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Acronyms

AACA - Addis Ababa City Administration

AACO - Addis Ababa Construction Office

AAMPPO - Addis Ababa Master Plan Project office

CBD - Central Business district

CSA - Central Statistical Agency

GIS - Geographical Information system

MSE's - Micro and Small-scale enterprises

MASL - meters above sea level

MOFED - Ministry of Finance and Economic Development

AU - African Union

ORRAMP - Organization for Revision of Addis Ababa Master Plan

Definition of Used Terms

- "Arkebe Shops" - a common Amharic name for small shops of containers put aside the walk ways.
- Blank /blind/ Walls - walls that have a length of more than 20-meter frontage with no doors and windows facing the side walk.
- Dead Frontages - frontages that have not economic activities and social interaction.
- "Ghibi" - a common Amharic name to mean a compound.
- Mega Structure Buildings - large structures which have a blank wall along the major road; that includes; Governmental buildings, Social services, stores etc.
- Public Realm - outdoor and indoor spaces that include: - streets, squares, parks, public buildings and other spaces to which the public has general access/
- Streetism - girls stand aside blank walls for the purpose of commercial sex.

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Abstract

Blind fence in this context means, a fence that might has a length of 20 meter and above dead wall along its frontage, with no doors and windows that screens from view the interior of a property or it is not accessible even if it is visible. The existence of blind walls in the Central Business District of Addis Ababa thus causes economic, social and environmental problems on the city residents; which *calls* for planning and design intervention the blank walls of mega structure buildings not only generate less street activities & poor building- street interaction but they also killed the whole street life. Hence, underutilization of the prime land, inaccessible and inactive street frontages due to dead wall barriers, lack of quality public realm, problem of sense of place, lack of safety and security, environmental pollution, darkness and poor visual quality are some of the major problems in the CBD.

The objective of this study is thus, to assess the major causes of the dead street frontages in the CBD and to find out possible solutions for these problems to crate livable, comfortable and active city center. In order to achieve the purpose and objective of the study, a descriptive and explanatory research method is used and different instruments such as: questionnaires, interview as well as different documents are reviewed and a questioner is distributed to a total of 60 pedestrians using simple random sampling technique. Moreover, structured and unstructured interview is conducted with different government officials and other relevant stake holders.

Based on this, about 43.2% of the total area of the CBD is found to have dead street frontage and has less contribution for its economic role, there is a problem of safety and security along the dead frontage of most blank walls of mega structure buildings, the blank walls are now become a waste disposal & urinating sites and causes pollution problem in the city and the blind street frontages create poor building- street interaction that in turn kills the whole street life. Generally, the urban quality in the CBD become poor and not comfortable for working and living.

Hence, this calls for change of the existing condition by intervene and apply appropriate design and management solutions to activate the dead street frontages and create livable street and vibrant city center using urban design intervention especially of plug-in urban design which could be appropriate method for already developed settlements and urban settings.

CHAPTER ONE

1. INTRODUCTION

1.1 Background

Fence in our context could be defined as, a barrier or structure that serves to enclose an area such as a field, yard etc usually made of posts, concrete, metal connected by wire, netting, rails or boards; in order to prevent entrance, to confine, or to mark a boundary. The Grapevine Code of Ordinance for the City of Irving Texas also defines a fence as:-any wall or structure more than twelve (12) inches in height erected or maintained for the purpose of enclosing, partitioning, restricting access to or decorating the enclosed lot, parcel, building or structure. Blind fence, on the other hand, means a fence that might has a length of 20 meter and above dead wall along its frontage, with no doors and windows, that screens from view the interior of a property so that, the visibility through the fence is prevented from the exterior side of the fence or it is not accessible even if it is visible.

Streets in commercial areas do not get their life from the arrangement of activities only but also from conveniences, safety and comfort of pedestrians; thus making frontages active adds interest, life and vitality to the public realm. This means: frequent doors and windows with few blank walls, narrow frontage buildings, giving vertical rhythm to the street scene, articulation of facades with projections such as bays and porches, lively internal uses visible from the outside or spilling on to the street provides a welcoming feeling; but parks and waterways which are not overlooked can sometimes feel unsafe, especially at night, and public offices fences can also create a negative visual impact. A number of mega structure buildings were built even more were proposed in commercial areas during the 1960s & 1970s. However, today, such large single-structure projects tend to be confined to major suburban shopping centers surrounded by parking for cars as they have substantial impact on city forms and life (Jon.L, 2005).

Providing frontages that are directly accessible on foot and that are overlooked from the street is highly desirable in most circumstances as this helps to ensure that streets are lively and active places. Buildings which front streets, squares and parks present their public face to the outside

world also give life to it. Public fronts and private backs are made distinct when primary access is from the street; the principal frontage. Where this principle is not followed, stand-alone pavilion buildings often expose blank sides, car parking and rear servicing to the street. Sub-dividing development parcels into plots, which are as small and narrow as is practical, encourages a diversity of forms, uses and tenures and allows a rich variety of buildings to emerge. This also generates more active frontage, encourages a 'human scale' and fine pedestrian grain and enables higher densities to be achieved (Llewelyn, D., etal.2000).

Large stores and other large 'big-box' units that are often stand-alone, with exposed 'dead' frontages, create particular problems for active and attractive streets. However, such building types can be modified to become compatible with fine-grained urban settings by mixing horizontally and/or vertically with other uses, which may involve: wrapping the perimeter on the street faces with smaller units, building other uses on the air space above the box, incorporating a well designed upper façade for roof top parking, externalizing more active uses (such as cafés and boutiques) and increasing their 'transparency' to the street (Roger, E., etal, .2007).

The existence of blind street frontages in the Central Business District of Addis Ababa also causes economic, social and environmental problems on the city residents; which *calls* for planning and design intervention. In this research, therefore, a detail analysis on the impact of these problems as well as their magnitude has been assessed. At the end, the researcher has forwarded possible suggestions, recommendations and proposes a design solution to alleviate the problems.

1.2 Problem Statement

Addis Ababa is the capital city of Ethiopia and the seat of African Union and it has a large number of government offices, Embassies, social services, industries, manufacturing and warehouses. Despite their importance, the blank walls of these buildings, found in the city center, not only generate less street activities & poor building- street interaction but they also killed the whole street life. Hence, under utilization of the prime land, inaccessible and inactive street frontages due to dead wall barriers, lack of quality public realm, problem of sense of place, lack of safety and security, environmental pollution, darkness and poor visual quality are some of the

major problems. These problems thus have a significant impact on economic, social and life quality of the people as well as the environmental condition and overall development of the city.

Hence, this needs for change of existing conditions by intervene and apply appropriate design and management solutions according to the nature of the problem by conducting careful study and analysis

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of this study is to assess the major causes of the dead street frontages in the CBD and to find out possible solutions for these problems in order to create livable, comfortable and active city central business district.

1.3.2 Specific Objectives

1. To identify & map the blind street frontages in the central business district of Addis Ababa.

2. To assess the major impacts of these dead street frontages on the users.

3. To recommend possible strategies that could increase the efficiency and utilization of the blank walls.

1.4 Research Questions

1. Where are the blank walls found ?

2. What are the major impacts of these dead walls on the life quality of the city residents and what are the major advantages of activating them?

3. What are the possible solutions to activate the blind fences in the CBD?

1.5 Significance of the study

- it starts to add to knowledge gap of blind walls in our context.

-It can be used as an input for policy makers to undertake a detail study on the issue and revise the existing policy.

-It has an academic significance serving as a stepping stone for other researchers who want to present another scenario.

1.6 Scope of the study

The geographic scope is confined to the central business district of Addis Ababa which covers about 1123.3 hectares of land; the study focuses on the blind fences and dead street frontages. In this study, all physically and visually dead walls of the CBD that cause dead street frontages are identified. Tikur Anbesa secondary school from the Churchil Avenue is selected as a sample which could be adopt to other areas that have similar nature to it.

The thematic scope deals with the impact of Dead Street frontages on economic, social and environmental condition of users in particular and development of the city in general.

1.7 Methodology

Because of its appropriateness to express fully the current problems and to find out the major causes for the problems, a descriptive and explanatory research method is used in this study and different instruments such as a rating, scale, questionnaires, interview as well as different documents are used and it is undertaken using relevant techniques and instruments in order to achieve the purpose and objective of the study.

1.7.1 Data Sources

The data for this study are obtained from primary and secondary sources. The primary data is gathered through personal observation, distributing questionnaire for 60 pedestrians, face to face interview of concerned officials of different offices, focus group discussions and informal discussions. The secondary data is obtained from books, reviewing different literatures, urban plans, internet, case studies, senior essays and different relevant written materials.

1.7.2 Research Method

For this study, a triangulation method (both qualitative and quantitative) is used due to the reason that their combined use provides a detail understanding of the research problems. The primary data is gathered from the actual study area through personal observation by identifying the blank walls and mapping them on the centrality map of Addis Ababa, visiting and taking photographs of

the major dead street frontages, providing open ended and closed ended questionnaire to a total sample of 60 pedestrians, at bus stations and taxi bays, using a simple random sampling technique as this technique is preferable to take a sample from a large number of population and structured and unstructured interview, concerning the spatial, economic, social and environmental aspects of the mega structure buildings facing their blank wall to the major arterial streets and creating dead street frontages, is conducted with different government officials including:- Addis Ababa construction office, land development and management bureau of urban planning institute, land banking and transfer office, *National Metrological Services Agency.* Finally the research suggests some planning and design solutions in order to solve the problems.

1.7.3 Data analysis

The quantitative data is analyzed using tables, maps, figures and designs. Whereas, the qualitative data is analyzed separately by grouping, interpreting summarizing and generalization. For complete analysis and study of the project, the researcher has adopted the following data analysis tools. Application of graphic soft ware GIS, AutoCAD, Sketch up and Adobe Photoshop software are used.

1.8 Site selection criteria

The following points were used as site selection criteria.

1. The location of the site is in the inner city where the land value is high.

2. Flux of people due to the existence of major functions.

3. The existing and future development pressure to upgrade the center.

4. Level of street activities & interaction between street & buildings, especially along the major roads.

5. Intervention capacity of the area that can be activated with minimum cost and technology/Plug-in urban design.

1.9 Limitations

This research is conducted with the following limitations:

- Unwillingness of some officials to give the required information and data on time.
- People are not interested to fill the questionnaire and many pedestrians say sorry I have no time and I am in a hurry.
- Reference materials and studies related to the subject under study are not easily available as this subject is not more touched by other local researcher before.

1.10 Organization of the paper

This research paper has five chapters. The first chapter tries to give brief introduction on the general background of the study. Chapter two deals with literature review of the subject under study. In the third chapter, back ground of the study area is stated briefly. The fourth chapter deals with presentation, analysis and interpretation of the gathered data including the major findings.. Finally the fifth chapter focuses on conclusion about the study, recommendations and proposal based on the findings in chapter four.

CHAPTER TWO

2. Literature Review

2.1 General Description of Plug-in Urban Design & Active Street frontages

2.1.1 Plug-in Urban Design

According to Jon L (2005), there are four generic types of urban design work that vary in the procedure that is followed and/or the degree of control that a designer, as an individual or as a team, has over the creation of a product. The detail of each of these types is described as follows:

1. Total urban design is a combination of large (in geographical area or number of buildings) architecture and landscape architecture which involves the design of both the public realm and the buildings that frame it. A team of people working as an individual unit holds total design control and the urban designer is part of the development team that carries a scheme through from inception to completion.

2. All-of-a-piece urban design, where the urban design team devises a master plan and sets the parameters within which a number of developers work on components of the overall project.

3. Piece-by-piece urban design, in which general policies and procedures are applied to a precinct of a city in order to steer development in specific directions.

4. Plug-in urban design, which is the theme of this study, refers to the plugging in of new infrastructure elements in to existing built up areas in order to bind them in to a unit and boast their amenity level and thus competitive advantages. It is the design where the design goal is to create the infrastructure so that subsequent developments can 'plug in' to it or a new element of infrastructure is plugged into the existing urban fabric to enhance a location's amenity level as a catalyst for development. Alternatively, it can mean the design and construction of the infrastructure of a development site to bind it in to a unit and as an incentive for individual owner builders or property developers to invest in new buildings.

According to him, the plug-in concept has emerged from two streams of thought. The first has been the down-to-earth use of the infrastructure of cities as a catalyst for development or for unifying developments; the second is that associated with the Archigram group in the United Kingdom in the 1960s and 1970s that, its ideas rather than its designs remain of importance in the

development of urban design ideology. The former Plug-in urban design could also be categorized in to two types. The first type involves the provision of the infrastructure of, usually, a precinct of a city or suburb, and the selling of sites into which individual developers can plug buildings; Building uses are specified and design guidelines are created for each developer to follow. The second type of plug-in urban design refers to the situation where elements of infrastructure are plugged into an existing city in the hope of spurring new developments or providing some public amenity.

The elements of infrastructure may be links, places or buildings providing for special uses that will, it is hoped, have a catalytic effect on the existing development. In terms of links, is it just the roadway or other means of access that are provided. The master planning and plug-in urban design proposal for the city of Curitiba, capital of Paraná province in southern Brazil prepared during the second half of the twentieth century by the Brazilian Jorge Wilheim, for instance, shows that, the development of the city should take place in a radial, linear manner spreading out from the centre so that transportation routes could be most easily be integrated with new development and vice versa. The planning effort focused on land-use strategies and the use of non-physical design procedures to achieve physical design quality ends. The most important infrastructure elements were the 'structural axes' of transportation radiating from but running tangentially to the city centre, the transfer terminals and primary traffic system.

They have provided the armature for plugging in a broad array of urban design projects: high-density nodes, well-detailed stations and bus stops, 'lighthouses of knowledge' (libraries), 'citizenship streets' (community centers and the strategic locating of accessible museums, theatres, parks and recreational facilities. In addition, and symbolically most importantly, the focus of the transportation routes on the city centre enabled the core of the city to be completely revitalized and modernized through the erection of new buildings and the refurbishment of old. The location of the major transit lines on the periphery of the Central Business District (CBD) allowed the creation of what are called 'boulevards' –pedestrian streets within it. Thus associated with the transportation network were a large number of architectural, landscape architectural and urban design projects that have transformed the city. The design of the transit system can be regarded as plug-in urban design.

In designing the everyday environments for the living, the question is: 'What range of products does plug-in urban design cover?' At one end of the financial scale we have publicly funded sites-and-services programs that have the objective of providing the water supply, drainage, sewerage, latrines and road systems of a development in order to provide low-income residents with an incentive to build or upgrade their residences. Much suburban development for wealthier families is similar but much more generous. Sites may be allocated to other than residential uses through the implementation of a zoning ordinance based on a land-use plan. At another level of complexity we have the system of vertically segregated transportation links, walkways and decks, as in La Défense in Paris. Perhaps most importantly, in terms of this discussion is the idea of plugging in. Building frontages should be 'pedestrian-oriented'. This latter objective could be met by having places to sit, by adjacent places being complementary, by having protection from the weather, by having focal/ curiosity points along the way, by having nighttime activity, etc (Attoe, W.etal, 1989).

According to Attoe.W and others, national, state and city administrations often invest in specific buildings as catalysts to spur further development. In France, for instance, it was a national policy to invest in museums in the heart of many provincial towns to revitalize their cores by bringing in visitors. Los Angeles and Philadelphia are amongst other cities in the United States that have followed suit. Camden, New Jersey has an aquarium. Glasgow in Scotland has been revitalized through the arts. In Glendale, California the investment was in parking garages to spur retail development. Many universities are plugging in 'magnet infrastructure' off campus to rejuvenate run-down neighbor hoods. The University of California, Riverside, for instance, has developed a Museum of Photography and a School of Visual Arts to attract young people downtown. In Chattanooga recently it has been two schools. It is not the architecture of the buildings that is the attraction, but what the building's uses attract because of what they offer in terms of services to the area around them

2.1.2 Active Street Frontages

In their book Public places, urban spaces, Carmona et.al. differentiate between the physical and social dimensions of the public realm. For them, the physical public realm is the collection of physical characteristics. These characteristics may be discrete, readily identifiable entities such as

bench or a street lamp. Or, they could be more conceptual in nature such as walking routs and linkages. And, these characteristics may be publicly owned such as a side walk or privately owned such as a building facade. The success of the physical public realm is determined by the ability of these interrelated characteristics to produce a venue that enables and encourages social activities and events.

