urban fabric resulted, neglected, less maintenance, incomplete, and stagnated building fabric, Less involvement of professionals for constructions, interwoven built fabric obstructs the visual linkages between important spaces, solid street edge along the street.

4.4.1.1.1.2 Visual Analysis of the King Street from North to south–

Haphazard Development pattern closer to north end



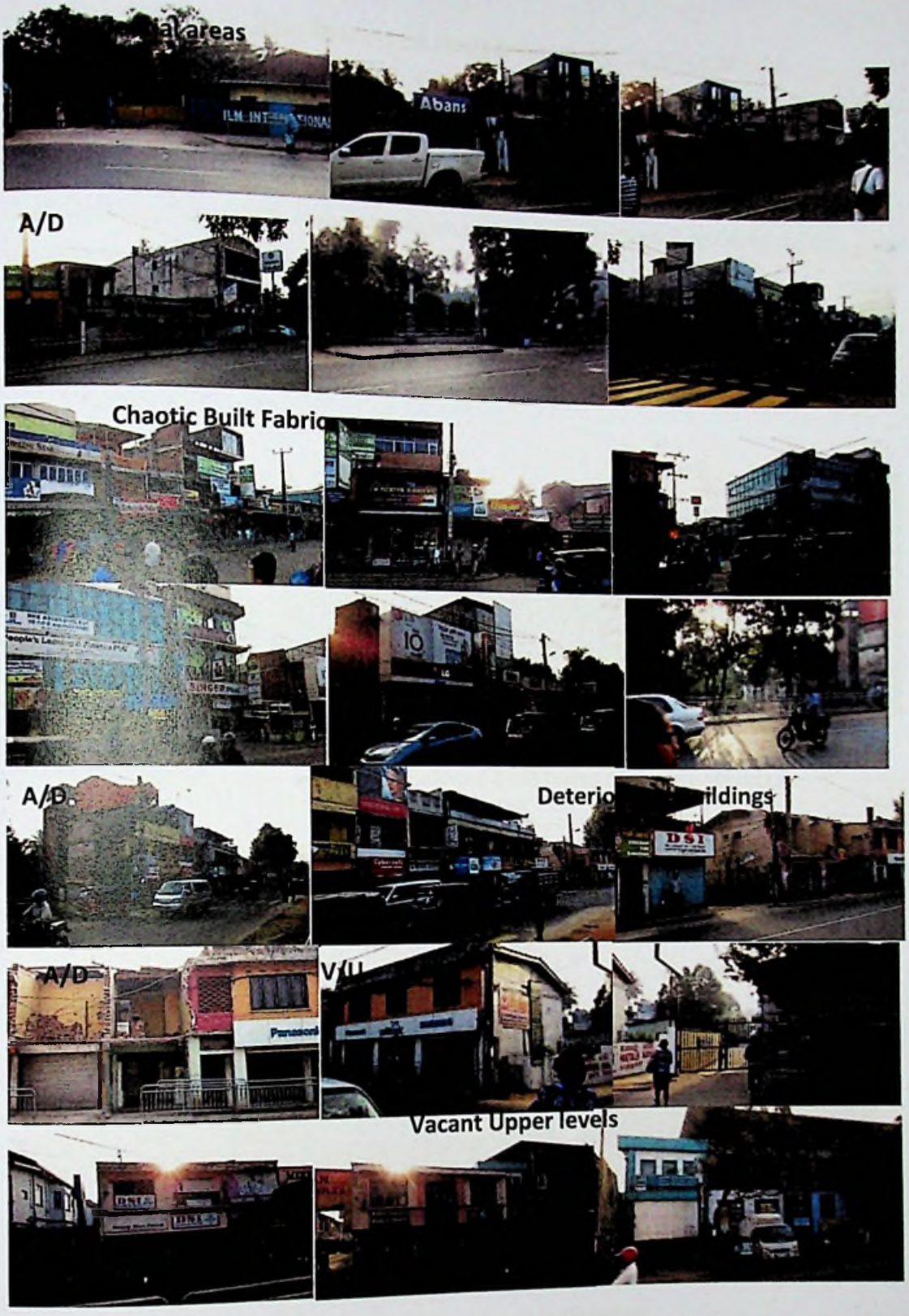


Figure- 4.13- King Street elevation from North to South
A/D-Abandoned, deteriorated **V/U-** Vacant upper levels **I/B-** Incomplete Buildings
B/S- Building to be sold **S/R-** Spaces available for rent
Source-Author

More scattered development pattern with vacant empty land spaces and chaotic built forms, are noticeable elements could be witnessed along the street.

Observed Transformation Process on Built form along the King Street;

Few Abandoned built forms with haphazard development pattern, less Vacant buildings compare to main street, less interrelationship between among built forms, Different heights with forms, , Sky-line of the built fabric not greatly changed , Deteriorated urban fabric with less maintenance and stagnated building fabric, Less involvement of professionals ,Scattered built fabric with more open spaces, vacant lands among built forms, less billboards on buildings, and absence of professionals involvements, less significant development pattern along the street.

Figure- 4.14- Vacant/ abandoned built forms along the Streets
Source-Author

Gradual reduction of income level, shifting of businesses from the main city core with the absence of proper parking facilities, and spatial requirements, resulted the more vacant and abandoned buildings along the streets.

Figure- 4.15- Prominent built forms
Source-Author

Recently, identical type plans use for buildings is famous among the building owners without respect to the environment. These built forms drastically changed the previously emerged by responding to eye-level street activities.

Figure- 4.16- Historical remaining architectural forms-Shop Houses
Source-Author

Few historical artifacts are remaining in awful conditions without proper maintaining.

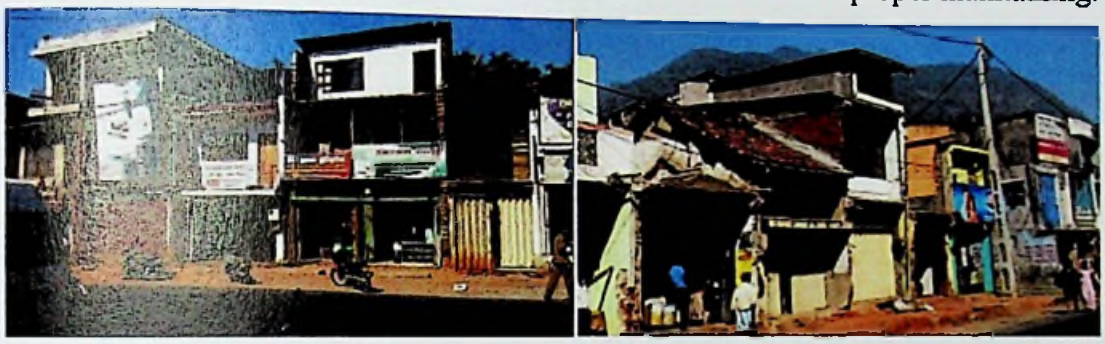


Figure- 4.17- Deteriorated Buildings
Source-Author

Figure- 4.18- Variety of Building forms
Source-Author

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Various types of build forms dominate the context significantly reflecting the economic situation of the city by using various types of materials.

Stage -01-

. Northern end of the main street

Stage -02

Middle of the Main Street

Stage -03- Southern end of the Main Street

Figure- 4.19- Stages of Transformation of Building Forms with building heights and elevations *Source-Author*

Varity of artifacts emerged by responding to the eye level street activities in early stages and dramatically change to accommodate present social and economical requirements. The abandoned of buildings along the Northern end of the main street result rapid extensions and new additions to the upper levels of the building forms to accommodate more business ventures.