According to Llewelyn.D, 2000, as cities and towns evolve, more demands are made of the Public Realm and the relationship between it and adjacent buildings becomes more critical to achieve high amenity, community safety and visual interest. To maximize these qualities, buildings should have an "active frontage" to the public realm, pedestrian activities need to be vital and safe, streets and footpaths should also be attractive. Consequently, the public realm should be encouraged legible, comfortable, safe and vital streets and public spaces should be designed with the concepts of mixed use, permeability of blocks and neighborhood and active frontages at the ground level. Busy pedestrian areas and non-residential uses such as shops, studios, offices, cafes, recreation and promenade opportunities promote the most active street fronts.

Active street fronts are those which have a relationship with the street and the people who are using that street and this can be achieved through having a publicly accessible ground floor use, such as a shop, or through the provision of doors and windows that overlook the street. Making frontages 'active' adds interest, life and vitality to the public realm. This means:

- Frequent doors and windows with few blank walls;
- Narrow frontage buildings giving vertical rhythm to the street scene;
- Articulated facades with projections such as bays and porches providing a welcoming feeling, and on occasion;
- Lively internal uses visible from the outside, or spilling onto the street.

Figure 2.1 Quincy Market, Boston, USA: an example of a 100% active location

Source-Urban Design Compendium volume-1, 2000.

Figure 2.2 Using streets to rebuild communities

Source-Streets as Places, 2008

2.1.3 Inactive Street Frontages

Matthew C. et.al. in the book Urban Design Reader describes that, Pedestrian flow ranges from slow, strolling, low-volume traffic to crowded, rapid, purposeful, half-jogging. Some corridors are devoted only to circulation, with no activating storefronts or building uses or sidewalk functions to invite us to slow down and stay awhile. Others are enlivened by window displays, interesting shops, sidewalk cafes, courtyards, and street vendors. These corridors are essentially linear plazas, destinations in themselves, places to come, be, and participate in urban life. On these occasions, a corridor is transformed to urban room, a place not just for circulation but for being and belonging. User demographics, foot traffic volume, direction and pace, vehicular use profile, and storefront activation tend to be cyclical, contributing to the rhythm and pulse of the town.

There is of course, a gain to the public purse in the building of mega structures which obliterate the finer grain of older city networks. With the mega structure, the amount of public street is reduced. In addition, since circulation in the mega structure is along private streets the policing role can be privatized. One measure of a civilized society is the degree to which its city streets and squares are public and open to all citizens to use freely and safely. However, cities with large blocks of single use disrupting the intricate network of public paths; a coarse-grained city dying at night, a fearful place for citizens unprotected by the comforting envelope of a fast-moving car.(Peter, S, et.al, 2005).

Inactive fronts are buildings which have limited interaction with the adjacent streets or spaces and are often blank: with no doors or windows that they often feel hostile and unsafe. During the 1960s and 1970s a number of mega structure housing of various types were built and even more were proposed. But, such large single-structure projects make a substantial impact on city forms and life. These large-scale, single ownership blocks may be convenient for those who manage or own the establishment, but citizen rights are not paramount: this is private property, and those with legal possession have great autonomy within their ownership boundary. There seems, however, no reason why, for example, a city university cannot be designed to occupy small-scale city street blocks with buildings designed specifically for this purpose. A good example of such development is Oxford University which has dead street frontage. i.e. the street dies when students leave at night for the halls of residence, and atrophies almost completely during vacation when they leave the campus for home (Cliff.M, 2003).

Figure 2.3 Oxford University which has dead street frontage

Source-Urban Design Green Dimensions, 2005

Figure 2.4 - Inactive Street: no sense of place, no relationship with its surroundings, no quality, with streets designed purely for vehicles.

Source-Manual for Streets, 2007

Figure 2.5 Dead street frontage: not well overlooked, deserted and uninviting pedestrian link.

Source-Manual for Streets, 2007

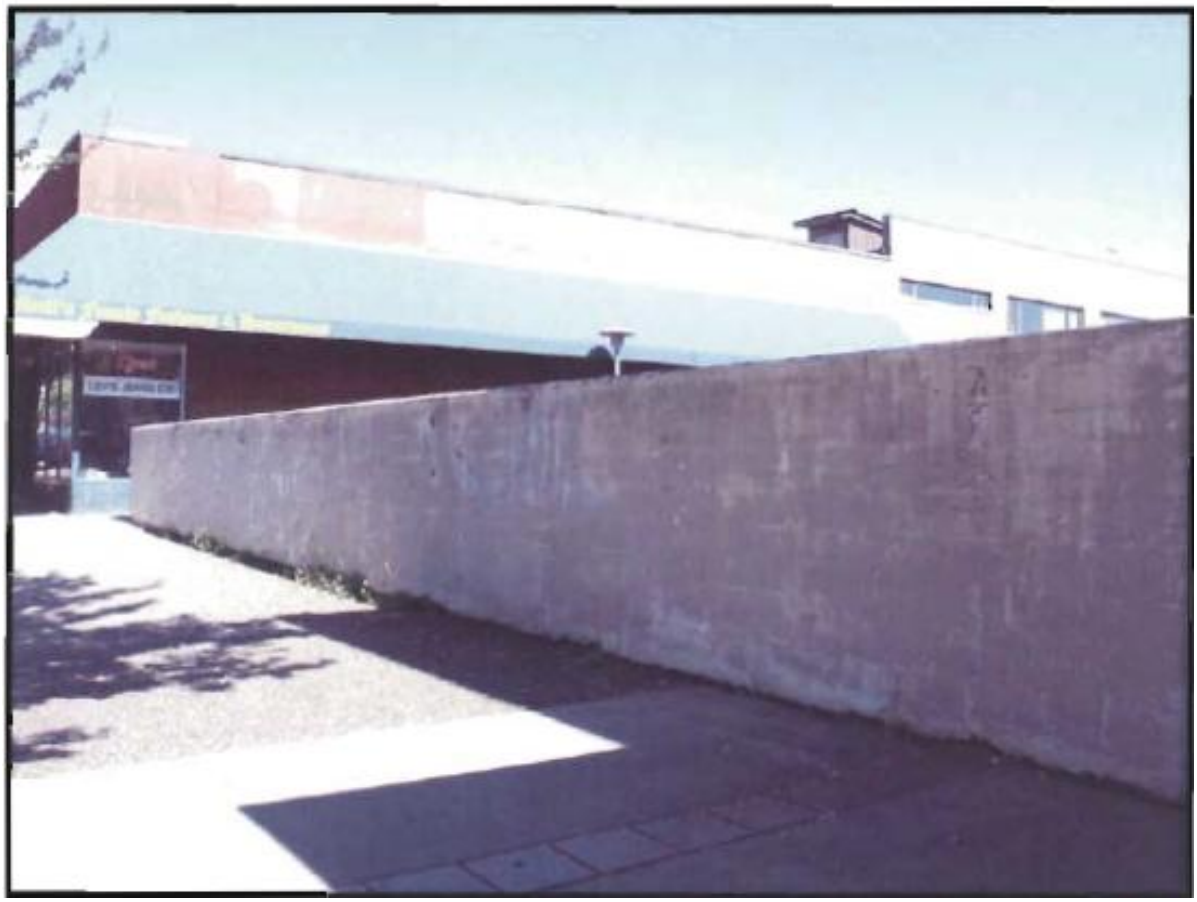
2.2 Major Causes of blind street frontages

As Jennifer, 2007 describes in his thesis study of evaluating the public space /street life/ in down town for Columbia Street of the city new Westminister, he selects three criteria to find out the major causes for inactive street frontages. The first criteria asks whether the street contains a mix of compatible land uses that may stimulate one another, respond to the needs of local residents while also providing attractions for visitor; thus he found that residential, office and institutional uses along Columbia street and adjacent streets provide a customer base for retail shops and services along the street but many shops and services may not have wide appeal to the general public

Convenience grocery, banks, shoe repair and other similar services provide a reason for local residents to visit the Columbia street while a substantial amount of optional and pleasurable establishments such as restaurants, cafes, gift shops, which become a reason to stay, are not available enough along this street. This significantly limits the streets ability to respond to needs of local residents instead they are more likely to visit the tenth street and royal avenue to satisfy their shopping needs and provide grocery service along with other attractors such as bank, restaurants, general merchandise store and medical services. Thus the presence of these services along the Tenth Street and Royal Avenue provide opportunities for activity throughout the day, evening and night and give life to these streets. But, the Columbia street lacks a mix of compatible land uses that may stimulate one another to a level that a successful high street should.

The second criterion in this category asks whether narrow and continuous street frontages with many doors increases opportunities for interaction and thus activity. According to this study, the street frontages range in width from approximately from 5 meters at several locations to 70 meters at Army and Navy. Other wide street frontages in this street include the salvation army at approximately 40 meters, West coast college of 30 meters and the police building of 65 meters. Thus, the narrow street frontages adjacent to Army and Navy ranges between 5 to 15 meter and creates different activities where as the wide street frontages with blank walls reduces opportunities for activities and causes dead street frontages along the Columbia Street.

Figure 2.6 Blank wall along Columbia street reduces opportunities for activity and social interaction (photo: J.natland)



Source-An evaluation of public spaces in down town new Westminster case study, 2007

The third criteria that Jennifer inquires during his study is that whether dispersed activities over multiple levels rather than occur at just one level could cause for dead street frontages. He observed that, activities are dispersed over multiple levels in down town Calgary. In this district, an elevated walk way system connects office buildings so that pedestrians walk several cities blocks without ever going outside. Similarly, down town Montreal has a subsurface system of walkways that direct pedestrian traffic away from the sidewalks. While these alternate interior routes provide different activities on the elevated and sub surface system walk ways, they also act to reduce concentration of activities and cause dead street life along the sidewalks as pedestrians have a greater number of route options to travel between points.

The Montreal gazette published on January 11, 1986 also quoted in its first page that, ***"Blank Walls are disease killing city's street life".*** *The writer of this gazette Mark London reported that,* blank walls are fast becoming a plague in North American cities. Whether concrete, marble or mirrored glass, they are opaque and impenetrable to passersby and they are killing the street. Where does this contagion come from? After years of research, self-appointed "blank-wall expert" Willlam H. Whyte has identified nine causes. Whyte author of classics like the Organization Man and The Social Life of Small Urban Spaces spoke in Montreal recently at the Hydro-Quebec lecture series on public places and spaces. He is not preoccupied with accidental blank walls; those left standing after attached buildings are torn down. No, Whyte is trying to find out why some people intentionally build these impersonal and scaleless intrusions into otherwise healthy urban tissue.

Cause 1—Downtown Suburban shopping centers: Enclosed suburban malls may be OK in their place. They do not have display windows outside because people generally walk diagonally across the parking lot to the mall entrance, not along the edges of the building. But there are countless examples of new downtown shopping complexes that are designed just like suburban shopping centers, with all the stores facing the indoor mall and blank walls facing the sidewalk.

Cause 2- parking garages: Multi- storey parking garages or parking podiums under buildings rarely have windows and present little interest to people passing by.

Cause 3- Banks: There is nothing as boring to passing pedestrians as a bank. For many years in New York City, zoning bonuses were given for the creation of plazas in front of office buildings in which curtains were permanently drawn. Often, the banks had no windows at all. The planners soon realized that this was killing, not invigorating, the city and the bylaw was changed.

Cause 4- Reflecting glass: Whyte calls these "dirty pool" because the people inside can look out but passersby cannot look in.

Cause 5- Convention Centers: The managers of these facilities seem to want boxes that are totally enclosed so that conventioneers are not exposed to contamination from the natives.

Cause 6- Skyways and Subterranean Walkways: The idea was to separate pedestrians and cars. Unfortunately, the cars got the best space, the ground. The people were stuck up in the air or worse still, underground. Having pedestrian walkways above or below grade does not necessarily have to kill the street and leave it with blank walls; it all depends on the vitality of the city and the

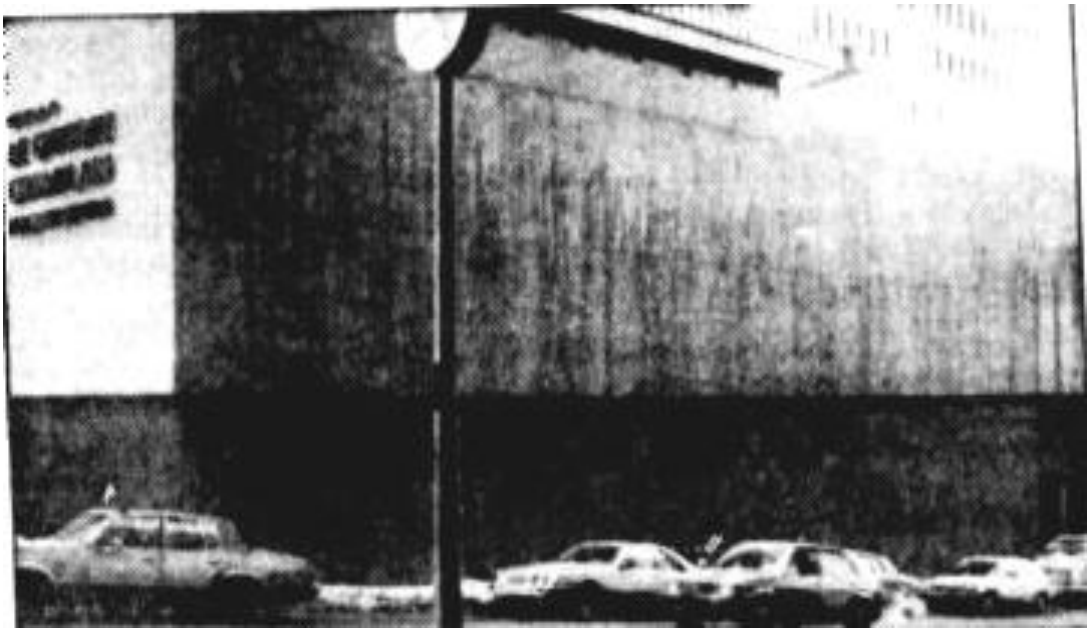
design of the system. Minneapolis and Calgary's raised walkways co-exist reasonably well with sidewalks and have not extinguished ground-level activity. Similarly, Whyte feels that Montreal and New York City's underground passages have not undermined the vitality of the streets. The problem comes when politicians and planners from smaller towns with dying downtowns make pilgrimages to these cities. Without understanding what really made them work, they go home and copy just the walkways and tunnels. The effect is to further dilute what little vitally these downtowns had in the first place and to totally kill already sick downtown streets.

Cause 7- Mega structures: Another response to "revitalizing" downtowns (by making them more palatable to people from the suburbs who had not ventured in to the centre city for years) is the totally enclosed, interconnected, multifunctional building complex. In a mega structure like Houston Centre, It is possible to drive from the expressway in to the garage, work in your office all day go through the pedestrian links to lunch in building 2 or shop in building 3 and drive back home to suburbia without ever setting foot in the real city of Houston. Needless to say, these complexes are not designed to relate to the urban fabric in which they are located blank walls around.

Cause 8- The Telephone Company: A telephone exchange building in New York City wins the award of tallest blank wall in the world. The only thing on the 55 story high wall is a sign which says "No Ball or Frisbee Playing". In theory, telephone exchange buildings do not have windows because all they have inside is machinery. Whyte claims to have visited dozens of such facilities across the continent and has discovered that in fact, there are real people inside, working at desks pretty much like in any office.

Cause 9- Government Buildings: Bureaucratic stand-offishness coupled with an excessive regard for security combine to speed up the spread of blank walls in court houses, police stations, post offices and countless other government buildings.

Figure 2.7 Blank wall stands in contrast to the major arterial street in Canada



Source: The Montreal gazette published on January 11, 1986

Figure 2.8 To eye catching dead wall of Windsor station across street.

Source: The Montreal gazette published on January 11, 1986

2.3 Major impacts of blank street frontages

Blank walls were becoming the dominant townscape feature of US cities: They were a declaration of distrust of the city and its streets. While a 'technical explanation' (e.g. the need for consistent light levels) might be offered, this is rarely the real reason - blank walls were an end in themselves: Blank frontages not only deaden part of the street, they also break the continuity of experience that is vital for the rest of it. The design of street frontages impacts significantly on the quality of the public domain and appropriate design of street frontages promotes surveillance and defines the interface between the public and private domain. If street frontages are bounded by back-garden fences or hedges; security problems can increase, the prime land cannot be efficiently used and there cause a lack of a sense of place. (Matthew C, 2003).

According to Mac. C. 1987, large buildings utilizing a single entrance can have a particularly deadening impact on streets. In many urban environments, large firms and offices have opened smaller trades and obtained prestigious locations on the street frontage, where they often offer little sense of activity relevant to the public outside. In traditional urban environments, large buildings with little to contribute to street life- such as law courts, churches and theatres – were often embedded in the urban fabric, with a limited presence on the street frontage. Appearing emblematically on the skyline, such .buildings freed the frontage for uses that interacted better with the street This traditional development pattern suggests a way of incorporating foreign transactions - e.g. 'big box' retail developments, which often stand alone with exposed 'dead' frontages - into urban settings, without having a deadening effect on local street life: the core of the development contains the foreign transaction, while the perimeter houses local ones. For office buildings, locating active uses at the ground floor level can overcome their deadening effect on the street.

Although residential uses bring life and activity to city centers, the configuration and integration of such developments affect the public realm's vitality. This residential development in Denver consists of a parking structure providing the street edge and frontage with a residential tower block above. Presenting a blank frontage to much of the public realm, the parking structure has a deadening effect on the city centre. A spatial concentration of such developments would

undermine both activity and vitality and safety and security in the city centre (South, W.etal.1993).

The absence of strong building frontages creates weak enclosure and poor Economic activities along the street. Moreover, Pedestrians could not generally feel safe from crime where streets are not overlooked by buildings and other people are using that street, people can feel nervous in places with few entry and exit points, such as subway networks); and there is good lighting. Thus, dead street frontages have social, economical and psychological impact on the people who use these streets (Thomas, T. 2007).

2.4 The need for activating blind street frontages

Building facades should be designed so that buildings reach out to the street and offer an 'active' frontage onto public space, adding interest and vitality to the public realm. As windows and doorways suggest a human presence, the more doors and windows onto public space the better. The interface needs to enable indoor and 'private' activities to exist in close physical proximity with outdoor and 'public' ones. Views into buildings provide interest to passers-by, while views output 'eyes on the street' and contribute to its safety. The number of doors/entrances generating activity directly visiblefrom public space is a good indicator of the potential for street life. Llewelyn-Davies (2000, p. 89), for example, provide a scale to judge the performance of designs according to the intensity of active frontage.

Continuous business or retail land uses that open directly to the foot path provide active, people oriented street frontages. It enhances public security and passive surveillance and improves the amenity to the public domain by encouraging pedestrian activity & it can also assist in supporting the economic viability of the street where this provision will apply. Activity areas are usually formed along streets or around nodes that attract strong pedestrian movements**.** Residential buildings can also activate the street by providing a clear street address, direct access from the street and direct outlook over the street.

Streets should have a sense of place, which is mainly realized through local distinctiveness and sensitivity in design. They also provide direct access to the buildings and the spaces that line them. Most highways in built-up areas can therefore be considered as streets. people meeting one

another on a casual basis strengthens communities and encourages a sense of pride in local environments; and people who live in good-quality environments are more likely to have a sense of ownership and a stake in maintaining the quality of their local streets and public spaces.

According to Cliff. M. 2003, .Streets make up the greater part of the public realm; better-designed streets therefore contribute significantly to the quality of the built environment and play a key role in the creation of sustainable, inclusive, mixed communities. According to Llewelyn –davies 2000, a street frontage is said to be active if there exists: a large range of functions, there are no blind facades and few passive ones, much depth and relief in the building surface, more than 25 doors and windows every 100m, high quality materials and refined details. Hence, active frontage encourages a 'human scale' and fine pedestrian grain, adds interest, life and vitality to the public realm; this means: amenities such as street furniture, banners, art, street trees and special paving, way finding signage, along with historical elements and cultural references, should promote a 'sense of place'.

Quality in no small measure due to the variety – almost maze – of lovely pathways through the urban structure. To some extent, public safety in streets is related to the intensity of their use and the activity they generate. Streets are safer if they are heavily used, and if they are overlooked by occupants in the surrounding buildings. Busy streets by both day and night are in the words of Jane Jacobs: 'self policing'. In Tavira old town the pattern of land-use is mixed. It still retains a large residential population giving life to the town, but even residential streets contain numerous shops, bars, restaurants and small offices. It is only in those areas that were redeveloped in the last half of the twentieth century that this particular pattern has been broken; in some places large-scale administrative or commercial

2.5 Methods used to activate blind streets frontages

Diagnosing the cause of the malady is one thing; finding a cure is another , Whyte suggests several. One approach to revitalizing the hearts of cities as been to lure back those suburbanies who do not like and are afraid of the city by building isolated antiseptic fortresses. Whyte disagrees with this method; "if these people hate e city, let them stay away. We are not going to bring people back to downtown by building second rate suburban shopping centers; we have to

build on the strengths of the city by offering an intensely urban experience with messy, congested and vital streets". he says.

Although he feels it is a shame that it has come to this, Whyte feels it is necessary to legislate against blank walls. New York city, which like Montreal has a very strong tradition of street life, has used zoning regulations to require that 50 percent (in a 1971 bylaw), and now 100 percent (in a recent revision) of the frontages of buildings on certain streets have small shops with entrances directly to the street and with widows of glass that you can see through that entrances to the buildings are strictly limited in width. Montreal does not suffer from blank walls as badly as many North American cities, but it has its own share of blank walls: the podiums of the Place des Arts and Place du Canada, the sides of the Parlais des Justice, the bases of the office towers near President Kennedy and University are some.

Whyte has done pedestrian counts on hundreds of sidewalks across North America and concluded that the level of activity on St Catherne St. makes it one of the healthiest streets on the continent. He looks forward to the "revenge of the street," that day when ordinary healthy streets with sidewalks lied with lively shops will regain supremacy-when the street will get back its essential role as the river of life of the city.

The Miami 21 Zoning Code, for the city of Miami which is located in northern hemisphere in the state of Florida in the eastern part of United States, also incorporates time-tested planning principles into the zoning regulations of its city. These are principles that make the blind street frontages active and economically efficient are common elements of the current planning trends explained in the Miami 21 zoning code. Some of the methods that are incorporated in this code includes:-

1. **Transforming Blank Walls**

According to these principles, an inactive street can be transformed by removing large blank walls and creating walkable and active streets by bringing buildings closer to the sidewalk with active sidewalk storefronts and frequent entrances. The addition of frequent windows and doors can also improves safety by having more "eyes on the street." Increased landscaping and tree canopy further enhance the workability of this pedestrian area and provide environmental benefits.

Figure 2.9 Transformed street frontage by removing large blank walls

Before **After**

Source: The Miami 21 Zoning Code, for the city of Miami in the state of Florida, USA.

2.**Turning Development Outward**

Inwardly-focused, self-contained private designs can be transformed into contributing elements through the creation vibrant neighborhood streets.

-The addition of landscaping and organized public open space creates a walkable pedestrian area.

-Mixed-use neighborhood centers create opportunities for jobs, provide neighborhood services within walking distance for residents, and create opportunities for transit to link nodes of neighborhood centers. Notice the ground floor of this development is now both residential and commercial (retail storefronts).

Figure 2.10 Activated blank wall by turning the development out ward

Before **After**

Source: The Miami 21 Zoning Code, for the city of Miami in the state of Florida, USA.

3. **Mixed-Use Corridors**

Mixed-use neighborhood corridors with medium densities provide jobs, neighborhood services, live-work options, and transit opportunities—all within walking distance of one another. In this example the transportation corridor goes from just being a way to get to a destination—to a destination in-and-of itself.

-Large, blank walls are replaced with buildings that offer pedestrian-oriented frontages creating mixed- use streets.

-Enhancing the architectural detail and building at a human scale provides an inviting space for people and builds neighborhood character.

-The addition of landscaping and organized public open space creates a walkable pedestrian area.

-Transportation corridors provide opportunities for adding alternative modes of transportation and new and varied alternatives for housing.

Figure 2.11 Dead street frontages replaced with mixed- use active streets.

Before **After**

Source: The Miami 21 Zoning Code, for the city of Miami in the state of Florida, USA.

4. **Building Communities**

Abandoned corridors can be revitalized into communities.

-One-way commercial / industrial corridors can be transformed into a Walkable / bicycle friendly two-way street.

-Wide sidewalks with clearly defined crosswalks, bike lanes, and transit shelters create safer streets for pedestrians.

-Enhancing the architectural building and detail at a human scale creates an inviting space for people and promotes neighborhood character.

-The addition of landscaping and organized public open space creates a walkable pedestrian area.

-Allowing for a mixed-use residential and commercial live/work on ground floor-- fosters economic opportunity and provides new housing options.

Figure 2.12 Abandoned corridors revitalized into communities.

Before **After**

Source: The Miami 21 Zoning Code, for the city of Miami in the state of Florida, USA.

5. Neighborhood Main Street

Automobile-oriented commercial corridors can be revitalized into mixed-use neighborhood Main Streets.

-Enhancing the streetscape to create clear pedestrian crosswalks, wide sidewalks, and vibrant landscaping transforms the street from an automobile-centered transit corridor, to a pedestrian-oriented Main Street where people want to live, work, and visit.

-Allowing a mix of residential and commercial activities creates a main street, fosters economic opportunity, and provides new housing options.

-Enhancing the architectural detail and building at a human scale creates an inviting space for people and creates neighborhood character.

-The addition of frequent windows and doors provide improved safety by having more "eyes on the street."

Figure 2.13 Activating dead street frontage by allowing mixed use activities.

Before **After**

Source: The Miami 21 Zoning Code, for the city of Miami in the state of Florida, USA.

6. Improved Streetscapes and Building Frontages

Clean streetscapes can be created with public improvements such as wide sidewalks, parallel parking, and landscaping. Building frontages are also an essential component in the creation of a pedestrian-oriented streetscape.

-In this example, not only are there street improvements on the public realm such as trees and wider sidewalks, but there are also private improvements such as awnings. All of these provide comfort for the pedestrian.

-The addition of parking spaces alongside the road allow for those business to increase their customer base.

Figure 2.14 Activating dead street frontage by improving streetscapes

Before **After**

Source: The Miami 21 Zoning Code, for the city of Miami in the state of Florida, USA.

Similarly, there are different methods used in other cities like china to activate the dead street frontages although their focus is on enhancing the existing activities, unlike the city of Miami rather than changing them totally and this was done by;

-Making a better interface between the street and building at ground-floor level

-Coordinating the colors of buildings to enhance the existing composition

-Reflecting the uses on the upper floors of buildings by the use of signage.

Generally, sub-dividing development parcels into plots, which are as small and narrow as is practical, encourages a diversity of forms, uses and tenures and allows a rich variety of buildings to emerge; streets and the Public Realm could also be further enhanced by the planting of street trees.

2.6 Trends of building construction and expansion of blank walls in Addis Ababa

According to Dubbale, D. and others 2010, Since its foundation, Addis Ababa has seen four major stages in development, each with a unique urban settlement pattern. The first period is the time between the founding of the city to the Italian occupation during WWII. The second period was during the Italian occupation, (1936-1941) when marginal improvements to infrastructure were made with the construction of few modern buildings. The third period followed the liberation and extended in to the 1960s. During this period, Addis Ababa saw significant infrastructure development, including a number of modern buildings. What has been going on recently and what has been changing the city's image appears to be the fourth stage, now known as contemporary architecture. The urban form is also characterized by large blocks and informal street patterns that restrict access in to the settlements

Although the locations of service centers were planned, they have not yet been realized. Instead, centers emerged spontaneously with inappropriate locations. As a result, inhabitants are forced to spend more time and money to make unnecessary long journey to acquire services due to the shortage of the required services in the city center as more land is occupied by mega structure buildings. Low rise developments dominate the urban scene, and this has been contributing much to the excessive city expansion. However, at present, high rise developments are taking place haphazardly outside the inner city. As a result, of the incompatible building height, the urban quality is affected and privacy of residents is violated

Old settlements in the city have irregular plot subdivision and most of the housing development is low rise which consumes too much land. There are inefficiencies in land utilization in the city center due to the excessive occupation of prime land by some governmental institutions, manufacturers, embassies etc. thus, inefficient land utilization and prevalence of blank walls are the major spatial characters of the city. Moreover, due to the difficulty of redeveloping economically important areas in the city center, many developments are pushed outside of the main centre. The dead walls, created by those mega structure buildings in the city center, are also remain the other challenges of the city as they generate poor building- street interaction and create dead street life which calls for immediate intervention (ORAAMP, 2002).

Figure 2.15 Dead wall on both sides of the street in Arada sub city wereda 5 left and on one side at Churchil road right.

Source: Own field survey, 2016

Figure 2.16 Active frontage at ground floor level & dead frontage aside left at Mexico and Shopping center in Mercato facing the indoor mall and blank wall facing the sidewalk right

Source: Own field survey, 2016

Generally, it can be concluded that, the blank walls of different mega structure buildings, shopping centers with all the stores facing the indoor mall and blank walls facing the sidewalk, multi-storey parking podiums under buildings which rarely have windows, banks and other financial institutions that often had no windows at all, skyways and subterranean walkways, government buildings and other similar structures having their blank wall face the major arterial streets reduces opportunities for activities and creates dead streets with no activities; hence kills the whole street life in urban centers.

Thus, many city governments of different countries device different methods and incorporate planning principles in to their zoning codes in order to activate the dead street frontages of major roads and create livable, comfortable and economically efficient urban centers.

CHAPTER THREE

3. Back Ground of the Study Area

3.1 General description of Addis Ababa City

3.1.1 Historical development and geographic background of Addis Ababa

Addis Ababa has established in 1886 and situated on average 2500 meters above sea level at 9° 2' N, 38° 42' E. The city possesses a mix of highland climate zone; which is unanimously agreed to be excellent and healthful for the Ethiopian population as well as permitting a sizeable European population to live permanently and thrive in the city. The days are warm but not usually hot with the maximum temperature prevailing from March to May; the nights invariably are cool and sometimes rather cold. with a topography that slopes down from the Entoto Mountain in the north to the southern border of the city cut by a number of steep sided valley with rivers and streams. (Mirror of Addis Ababa, 1942).

In 1870, Emperor Menelik had set up the government's seat on mount Entoto, a few miles north of the present city of Addis Ababa. The present site of Addis Ababa was chosen in 1878 due to its unique qualities it has: the temperature is moderate and comfortable for living, it has hot springs different from the other competitors and above all, the provision of sufficient firewood that was important issue at that time. After the emperor has built a residence in the place now called Ghibi, the nearby areas are given to different functions. At that time, it was estimated that land was owned by not more than 20-30 rich high-ranking officials. These high-ranking officials settled in strategic areas and together with these high ranking officials, their servants and followers were settled thus settlements were created. Next to these churches were established and had contributions to the development of additional "sefers". Rivers and gullies separate many of the "sefers" thus, the settlements brought fragmented development; the road network came after to connect the settlements and the current organic pattern of the city is the result of this (Mirror of Addis Ababa, 1942).