4..4.1.1.1.3 Changes in Skyline and Streetscape

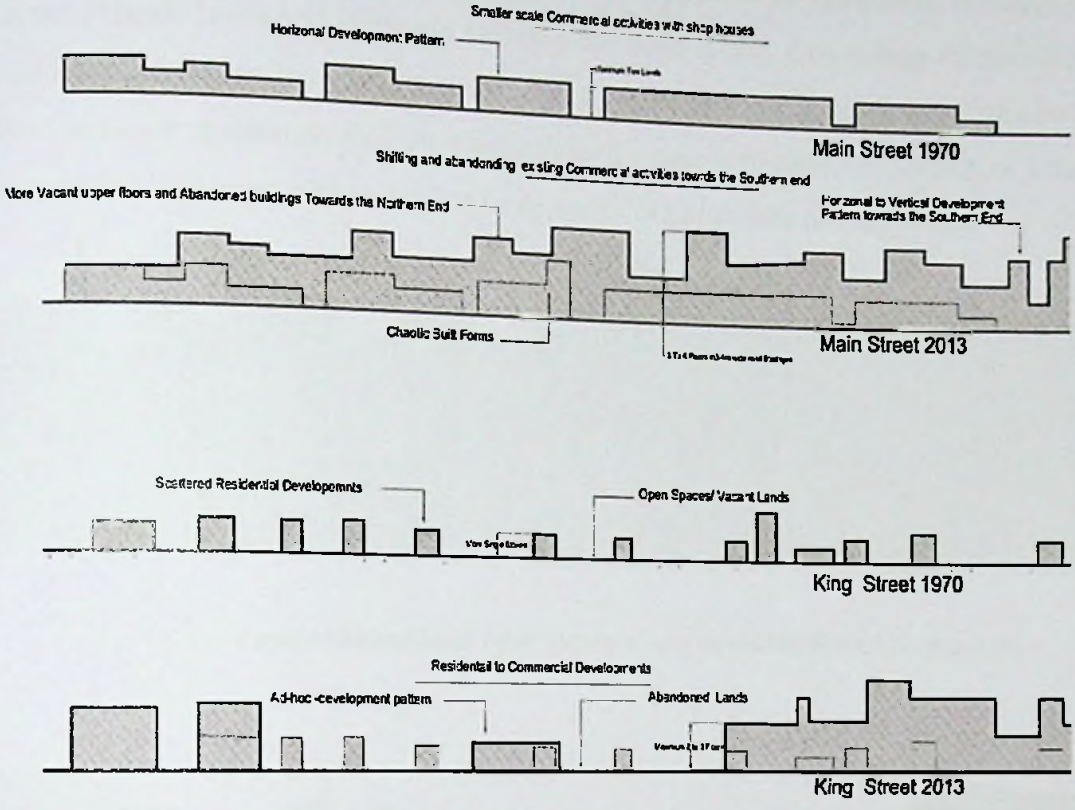

Figure- 4.20 Skyline Changes in built fabric from 1970 to 2013
Main Street- Horizontal development to vertical – King Street- Scattered to Scattered
Source-Crated after observing of the maps in Surveyor Department – Matale by the Author

Early meaningful single or two storied shop houses were the key built element along the main and ground level used as for commercial and upper level for living purposes. These smaller scale two levels of shop houses were developed along the north to south ends especially in the main street at later stages. The street was identified as the Main street of the city which was the main income generated activities happened and later the king street equally developed to avoid traffic congestion as well as to introduced as a second business street. The attempt was failed. Still non-built natural vacant lands are available for developments. At the early stages, most businessmen are preferred to obtain buildings for their commercial activities on the main street due to the character of the street. King Street is not experiencing a rapid development pattern compare to the main street due to unattractiveness. To fulfill the additional space requirements of

the shop in Main Street, the owners responded with introducing two, three or more floors in to their buildings in Main Street without respect to the rules, regulations and plot sizes. With the negative effects of the economic condition those constructed upper level spaces became an empty due to the positive development scenario of closer magnet cities and it greatly affected the built fabric. Converting economic to more administrative bias activities affected to transform the appearance of the built form in negative manner. Mainly it influences the people to abandon, vacate, or result incomplete buildings with upper levels, re-use of old materials in renovations etc.

Figure- 4.21- Vacant/ abandoned built forms along the King Street *Source-Author*

Figure- 4.22- Prominent architectural forms in king street *Source-Author*

Figure- 4.23- Deteriorated Building forms in King Street *Source-Author*

4.4.1.2 Spatial Structure:

4.4.1.2.1 Public and open spaces

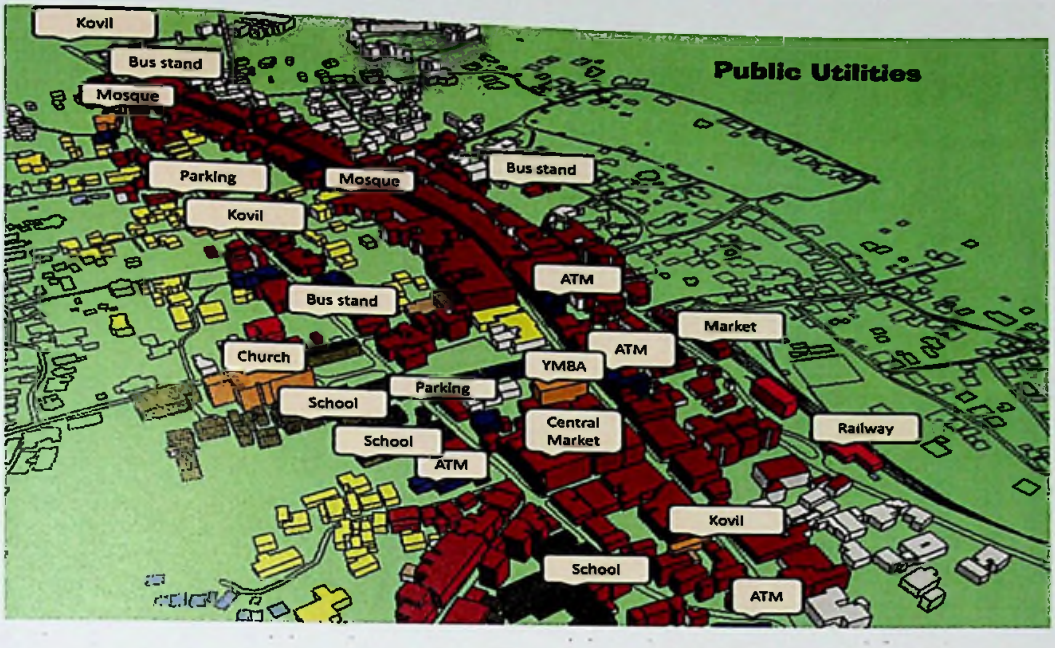

Figure- 4. 24 Available Public Utilities
Source- Author

	Description	King Street	Main Street
1	Set backs from the pavement	26	8
2	Corridors through Arcades	1	0
3	Corridors through overhangs	0	0
4	Landscaped near the buildings	8	0
5	Street furniture	0	0
6	Public open spaces	0	0
7	Public parking spaces	3	0
8	Vacant lands	6	1

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Table- 4.20 –Spatial Summary
Source- Author

Less attention given by the related authorities for open and public spaces, are influencing factor to reduce the street activities and change in pedestrian movement pattern drastically within the down town city.

Street	Open spaces	Parking spaces	Public Along the road	Shadings/ Arcades	Public Squares
King Street	-	1	Yes	No	No
Main Street	-	-	Yes	No	No
Other Streets	-	-	Yes	No	No

Table- 4.21–Available public spatial facilities
Source- Author

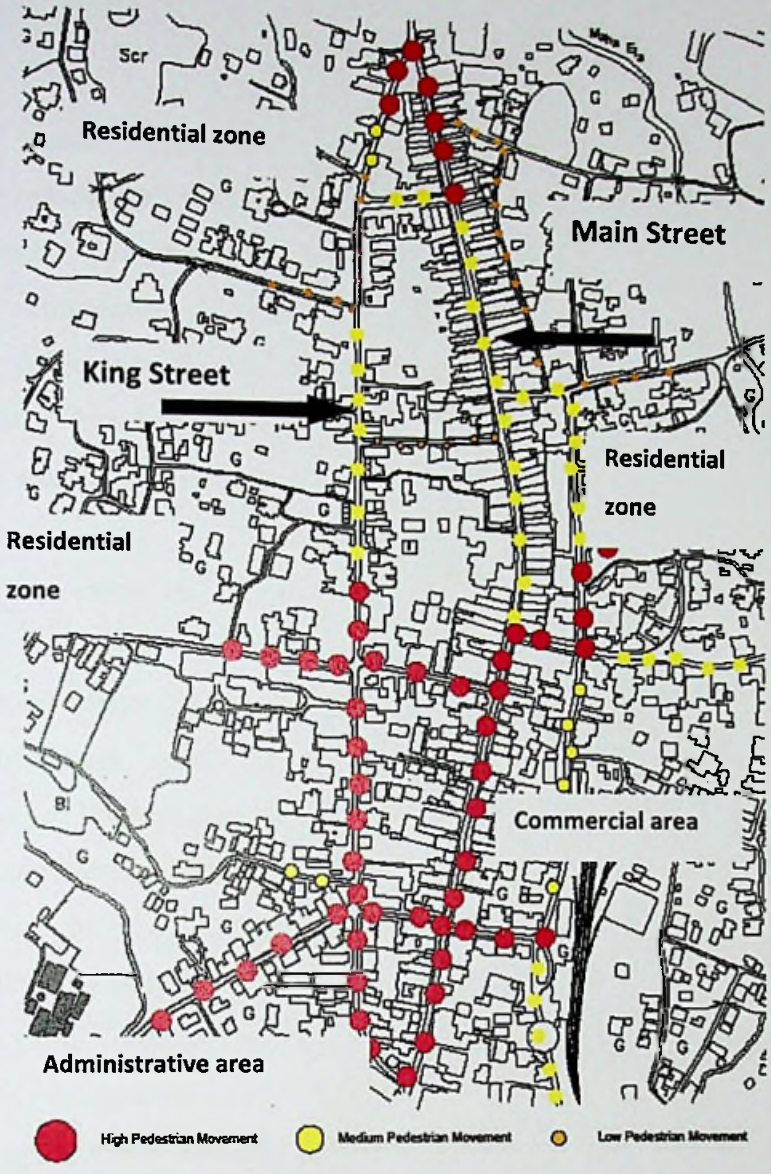
Name	Traffic Movement	Pedestrian Movement
King Street	High	Less
Main Street	Very High	High
Other Streets	High	High

Tabale-4.22 – Intensity of Movement
Source- Author

Name	Main Street	King Street	Other Streets
One way In 1970	No	No	No
One way In 2010	Yes	Yes	Yes

Tabale-4.23 –Traffic Pattern
Source- Author

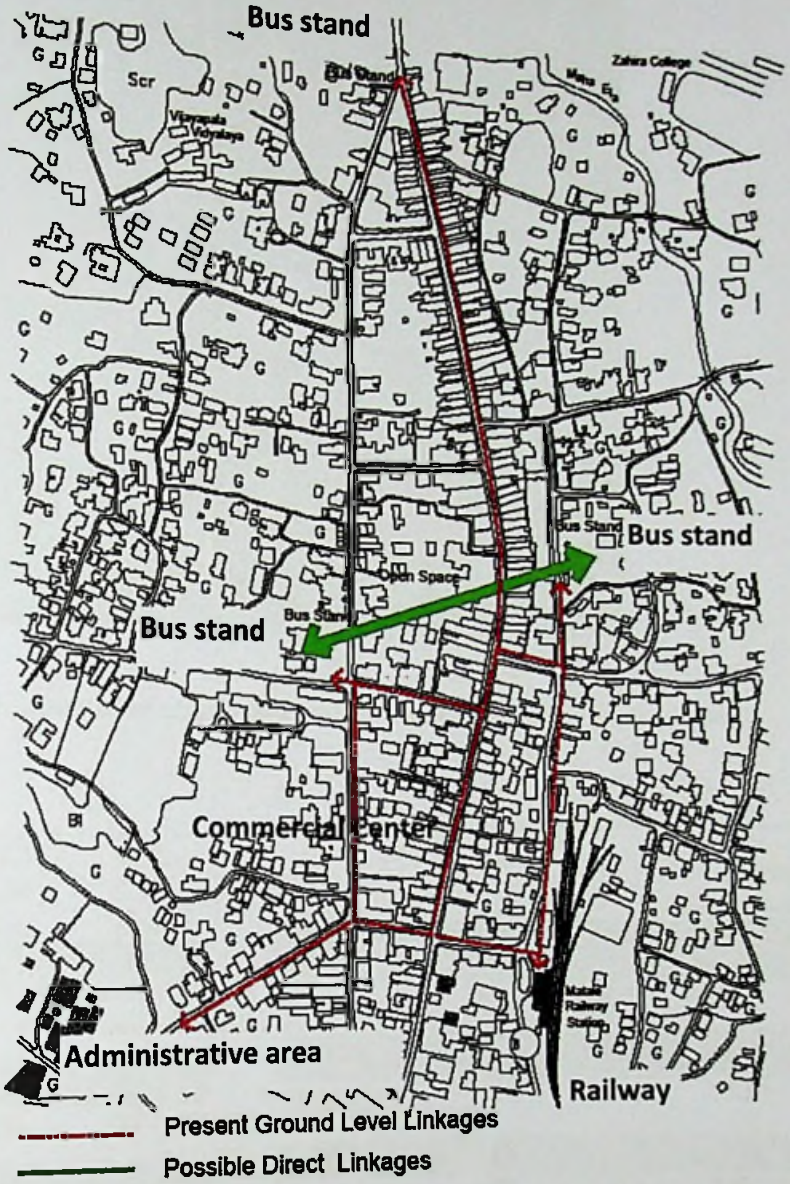
Public spaces and configurationally qualities to the built-up environment are severely affected. There is a noticeable fall in the attractiveness of the locality for existing spaces. Poor maintenance and allocating of inadequate spaces are the key affecting factor for present development pattern. Absence of such places along the 1.1Km long city center, suffers huge drawback to the positive aspects of city development pattern.



Map- 4.6- Intensity of Pedestrian Movement pattern – *Source-Author*

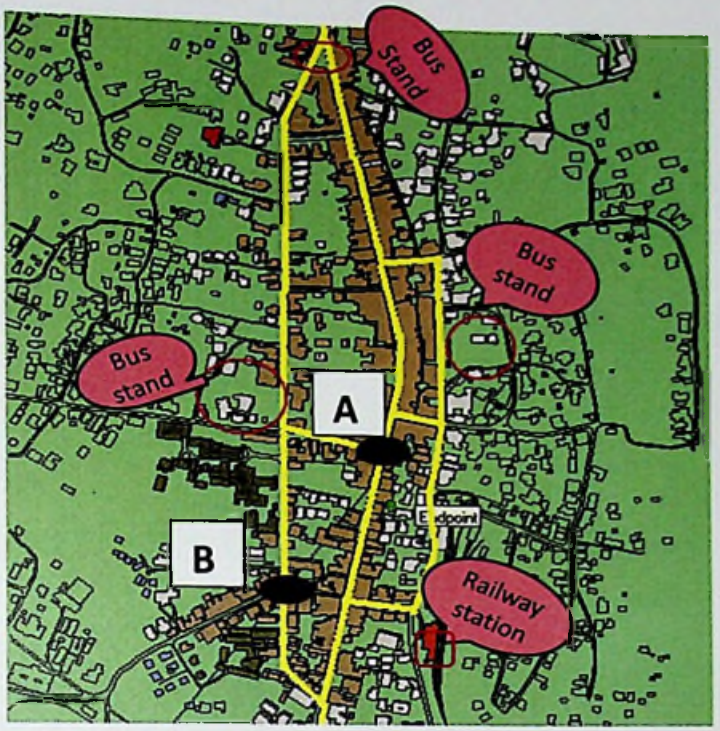
With the shrinking character of the urban environment along the northern side of the two streets, pedestrian movement pattern and the direction, was dramatically changed and shifted to the southern side of the streets. Availability of wider shop frontages compare to the northern side is the significant feature and high number of most of the smaller and medium scale commercial activities, more administrative complexes is also located along the two streets in the direction of southern side. Ultimately, more vacant and abandoned buildings were resulted and finally renting buildings or running a business also became enormous difficulty for building owners.