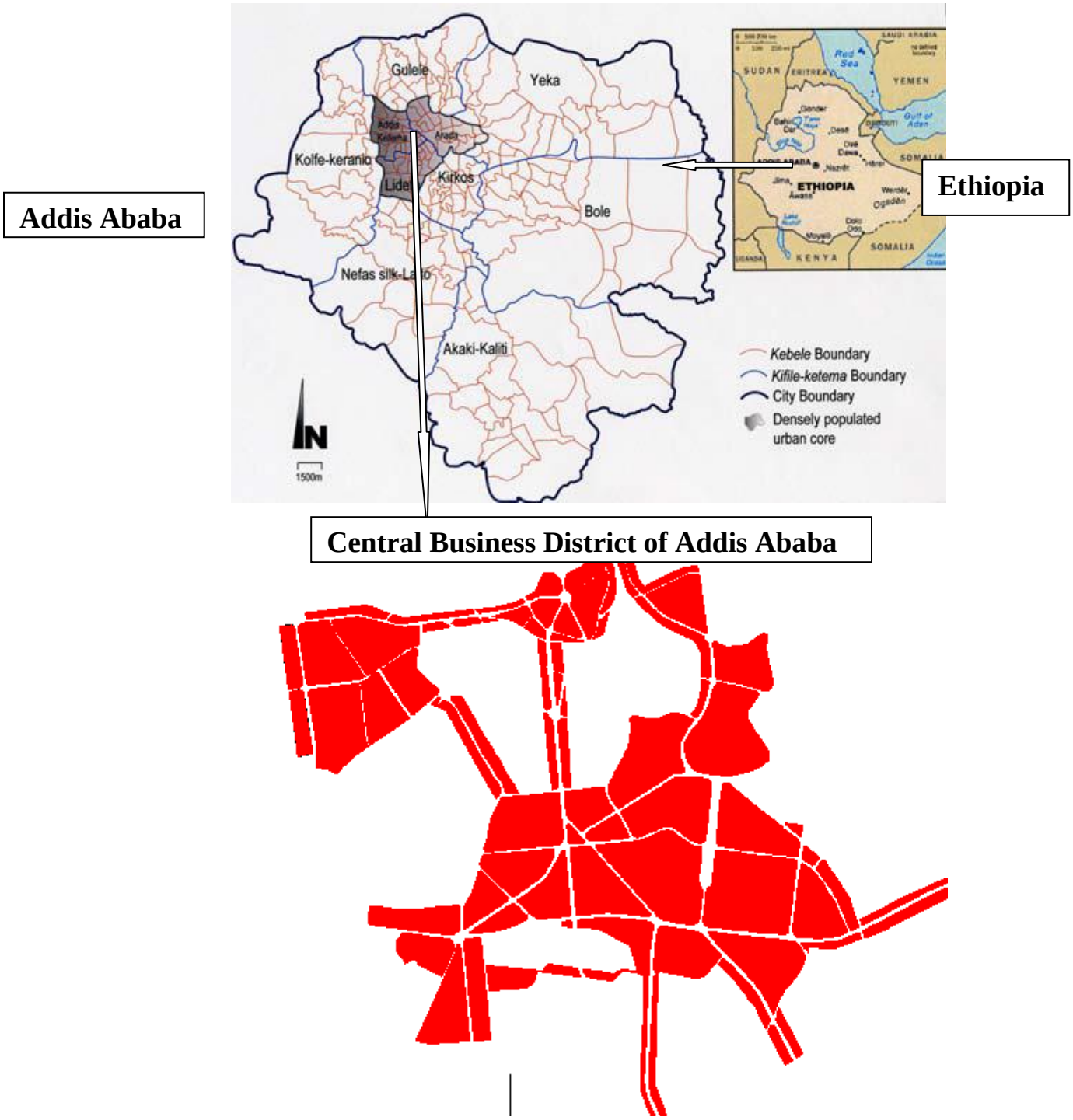
As the primate city of the country, it is the seat of AU, ECA, many diplomats and other international organizations. Despite this condition, it hardly meets the required urban qualities and

standards of international city in its physical fabric as well as in the level of infrastructure and service provision. Rather, it is one of the least developed cities in Africa facing a major challenge of slum proliferation, overcrowding and deterioration have become common places in the city because of uncontrolled population growth and severe housing shortage. (ORRAMP, 2002).

Addis Ababa is not only the administrative, commercial, economic and financial center of the country but also an international city. It has been undergoing a high rate of urbanization and experiencing a rapid pace of socio - economic and physical transformation. The current total population of the city is estimated about 3.0 million; it was tripled between 1961 and 1984, and almost doubled again between 1984 and 2008 and currently growing at a rate of about 2.9% per year which estimated to reach 5 million by the year 2020. Addis Ababa is overwhelmed by problems afflicting most cities in the developing world; including extensive urban poverty, joblessness, inadequate housing, severe overcrowding and congestion and underdeveloped infrastructure. Moreover, mounting social ills, such as begging, homelessness and youth delinquency are grim realities of life in the city. (MOFED, 2008).

The first development in the city was a system of roads that were built in a circular fashion about the city center. This radial network, interconnected by roundabouts and winding pathways, defines the existing structure of the city. Slum and informal settlements brought a great deal of challenge to the city, which is considered to be the core problem that affects the livelihood and the state of the urban environment. Though a mix of land uses has been the main planning feature, land use incompatibility remains a concern (ORRAMP, 2002).

Figure 3.1 Location map of the Central Business District of Addis Ababa



Source: Urban plan & Information institute, April 2016**.**

3.1.2 Physical setting

Addis Ababa is a fast growing city and has a total surface area of 54,000 hectares of land. Out of which, the built up area covers 35,826ha and gross population density is 55.5 persons per hectare. The altitude of the city varies between 2200 meters at Akaki to 3200 meters above sea level at Entoto Mountain. There is high topography in the north and west, relatively flat in the southwest and southeast, which is cut by a deep gorge and rivers crossing the city from north to south. The topography of the city is highly to rolling with steep gradients and deep valleys. Nearly one fourth of the city area is under mountain with steep slope and forests and hence is note developable or would be highly costly to develop. The urban area is endowed with streams and rivers, which flow from northwest and northeast towards the south. The Entoto massive in the north surrounds the city and steep slopes with High Mountain, flat-topped plateau while the lower part is less steep, characterizes the upper part of the city (ORRAMP, 2002).

3.1.3 Soil

Soil characteristics depend upon parent material, topographic, climate, biotic forces etc, provides insight into many phenomena associated with natural resource. Soil type is important interims of engineering capabilities, i.e. bearing capacity and sheering condition. According to the Revised Addis Ababa Master Plan Executive Summary.2002, the soil type of the most part of Addis Ababa city is clay soil but, the soil type of the inner city is dominantly silt clay; which has low degree of swelling. Hence, the soil type of the study area could also be favorable for construction in terms of soil property as it is found in the inner city.

3.1.4 Temperature

The information obtained from Addis Ababa Metrology Service Agency report,2015 indicates that, Addis Ababa has a mild Afro-Alpine comfortable temperature with annual rage between 10^0C to 25^0C that receives an average annual rain fall of 1200mm per year. As the primate city of the country, the lowest and highest monthly average temperature is 10.6^0C and 21.0^0C respectively; so that the monthly average temperature is 15.8^0C. Although having all the data about the existing temperature condition of the project site is important, it is difficult to find data for that specific site. Therefore, it is must to use data of the whale Addis Ababa which is obtained from the office of meteorology.

3.1.5 Sun Orientation

The sun direction is commonly follows east-west line is observed. Identifying sun orientation is used to determine the building arrangement and its opening.

3.1.6 Wind Direction

According to the Ethiopian meteorological services agency annual report 2015, the prevailing wind direction of Addis Ababa during dry season (September to May) is mostly from North-east to south-west with speed of 6-12 m/s. During humid season the wind direction indicates the reverse direction, i.e. from south-west to North-east at 4-8m/s. As that of sun orientation also wind direction determines the building arrangement and its opening.

3.1.7 Hydrology

In hydrological analysis surface and subsurface water, the drainage pattern and the catchments area should be considered. So, surface water and drainage pattern of the site and its surroundings hydrological system based on the data collected from residents and the field observation shows that, the study area is highly susceptible for runoff water during rainy season and it causes offensive smell from the open ditch which adversely affects the residents health; due to the steeppy nature of the site and Poor and insufficient drainage system.

3.1.8 Sanitation

According to AWSAA 2012 report, the first and the oldest sanitation system date from the establishment of the city and are located in the old centre of the city. Main streets were provided with two lines of drains discharging to watercourses. This was the case of in the existing main roads in the city core (Churchill road, Meneliek and Entoto Avenue, Belay Zeleke north of the city and fitawrari Habte Giorgis street up to little Akaki) and to the east along Haile Gebresilasseie road. These drainage lines are still used as combined sewers for collection and disposal of waste water and discharge untreated waste water directly in to the nearby water courses. The first separate wastewater seem was carried out in the early seventies. It was designed for the collection and conveyance of waste water to the Kality treatment plant. Most of the residents in the study area are already connected to the water supply network.

3.1.9 Population

Addis Ababa is one of the fastest growing cities of the world. In a period of about three decades, its population size has increased by more than fivefold. By the 2015 censes result the annual growth rate was 2.9%. Addis Ababa has 651770 total numbers of household and 4.1 average household sizes.

3.2 Condition of transportation system in Addis Ababa

When we see the infrastructure development in Addis Ababa, the first railroad transport system between Addis Ababa and Djibouti was opened in 1886 EC and the motor vehicle transport was introduced as a means of transport in 1924 for the first time. The first piped water started in 1885EC and the first school with capacity to accommodate 2000 students opened in the city in 1911; the service of electric supply of the city was also started in 1909 EC. Up to 1941 EC, the population of Addis Ababa was not more than 300,000, and there were 10 hospitals, 22 schools, 16 government offices, 10 industries, 18 churches and 2 mosques (Taggebe B, 1976).

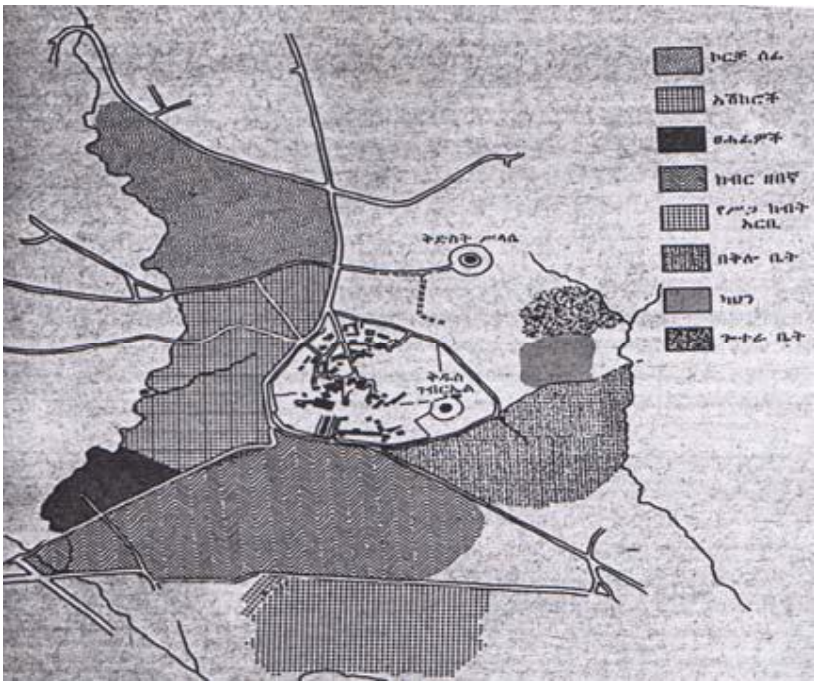
Like many other similar cities in the Developing Countries, the city still exhibits low and yet raising per capita car ownership and growing motorization, has inadequate financial resources for construction, maintenance and management of transport services and infrastructure, displays weak integration of transport and land use planning as manifested in the poor enforcement of land – use regulation and development of areas with inadequate transport infrastructure and public transport services, dominance of non – motorized movement and the absence of urban rail transport system. The Addis Ababa Master Plan of 1986 estimated that the daily passenger - trips would increase from 600,000 to 1,500,000 by the end of the planning period, i.e. 2006. The Addis Ababa Development Plan 2003-2010, however, found out that the daily trip volume has increased by 250% reaching 2,100,000 passengers - trips in 13 years time (1986 - 1999). The same study found that the average travel distance has increased to about 11.4 km in 1999 instead of the 5 to 7 km estimated by the Addis Ababa Master Plan.

3.2.1 Trends of development

The current city of Addis Ababa grew around the Palace, the S.t George Church and Arada; which were the political, religious and commercial cores of the city respectively and this was the

beginning for the development of Addis Ababa. The first development in the city was a system of roads that were built in a circular fashion about the city center. This radial network, interconnected by roundabouts and winding pathways, defines the existing structure of the city. Addis Ababa is a fast growing city and has a total surface area of 54,000 hectares. Slum and informal settlements brought a great deal of challenge to the city, which is considered to be the core problem that affects the livelihood and the state of the urban environment. Though a mix of land uses has been the main planning feature, land use incompatibility remains a concern (ORAAMP, 2002).

Figure 3.2 Land use of Addis Ababa first settlement

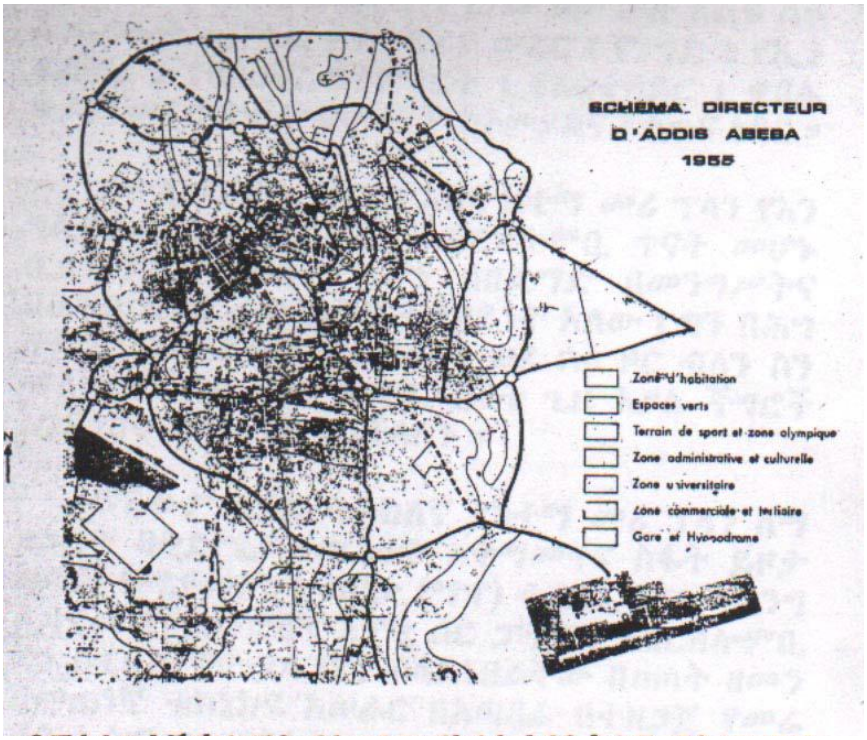


Source- Taggebe Beyene. Addis Ababa Tinager.1976

Even though, Tayitu's first plan guided the early settlement of Addis Ababa, the first city master plan was designed by Italian planners during the short lived Italian occupation of Ethiopia from 1936 to 1941. The Italians prepared a plan that shifts the city centre from Piassa to National theatre and segregated the residential area of the whites and indigenous people. The Italian being the first, there were a number of plans prepared for Addis Ababa that shaped some of its

development up to now. Some of the influential plans next to the Italian include the one prepared by Sir Patrick Abercrombie.