Previous visual linkages gradually decreased with the ad-hoc development pattern. Most of the commuters are experiencing difficulties in way-finding. Existed few land mark locations are obstructed by new developments and not considering the value of such forms to the city users. Remaining open spaces between two main bus hubs could be considered as a linking public space for commuters. Present ground linkages to these points are not in under vibrant urban environment and connections. Heavy traffic congestion and many crossing locations through streets create more incidents to inhabitants.



Map 4.7 – Linkages – absence of direct visual linkages are highly affected to the city functions

Source-Author



Map- 4.8- Observed locations of traffic and pedestrian movements - *Source- Author*

	7.30 -8.30 a.m	12.30.- 1.30 p.m	4.30.- 5.30 p.m
Pedestrians	2630	3860	4880
Cars	410	312	260
Lorries	28	14	22
Buses	224	156	274
Bicycles	410	260	260
3 -wheelers	280	368	312

Table- 4.24- Observed location- A
Traffic and pedestrian movements
Date –Tuesday *Source- Author*

Pedestrians	5260	7640	11360
Cars	504	423	320
Lorries	78	34	28
Buses	144	216	180
Bicycles	360	380	346
3- wheelers	368	312	260

Table- 4.25- Observed location B-
Traffic and pedestrian movements
Date – Tuesday *Source- Author*

A- Main Street -This connects most of the commercial premises and transports hubs. **B. King Street**- Highly traffic and pedestrian movements point – direction to administrative and public areas

4.4.1.2.2 Streets and Activities

Uneven surfaces, obstructions and, disappearing of pedestrian pathways direct the pedestrian to use the present roads as their walkways for movements.

Figure- 4.25 Pedestrian walkways use as parking and goods display areas
Source-Author

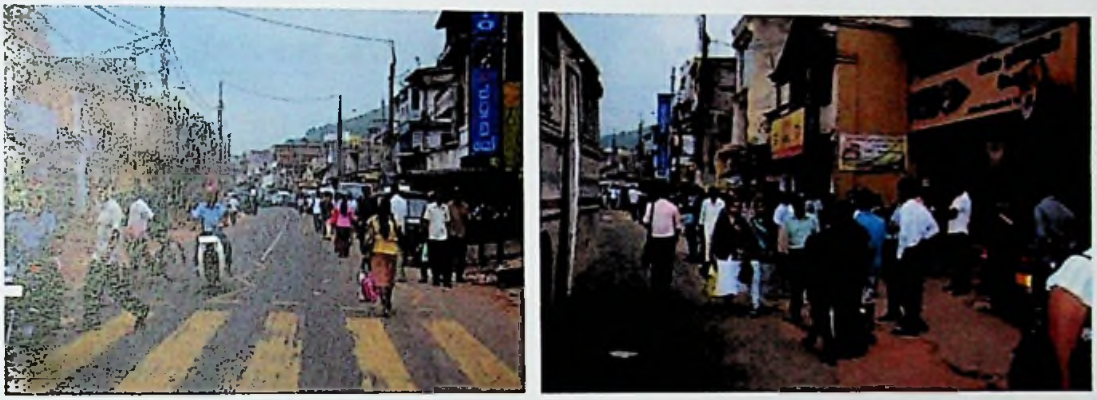
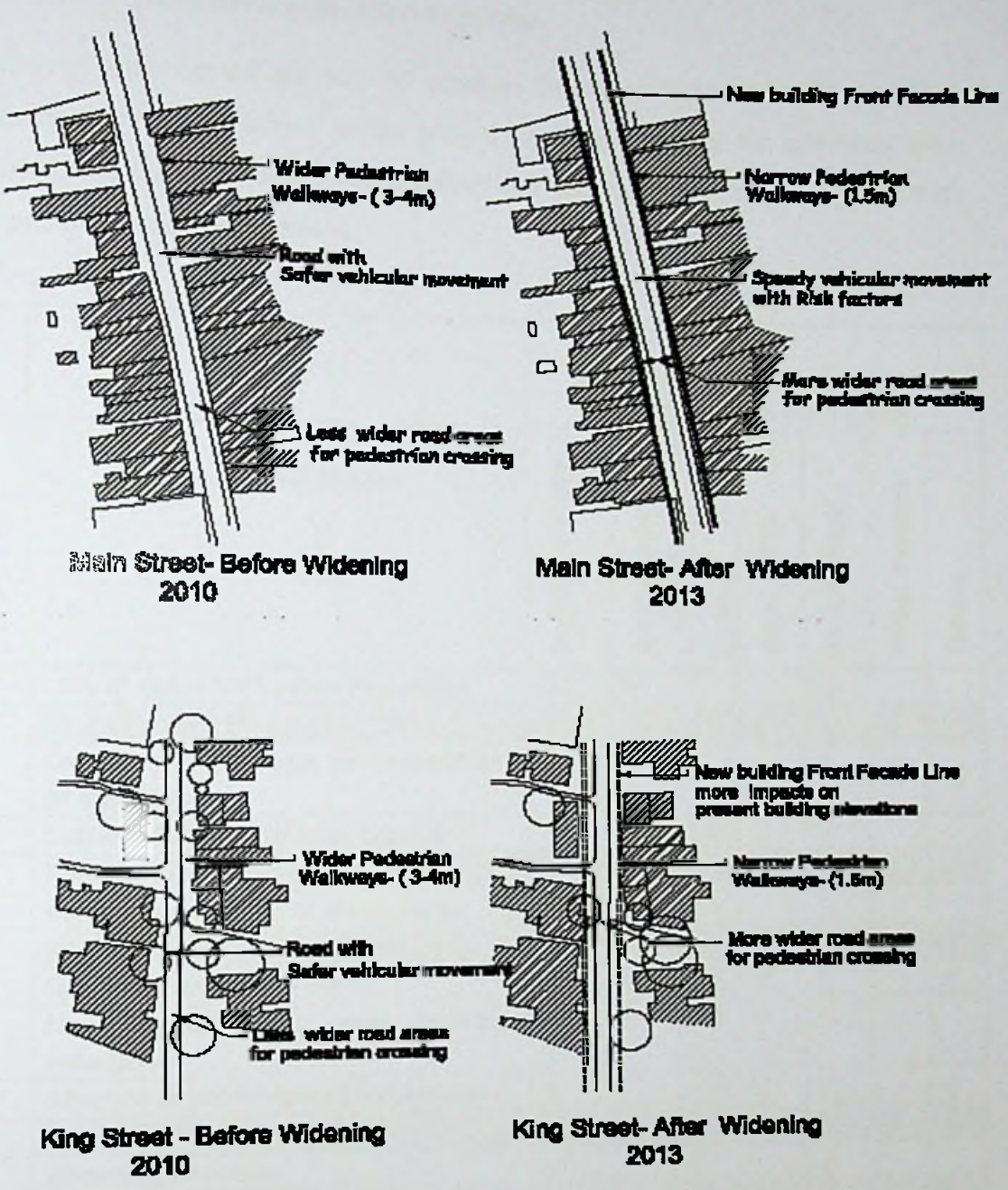


Figure- 4.26 Roads use by Pedestrians as walkways
Source-Author

Figure- 4.27- Congested high traffic city roads
Source-Author



Map 4.9 Changes on main two streets with present road widening program
Source-Author

The road widening program dramatically reduces the width of the previous walkways/pedestrian pathways. The visual experiences for street walkers on built forms also lost with the absence of proper wide walkways along the two streets.

4.4.1.3 Data Collection and Analysis

4.4.1.3.1 Interviews with different groups

Interviews were carried out with 35 numbers belong to different social groups to examine the effected factors to the present city. The most of the questions were focused with the urban design based factors and indicators which directly deals with the present development context.

		Structured Interviewed groups 5 Samples from each group						
	Reasons Highlighted	Building owners	Businessmen- (in Rent)	Citizens	Commuters	Professionals	Street Vendors	Others
1	Lack of space for further expansion	√	√			√		
2	Lack of proper Parking facilities	√	√	√	√	√	√	
3	Court cases in relevant to Ownership of Buildings	√	√			√		
4	Less Involvement of local Council	√	√	√	√	√		
5	Poor Political intervention	√	√	√	√	√	√	
6	Rapid development of closer cities	√	√	√		√		
7	Reduce travel time to magnet cities	√	√	√	√	√	√	√
8	Less facilities for city users	√	√	√	√	√		√
9	Non investing on new business enterprises	√		√		√		
10	Absence of public spaces/walkways	√		√	√	√		√
11	Heavy Traffic /Congestion	√	√	√	√	√	√	√
12	Widening of roads	√	√			√		
13	Eliminating road side parking	√	√	√	√	√		
14	More three- wheel parking stations	√	√	√	√	√	√	√
15	Functional changes- Commercial to residential and administration	√		√		√		
16	Other reasons			√		√		

Table 4.26.- Discussed areas with focused groups and results
Source-Author

The above table show, the interviewed groups believe the city is dramatically decrease the quality and the infrastructure facilities which should be considered as an immediate attention by the relevant authorities to avoid further collapse. Mainly several key factors affecting the city users and therefore, aesthetic quality, functional performances and economic enrichment diminish with the present ad-hoc development pattern due to less attention of the related authorities, Councils, UDA and political bodies other than the individual spatial requirements.

		Structured Interviewed groups 5 Samples from each group						
	City Identification- specified status	Building owners	Businessmen- (in Rent)	Citizens	Commuters	Professionals	Street Vendors	Others
1	Developed					√	√	
2	Underdeveloped	√		√	√	√		
3	In Development stage		√	√				√
4	Dying	√		√	√	√		
5	Shrinking					√		
6	Ghost Town			√				
7	Not-Known the situation			√	√		√	√

Table 4.27- Present city status
Source-Author

The city is identified as a "dying city" by most of the interviewed groups considering the present exhibits on physical and spatial formation of the city. They clearly highlighted the dying city word use because of the downfall of the economy condition, the city physically experiencing bad responsive environment. Recently implemented roads widening program greatly affected to their business activities, with the implication of restricting of road side parking facilities and narrowing the width of the present pedestrian walkways to be reconsidered in

4.4.1.3.2 Mind maps analysis

	City Elements	Respondents										Element dominate
		A	B	C	D	E	F	G	H	I	J	
1	Clock tower-(K/S)	√	√	√		√	√	√	√	√	√	Dominate
2	Nugagahamula Bus stand(M/S)	√	√	√					√			
3	Abagahamula Bus Stand(K/S)	√	√	√			√	√	√			
4	Gongawela Bus Stand(M/S)		√						√			
5	Railway station(M/S)		√	√			√	√	√	√	√	Dominate
6	Food city(K/S)		√	√			√	√			√	
7	Arunaloka Hotel(K-M/S)		√						√	√	√	
8	Post office-(K/S)	√	√	√			√		√	√		
9	Bank of Ceylon (K/S)	√							√	√		
10	Town hall				√							
11	Waseer Complex(K/S)		√							√		
12	St.School and church(K/S)		√		√	√		√	√		√	Dominate
13	YMBA(M/S)											
14	HNB (K/S)			√								
15	Peoples bank(K/S)			√	√		√	√	√	√	√	Dominate
16	Former Police station (M/S)			√			√		√			
17	Roundabout –(M/S)	√	√						√			
18	Bernard ground	√	√		√	√						
19	Muthuamman Kovil(M/S)	√		√					√		√	
20	Central market complex(K/S)	√	√	√		√		√		√		Dominate
21	Commercial bank(K/S)			√	√		√	√				
22	Percian Hotel(K/S)				√					√		

Table 4.28- Mind maps analysis – K/S-King street M/S- Main street
Source-Author

The sense of experiences and delight of the city, dramatically decrease due to the negative transformation process of the built and spatial fabric and effects of the development pattern. Most of the respondents are concentrated only on few built forms and spaces along the King Street, which are very much familiar in day today their rout line activities, within the existing chaotic built fabric. Transformation process also negatively affected the people to remember main previous known land marks along the streets. Great numbers of land marks are located along the King Street compare to Main Street.

4.4.1.3.3 Comparison –World Shrinking cities with Matale & Kandy,

Indicator	World Cities	Matale, Srilanka	Kandy, Srilanka
A.0 Social Indicators			
1.0 Outmigration-(overall)	Very High	Less	immigration
2.0 Younger generation	Very High	High	Less
3.0 Increase of Ageing generation	High	High	Medium
4.0Criminality/Drug, addicts/Unlawful activities	High	Very low	Very low
5.0Political Involvement	High	low	High
B.0 Economical Indicators			
1.0 Unemployment rate	Increase	increase	Low
2.0 Economical growth rate	Decrease	Decrease	Increase
3.0 Rent value/Land value	Low	Low	Increase
4.0 Diversification of businesses	low	low	High
C.0 Physical Indicators			
1.0 Abandoned of buildings	90%-95%	16%-22%	Very Rare
2.0 Vacant Buildings	90%-95%	14.2%	Very Rare
3.0 Vacant Upper levels	95%	32.2%	Rare
4.0 Deteriorated building/less maintenance	99%	80%	Rare
5.0 Sales or lease of buildings	95%	25%	Rare
6.0 Professional involvement	90%	0.9%	60-70%
7.0 Re-use of old materials for new construction	Very low	Very high	low
D.0 Spatial Indicators			
1.0 Public spaces	Neglected and vacant	Neglected	Attention given
2.0 Streets/ Roads	empty	people and vehicles	people and vehicles
3.0 Pedestrian pathways	Proper walkways Existed and empty	Less/ full of people	Narrow/full of people
4.0 Parking facilities	Existed/empty	Not proper parking spaces	Proper parking spaces
5.0 Infrastructure facilities	Over supply	insufficient	insufficient
6.0 Change of behavior pattern	less	Medium	high

Table 2.29 Comparison –World shrinking cities with, Matale and Kandy

Source- Author

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4.5 Findings of the study-

The findings are basically categorized data under three headings, issues relevant to built and spatial forms, factors affecting and changes that could be witnessed on spatial and built forms. This separate categorization is very much needed to identify the present context of the city and to provide more appropriate solutions in urban design aspect. Answers from interviewers also assisted the study to arrive final conclusion of the present city..

4.5.1 Built Forms

4.5.1.1 Urban design Issues on Built Forms

1.0 Abandoned/ Chaotic/ Confusion/Competitive of built forms of buildings

2.0 Haphazard development pattern

3.0 More Vacant buildings

4.0 Less interrelationship between among the built forms

5.0 Less environmental friendly building materials used

6.0 Functions need more spaces

7.0 Small entrances and more shops closer to streets

8.0 Visual unpleasantness in urban fabric

9.0 Obstructions from infrastructure services

10.0 More internally located staircases

11.0 Absence of covered/ partially covered overhangs to pedestrian walkways

12.0 Large number of unoccupied ground levels with shops along the street in North side

13.0 Visually architecturally and aesthetically unpleasant environment for walkway users

14.0 Previously emerged by responding to eye-level-street activities and human scale , dramatically changed

15.0 Different heights of forms , different Scale, proportion, appearance and components introduced to accommodate building owners needs

16.0 Sky-line of the built fabric significantly changed with street widening program to accommodate more traffic, granting permission to build without any approval as instructed by political authority to avoid pay compensation for building owners.