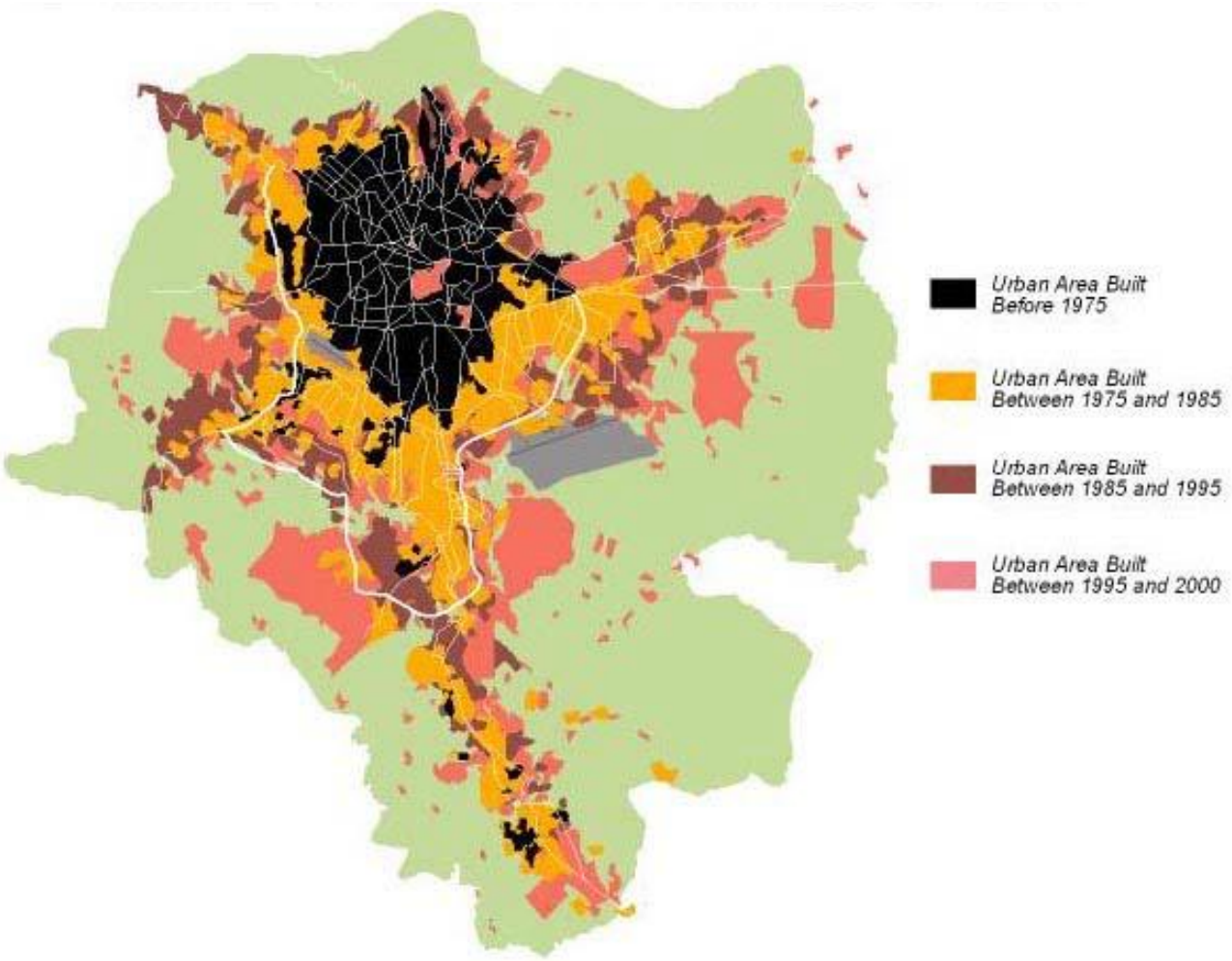
Figure 3.3 Plan of Patrick Abercrombie in 1958



Source- Taggebe Beyene. Addis Ababa Tinager.1976

The city development practices in Addis Ababa were characterized by congested sprawling without densification. For instance, when we see the settlement pattern of the city before 1975, it depicts a compact form of land occupation except some fringe developments towards Intoto, Kolfe, Gotera, Mekanisa and Megenagna areas. Fragmented developments along major outlets and around the industries established as satellite developments. These areas are: Akaki, Kaliti, Burayou, Nefas Silk, Mekanisa, and an area south of the old airport, surrounding of Alert and Kotebe. After 1975, mainly consolidation of the former fragmented development or in-fill type of development has come to start. Expansion of the city was highly facilitated by the 1986 master plan of Addis Ababa that the plan has a number of proposals on different issues like, road network, urban green, markets and urban centers, industrial development, housing etc, (ORAAMP, 2002).

Figure 3.4 Growth trend of Addis Ababa between 1975-2000



Source: Revised Addis Ababa Master Plan Executive Summary.2002

3.3 Spatial development and land use condition of Addis Ababa

The spatial development of Addis Ababa up to now is characterized by leapfrogging horizontal development. Many areas like Akaki, Kotebe etc., which were planned to be satellite towns for Addis Ababa, become parts of the city. This disperses the focus of city government in infrastructure delivery and other development. Most of the housing development is low rise and consumes too much land, and this is the main factor for horizontal expansion. Above all, the

overstretched spatial developments in most cases are not backed by the necessary infrastructure development. Due to this trend, inner city areas are left for derelictions and no visible new developments are carried out in the inner city. Due to the difficulty of redeveloping economically important areas, many developments are pushed outside of the main centre (AAMPPO,1986).

The land use of Addis Ababa is characterized by having positive and negative effects on the city. Large-scale pollutant industries (Kotebe steel industry, Wingate Tannery, Edget and Kolfe oil factory) are located in residential areas. These industries are located upstream and pollute areas downstream. They also attract heavy traffic and result in noise pollution Military camps mainly (Sidist Kilo, Gerji, and 25th Mechanized Brigade) are located in residential areas .Old settlements have irregular plot subdivision. In general, manufacturing and government establishments occupy large urban land area thus result in efficient land utilization. Hence inefficient land utilization and prevalence of incompatible function are the major land use character of the city. The other thing examined on the land use organization of the city is the nature of its mixity; thus the functional mixity is observed almost in all parts of the city, but the effect is very much clear in the city centre.(ORAAMP, 2002).

The city center of Addis Ababa is the oldest part of the city; it is not a pure commercial business district but many different activities exist; some are in conflict with each other and others co-exist together. The 2002 development plan of Addis Ababa had identified the oversize and unmanageability of the proposed central business district of the 1986 master plan as one of the major challenges. The poor qualities of services and facilities as well as the underutilization of spaces and traffic congestion in the city centre were stated as prevailing consequences of the mentioned challenge. The plan has also identified that lack of the development of required services in the proposed centers. In general, the Plan had established that there was a spontaneous and haphazard development of centers in Addis Ababa.

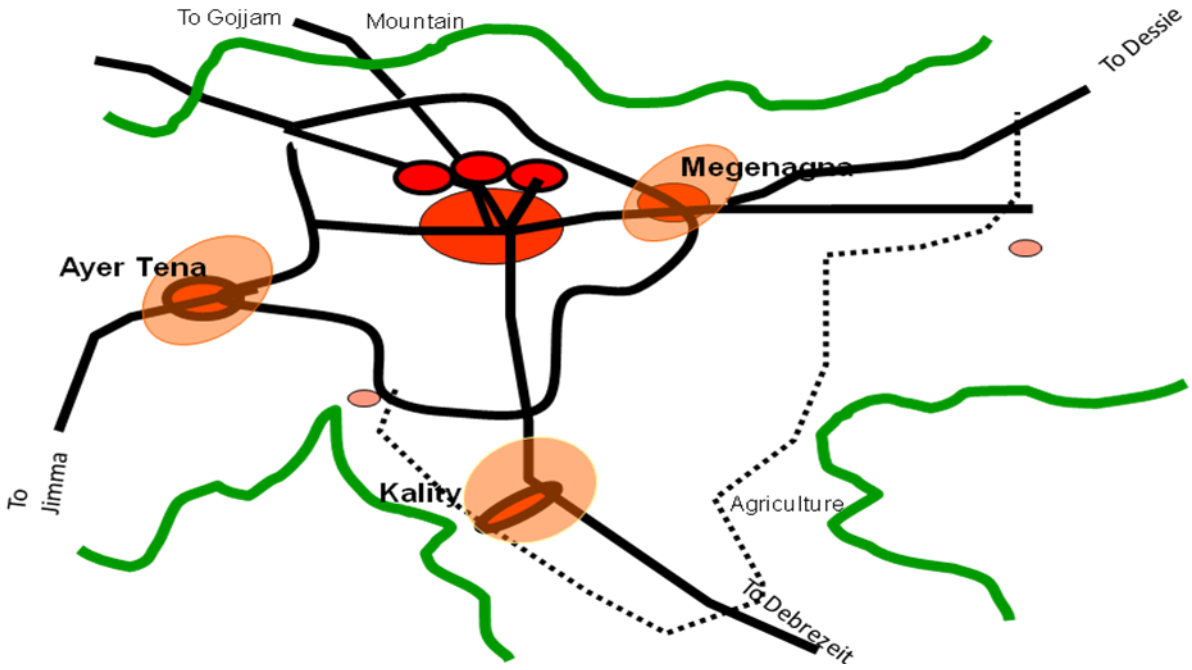
Accordingly, the revised 2002 development Plan of Addis Ababa, the main center of the city to be organized into one main body/core area/ and three other specialized nodes, which were to be connected by strong business corridors (e.g. Churchill Street and Tekle Haimanot corridor). Out of the proposed 850 ha of the main city center, the proposed core area of the city center planned to cover 580ha was the area around National Theater including Lagare. This was planned to serve as

the main commercial and business area with a concentration of offices. One of the proposed three specialized nodes of the city center was to be Mercato covering 70ha. Mercato had been planned to function as the main market center of the city. Piassa was also one of the proposed nodes. It covers 159ha and was anticipated to function as the historical old center, which was envisaged to contain cultural, and business activities. The third proposed specialized node was Arat Kilo, which had been proposed to cover 7.7ha area and to function as the main administrative core constituting government offices and commerce. All three nodes were to integrate residential functions with their specialized functions.

Hence, the 2001-2010 Development Plan proposed to upgrade the image/standard of the city center and enhance its manageability by developing these nodes while still maintaining their mixed residential function. Promoting the establishment of several Business improvement Districts; designing a strategy for urban renewal and reserving the Kirkos area for southward extension of the main city centre had also been proposed interventions.

Furthermore, the 2001-2010 Development Plan had envisioned polycentric development comprising different hierarchy of centers as a coherent development frame. It had aimed to create complementary centers (sub centers) and minor service distribution centers (tertiary centers) at selected nodal points. This was expected to reduce the unmanageability of and pressure on the main city centre. The proposed three secondary sub-centers were Megenagna, Ayer Tena and Kality which are located to the east, south west and south respectively following the proposed expansion direction. The proposed areas of the secondary sub-centers vary from 110 to 150 ha, whereas the proposed areas of the tertiary centers vary from 15 to 56ha.

Figure 3.5 Main center and Sub centers map of Addis Ababa



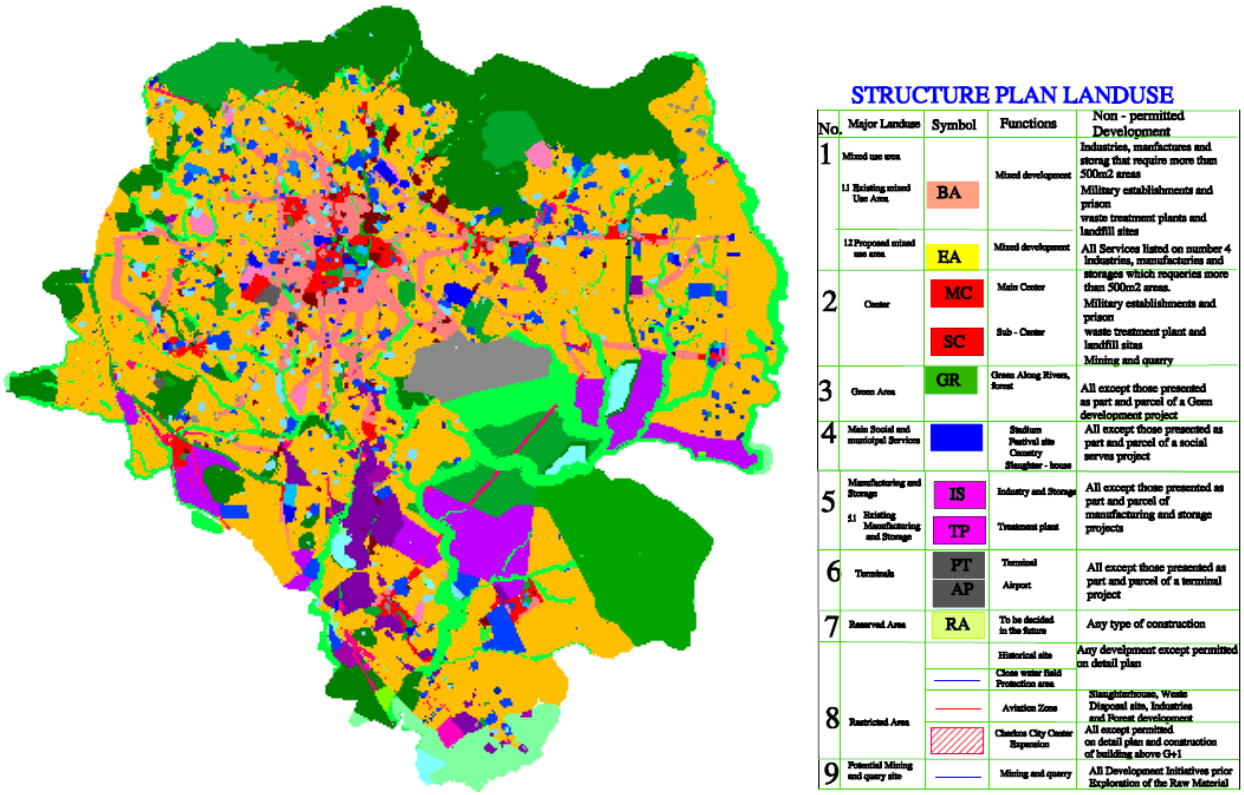
Source: The Revised Addis Ababa Master Plan Executive Summary, .2002

Generally, the 2002, structure plan of Addis Ababa had envisaged channeling investments to the city's main center and sub centers; particularly, focusing on the redevelopment of selected strategic localities in the city center. This study also focuses on activating the dead street frontages especially of the main center and sub centers of the city using plug-in urban design rather than leave them dead streets or redevelop the existing mega structure building in order to enhance the economic, social and visual quality as well as current and future investment potential of the city.

The area size of Addis Abba city has grown overtime and has developed a definite land use pattern. As to land use distribution, it provides a breakdown of major components of the activities. Thus, 16 types of land use activities are identified, which constituted a total area of 54,001.44 hectares of the land of the entire land use category, the first five categories in terms of area coverage are farmland, residential and open space and quarry, forestland and areas devoted

for service purposes. However, the recent land use pattern of the city is dominated by the existing mixed use built up area (31.3%). Parks, green along the rivers and forest (23.4%), agriculture (13.8%), mixed up expansion (13.41%) and so on. The following map shows the existing land use map of Addis Ababa.

Figure 3.6 Existing land use map of Addis Ababa



Source: Addis Ababa City Planning Project office, 2016

The land use classes of the city and its percentage composition is classified as follows in the table below.

Table 3-1: The Land use pattern of Addis Ababa city

No	Land use indicator	Area/in hectare	Percentage share
1	City center	1317	2.4
2	Forest	12647	23.4
3	Agriculture	7453	13.8
4	Existing industry	1292	2. 4
5	Proposed industry	1846	3.4
6	Mixed use built up	16900	31.3
7	Proposed social service	624	1.2
8	Existing social service	514	1.0
9	Reserved	1085	2.0
10	Transport	1029	1.9
11	Mixed use expansion	7243	13.4
12	Road network	2050	3.8
Total		540000	100

Source: Addis Ababa City Planning Project office, 2016

The current land use and morphology of Addis Ababa has largely been the result of the land allocation and handling pattern during different political periods. The impact of the different periods and their socioeconomic activities, land policy, management and administration were super imposed on each other and created functionally and socially integrated urban areas with heterogeneous characteristics.

Hence, analyzing and understanding the existing situation and historical background of Addis Ababa city in general and the study area in particular might help for policy makers to device up-to-date and relevant urban development policies and construction regulations which include the social, cultural, economic, demographic and way of living of the people and alleviate the major impacts of dead street frontages due to the existing of blank walls.

Moreover, it also helps the urban designers that, he/she could propose appropriate intervention and specific design solutions for each site in the study area based on their spatial characteristics of topography, soil type, wind direction, sun orientation, vegetation cover, amount of rain fall, temperature etc. in order to activate the dead street frontages and create livable, comfortable and active central business district; as well as give great attention to preserve areas of historical importance and sties of special and specific interest.

CHAPTER FOUR

4. Data Presentation, Analysis and Interpretation

4.1 Existing Situational Analysis of the Central Business District of Addis Ababa

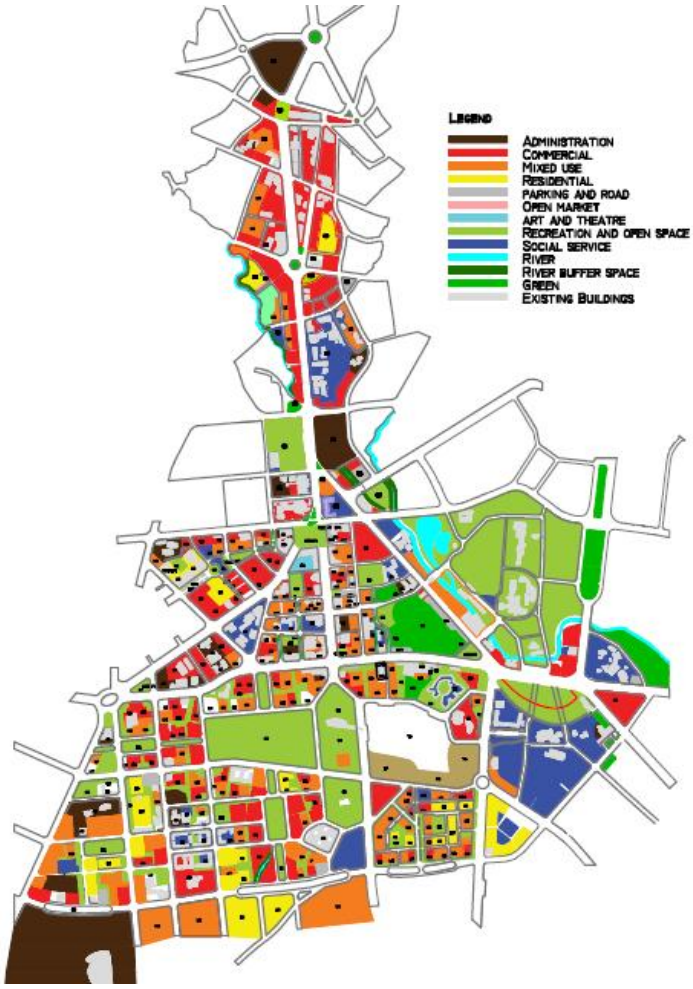
4.1.1 Spatial Analysis

According to the structure plan prepared by Urban plan & Information institute on April 2009, the central business district or the main center of the city of Addis Ababa covers 1123.3 hectare of land of which the road net work accounts for about 273.6 hectare or 24.3% of the total area. Although the road net work coverage of this area is good relative to the standard which is 25%., most streets have dead frontage due the existence of blank walls of many government buildings and social services in the city center. Thus, these dead street frontages cause economical, social, and environmental impacts on the people who use these streets in particular and the development of the city in general.

The CBD has four sub-areas and two important development corridors.. Mercato, with an area of 70 hectare, is one of the sub areas that functions as the main market of the city where different activities like an open market, Shopping, special workshops, etc. have taking place. The second sub area is Piassa, where the current city of Addis Ababa grew and has a a total area of 159ha of land, that functions as historical and cultural area as well as the other businesses and shopping center of the city. Arat Kilo, which has an area of 7.7ha, is known for its main Administration functions including; Government offices, education and business activities. National Theatre, Caza-inchis, Lagare, Mexico square, which covers about 581 hectare of land, are the main Business areas of the city where Heads of financial institution, sport complex, transport terminal, recreation, hospital., commerce, hotels &restaurant facilities exist. Churchil Street and Tekle-Haymanot area that accounts for 11.6ha and 20.4 ha respectively also function as a linking corridor where Business and shopping activities are dominant (Urban plan & Information institute , April 2009).

The Land Use map of the city center, proposed on June,.2014, shown below also shows that, the Churchill corridors main service should be used for business and commercial uses.

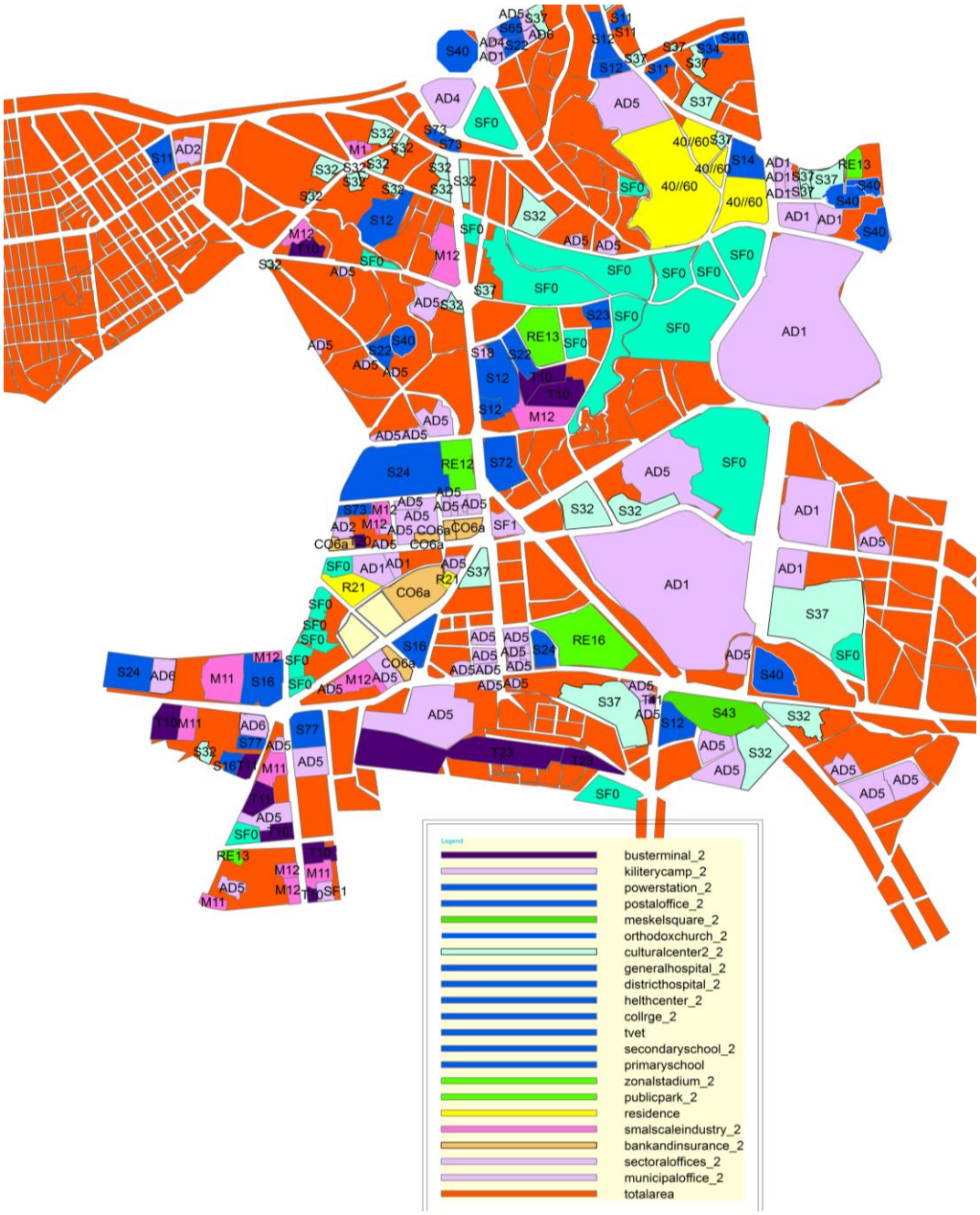
Figure 4.1 Proposed MCC Land Use Map_RVSD_12.10.2014_final draft



Source: Addis Ababa City Planning Project Office, 2014)

However, the existing situation on the ground shows that, neither the sub-areas nor the corridors are developed according the proposal of the local development plan thus, they are not play a vital role in creating vibrant and livable street life as well as their contribution to the economic role is also less than what was expected theoretically due to the coverage of vast area by blank walls of mega structure buildings like: government buildings, social services along the major roads , banks, insurances, industries, stores etc. The following map shows the blank walls along the major roads which contribute to the dead street frontages in the CBD of Addis Ababa.

Figure 4.2 Map of the existing blank walls of the Central Business District of Addis Ababa



Source: (Own field survey, 2016).

The above map shows the total CBD of Addis Ababa in brick red color and plots that are non red color shows all the plots with dead street frontages & in addition shows the function/land use/ of each individual dead frontage plot. In this study, walls are categorized as blank walls if they have

a length of more than 20 meter frontage with no doors and windows facing the side walk and also includes temporary construction safety walls that has been in place for more than two years are categorized as dead frontages and mapped with different colors based on their existing function. According to the Addis Ababa city land use proposal of 2009, the city main center is clearly defined and has an area of about 1123.3 hectares of land including the road net work. In order to identify the area coverage of the blank walls a field survey is conducted and the dead street frontages caused due to mega structure buildings are mapped on the centrality map of Addis Ababa.

The proposed city main center /CBD/ is hatched with brick red color and it was expected that its main function should be commerce and business and functions like: - industries, manufactures, and storage which require more than 500m² areas, military establishments, prison and land fill sites are prohibited. But, unlike the proposal almost half of the area of the CBD is occupied by mega structure government buildings, light scale industries, manufactures, storages, military establishments, prison and vast area of infill sites which remain open for many years after the inner city redevelopment program.

Hence, the above map illustrates that, different functions that have a major contribution for dead street frontages due to their blank walls or fences are identified and hatched with different colors according to the color standards of urban plans shows that, many government and administrative buildings /mega structures/ are concentrated or exist in a cluster form in the CBD. Moreover, cultural centers, stadium, embassies, factories like st.George brewery, small scale industries, inaccessible parks and incompatible land uses are exist that, they have their own role for creation of blank wall and dead street frontages. In addition, there are also many vacant lands in different parts of the CBD that result from the inner city redevelopment. However, they are not meeting the required development program as most of the cleared sites in the inner city are not yet developed. Rater, most of them are found to be fenced for many years with temporary structures. Thus, they contribute to dead street frontage, pollution as people dispose waste aside the fence and over all great economic loss due to the under utilization of the vacant land. Generally, the major land use categories of these existing dead wall structures and underutilized vacant and built up areas is stated as follows in the table below.

Table 4-1: Major land use categories of dead street frontages in the CBD

№	Land Use Class	Total area in Hectare	Percentage from the Total(%)
1	Administration	161.84	36.0
2	Social services	62.1	13.8
3	Residence	24.45	5.40
4	Bank & Insurance (Business)	21.33	4.70
5	Industry & Storage	16.48	3.60
6	Recreation & Open Space (*)	20.51	4.50
7	Historical & Cultural sites (*)	46.6	10.40
8	Transport Services (**)	23.34	5.20
9	Infill Area (***)	72,2	16.40
	Total	376.65	100
*	Places with blank wall frontage		
**	garages, fuel stations & bus stations		
***	Underutilized & vacant lands		

Source (own field survey, 2016)

The above table depicts that, from the total area of 872.2 hectare built up area of the CBD, without the road net work, about 376.65 hectare or 43.2 % of land accounts for having dead street frontage. Of which 36 % of the dead wall is owned by government administration sectors followed by in fill area of 72,2 hectare or 16.4 % which includes the demolished intervention sites not developed for three to four years and underutilized private and kebele houses.

4.2 Economic Analysis

4.2.1 Land utilization and land value in the CBD

Land is the sole natural resource that the city government of Addis Ababa generates the highest revenue among other sources of income for the city. However, the land especially in the CBD, is not efficiently used as almost half of the prime land of the city occupied by mega structure governmental buildings which in turn cause dead street frontages due to the existence of blank walls along the primary arterial roads. According to the data obtained through interviewing Addis Ababa urban planning institute, the previous Addis Ababa Master Plan Executive Summary 2002 and the new structure plan finalized on June,2016, different sectoral offices and social services are proposed in different parts of the city even outside the center in order to make these services accessible for all residents of the city.. However, the existing situation on the ground shows that, many sectoral offices have been constructed in the CBD by asking land use change to the municipality or violating the city's structure plan or local development plans.

The data obtained by interviewing the City development and Construction office of Addis Ababa on the other hand shows that, the office that has a responsibility of constructing all governmental offices when each sector acquires land through the legal process replied that, the sectoral offices are not violating the city's plan, but most of them asks land use change the municipality legally as the direction of the policy for governmental buildings is they should be clustered in one location in order that, people can easily get access to all services at a specific location saving their time and cost of transportation from travelling from place to place and most sectors need to construct their offices in the city center rather than the periphery.

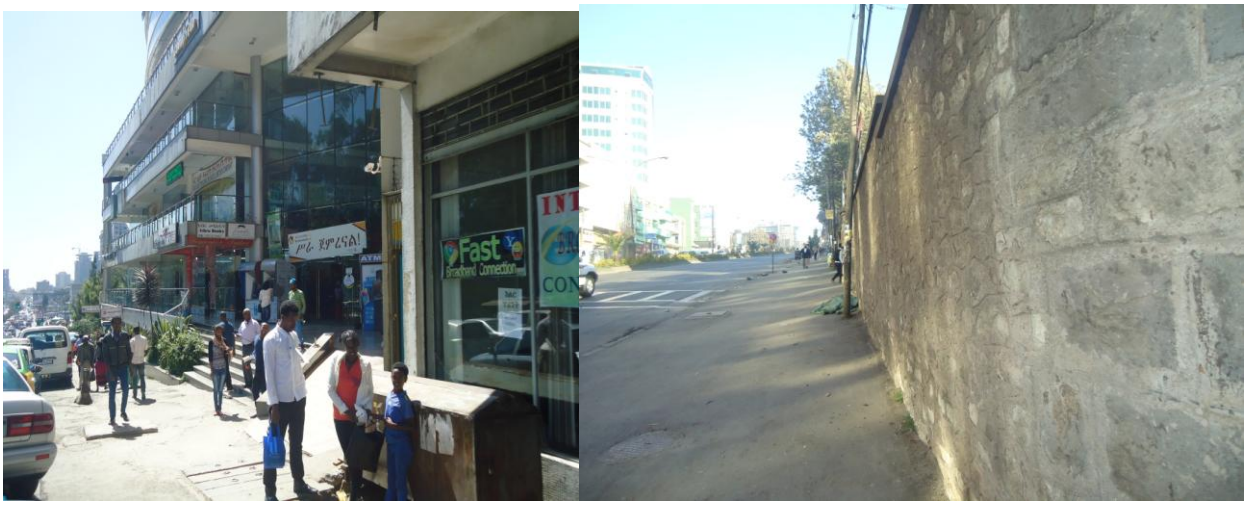
However, the direction of the policy for governmental offices to cluster them in a specific location and their interest to construct their buildings in the city center results in urban plan violation; which in turn kills street life and causes a great economic loss in the city due to the fact that most sectoral offices, social services, banks and insurances, underutilized and deteriorated residential areas, industries, stores and other similar structures have blank walls facing the major roads in the city center which implies that, the prime land in the city center is not well managed and contributes the required social and economic benefit for the city.

According to the data obtained from Addis Ababa city government land banking and transfer office through interview, one square meter land was sold by lease from a minimum of 65,000 in Churchil road to 355,500 in Mercato area. According to the field survey, some business men and institutions who rent a house from private developers along the Churchil road also told this research that, they pay on average a monthly rent of 116,250 birr for 200m² wide room and 20,000 for 15m² on the ground floor but the house rent decreases as the level of the floor increases they replied. This shows that, on every 1000m² of land minimum building height 20 story and free upper limit in zone one as well as minimum 10 and maximum 20 stories in zone two, the high rise buildings offer different functions thus in turn attract many people to get these services thus, the outdoor street life become livable. Moreover, 416,795,800 birr per month in zone one and 8,397,900 birr per month could obtained in zone two at the minimum allowable building height in the economic comparative advantage.