17.0 Neglecting of maintenance of urban fabric.

18.0 incomplete, and stagnated building fabric

19.0 Less involvement of professionals

4.5.1.2 Factors affecting on built forms

1.0 Economic transition- commercial hub to administration hub

2.0 Shifting of key business to nearest cities

3.0 Social and Cultural changes and transition

4.0 Present income level – scare to invest, absence of new structures

5.0 Less involvement of guiding authorities or agents

6.0 Poor awareness of building owners and decrease of aesthetic quality

7.0 Reluctant to invest money on their own structures

8.0 Scarcity of resources and infrastructure facilities

9.0 Lack of political involvement

10.0 Present development pattern- magnet cities closer to the District

11.0 Less parking spaces

12.0 Width and length of the buildings

4.5.1.3 Changes on Built Forms

1.0 More closed shops and vacant buildings- 20%

2.0 Incomplete built forms and Vacant upper levels

3.0 Re using of old materials for new alterations and new works for finishes

4.0 Poor maintenance

5.0 Scare to re-building or renovation

6.0 Changing Functional use –(Change of use)- ex-Commercial to office

7.0 Disorder in billboards, road signs etc

8.0 Unauthorized constructions- Violating rules and regulations

9.0 Unattractive Urban Fabric- visual pollution

10.0 Abandoning buildings

4.5.2 Spatial Forms

4.5.2.1 Urban Design Issues on Spatial Forms

1.0 Availability of only 1.7% land area, since 1980 for recreational activities in outer city core

2.0 No spaces between buildings- interconnected, interwoven building fabric

3.0 Less greeneries

4.0 Not available sufficient width for walkways

5.0 No shadings

6.0 Lacking of public spaces, resting places, within the city core

7.0 More own private lands and less government lands

8.0 Obstructions in walkways, public spaces

9.0 Less parking facilities

4.5.2.2 Factors affecting on Spatial Forms

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1.0 Absence of involvement of related authorities

2.0 Considering and attention given only for motorized vehicles

3.0 Scarcity of resources

4.0 Poor political involvement for development of public amenities.

5.0 Lack of proper investment on urban development sector by governing authorities.

6.0 Leaner city development pattern

7.0 Poor awareness on public spaces

8.0 No interlink and dialogue between with service providers- MMC, electricity, water and RDA

9.0 Obstructing pedestrian pathways by near shop owners

10.0 Road widening programs

4.5.2.3 Changes on Spatial Forms

1.0 Gradual Reduction of city users and concentrating only to one direction

2.0 Neglecting of valuable spaces

3.0 Uninhabitable, poor maintain places

4.0 Moving of various activities from the city centre to outside

5.0 Changing use of present activities/ functions

6.0 Decrease of greeneries

7.0 Transforming of small industries to another function considering the present context

8.0 Speedy movement of motorized vehicles with the implementation and attention given to traffic and Narrowing of pavement widths to accommodate more traffic flow and avoid congestion

9.0 Reducing parking slots along the streets

10.0 Blocking of walkways by road side parking due to lack of additional parking spaces

11.0 Neglecting spatial and visual linkages

12.0 Roads use by pedestrian as walkways

4.6 Identified Shrinking symbols and factors affecting in Srilankan cities/towns

4.6.1 Deteriorated Physical and spatial forms – (totally or partly vacant, abandoned, less maintaining, poor visual qualities, poor infrastructure facilities, less public amenities, use of material etc)

4.6.2 Not identified totally de-populated areas- Except war affected towns

4.6.3 Reduction of land values – Eg: Declaration of disaster porn zones and regulations, landslides etc

4.6.4 Less involvement of professionalism- (Eg. Involvement of architects to design buildings in Matale city is 1.29%- only 10 out of 774 buildings)

4.6.5 Increase number of magnet cities closer to towns.

4.6.6 Social – cultural changes, believes and their traditions. (Eg: requirement is only to live or business within a space not the quality of the space and its effects to the surroundings)

4.6.7 Increase of ageing population

4.6.8 Drop of daily income at down town city center.

4.6.9 Less attention of city governing bodies and Less knowledgeable representatives on the city developments and related subjects, in city governing bodies-

4.7 Potentials to regenerate –(Positive Aspects)

4.7.1 The central location and the proximity to the important building and spaces are positive for pedestrian use

4.7.2 Availability of A9- highway road , one way road system and direct connections to other cities.

4.7.3 Efficiency in public transport service- Uninterrupted continuous services throughout the whole day.-day and night

4.7.4 Closer distance to archeological sites

4.7.5 Availability of Wasgamuwa National Park within the district

4.7.6 Interconnected railway system with magnet cities

4.7.7 More tourist's attractive activities and oriented business happening closer to the city centre. – Eg. Spice gardens and herbal centers

4.7.8 Not properly utilized government lands and empty spaces – Railway lands, Former central police station land etc.

4.7.9 More residential oriented facilities

4.7.10 High floating daily commuters. Eg- nearly daily 40,000 to 50,000 in Numbers

4.7.11 Matale city acting as District capital

4.7.12 Natural views and international hockey ground ,grounds and parks and more National level sports activities, - throughout the year

4.7.13 Low land values

4.7.14 Suitable Climatic condition for inhabitants

CHAPTER FIVE

Introduction of Urban Design strategies for Revitalization for Matale

5.1 Applicability of Revitalization strategies for Matale City

"Places that are beautifully detailed to stimulate and delight have one thing in common: buildings and open spaces go hand in glove..."
Viewed from this perspective the success of a building is determined by its ability to make a positive contribution to the public realm – to face it, animate it and make sure that all adjacent open space is positively used. It is the interaction between buildings and the public domain – this edge – that determines the relationship between inside and outside, built and open, public and private, individual and community."
Urban Design Compendium (English Partnerships 2004)

5.1.1 The identified basic strategies made for the shrinking cities in other countries as revitalization tool and the application of such strategies could be exercised with present Matale city for revitalization works.

5.1.1.1 Economical Strategies- (To increase and Generate income)

a. Generate income from tourism attractions –using spice herbal gardens, promote eco tourism through "Reverstern Hills, Wsasgamuwa sanctuary.

b. Introducing of International level educational institution in "Wariyapola Estate" Land- (Proposed by MMC)

c. To revitalizing the present "deteriorated streets character through urban design

d. Promote developers to invest on Building medium scale resort type hotels. The present vacant upper levels could be converted into low cost accommodations for visitors in special religious events.

e. Provide better facilities for walkers to promote window-shopping – Shadings, adequate widths for pedestrians, resting places etc.

f. Development of present 'Gongawela Central Market and redevelopment of unutilized Railway lands.

5.1.1.2 Land use Strategies-

a. Provide sufficient spaces for walkways and other public activities

b. Beatification of neglected spaces along the streets

c. Introducing of "Combine land developments" for adjacent small land holders

d. Introducing of A "City Square" on former police station land, with central parking spaces, recreational activities and medium scale commercial areas.

e. Interconnecting present transport hubs through corridors, central city space and land marks

5.1.1.3 Right-Sizing

a. The plan for infrastructure facilities for Future – **Not planning less facility as in shrinking cities**

b. Convert abandoned buildings and properties into community asserts.

c. Allow only medium scale developments within the city.

d. Legal action against unauthorized, violated construction works with present Rules and regulations, to avoid indirect effects to streets, roads and services.

e. Provide more facilities for surrounding neighborhoods to convert into good residential city environment

5.1.1.4 Density-

a. Promote more residential neighborhoods in surrounding areas.

b. Regulate present densities areas through urban design frame work within the down town area.

5.2 Introduction of Urban Design strategies for Revitalization for Matale City

The Urban design Strategies represent the community's design aspirations for the future of the Matale City. The strategies should be used as a resource by all stakeholders while exploring ways to enhance the quality of urban design in Matale. The strategies, should mainly concern with the physical characteristics of the area, and the strategies consider the design implications of planning decisions on the public realm. An urban design strategy should serve as an integrating tool to coordinate how various development proposals will affect the city physically, with a principal focus on the public realm: the public faces of buildings, spaces for public use, and the streets, sidewalks, parks, plazas and built forms that provide the public venue for everyday activities.

The strategies assist in the implementation of recommendations in approved and adopted master plans by encouraging urban building attitudes in properties considering redevelopment, and by promoting the creation of safe pedestrian environments, attractive gathering places defined by visually pleasant buildings to overcome lost present situation of the city.

This urban design strategy for the town centre is guided by two urban design regeneration

Goals:

1.0 **Create identifiable town centre**

2.0 **Improve the public realm and providing better connectivity**

1.0 Create identifiable town centre

Improving legibility requires the careful consideration of various elements to create a well integrated environment. The strategies identify several of these elements, but place special importance in the role played by buildings (specifically, their placement along sidewalks and intersections, massing distribution, or their relationship to open spaces and existing neighborhoods) in the process of improving the town centre from prevailing characters.