Thus, it can be concluding that, the high rise buildings in the CBD contributes a lot to social and economic development of the city. For instance, high rise building having different services attracts many people and makes their building frontage and the pedestrian walk way active; adds interest, life and vitality to the public realm. Moreover, these buildings play a great role in the economic development of the city by generating a higher revenue for the business men, the government in the form of tax and creates job opportunities for many people who are employed for the business men. But, on the other hand, the blank walls of mega structure buildings causes dead street frontages and thus kill the street life and causes a great economic loss in the city.

The following picture show the comparative advantage of high rise buildings and the blank walls due to the existence of social services, specifically Tikur Anbesa Secondary School, facing its dead wall to the major arterial street in the central business district of Addis Ababa.

Figure 4.3 Active street frontage at Tracon Tower along Churchil road left and dead street frontage of Tikur Anbesa Secondary School at this area right.



Source: (Own field survey, 2016)

4.2.2 Job opportunities

According to the information obtained from Addis Zemen news paper published on December 11, 2016, Dr.Mulatu Teshome president of the federal democratic republic of Ethiopia told in his speech he made to the people's representative council that, " unemployment is known as the one of the major problems in Addis Ababa that the city government devices a policy and seeks to create a job opportunities for the jobless people, especially the youths, in the city; by organizing them in the form of micro and small scale enterprises. Hence, the government creates a working environment by proving the youths loan, training, working area and market to solve their economic problems; thus about 10,000,000,000 (ten billion birr) budget is allocated for the whole country in order to create job opportunities for the youths in the year 2016/17.

Although the government allocates this amount of budget for this purpose, the land development and management bureau replied that, one of the major challenges it face is the availability of land to work and display their products It is known that, it is impossible to buy a land by lease hold system for the low and middle income people as the price per square meter is very high Hence, the main solution for this problem could be a design solution; particularly constructing high rise buildings in the central business district and activating the dead blank walls of mega structure buildings using plug-in urban design in order to create safe, livable and comfortable street as well

as creating working area for the people who have money but have not the access to get the land to work there due to the scarcity and high price of the land in the CBD.

The small shops which are locally called "Arkebe Shops" that the micro and small scale enterprises used as working area, for instance, causes different problems on the street life even if they are used as working area for many people. Some of the major problems of these shops are:- poor visual and urban quality, hinder the smooth flow of pedestrians along walk ways, causes for traffic accidents as people are obliged to use the carriage way due to the reason that the walk way are held by the shops and buyers from these shops.

Hence, alternative solution through plug-in urban design should be sought offer than only putting the small shops /Arkebe Shops/ although they used for many years as a temporary working place for micro and small scale enterprises. Example, one of the impacts of these shops on smooth pedestrian and traffic flow in front of Tikur Anbesa Secondary School is shown as follows in the figure below.

Figure 4.4 Pedestrians stop on the carriage way as the walk way occupied by the shops locally called "Arkebe shops".

Source: (Own field survey ,2016)

4.3 Social Analysis

4.3.1 People's Daily Activities and their Social Interaction condition

People have been always going to a place purposefully: i.e. to their working place, for shopping, recreation, to meet other people, etc. and thus the social interactions between people have always been increase at the place where different economic activities exist. Therefore, the pedestrians fill the questionnaire for this study prefer and frequently visit some of the places and streets that exist in the CBD due to different reasons; including availability of shops, cafes, hotels, restaurants, recreation centers and other different services; the qualities of street escape and public realm i.e street form, shape, hierarchy, linkage, street light, furniture as well as open spaces, playgrounds, greenery areas, parking and so forth also have a great contribution to attract many people. The following table shows the pedestrians reply for this study about the place where they prefer and frequently visit.

Table 4-2: Mostly visited and preferred places in the city center of Addis Ababa

№	Name of a place	№ of people frequently visit	Percent (%) (*)
1	Arat kilo	25	41.7
2	Piassa	40	66.7
3	Mercato area	48	80
4	Bherawi theatre area	33	55
5	Teklehaimanot area	9	15
6	Churchil corridor	12	20
(*)	The % is taken № of people from the total sample; not exclusive to each other		

Source (field survey,2016)

The above table shows that 80% of the respondents visit frequently the Mercato area followed by 66.7% of Piassa. The reason that they prefer and most frequently visit these areas is that they can

get most goods and services they want at a walking distance closely. They buy goods, acquaint and meet with different people, discuss about how to make a business, enjoy together, etc. On the other hand, the Churchil and Teklehaimanot corridors are less preferred and frequently visited by the pedestrians as these places have less economic activities that results to poor social interactions between them.

This shows that, places that accommodate different economic activities like shops, cinemas, restaurants,, cafes, other mixed use services at ground floor, recreation and boulevard opportunities promote the most active street fronts that attract many people and create Busy pedestrian areas; hence active street fronts could enhance the social interaction between people which in turn could also be improved community safety and urban quality.

To maximize these qualities, buildings should have an "active frontage" to the public realm, pedestrian activities need to be vital and safe, streets and footpaths should also be attractive. Consequently, the public realm should be encouraged legible, comfortable, safe and vital streets and public spaces should be designed with the concepts of mixed use, permeability of blocks and active frontages at the ground level. On the other hand, blank walls reduces opportunities for activities and social interactions between individuals and present little interest to people passing by.

Figure 4.5 Poor human activities and poor social interaction between people at Senga Tera area left and active street frontage with good social interaction between people at Atklt tera right.

Source: (Own field survey, 2016)

4.3.2 Psychological Impact

The design of street frontages impacts significantly on the quality of the public domain and appropriate design of street frontages promotes surveillance and defines the interface between the public and private domain. on the other hand, an unsafe environment can literally imprison people in their own homes, especially during the hours of darkness.. Thus, making frontages 'active' adds interest, life and vitality to the street and transform the streetscape in to the envisioned vibrant public realm.

But, the blank walls of dead street frontage buildings not only generate less street activities & poor building- street interaction but they also create a psychological impact on the public. This is mainly caused by the existence of government buildings that most of them are not accessible to the people due to the an excessive regard for security results to the spread of blank walls in court houses, police stations, post offices, defense bureaus and countless other government buildings. The table below shows some psychological impacts of the dead street frontages in the city center.

Table 4-3: Some psychological impacts on the pedestrians passing along the blank walls in the CBD.

Individual feeling	№ of respondents	Percent (%)
good	-	-
bad	53	88.3
Neutral	7	11.7
Total	60	100

Source: (Own field survey, 2016)

As depicted in the above table, 88.3 % of the sample pedestrians feel bad when they pass by side of dead street frontages and only 11.7 % feels indifferent or feel nothing; but no one them feels good. The respondents thus replied that, majority of blank walls of governmental building, social services, banks; insurances and stores that found in the CBD have no interaction with the people passing along the walk ways. As a result, they observe different problems like: Drug

addiction, theft, Alcoholism, Streetism, homelessness and other Crimes at the side of the blank walls; especially at noon and at night.

Hence, the Pedestrians especially the female, do not generally feel safe from crime when they pass along the dead wall streets and they suggest that these blank walls needs a solution or should be activated in order to bring life to the dead streets. The following figure shows the comparison between active and dead street frontages at noon in the CBD.

Figure 4.6 Active street frontage where people feel safe at noon in Piassa left and dead street frontage behind Africa union right especially at night.

Source (Own field survey, 2016)

Figure 4.7 Streetism, drug addiction and alcoholism along a dead street frontage of a blank wall left and homelessness in Piassa right.

Source (Own field survey,2016)

4.4 Environmental Analysis

4.4.1 Micro Climatic Condition

The micro climatic condition of an area has a significant impact on the life quality of the residents thus, people who live in good climatic condition are healthy but those live in polluted environment are at risk of health problem. According to ORRAMP, 2002, the existing climatic condition of Addis Ababa city in general and the central business district in particular shows that it is highly polluted due to the shortage of open spaces and green areas, the emission of gas from cars and industries, bad smell from polluted rivers, waste dispose on the street and walk ways of dead street frontages and vacant lands.

Dead street frontages, due to the existence of blank walls, are the major contributors for environmental pollution and respiratory disease in the central business district of the city as people disposes waste aside to them. Some of the measures to alleviate these problems could be planting trees along the walk ways and in their compound. During data collection and field survey, it is observed that some governmental buildings and social services create a good land scape design and planting grass in their compound thus creates good view to the outside

environment. The picture below shows green area in a compound which contribute to improve the micro climate of the compound and generates good view to the outdoor environment.

Figure 4.8 Green areas in Lycee Franco Ethiopien Guebre Mariam Secondary School creates good view to the outdoor left and blank wall of Tikur Anbesa Secondary School aside right.

Source (Own field survey,2016)

4.4.2 Public Parks and Recreational Areas

Public parks and recreational green areas are mostly called as 'lungs of a city' and needs proper management in order to have livable and comfortable city. However, most of the parks and green areas of the city in general and the central business district in particular are not functional and properly managed. One of the major cause for having good recreation center in the city is that, they would not be considered as a major and useful land uses and thus their land use is changed to other land uses and transfer to developers due to the attention given to them by the concerned body and the people.

The existing ones are also would not functional and well managed that people could enjoy and recreate there. The Ethio-Cuba park, for instance, is found in the prime land where the land value is high. But, it is not accessible to the city residents and is not currently used as a public park due to its poor management. Similarly, the Gola Park which found in Teklehaimanot area is also not well managed and functional. This shows that, the city lacks enough accessible and functional

green and recreational areas which needs due attention in the future to improve the urban quality and create liveable and comfortable city. Their interaction with their surrounding also needs due attention so they do not contribute to dead streets.

The following figure shows the public parks which are not well managed; but become a cause for dead street life due to their blank walls facing the walk way and totally fenced that they are not accessible for the city residents to recreate and enjoy there.

Figure 4.9 Inaccessible Ethio-Cuba park left and closed Gola-park facing its blank wall to the pedestrian walk way right.

Source (Own field survey,2016)

4.4.3 Pollution

People who live in good-quality environments are more likely to have a sense of ownership and a stake in maintaining the quality of their local streets and public spaces. Majority of the people do not dispose waste or not urinate on active street frontages as there are people always there; but some people do not feel sense of owner ship thus urinates and disposed waste around the blank walls of dead street frontages, This may cause a pollution problem for the neighborhood residents, as the picture shows the case of Teklehaimamot area. The tables below shows the major problems of residents near to blank walls of the CBD in the order of priority

Table 4-4: Major problems of blank walls in priority order

Problems	№ of respondents	Percent (%)
Problem of sense of place,	7	11.6
Lack of safety and security	12	20
Bad smell as some people dispose waste & urinate on the blank walls	27	45
Darkness and poor visual quality	10	16.6
Others specify	4	6.7
Total	60	100

Source (field survey,2016)

The above table shows that, from the total surveyed households, specifically residences located near dead wall, 45 % face pollution problem or a bad smell as some people urinate or/and disposed waste on the dead street frontage, 20% have the problem of lack of safety and security, 16.6% have faced the problem of darkness and poor visual quality, 11.6 % of them face a problem of sense of place, and 6.7% have other problems. This shows that: - pollution problem or Bad smell, lack of safety and security, darkness and poor visual quality, problem of sense of place and other related problems in priority order are the major problems they face in their daily life that result from the existence of blank walls in their neighborhood.

Hence, they suggest that these dead street frontages needs an intervention in order to solve the major pollution problems `along with the others and enhance the economic value of such kind of mega structure buildings.

Figure 4.10 Solid waste disposed to the side of dead street frontage at Somale-tera above and at the blank wall Teklehaimanot round about in front of Assab Hotel below.

Source (Own field survey,2016)

4.5 Major findings

Based on the surveyed and analyzed data ; the major findings of this study which are related to the location and percentage of the blank walls in the CBD, impacts and results of these dead street frontages as well as possible ideas leads to solutions are stated below as follows.

- About 43.2% of the total area of the CBD is found to have dead street frontage or accounts for blank walls.
- Major governmental buildings & social services are existing in the CBD; because most of them have no interest to construct their offices in the periphery.
- The CBD lacks enough green and open areas which needs due attention in the future.
- The urban quality in the CBD is poor and not comfortable for working and living due to the existence of many mega structure buildings causes for dead street frontage.
- The Churchill road has less economic activities and social interaction. Hence, pedestrians are not mostly walking along this street; rather it is congested with cars most of the time
- Although the land value in the CBD is high, the land that is found in this zone is not efficiently used.
- The CBD has less contribution for its economic role due to the existence blank walls results to dead street frontage.
- The Pedestrians especially the female, are not generally feel safe from crime when they pass along these streets.
- There is a problem of safety and security along the dead frontage of most blank walls of mega structure buildings.
- Due to the lack of awareness people dispose solid wastes at the side of blank walls that causes environmental pollution.
- Most blank walls in the CBD are now become a waste disposal & urinating sites and are the major causes for pollution and disease in the city.
- The blank walls in the CBD generally generate less street activities & create poor building- street interaction hence kills the whole street life.

CHAPTER FIVE

5. Conclusion, Recommendation and Proposal

5.1 Conclusion

In this research, a detail analysis has made on the problems concerning the impact of blank walls on economic, social and environmental condition of the central business district, the major causes of these problems and the potential solution for these problems have been discussed in detail.

The existing situation of the CBD thus shows that almost half of the built up area of it is not active and has less contribution for the development of the city due to the coverage of vast area by blank walls of mega structure buildings like: government buildings, social services along the major roads , banks, insurances, industries, stores etc. having their blank wall face the major arterial streets creating dead streets with no activities and kills the whole street life in the central business district.

Although the land value in the CBD is high, it is underutilized. And not efficiently used. Hence, provision of working area for job seekers become critical problem, the blank walls also cause social, psychological and environmental problems on the city residents in particular and the development of the city in general.

The improvement of the city center to a vibrant economic area as well as encourage the culture of walking and creating busy pedestrian areas is important in order to create livable street. Hence , it needs plugging-in different infrastructure and activities to the existing blank walls and activating the dead street frontages; the functions along the interface thus transform the streetscape in to the envisioned vibrant public realm.

In general, it is very important to activate these dead street frontages by activating the existing blank walls in the CBD and create livable street and vibrant city center using urban design intervention specially of plug-in urban design. Hence, all concerned bodies including the government, the community as well as all stake holders should work together to change the bad image of the center of the city

5.2 Recommendations

Addis Ababa is not only the administrative, commercial, economic and financial center of the country but also an international city and the seat of the African Union in that, the central business district of Addis Ababa is the engine for the growth of the city and most of the commercial, social and governmental activities are concentrated around. Hence, analyzing the existing situation of this site, understanding the public interest, exploring its potentials and finally suggests appropriate solutions based on the principles and theories of urban design as well as actual context of the site helps to achieve the main objective of the study; that is to create livable, comfortable and active central business district of the city. Therefore, the researcher strongly recommends the following points in order that the CBD contributes its economic, social and environmental role for the development of the city.

- It is important to transform the existing blank wall buildings to livable streets through the intervention of plug-in urban design
- Newly proposed administrative and social services should better have constructed out of the CBD in order to reduce the impact of dead street frontages due to these mega structures and improve the social and economic activities of the city.
- The policy of constructing governmental offices in cluster form might require a revision in order to improve the distribution and access of social and administrative services for all people in the city.
- It is better to launch Plug-in urban design for major government and social service buildings to activate the dead walls and contribute to have quality public realm & create job opportunities.
- Awareness creation by the government through public meeting and media might be required so that, People would develop sense of ownership maintaining the quality of their local streets and public spaces.
- The city administration, the residents of Addis Ababa, all concerned governmental and nongovernmental organizations as well as other stake holders should have better work

together to alleviate the problems caused by the blind street frontages in the CBD in particular and Addis Ababa city in general.