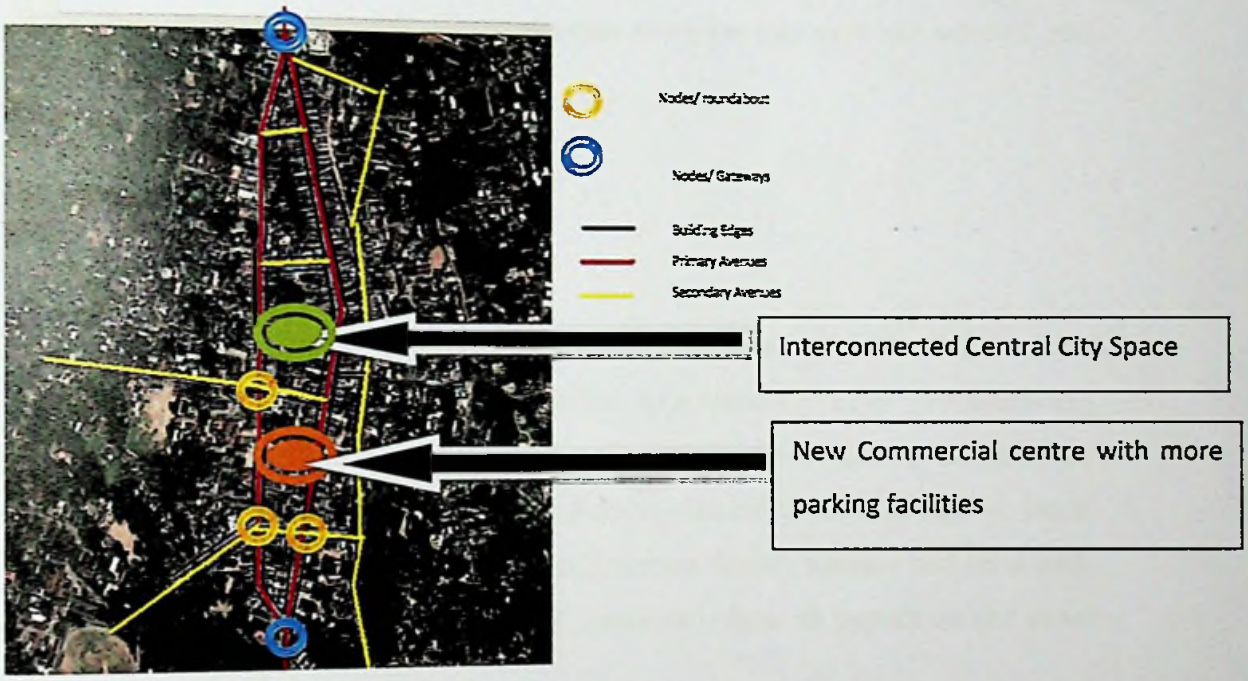
Revitalization in Matale city should redefine the edges around the Core as pedestrian-friendly zones, establishing its existing commercial clusters as the center of a mixed-use downtown. Revitalization project should consider the following objectives:

1.0 Create boulevards in several selected locations in the city Core

2. 0 Enhance important connections

3.0 Establish new landmarks locations

4.0 Enhance the architectural characters of the existing buildings



Map 5.1- Nodes and Accesses
Source- Author

1.0 Create boulevards in several selected locations in the city Core

The State highways surrounding the Core should be transformed into urban boulevards through enhanced medians and crosswalks, and street trees. This streetscape treatment will be complemented by build-to-lines that promote the creation of street-oriented buildings with consistent street walls, including retail,

where appropriate. Establishing build-to-lines will also ensure enough curb-to-building face area is provided to apply the Matale Streetscape Standards uniformly. Larger properties available in King Street, should consider for major redevelopment. Planting of a double row of trees in individual pits should be introduced for both streets. Smaller properties not likely to redevelop in the short term, should consider streetscape and facade improvements in keeping with these Standards to ensure continuity with adjacent larger properties being redeveloped.

Guidelines

1.0 Establish **activated pedestrian environments** along the highways and selected grid roads

1.0.1 Main Street

1.0.2 King Street

1.0.3 Prince street

1.0.4 Rosa Street

2.0 Establish **build-to-lines** that locate building facades at the sidewalks, to create consistent street walls. Build-to-lines should be approximately 12'-0" from existing curb, to allow for better pedestrian sidewalk treatment. Promote massing distributions that create building bases between two and three stories tall, located at built-to-lines. Taller buildings more than three floors that concentrate density upward and set it back from the street wall, from 15 m from road centre to reduce its impact on the street below.

3. Provide **boulevard treatment** wherever possible along the highways surrounding the Core, to include:

a. Providing street trees 1m closer to the road curb, to improve pedestrian safety.

b. Consistent street walls along sidewalks.

c. Activating uses along street walls, wherever possible.

Figure- 5.1 Facades along build-to-lines
Source : http://www.ftscities.com/projectalbum/districts

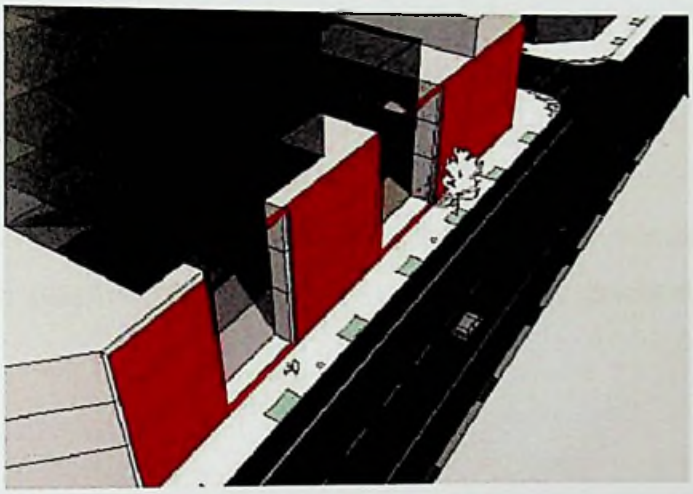


Figure- 5.2 Boulevard example
Source : http://www.gladkiplanning.com/wp-content/uploads

4. Create **enhanced intersections** at various points along the highways around the Core to improve connectivity with surrounding districts. Enhanced intersections should include:

a. Street defining buildings at all corners, with entrances and/or activating uses oriented toward the corner.

b. Sidewalk streetscape elements (including trees) that pull away from the corner to improve visibility across the intersection for pedestrians, and motorists.

c. Corner building configurations that allow for sufficient space at the corner for pedestrians to congregate safely, away from vehicular traffic.

d. Consider speed-reducing measures at the road surface such as alternative materials crosswalks and introduce overhead crossings at critical points.

Figure 5.3 Consistent streetscape **Figure 5.4 Enhanced intersections**

Source : http://www.gladkiplanning.com/wp-content/uploads

5. Promote the creation of retail entrances on the ground floor of buildings along Main Street as designated by the Plan. Promote similar considerations on Rosa and Prince Streets.

6. Encourage owners with smaller widths of their plots to build buildings in get-together with adjacent lands owners. It could be more practical and aesthetically pleasant.

2.0 Enhance Important Connections

A well-connected street grid is essential to improved connectivity. Paths that create opportunities for cross-connectivity are needed to provide travel alternatives, and to connect to surroundings.

2.0.1 Main Street

Main Street is a one-way, important North- South route, with commercial area connecting a stable residential neighborhood at the eastern of the town. It connects two bus transit hubs and retails at existing and proposed mixed-use developments along the way. It should be designed to accommodate both vehicular and pedestrian traffic in a safe and attractive manner with distinctive buildings and introducing with new public spaces.

2.0.1.1 Guidelines

1. Organize building components to enhance public realm definition (sidewalks, open spaces) along the street.
2. Consider gateway elements at the south end and north end of Main Street.
3. Locate building entrances along sidewalks, open spaces, or facing important intersections.
4. Linking of three transit hubs (Nugagahamula bus terminal, Gongawela bus terminal and railway station) a through clear walkways with easy directions for commuters and connect well with adjacent public use spaces.
5. Consider a roundabout at the intersection of Prince Street and Station road.

Figure 5.5 Creating of gateways to the city
Source: http://www.google.lk =gateways

2.0.2 King Street

One-way Street is connecting South-North of the town with less commercial areas compare to the Main street. Most of the government offices and institutions located west side of the road. Darmapala road, which leads to the most of the private offices, government officers, institutions and recreational areas and grounds, is connecting with the King Street. The wide street and

spaces among some of the building areas could be used for revitalization purposes by introducing more public activities and spaces.

2.0.2.1 Guidelines

1.0 Organizing proper public realm through sidewalks, converting pedestrainized street (Dharamapala Road) for a specific time period of the day.

2.0 Encourage more restaurants, boutiques and activities related to recreations along the side roads connecting to the King Street..

3.0 Introduce more road signs.

4.0 Introduce a roundabout near the intersection of Dharmapala Mawatta and Prince street.

5.0 Linking of Abagahamula Bus terminal with other two main transit hub, providing proper pathways and walkways.

Figure 5.6-Vibrant Street Life
Source; http://www.theatlanticcities.com/design/2013/04/influx-cars-

3.0 Establish new landmarks locations

Visual and architectural elements can provide points of orientation for both pedestrians and motorists. A key element of a landmark is its singularity; the quality that makes it stands out from its context. Landmarks should be easily identifiable, whether by form, contrast with their background, or because of prominence or special

location. In Matale, absences of landmarks are a significant urban design element. The city should ideal to have two landmarks at the two main entry points which located at the ends of south and north. These land marks could be used as gateways to the city. Other landmark elements can also signal transitions to neighboring communities, or highlight access to mass transit or to prominent public spaces.

3.0.1 Guidelines:

1. Integrate building form and use of special material and colours
2. Striking building design within the two streets.
3. Water features, sculptures, open spaces
4. Special building illumination

5.0 Identifying present landmarks and highlighting

6.0 Creating vistas and views to the town centre

4.0 Enhance the architectural characters of the existing buildings

Present building fabric of the both streets has poor aesthetic qualities (as discussed at the above chapters,) which is not suitable for a "main town center. Also as larger properties redevelop, groups of smaller retail establishments remaining could become gaps that interrupt the continuity of the public realm at the present King street, mostly at towards the north end. Various strategies should be implemented to enhance building facades, or to provide limited streetscape improvements to enhance pedestrian zones and visual qualities of the town centre. These strategies should continue to aid businesses improve their properties, and enhance pedestrian environments adjacent to them.

Figure 5.7-Enhancing Architectural Character
Source ;Author

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4.1 Guidelines

1. Application of mechanisms such as facade improvement and streetscape improvement programs to improve the quality of the public realm around existing properties and buildings.
2. Guidance for color schemes of outer building fabric
3. Legal actions for uncompleted buildings.

Figure 5.8- Application of Different colors -Zaragoza city Spain Alfonso street
Source: http://depositphotos.com/5510736/stock-photo-Zaragoza-city-Spain-Alfonso

4.0 Improve the public realm

Improving the quality of the public realm, including vehicular and pedestrian networks, is priority of the Main street and King street. Design objectives include:

1. Improve pedestrian access along streets
2. Create a central civic space
3. Promote temporary spaces for public use
4. Create pedestrian links

1. Improve pedestrian access along streets

Proper Streetscape strategies have been applied throughout the central business district area in a variety of ways, to achieve the public realm. This effort should continue as properties within the Core revitalization program. These strategies should be applied to create active and safe zones that can provide options for pedestrian activities and travel to overcome prevailing situation of the unsecure city.

Figure – 5.9 Safe walkways near high ways-
Source; http://www.itdp.org/news/a-decade-of-action-for-road-safety-2011-2020

Guidelines

1. Provide boulevard/ walkways treatment along highways surrounding the Core.

2. Provide buffer zones (along the edge of the curb, to include street trees, utility poles, other street furniture, and lighting) between pedestrian areas and the roadway, to increase pedestrian safety.

3. Improve the quality and safety of important intersections connecting the downtown core with surrounding development (e.g. Main , King, Prince, Dharmapala, and Rosa streets) through crosswalks, street trees at the curb, planted medians, and with well designed structures defining block corners.

4. Improve pedestrian areas in front of existing commercial strips by expanding pedestrian zones and providing protection for pedestrians through:

   a. locating pedestrian zone away from the curb;

   b. creating areas along the curb for plantings and street furnishings, that can serve as buffer zones between pedestrians and traffic;

   c. Interconnecting all the walkways in secure way in all areas.

   d. Provide safe access from parking areas and main transition hubs

2. Create a central civic space

As identified by the Council and recommended- Former police station land and land between two main street closer to "Abagahamula bus stand" could be used as major central civic spaces. These spaces should:

1. Provide flexible space suitable for a variety of gatherings.
2. Be designed to integrate with adjacent main two high way roads.
3. Be surrounded by maximum of 4 levels retail and other street activating uses.
4. Include areas for central city parking space for vehicles.
5. Include both shaded and sunny areas with seating.
6. Consider buffering elements between the square and the high ways at the both sides.
7. Consider incorporating focal elements middle of the space.

Figure 5.10- New City Square –
Source : Author

3. Promote temporary spaces for public use

The Strategies should implement to create interim open spaces for temporary use inexpensive ways. (Near the main market, Station road, Dharmapala road, Rosa street) Permanent open spaces are created through revitalization and public/private partnerships. The following examples of temporary public spaces on selected few streets and other public areas would provide the gathering space needed for various community wide activities, on a per activity basis, while avoiding the investment to create a permanent space before the right location is identified.

Design considerations should include:

1. Features for both passive and active recreation
2. Flexible areas for group events, fairs, open food courts, temporary fairs etc

Figure 5.11- Temporary fairs on temporary closed streets *Source; http://www.northbrookhavenchamber.org/AbouttheChamber/ChamberAnnouncements.aspx*

4. Create pedestrian links

The strategies should have pedestrian connections in shorter walking distances, between open spaces, prominent public utility spaces and to promote additional retail activity. The links could be created through the present building stocks while open-up the business to the walkways through shaded areas.

Guidelines

1. Maintain continuity with street walls along adjacent streets, wherever feasible.
2. Create safe spaces that are well monitored, well illuminated and adequately furnished.

3.0 Provide more shadings wherever possible areas, using trees and hard elements.

4.0 Create gathering pockets along the walkways in identified locations.

5.0 Pedestrianzed streets at selected times – Ex- Dharmapala road, Station road, Prince Street

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Figure -5.12 Shaded walkways along the streets by trees and building jutting outs *Source; http://losangeles.cbslocal.com/top-lists/best-la-neighborhoods-for-a-car-less-date-night/*

6.0 Provide upper level connections through escalators to avoid ground level conflicts between traffic and pedestrian movements

6.0 Conclusion

The nature of urban decline seen in Sri Lanka is vastly different to the situations in Western counties. The several shrinking indicators in physically and spatially, could be witnessed here, as seen in western countries. These physical and spatial qualities inform the present city condition. As identified, in shrinking cities, loosing population is the key factor with the economic transformation. Next level of transformation process is witnessing the abandoned, deteriorated buildings and public spaces on urban fabric. However, Matale city is not defectively experiencing population lose, except the negative transformation process in physical and spatial form of the urban structure due to involvement of other reasons.

This study focus is identify, physical and spatial indicators of shrinking stage while it discovered some of hidden factors as well. The key aspects of Matale city decline are the issues of urban governance and weak multiple involvements. Transformation city from one social- cultural group to another also could be considered as a unique indicator in Sri lankan cities where Matale city could be taken as a prime example.

How social-cultural affects and political intervention and involvement to City Deterioration process would be an area for further investigation.

With this regards immediate attention is needed by the governing authorities to overcome the prevailing situation. As discussed, the city is having number of the advantages what can be considered to improve the quality of living and environment. These resources are not well utilized and still have the opportunity to consider for development process. To avoid further deterioration the city, urgent attention is very much needed through urban design intervention.

The negative transformation process can be prevented by implementing proper urban design strategies and guidelines, forecasting several decades ahead, through local authority and relevant government institutions.

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