- It is important to work on direct center development policy & regulation to improve the urban quality of the city center.
- Developing public amenities in the centers (Improved walkways, provide seats, etc.)
- Developing greenery & public parks and improving their management through careful and continuous controlling system.
- The skill and practice of urban design has to be increase through education and training in order to properly solve the major economic, social and environmental problems in the city center.
- A sensitive streetscape and building form design for the central business district is necessary in order to enhance the social interaction and economic activities of the people.
- The Churchill corridor which is now underutilized needs intervention in order to use its good vista and make it livable boulevard.
- All green areas and open spaces require being functional, well managed and accessible as they are lungs of the city.
- The blank walls of the existing mega structure buildings requires design and management intervention and a land for new governmental buildings constructed in the future will better be allocated on the second block along the collector streets.
- Mixed-use residential and commercial live/work settlement should be encouraged, because it is more feasible, flexible & easy to implement. In addition it could make the street to be active day and night.
- Planting Vertical gardens /greenery Climbers/ at the side of the blank walls should be encouraged to improve the visual quality.

- Designing urban art also needs to be carried out to enhance the quality of the dead wall by attract many people to observe these arts.
- Putting information board on the side of blank wall, on the other hand, could attract many people and improves the social interaction between different people.

5.3 Proposal

Although a combination of the suggested and recommended solutions or one of them, according to the function of the mega structure buildings and their location, is required to activate the dead street frontages, the design solution is proposed in this study in order to improve the socio economic problem of the city residents, their social interaction and maintain the environmental quality of the CBD in particular and over all development of the city in general.

5.3.1 Design proposal

Based on the finding above, the city center of Addis Ababa has different economic, social and environmental problems. The major cause of these problems is so found that, the CBD is not safe, comfortable and pedestrian friendly and it is underutilized and polluted due to the reason that the blank walls of mega structure buildings causes dead street frontage. For this study, due to the time constraint to propose different scenarios for the whole CBD to solve the impact of blank walls, the Churchil corridor is selected as a sample as there are many blank walls physically and visually thus kills the whole street life.

Thus, in order to enhance the urban quality of the CBD, the blank walls of the mega structure buildings should become active using a design solution; specifically a plug-in urban design is proposed. For this reason, a. Particular blank wall from the Churchill road, the locally called "Tikur Anbesa "secondary School, is taken as a sample where design intervention is used to see if it is applicable for other blank walls having this intervention as an experience.

Based on its specific character, as it is found in the prime land of the city as well as existing and future development pressure in the surrounding area, small shops like: stationary, book store, internet service, printing, photocopying, mini markets, and the like that could give services to the students of this campus and its surroundings are proposed for "Tikur Anbesa" secondary School; so that, its frontage would become active, safe, attractive and livable not only during the day time but also at the night time. Moreover, the school could also be earn money by renting these small shops and can provide different facilities to its students as well as could improve the overall quality of education.

Hence, plugging in small shops on the existing blank wall, unlike the locally called 'Arkebe shops' that are put along the pedestrian walk way and hinder smooth traffic flow, is proposed for this school that, the image of the site could be changed and contributes to economic development as well as improves the social and environmental conditions of the site in particular and the city in general.

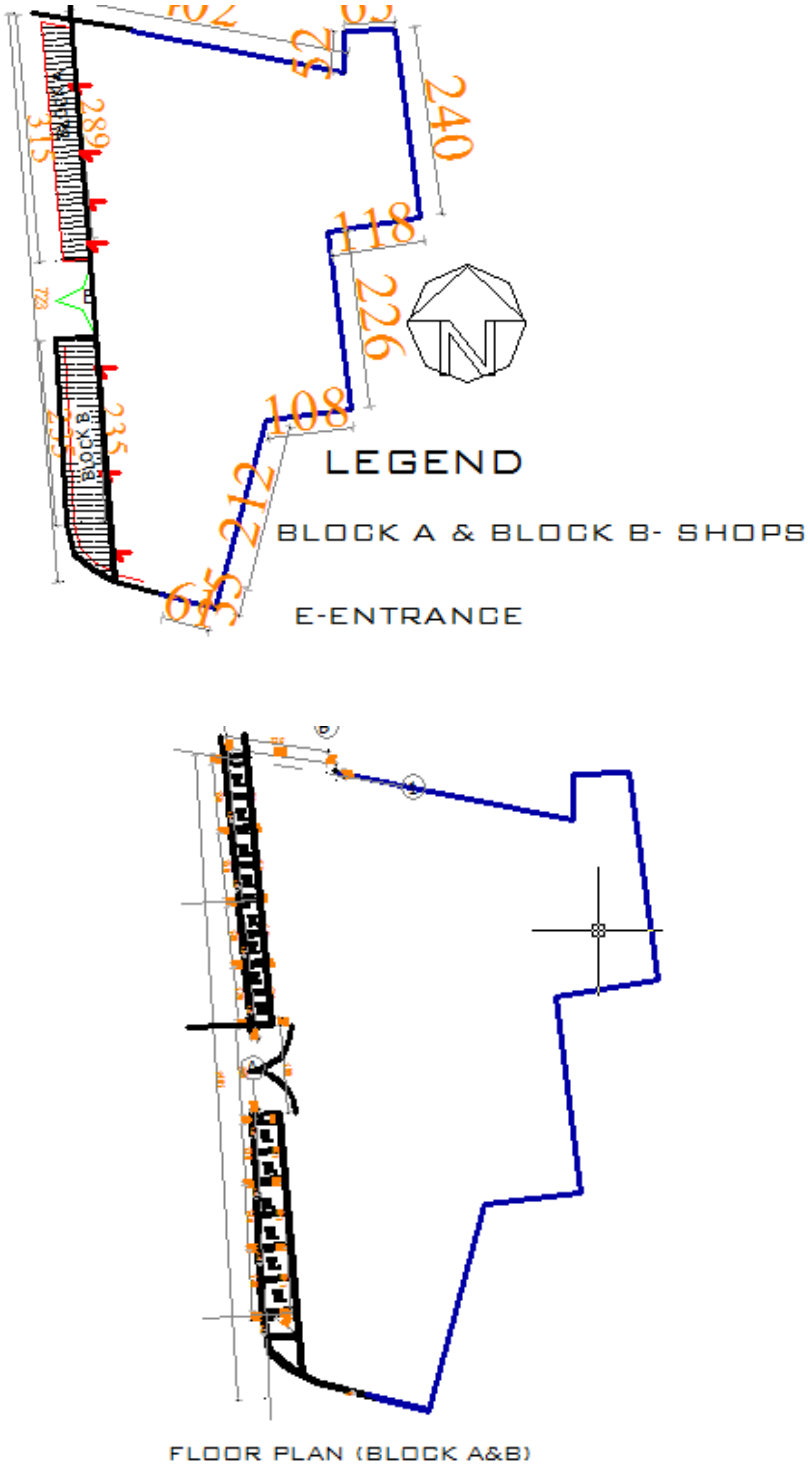
Figure 5.1 Existing physical setting /image/ of "Tikur Anbesa" Secondary School and its surroundings

Source: Google Earth, 2016.

Figure 5.2 Location map of the proposed shops

Source: Addis Ababa Line Map, 2004 & Own Architectural design

Figure 5.3 Site plan of the shops above and their floor plan below



Source: Addis Ababa Line Map, 2004 & Own Architectural design

Figure 5.4 Front Elevation of the proposed shops

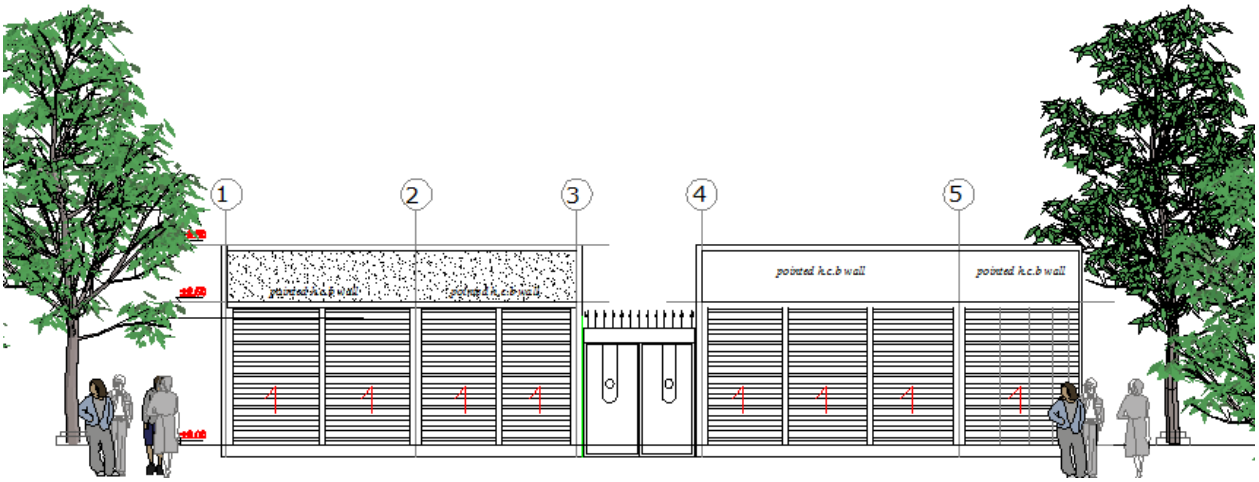
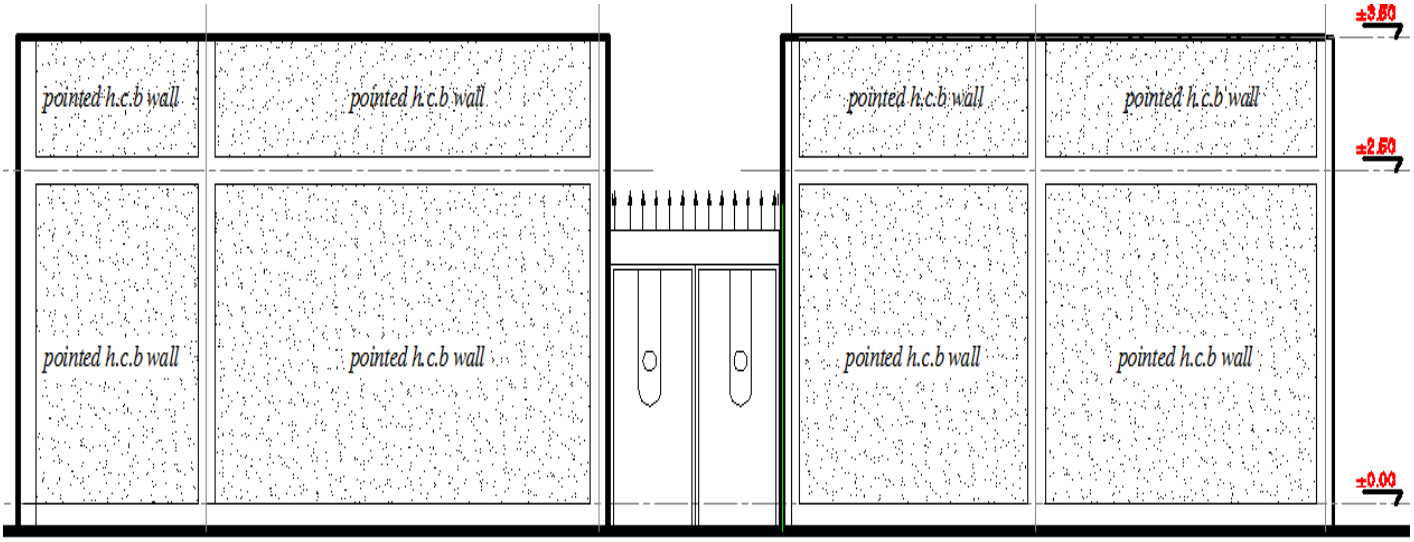


Figure 5.5 Rear Elevation of the proposed shops



Source: Own Architectural design, 2017

Figure 5.6 Left side elevation of shops (block A &B) left and Right side elevation of block A right

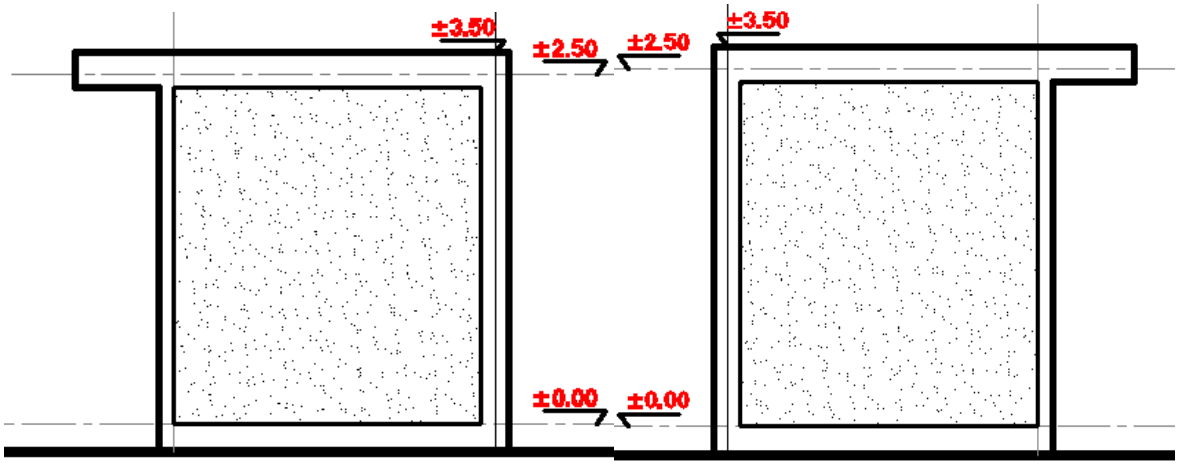
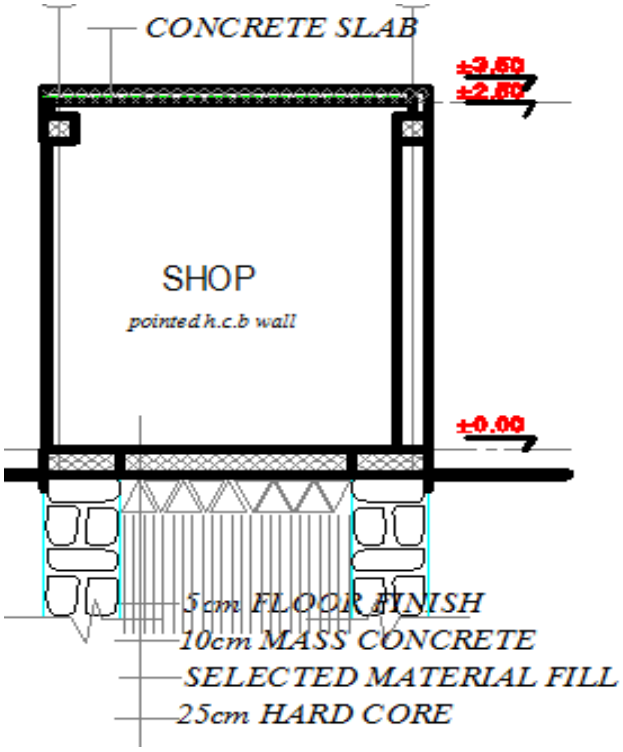


Figure 5.7 Section of shops block A & B



Source: Own Architectural design, 2017

PROPOSED 3D MODELS FOR THE BLANK WALL OF TIKUR ANBESA SECONDARY SCHOOL

Figure 5.8 Top view of the model proposed for the blank wall of Tikur Anbesa Secondary School

Figure 5.9 Front view of the model proposed for the blank wall of Tikur Anbesa Secondary School

Source: Own Architectural design, 2017

Figure 5.10 Right side view of the model of Tikur Anbesa Secondary School and its surroundings

Figure 5.11 Right side view of the model of Tikur Anbesa Secondary School with active frontage

Source: Own Architectural design, 2017

Figure 5.12 Left side view of Tikur Anbesa Secondary School with different facilities

Figure 5.13 Left side view of Tikur Anbesa Secondary School with activities and Social Interactions

Source: Own Architectural design, 2017.